ANALYTICAL REPORT

Job Number: 280-116020-1

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

For:
Leidos, Inc.
Picatinny Arsenal
356 Ninth Avenue
Suite 106
Dover, NJ 07801

Attention: Rita Schmon-Stasik



Approved for release.
Donna R Rydberg
Senior Project Manager
12/12/2018 7:54 PM

Donna R Rydberg, Senior Project Manager
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0192
donna.rydberg@testamericainc.com
12/12/2018

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The Lab Certification ID# is 4025.

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

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Qualifiers

GC/MS VOA

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

GC/MS Semi VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
M	Manual integrated compound.
Q	One or more quality control criteria failed.
H	Sample was prepped or analyzed beyond the specified holding time
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified; the quantitation is an estimation

Metals

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
Q	One or more quality control criteria failed.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

General Chemistry

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: Leidos, Inc.

Project: Leidos RFP# 001088 - Ravenna AAP-66

Report Number: 280-116020-1

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

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

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

RECEIPT
The samples were received on 10/24/2018 at 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 8 coolers at receipt time were 1.4º C, 1.5º C, 1.8º C, 2.3º C, 2.6º C, 3.2º C, 4.5º C and 5.1º C.

VOLATILE ORGANIC COMPOUNDS (GC/MS)
Samples DET-003-181001-GW (280-116020-1), DET-003-181002-GW (280-116020-2), FWGTB-181002-TB (280-116020-3) and DET-004-181001-GW (280-116020-12) were analyzed for volatile organic compounds (GC/MS) in accordance with 8260B. The samples were analyzed on 11/14/2018.

The following volatile samples in analytical batch 280-437463 were analyzed with significant headspace in the sample containers: DET-003-181001-GW (280-116020-1), DET-003-181001-GW (280-116020-1[MS]), DET-003-181001-GW (280-116020-1[MSD]), DET-003-181002-GW (280-116020-2) and DET-004-181001-GW (280-116020-12). Significant headspace is defined as a bubble greater than 6 mm in diameter. Method 8260B

The following samples in analytical batch 280-437463 were analyzed outside of analytical holding time due to backlog capacity issues: DET-003-181001-GW (280-116020-1), DET-003-181001-GW (280-116020-1[MS]), DET-003-181001-GW (280-116020-1[MSD]), DET-003-181002-GW (280-116020-2), FWGTB-181002-TB (280-116020-3) and DET-004-181001-GW (280-116020-12). The client was notified and the data was reported and narrated.

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

SEMIVOLATILE ORGANIC COMPOUNDS
Samples DET-003-181001-GW (280-116020-1), DET-003-181002-GW (280-116020-2), WBGmw-009-181001-GW (280-116020-4), LL1mw-083-181001-GW (280-116020-5), LL1mw-084-181001-GW (280-116020-6), DA2mw-115-181001-GW (280-116020-8) and DET-004-181001-GW (280-116020-12) were analyzed for Semivolatile organic compounds in accordance with SW-846 8270D. The samples were prepared on 10/29/2018 and analyzed on 11/07/2018.

Several analytes exceeded the RPD limit in MS/MSD batch 280-436671, performed on sample DET-003-181001-GW (280-116020-1). The individual spike recoveries were in control. The associated LCS was in control and provides evidence that operating procedures were in control.

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

SEMIVOLATILE ORGANIC COMPOUND (GC/MS SIM)
Samples DET-003-181001-GW (280-116020-1), DET-003-181002-GW (280-116020-2) and DET-004-181001-GW (280-116020-12) were analyzed for Semivolatile Organic Compound (GC/MS SIM) in accordance with SW-846 8270D. The samples were prepared on 10/29/2018 and analyzed on 11/02/2018 and 11/09/2018.

The recoveries for surrogates 2-Fluorobiphenyl and Nitrobenzene-d5 failed the surrogate recovery criteria low in sample DET-004-181001-GW (280-116020-12). Any repreps would be done way outside hold times. Data was reported and flagged.

Phenanthrene was detected in method blank MB 280-435408/1-A at a level that was less than one half the LOQ; therefore, corrective action was deemed unnecessary. The value should be considered an estimate, and has been flagged “J” in accordance with the DoD QSM.

The recovery for surrogate 2-Fluorobiphenyl failed the surrogate recovery criteria low in the Matrix spike performed on sample

DET-003-181001-GW (280-116020-1). The surrogate recoveries in the parent sample were in control.

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

ORGANOCHLORINE PESTICIDES (GC)

Samples DET-003-181001-GW (280-116020-1), DET-003-181002-GW (280-116020-2), LL1mw-083-181001-GW (280-116020-5), LL1mw-084-181001-GW (280-116020-6) and DET-004-181001-GW (280-116020-12) were analyzed for Organochlorine Pesticides (GC) in accordance with SW 846 8081B. The samples were prepared on 10/30/2018 and analyzed on 12/03/2018.

The laboratory control sample duplicate (LCSD) for preparation batch 280-435616 and analytical batch 280-438138 recovered outside control limits for Endosulfan sulfate (135% limits 62-133%). This analytes was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported. The LCS spike recoveries were all in control.

The continuing calibration verification (CCV) associated with batch 280-438138 recovered above the upper control limit for Methoxychlor (26.1 %D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

The initial calibration verification (ICV) result for batch 280-438388 was above the upper control limits for surrogate DCB (ICV (front) DCB +24%; (back) DCB +21%). Sample results were non-detects, and have been reported as qualified data.

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

POLYCHLORINATED BIPHENYLS (PCBS)

Samples DET-003-181001-GW (280-116020-1), DET-003-181002-GW (280-116020-2) and DET-004-181001-GW (280-116020-12) were analyzed for polychlorinated biphenyls (PCBs) in accordance with SW-846 8082A. The samples were prepared on 10/30/2018 and analyzed on 11/24/2018.

The continuing calibration verification (CCV 280-438587/54) recovered above the higher limit for PCB-1016 peak-1 and peak- 5 on the primary column: (However, the average for PCB-1016 is in control on the primary and the confirmation column. The samples are ND and the surrogate recoveries are in control. The data is being reported from the in control column. 8082 analytical batch 280-438587

The following samples required a sulfuric acid clean-up, via EPA Method 3665A, to reduce matrix interferences: DET-003-181001-GW (280-116020-1), DET-003-181002-GW (280-116020-2), DET-004-181001-GW (280-116020-12), (LCS 280-435616/4-A), (LCSD 280-435616/5-A) and (MB 280-435616/1-A). Acid Lot: 161554

The following samples required a mercury clean-up, via EPA Method 3660A, to reduce matrix interferences caused by sulfur: DET-003-181001-GW (280-116020-1), DET-003-181002-GW (280-116020-2), DET-004-181001-GW (280-116020-12), (LCS 280-435616/4-A), (LCSD 280-435616/5-A) and (MB 280-435616/1-A). The reagent lot number used was: T11E059.

The initial calibration verification (ICV) result for batch 280-438388 was above the upper control limit. Sample results were non-detects. Data was reported and flagged.

ICV (front) DCB +24%; (back) DCB +21%
ICV (front) 1248 +16%; (back) 1248 +20%

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

NITROAROMATICS AND NITRAMINES (HPLC)

Samples DET-003-181001-GW (280-116020-1), WBGmw-009-181001-GW (280-116020-4), LL1mw-083-181001-GW (280-116020-5), LL1mw-084-181001-GW (280-116020-6), DA2mw-115-181001-GW (280-116020-8), DA2mw-115-181002-GW (280-116020-9) and DET-004-181001-GW (280-116020-12) were analyzed for Nitroaromatics and Nitramines (HPLC) in accordance with 8330B. The samples were prepared on 10/29/2018, 10/30/2018 and 11/02/2018 and analyzed on 10/30/2018, 11/01/2018, 11/02/2018, 11/05/2018 and 11/06/2018.

The recovery for surrogate 1,2-Dinitrobenzene failed the surrogate recovery criteria in sample WBGmw-009-181001-GW (280-116020-4) and in the method blank MB 280-435346/1-A and in the LCS 280-435346/2-A in analytical batch 280-435517. The LCS spike recoveries for several analytes were also outside control limits. Sample WBGmw-009-181001-GW (280-116020-4) was re-analyzed outside hold times. The surrogate in this sample and the rerun QC was in control. All target compounds were "Un-Detect" in both sample runs. Both sets of data are reported.

The analyte 2-Nitrotoluene was detected in method blank MB 280-436019/1-A at a level that was less than the LOQ on the primary column and 3-Nitrotoluene on the confirmation column. The detections did not confirm, therefore the MB is considered to be non-detect. The value should be considered an estimate, and has been flagged “J” in accordance with the DoD QSM.

Nitrobenzene failed the recovery criteria low for the MSD of sample DA2mw-115-181001-GWMSD (280-116020-8) in batch 280-435886. Nitrobenzene exceeded the RPD limit. The associated LCS was in control and provides evidence that operating procedures were in control..

The %RPD between the primary and confirmation column exceeded 40% for HMX and RDX in sample LL1mw-083-181001-GW

(280-116020-5) and for HMX, RDX and 1,3-Dinitrobenzene in sample LL1mw-084-181001-GW (280-116020-6). Both values been reported and qualified in accordance with the laboratory's SOP.

The continuing calibration verification (CCV) associated with batch 280-435517 recovered above the upper control limit for Tetryl The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample was impacted: WBGmw-009-181001-GW (280-116020-4).

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

TOTAL METALS (ICP)

Samples DET-003-181001-GW (280-116020-1), WBGmw-009-181001-GW (280-116020-4), LL1mw-084-181001-GW (280-116020-6), DA2mw-115-181001-GW (280-116020-8), DA2mw-115-181002-GW (280-116020-9) and DET-004-181001-GW (280-116020-12) were analyzed for Total Metals (ICP) in accordance with 6010C. The samples were prepared on 10/28/2018 and analyzed on 10/29/2018.

Calcium and Sodium were detected in method blank MB 280-435183/1-A at levels that were less than one half the LOQ; therefore, corrective action was deemed unnecessary. The values should be considered estimates, and have been flagged “J” in accordance with the DoD QSM.

The low level continuing calibration verification (CCVL) associated with batch 280-435360 recovered above the upper control limit for Calcium (138% and 149%; limit 130%). The samples associated with this CCVL had Calcium results which were greater than 10x the standard reporting limit (RL, 200 ppb) and are thus controlled instead to the CCV. Therefore, the data have been reported.

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

TOTAL METALS (ICP/MS)

Samples DET-003-181001-GW (280-116020-1), WBGmw-009-181001-GW (280-116020-4), LL1mw-084-181001-GW (280-116020-6), DA2mw-115-181001-GW (280-116020-8), DA2mw-115-181002-GW (280-116020-9) and DET-004-181001-GW (280-116020-12) were analyzed for total metals (ICP/MS) in accordance with 6020A. The samples were prepared on 10/28/2018 and analyzed on 11/02/2018.

Manganese was detected in method blank MB 280-435184/1-A at a level that was less than one half the LOQ; therefore, corrective action was deemed unnecessary. The value should be considered an estimate, and has been flagged “J” in accordance with the DoD QSM.

Manganese failed the recovery criteria low for the MS of sample DA2mw-115-181001-GW (280-116020-8) in batch 280-436227. The associated LCS and LCSD samples were in control and provide evidence that operating procedures were in control.

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

TOTAL MERCURY

Samples DET-003-181001-GW (280-116020-1), WBGmw-009-181001-GW (280-116020-4), LL1mw-084-181001-GW (280-116020-6), DA2mw-115-181001-GW (280-116020-8), DA2mw-115-181002-GW (280-116020-9) and DET-004-181001-GW (280-116020-12) were analyzed for total mercury in accordance with 7470A. The samples were prepared and analyzed on 11/06/2018.

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

ALKALINITY

Samples LL1mw-083-181001-GW (280-116020-5) and LL1mw-084-181001-GW (280-116020-6) were analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 11/01/2018.

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

CYANIDE, TOTAL

Samples DET-003-181001-GW (280-116020-1), LL1mw-084-181001-GW (280-116020-6), FWGmw-013-181001-GW (280-116020-7), DA2mw-115-181001-GW (280-116020-8), DA2mw-115-181002-GW (280-116020-9) and DET-004-181001-GW (280-116020-12) were analyzed for Cyanide, Total in accordance with 9012B. The samples were prepared and analyzed on 11/06/2018.

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

SULFIDE

Samples LL1mw-083-181001-GW (280-116020-5) and LL1mw-084-181001-GW (280-116020-6) were analyzed for sulfide in accordance with EPA SW-846 Method 9034. The samples were prepared and analyzed on 10/27/2018.

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

ANIONS, ION CHROMATOGRAPHY

Samples LL1mw-083-181001-GW (280-116020-5) and LL1mw-084-181001-GW (280-116020-6) were analyzed for Anions, Ion Chromatography in accordance with 9056A. The samples were analyzed on 10/25/2018.

Nitrate as N exceeded the recovery criteria in the MS and MSD performed on sample LL1mw-083-181001-GW (280-116020-5) in batch 280-434904. The associated LCS and LCSD samples were in control and provide evidence that operating procedures were in control.

Nitrate as N exceeded the RPD limit for the duplicate of sample LL1mw-083-181001-GWDU (280-116020-5). Refer to the QC report for details.

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

ANIONS (28 DAYS)

Samples LL1mw-083-181001-GW (280-116020-5) and LL1mw-084-181001-GW (280-116020-6) were analyzed for anions (28 days) in accordance with 9056A. The samples were analyzed on 10/25/2018.

Sulfate failed the recovery criteria low for the MSD of sample LL1mw-083-181001-GW (280-116020-5) in batch 280-434905. The associated LCS and LCSD samples were in control and provide evidence that operating procedures were in control.

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

Detection Summary

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

TestAmerica Job ID: 280-116020-1

Client Sample ID: DET-003-181001-GW — Lab Sample ID: 280-116020-1

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Calcium	95000	Q	1000	140	35	ug/L	1		6010C	Total/NA
Iron	1900		100	85	22	ug/L	1		6010C	Total/NA
Magnesium	35000		500	40	11	ug/L	1		6010C	Total/NA
Potassium	2300	J	3000	940	240	ug/L	1		6010C	Total/NA
Sodium	13000		5000	350	120	ug/L	1		6010C	Total/NA
Arsenic	11		5.0	1.0	0.33	ug/L	1		6020A	Total/NA
Barium	49		3.0	0.95	0.29	ug/L	1		6020A	Total/NA
Cobalt	0.36	J	1.0	0.20	0.054	ug/L	1		6020A	Total/NA
Manganese	260		3.5	0.95	0.31	ug/L	1		6020A	Total/NA

Client Sample ID: DET-003-181002-GW — Lab Sample ID: 280-116020-2

No Detections.

Client Sample ID: FWGTB-181002-TB — Lab Sample ID: 280-116020-3

No Detections.

Client Sample ID: WBGmw-009-181001-GW — Lab Sample ID: 280-116020-4

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
HMX	0.94	Q M	0.40	0.20	0.087	ug/L	1		8330B	Total/NA
RDX	2.8	Q M	0.20	0.12	0.052	ug/L	1		8330B	Total/NA
HMX - RE	1.5	H M	0.56	0.28	0.12	ug/L	1		8330B	Total/NA
RDX - RE	4.1	H M	0.28	0.17	0.073	ug/L	1		8330B	Total/NA
Calcium	54000	Q	1000	140	35	ug/L	1		6010C	Total/NA
Magnesium	16000		500	40	11	ug/L	1		6010C	Total/NA
Potassium	620	J	3000	940	240	ug/L	1		6010C	Total/NA
Sodium	3600	J	5000	350	120	ug/L	1		6010C	Total/NA
Barium	11		3.0	0.95	0.29	ug/L	1		6020A	Total/NA
Cobalt	0.16	J	1.0	0.20	0.054	ug/L	1		6020A	Total/NA
Manganese	22		3.5	0.95	0.31	ug/L	1		6020A	Total/NA
Nickel	0.92	J	3.0	1.0	0.30	ug/L	1		6020A	Total/NA
Zinc	2.4	J	20	8.0	2.0	ug/L	1		6020A	Total/NA

Client Sample ID: LL1mw-083-181001-GW — Lab Sample ID: 280-116020-5

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
delta-BHC	0.0094	J	0.052	0.021	0.0060	ug/L	1		8081B	Total/NA
1,3,5-Trinitrobenzene	7.2	M	1.2	0.47	0.24	ug/L	1		8330B	Total/NA
2,4,6-Trinitrotoluene	3.4		0.47	0.24	0.086	ug/L	1		8330B	Total/NA
2,4-Dinitrotoluene	5.6	M	0.47	0.24	0.099	ug/L	1		8330B	Total/NA
2,6-Dinitrotoluene	3.6	M	0.24	0.24	0.076	ug/L	1		8330B	Total/NA
2-Amino-4,6-dinitrotoluene	14	M	0.24	0.14	0.060	ug/L	1		8330B	Total/NA
4-Amino-2,6-dinitrotoluene	17		0.24	0.14	0.068	ug/L	1		8330B	Total/NA
HMX	1.3	M J1	0.47	0.24	0.10	ug/L	1		8330B	Total/NA
HMX	0.23	J J1	0.47	0.24	0.10	ug/L	1		8330B	Total/NA
RDX	2.1	J1	0.24	0.14	0.062	ug/L	1		8330B	Total/NA
RDX	0.56	J1	0.24	0.14	0.062	ug/L	1		8330B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: LL1mw-083-181001-GW (Continued) — Lab Sample ID: 280-116020-5

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	0.29	J J1	0.50	0.10	0.042	mg/L	1		9056	Total/NA
Sulfate	160	J1	5.0	0.50	0.23	mg/L	1		9056A	Total/NA

Client Sample ID: LL1mw-084-181001-GW — Lab Sample ID: 280-116020-6

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
1,3,5-Trinitrobenzene	2.0	M	1.1	0.42	0.21	ug/L	1		8330B	Total/NA
1,3-Dinitrobenzene	1.2	M J1	0.42	0.21	0.093	ug/L	1		8330B	Total/NA
1,3-Dinitrobenzene	0.53	J1	0.42	0.21	0.093	ug/L	1		8330B	Total/NA
2,4,6-Trinitrotoluene	4.6		0.42	0.21	0.076	ug/L	1		8330B	Total/NA
2,4-Dinitrotoluene	1.8		0.42	0.21	0.088	ug/L	1		8330B	Total/NA
2-Amino-4,6-dinitrotoluene	9.6		0.21	0.13	0.053	ug/L	1		8330B	Total/NA
4-Amino-2,6-dinitrotoluene	19		0.21	0.13	0.061	ug/L	1		8330B	Total/NA
HMX	2.4	M J1	0.42	0.21	0.092	ug/L	1		8330B	Total/NA
HMX	0.62	J1	0.42	0.21	0.092	ug/L	1		8330B	Total/NA
RDX	5.2	M J1	0.21	0.13	0.055	ug/L	1		8330B	Total/NA
RDX	1.1	J1	0.21	0.13	0.055	ug/L	1		8330B	Total/NA
Aluminum	500		300	70	18	ug/L	1		6010C	Total/NA
Calcium	51000	Q	1000	140	35	ug/L	1		6010C	Total/NA
Magnesium	3600		500	40	11	ug/L	1		6010C	Total/NA
Potassium	3600		3000	940	240	ug/L	1		6010C	Total/NA
Sodium	3700	J	5000	350	120	ug/L	1		6010C	Total/NA
Barium	16		3.0	0.95	0.29	ug/L	1		6020A	Total/NA
Beryllium	0.13	J	1.0	0.30	0.080	ug/L	1		6020A	Total/NA
Cadmium	1.7		1.0	1.0	0.27	ug/L	1		6020A	Total/NA
Cobalt	13		1.0	0.20	0.054	ug/L	1		6020A	Total/NA
Copper	5.3		2.0	1.8	0.56	ug/L	1		6020A	Total/NA
Lead	1.0	J	3.0	0.70	0.18	ug/L	1		6020A	Total/NA
Manganese	140		3.5	0.95	0.31	ug/L	1		6020A	Total/NA
Nickel	34		3.0	1.0	0.30	ug/L	1		6020A	Total/NA
Selenium	1.5	J	5.0	2.0	0.70	ug/L	1		6020A	Total/NA
Thallium	0.46	J	1.0	0.20	0.050	ug/L	1		6020A	Total/NA
Zinc	67		20	8.0	2.0	ug/L	1		6020A	Total/NA
Nitrate as N	0.31	J	0.50	0.10	0.042	mg/L	1		9056	Total/NA
Sulfate	130		5.0	0.50	0.23	mg/L	1		9056A	Total/NA
Alkalinity	17		5.0	5.0	1.1	mg/L	1		SM 2320B	Total/NA

Client Sample ID: FWGmw-013-181001-GW — Lab Sample ID: 280-116020-7

No Detections.

Client Sample ID: DA2mw-115-181001-GW — Lab Sample ID: 280-116020-8

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Calcium	120000	Q	1000	140	35	ug/L	1		6010C	Total/NA
Iron	1000		100	85	22	ug/L	1		6010C	Total/NA
Magnesium	32000		500	40	11	ug/L	1		6010C	Total/NA
Potassium	3800		3000	940	240	ug/L	1		6010C	Total/NA
Sodium	12000		5000	350	120	ug/L	1		6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DA2mw-115-181001-GW (Continued) Lab Sample ID: 280-116020-8

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.6	J	5.0	1.0	0.33	ug/L	1		6020A	Total/NA
Barium	22		3.0	0.95	0.29	ug/L	1		6020A	Total/NA
Manganese	110	J1	3.5	0.95	0.31	ug/L	1		6020A	Total/NA
Zinc	2.2	J	20	8.0	2.0	ug/L	1		6020A	Total/NA

Client Sample ID: DA2mw-115-181002-GW Lab Sample ID: 280-116020-9

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	19	J	300	70	18	ug/L	1		6010C	Total/NA
Calcium	120000	Q	1000	140	35	ug/L	1		6010C	Total/NA
Iron	960		100	85	22	ug/L	1		6010C	Total/NA
Magnesium	32000		500	40	11	ug/L	1		6010C	Total/NA
Potassium	3900		3000	940	240	ug/L	1		6010C	Total/NA
Sodium	14000		5000	350	120	ug/L	1		6010C	Total/NA
Arsenic	1.5	J	5.0	1.0	0.33	ug/L	1		6020A	Total/NA
Barium	21		3.0	0.95	0.29	ug/L	1		6020A	Total/NA
Manganese	100		3.5	0.95	0.31	ug/L	1		6020A	Total/NA

Client Sample ID: DET-004-181001-GW Lab Sample ID: 280-116020-12

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
HMX	2.1	M	0.45	0.22	0.098	ug/L	1		8330B	Total/NA
RDX	0.67	M	0.22	0.13	0.059	ug/L	1		8330B	Total/NA
Calcium	150000	Q	1000	140	35	ug/L	1		6010C	Total/NA
Magnesium	29000		500	40	11	ug/L	1		6010C	Total/NA
Potassium	1700	J	3000	940	240	ug/L	1		6010C	Total/NA
Sodium	2300	J	5000	350	120	ug/L	1		6010C	Total/NA
Barium	72		3.0	0.95	0.29	ug/L	1		6020A	Total/NA
Copper	1.3	J	2.0	1.8	0.56	ug/L	1		6020A	Total/NA
Manganese	37		3.5	0.95	0.31	ug/L	1		6020A	Total/NA
Nickel	0.81	J	3.0	1.0	0.30	ug/L	1		6020A	Total/NA
Zinc	21		20	8.0	2.0	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

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

Client Sample ID: DET-003-181001-GW **Lab Sample ID: 280-116020-1**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 01:31	1
1,1,2,2-Tetrachloroethane	0.80	U H	1.0	0.80	0.21	ug/L		11/14/18 01:31	1
1,1,2-Trichloroethane	0.80	U H	1.0	0.80	0.27	ug/L		11/14/18 01:31	1
1,1-Dichloroethane	0.80	U H	1.0	0.80	0.22	ug/L		11/14/18 01:31	1
1,1-Dichloroethene	0.80	U H	1.0	0.80	0.23	ug/L		11/14/18 01:31	1
1,2-Dibromoethane	0.40	U H	1.0	0.40	0.18	ug/L		11/14/18 01:31	1
1,2-Dichloroethane	0.40	U H	1.0	0.40	0.13	ug/L		11/14/18 01:31	1
1,2-Dichloroethene, Total	0.20	U H	1.0	0.20	0.24	ug/L		11/14/18 01:31	1
1,2-Dichloropropane	0.40	U H	1.0	0.40	0.18	ug/L		11/14/18 01:31	1
2-Butanone (MEK)	4.0	U H	6.0	4.0	2.0	ug/L		11/14/18 01:31	1
2-Hexanone	4.0	U H	5.0	4.0	1.7	ug/L		11/14/18 01:31	1
4-Methyl-2-pentanone (MIBK)	3.2	U H	5.0	3.2	0.98	ug/L		11/14/18 01:31	1
Acetone	6.4	U H	10	6.4	1.9	ug/L		11/14/18 01:31	1
Benzene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 01:31	1
Bromobenzene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 01:31	1
Bromochloromethane	0.20	U H	1.0	0.20	0.10	ug/L		11/14/18 01:31	1
Bromodichloromethane	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 01:31	1
Bromoform	0.40	U H	1.0	0.40	0.19	ug/L		11/14/18 01:31	1
Bromomethane	0.80	U H	2.0	0.80	0.21	ug/L		11/14/18 01:31	1
Carbon disulfide	1.6	U H	2.0	1.6	0.45	ug/L		11/14/18 01:31	1
Carbon tetrachloride	0.40	U H	2.0	0.40	0.19	ug/L		11/14/18 01:31	1
Chlorobenzene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 01:31	1
Chloroethane	1.6	U H	2.0	1.6	0.41	ug/L		11/14/18 01:31	1
Chloroform	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 01:31	1
Chloromethane	0.80	U H	2.0	0.80	0.30	ug/L		11/14/18 01:31	1
cis-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 01:31	1
Dibromochloromethane	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 01:31	1
Ethylbenzene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 01:31	1
Methylene Chloride	0.80	U H	5.0	0.80	0.32	ug/L		11/14/18 01:31	1
Styrene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 01:31	1
Tetrachloroethene	0.40	U H	1.0	0.40	0.20	ug/L		11/14/18 01:31	1
Toluene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 01:31	1
trans-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.19	ug/L		11/14/18 01:31	1
Trichloroethene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 01:31	1
Vinyl chloride	0.20	U H	1.5	0.20	0.10	ug/L		11/14/18 01:31	1
Xylenes, Total	0.80	U H	1.0	0.80	0.19	ug/L		11/14/18 01:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*		*11/14/18 01:31*	*1*
4-Bromofluorobenzene (Surr)	*104*		*85 - 114*		*11/14/18 01:31*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 119*		*11/14/18 01:31*	*1*
Toluene-d8 (Surr)	*101*		*89 - 112*		*11/14/18 01:31*	*1*

Client Sample ID: DET-003-181002-GW **Lab Sample ID: 280-116020-2**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 02:32	1
1,1,2,2-Tetrachloroethane	0.80	U H	1.0	0.80	0.21	ug/L		11/14/18 02:32	1
1,1,2-Trichloroethane	0.80	U H	1.0	0.80	0.27	ug/L		11/14/18 02:32	1

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

Client Sample ID: DET-003-181002-GW **Lab Sample ID: 280-116020-2**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1-Dichloroethane	0.80	U H	1.0	0.80	0.22	ug/L		11/14/18 02:32	1
1,1-Dichloroethene	0.80	U H	1.0	0.80	0.23	ug/L		11/14/18 02:32	1
1,2-Dibromoethane	0.40	U H	1.0	0.40	0.18	ug/L		11/14/18 02:32	1
1,2-Dichloroethane	0.40	U H	1.0	0.40	0.13	ug/L		11/14/18 02:32	1
1,2-Dichloroethene, Total	0.20	U H	1.0	0.20	0.24	ug/L		11/14/18 02:32	1
1,2-Dichloropropane	0.40	U H	1.0	0.40	0.18	ug/L		11/14/18 02:32	1
2-Butanone (MEK)	4.0	U H	6.0	4.0	2.0	ug/L		11/14/18 02:32	1
2-Hexanone	4.0	U H	5.0	4.0	1.7	ug/L		11/14/18 02:32	1
4-Methyl-2-pentanone (MIBK)	3.2	U H	5.0	3.2	0.98	ug/L		11/14/18 02:32	1
Acetone	6.4	U H	10	6.4	1.9	ug/L		11/14/18 02:32	1
Benzene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 02:32	1
Bromobenzene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 02:32	1
Bromochloromethane	0.20	U H	1.0	0.20	0.10	ug/L		11/14/18 02:32	1
Bromodichloromethane	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 02:32	1
Bromoform	0.40	U H	1.0	0.40	0.19	ug/L		11/14/18 02:32	1
Bromomethane	0.80	U H	2.0	0.80	0.21	ug/L		11/14/18 02:32	1
Carbon disulfide	1.6	U H	2.0	1.6	0.45	ug/L		11/14/18 02:32	1
Carbon tetrachloride	0.40	U H	2.0	0.40	0.19	ug/L		11/14/18 02:32	1
Chlorobenzene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 02:32	1
Chloroethane	1.6	U H	2.0	1.6	0.41	ug/L		11/14/18 02:32	1
Chloroform	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 02:32	1
Chloromethane	0.80	U H	2.0	0.80	0.30	ug/L		11/14/18 02:32	1
cis-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 02:32	1
Dibromochloromethane	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 02:32	1
Ethylbenzene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 02:32	1
Methylene Chloride	0.80	U H	5.0	0.80	0.32	ug/L		11/14/18 02:32	1
Styrene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 02:32	1
Tetrachloroethene	0.40	U H	1.0	0.40	0.20	ug/L		11/14/18 02:32	1
Toluene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 02:32	1
trans-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.19	ug/L		11/14/18 02:32	1
Trichloroethene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 02:32	1
Vinyl chloride	0.20	U H	1.5	0.20	0.10	ug/L		11/14/18 02:32	1
Xylenes, Total	0.80	U H	1.0	0.80	0.19	ug/L		11/14/18 02:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*81 - 118*		*11/14/18 02:32*	*1*
4-Bromofluorobenzene (Surr)	*102*		*85 - 114*		*11/14/18 02:32*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 119*		*11/14/18 02:32*	*1*
Toluene-d8 (Surr)	*99*		*89 - 112*		*11/14/18 02:32*	*1*

Client Sample ID: FWGTB-181002-TB **Lab Sample ID: 280-116020-3**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 02:52	1
1,1,2,2-Tetrachloroethane	0.80	U H	1.0	0.80	0.21	ug/L		11/14/18 02:52	1
1,1,2-Trichloroethane	0.80	U H	1.0	0.80	0.27	ug/L		11/14/18 02:52	1
1,1-Dichloroethane	0.80	U H	1.0	0.80	0.22	ug/L		11/14/18 02:52	1
1,1-Dichloroethene	0.80	U H	1.0	0.80	0.23	ug/L		11/14/18 02:52	1
1,2-Dibromoethane	0.40	U H	1.0	0.40	0.18	ug/L		11/14/18 02:52	1

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

Client Sample ID: FWGTB-181002-TB **Lab Sample ID: 280-116020-3**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichloroethane	0.40	U H	1.0	0.40	0.13	ug/L		11/14/18 02:52	1
1,2-Dichloroethene, Total	0.20	U H	1.0	0.20	0.24	ug/L		11/14/18 02:52	1
1,2-Dichloropropane	0.40	U H	1.0	0.40	0.18	ug/L		11/14/18 02:52	1
2-Butanone (MEK)	4.0	U H	6.0	4.0	2.0	ug/L		11/14/18 02:52	1
2-Hexanone	4.0	U H	5.0	4.0	1.7	ug/L		11/14/18 02:52	1
4-Methyl-2-pentanone (MIBK)	3.2	U H	5.0	3.2	0.98	ug/L		11/14/18 02:52	1
Acetone	6.4	U H	10	6.4	1.9	ug/L		11/14/18 02:52	1
Benzene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 02:52	1
Bromobenzene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 02:52	1
Bromochloromethane	0.20	U H	1.0	0.20	0.10	ug/L		11/14/18 02:52	1
Bromodichloromethane	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 02:52	1
Bromoform	0.40	U H	1.0	0.40	0.19	ug/L		11/14/18 02:52	1
Bromomethane	0.80	U H	2.0	0.80	0.21	ug/L		11/14/18 02:52	1
Carbon disulfide	1.6	U H	2.0	1.6	0.45	ug/L		11/14/18 02:52	1
Carbon tetrachloride	0.40	U H	2.0	0.40	0.19	ug/L		11/14/18 02:52	1
Chlorobenzene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 02:52	1
Chloroethane	1.6	U H	2.0	1.6	0.41	ug/L		11/14/18 02:52	1
Chloroform	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 02:52	1
Chloromethane	0.80	U H	2.0	0.80	0.30	ug/L		11/14/18 02:52	1
cis-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 02:52	1
Dibromochloromethane	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 02:52	1
Ethylbenzene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 02:52	1
Methylene Chloride	0.80	U H	5.0	0.80	0.32	ug/L		11/14/18 02:52	1
Styrene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 02:52	1
Tetrachloroethene	0.40	U H	1.0	0.40	0.20	ug/L		11/14/18 02:52	1
Toluene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 02:52	1
trans-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.19	ug/L		11/14/18 02:52	1
Trichloroethene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 02:52	1
Vinyl chloride	0.20	U H	1.5	0.20	0.10	ug/L		11/14/18 02:52	1
Xylenes, Total	0.80	U H	1.0	0.80	0.19	ug/L		11/14/18 02:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*81 - 118*		*11/14/18 02:52*	*1*
4-Bromofluorobenzene (Surr)	*101*		*85 - 114*		*11/14/18 02:52*	*1*
Dibromofluoromethane (Surr)	*89*		*80 - 119*		*11/14/18 02:52*	*1*
Toluene-d8 (Surr)	*99*		*89 - 112*		*11/14/18 02:52*	*1*

Client Sample ID: DET-004-181001-GW **Lab Sample ID: 280-116020-12**
Date Collected: 10/24/18 11:20 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 03:12	1
1,1,2,2-Tetrachloroethane	0.80	U H	1.0	0.80	0.21	ug/L		11/14/18 03:12	1
1,1,2-Trichloroethane	0.80	U H	1.0	0.80	0.27	ug/L		11/14/18 03:12	1
1,1-Dichloroethane	0.80	U H	1.0	0.80	0.22	ug/L		11/14/18 03:12	1
1,1-Dichloroethene	0.80	U H	1.0	0.80	0.23	ug/L		11/14/18 03:12	1
1,2-Dibromoethane	0.40	U H	1.0	0.40	0.18	ug/L		11/14/18 03:12	1
1,2-Dichloroethane	0.40	U H	1.0	0.40	0.13	ug/L		11/14/18 03:12	1
1,2-Dichloroethene, Total	0.20	U H	1.0	0.20	0.24	ug/L		11/14/18 03:12	1
1,2-Dichloropropane	0.40	U H	1.0	0.40	0.18	ug/L		11/14/18 03:12	1

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

Client Sample ID: DET-004-181001-GW **Lab Sample ID: 280-116020-12**
Date Collected: 10/24/18 11:20 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Butanone (MEK)	4.0	U H	6.0	4.0	2.0	ug/L		11/14/18 03:12	1
2-Hexanone	4.0	U H	5.0	4.0	1.7	ug/L		11/14/18 03:12	1
4-Methyl-2-pentanone (MIBK)	3.2	U H	5.0	3.2	0.98	ug/L		11/14/18 03:12	1
Acetone	6.4	U M H	10	6.4	1.9	ug/L		11/14/18 03:12	1
Benzene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 03:12	1
Bromobenzene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 03:12	1
Bromochloromethane	0.20	U H	1.0	0.20	0.10	ug/L		11/14/18 03:12	1
Bromodichloromethane	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 03:12	1
Bromoform	0.40	U H	1.0	0.40	0.19	ug/L		11/14/18 03:12	1
Bromomethane	0.80	U H	2.0	0.80	0.21	ug/L		11/14/18 03:12	1
Carbon disulfide	1.6	U H	2.0	1.6	0.45	ug/L		11/14/18 03:12	1
Carbon tetrachloride	0.40	U H	2.0	0.40	0.19	ug/L		11/14/18 03:12	1
Chlorobenzene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 03:12	1
Chloroethane	1.6	U H	2.0	1.6	0.41	ug/L		11/14/18 03:12	1
Chloroform	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 03:12	1
Chloromethane	0.80	U H	2.0	0.80	0.30	ug/L		11/14/18 03:12	1
cis-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 03:12	1
Dibromochloromethane	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 03:12	1
Ethylbenzene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 03:12	1
Methylene Chloride	0.80	U H	5.0	0.80	0.32	ug/L		11/14/18 03:12	1
Styrene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 03:12	1
Tetrachloroethene	0.40	U H	1.0	0.40	0.20	ug/L		11/14/18 03:12	1
Toluene	0.40	U H	1.0	0.40	0.17	ug/L		11/14/18 03:12	1
trans-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.19	ug/L		11/14/18 03:12	1
Trichloroethene	0.40	U H	1.0	0.40	0.16	ug/L		11/14/18 03:12	1
Vinyl chloride	0.20	U H	1.5	0.20	0.10	ug/L		11/14/18 03:12	1
Xylenes, Total	0.80	U H	1.0	0.80	0.19	ug/L		11/14/18 03:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*		*11/14/18 03:12*	*1*
4-Bromofluorobenzene (Surr)	*101*		*85 - 114*		*11/14/18 03:12*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 119*		*11/14/18 03:12*	*1*
Toluene-d8 (Surr)	*100*		*89 - 112*		*11/14/18 03:12*	*1*

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

Client Sample ID: DET-003-181001-GW **Lab Sample ID: 280-116020-1**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1-Methylnaphthalene	0.013	U	0.10	0.013	0.0062	ug/L		11/09/18 01:53	1
2-Methylnaphthalene	0.013	U	0.10	0.013	0.0063	ug/L		11/09/18 01:53	1
Acenaphthene	0.042	U M	0.10	0.042	0.0044	ug/L		11/09/18 01:53	1
Acenaphthylene	0.042	U	0.10	0.042	0.0053	ug/L		11/09/18 01:53	1
Anthracene	0.042	U	0.10	0.042	0.0059	ug/L		11/09/18 01:53	1
Benzo[a]anthracene	0.013	U	0.10	0.013	0.0044	ug/L		11/09/18 01:53	1
Benzo[a]pyrene	0.013	U M	0.10	0.013	0.0072	ug/L		11/09/18 01:53	1
Benzo[b]fluoranthene	0.013	U	0.10	0.013	0.0032	ug/L		11/09/18 01:53	1
Benzo[g,h,i]perylene	0.013	U	0.10	0.013	0.0065	ug/L		11/09/18 01:53	1
Benzo[k]fluoranthene	0.013	U M	0.10	0.013	0.0066	ug/L		11/09/18 01:53	1

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

Client Sample ID: DET-003-181001-GW **Lab Sample ID: 280-116020-1**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chrysene	0.013	U	0.10	0.013	0.0034	ug/L		11/09/18 01:53	1
Dibenz(a,h)anthracene	0.013	U	0.10	0.013	0.0043	ug/L		11/09/18 01:53	1
Fluoranthene	0.013	U	0.10	0.013	0.0050	ug/L		11/09/18 01:53	1
Fluorene	0.042	U	0.10	0.042	0.0057	ug/L		11/09/18 01:53	1
Indeno[1,2,3-cd]pyrene	0.042	U	0.10	0.042	0.0047	ug/L		11/09/18 01:53	1
Naphthalene	0.013	U	0.10	0.013	0.0084	ug/L		11/09/18 01:53	1
Phenanthrene	0.021	U	0.10	0.021	0.0097	ug/L		11/09/18 01:53	1
Pyrene	0.021	U	0.10	0.021	0.0064	ug/L		11/09/18 01:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*53 - 106*	*10/29/18 21:02*	*11/09/18 01:53*	*1*
Nitrobenzene-d5	*61*		*55 - 111*	*10/29/18 21:02*	*11/09/18 01:53*	*1*
Terphenyl-d14	*91*		*58 - 132*	*10/29/18 21:02*	*11/09/18 01:53*	*1*

Client Sample ID: DET-003-181002-GW **Lab Sample ID: 280-116020-2**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1-Methylnaphthalene	0.012	U	0.10	0.012	0.0060	ug/L		11/02/18 01:28	1
2-Methylnaphthalene	0.012	U	0.10	0.012	0.0061	ug/L		11/02/18 01:28	1
Acenaphthene	0.041	U	0.10	0.041	0.0043	ug/L		11/02/18 01:28	1
Acenaphthylene	0.041	U	0.10	0.041	0.0052	ug/L		11/02/18 01:28	1
Anthracene	0.041	U	0.10	0.041	0.0057	ug/L		11/02/18 01:28	1
Benzo[a]anthracene	0.012	U	0.10	0.012	0.0043	ug/L		11/02/18 01:28	1
Benzo[a]pyrene	0.012	U	0.10	0.012	0.0071	ug/L		11/02/18 01:28	1
Benzo[b]fluoranthene	0.012	U	0.10	0.012	0.0032	ug/L		11/02/18 01:28	1
Benzo[g,h,i]perylene	0.012	U	0.10	0.012	0.0063	ug/L		11/02/18 01:28	1
Benzo[k]fluoranthene	0.012	U M	0.10	0.012	0.0064	ug/L		11/02/18 01:28	1
Chrysene	0.012	U	0.10	0.012	0.0034	ug/L		11/02/18 01:28	1
Dibenz(a,h)anthracene	0.012	U	0.10	0.012	0.0042	ug/L		11/02/18 01:28	1
Fluoranthene	0.012	U	0.10	0.012	0.0049	ug/L		11/02/18 01:28	1
Fluorene	0.041	U	0.10	0.041	0.0056	ug/L		11/02/18 01:28	1
Indeno[1,2,3-cd]pyrene	0.041	U	0.10	0.041	0.0046	ug/L		11/02/18 01:28	1
Naphthalene	0.012	U	0.10	0.012	0.0082	ug/L		11/02/18 01:28	1
Phenanthrene	0.020	U	0.10	0.020	0.0095	ug/L		11/02/18 01:28	1
Pyrene	0.020	U	0.10	0.020	0.0062	ug/L		11/02/18 01:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*53 - 106*	*10/29/18 21:02*	*11/02/18 01:28*	*1*
Nitrobenzene-d5	*73*		*55 - 111*	*10/29/18 21:02*	*11/02/18 01:28*	*1*
Terphenyl-d14	*83*		*58 - 132*	*10/29/18 21:02*	*11/02/18 01:28*	*1*

Client Sample ID: DET-004-181001-GW **Lab Sample ID: 280-116020-12**
Date Collected: 10/24/18 11:20 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1-Methylnaphthalene	0.014	U Q	0.11	0.014	0.0067	ug/L		11/02/18 01:58	1
2-Methylnaphthalene	0.014	U Q	0.11	0.014	0.0068	ug/L		11/02/18 01:58	1
Acenaphthene	0.045	U Q	0.11	0.045	0.0047	ug/L		11/02/18 01:58	1
Acenaphthylene	0.045	U Q	0.11	0.045	0.0057	ug/L		11/02/18 01:58	1

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

Client Sample ID: DET-004-181001-GW **Lab Sample ID: 280-116020-12**
Date Collected: 10/24/18 11:20 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.045	U Q	0.11	0.045	0.0063	ug/L		11/02/18 01:58	1
Benzo[a]anthracene	0.014	U	0.11	0.014	0.0047	ug/L		11/02/18 01:58	1
Benzo[a]pyrene	0.014	U	0.11	0.014	0.0078	ug/L		11/02/18 01:58	1
Benzo[b]fluoranthene	0.014	U	0.11	0.014	0.0035	ug/L		11/02/18 01:58	1
Benzo[g,h,i]perylene	0.014	U	0.11	0.014	0.0070	ug/L		11/02/18 01:58	1
Benzo[k]fluoranthene	0.014	U	0.11	0.014	0.0071	ug/L		11/02/18 01:58	1
Chrysene	0.014	U	0.11	0.014	0.0037	ug/L		11/02/18 01:58	1
Dibenz(a,h)anthracene	0.014	U	0.11	0.014	0.0046	ug/L		11/02/18 01:58	1
Fluoranthene	0.014	U Q	0.11	0.014	0.0054	ug/L		11/02/18 01:58	1
Fluorene	0.045	U Q	0.11	0.045	0.0062	ug/L		11/02/18 01:58	1
Indeno[1,2,3-cd]pyrene	0.045	U	0.11	0.045	0.0051	ug/L		11/02/18 01:58	1
Naphthalene	0.014	U Q	0.11	0.014	0.0090	ug/L		11/02/18 01:58	1
Phenanthrene	0.023	U Q	0.11	0.023	0.010	ug/L		11/02/18 01:58	1
Pyrene	0.023	U Q	0.11	0.023	0.0069	ug/L		11/02/18 01:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*47*	*Q*	*53 - 106*	*10/29/18 21:02*	*11/02/18 01:58*	*1*
Nitrobenzene-d5	*52*	*Q*	*55 - 111*	*10/29/18 21:02*	*11/02/18 01:58*	*1*
Terphenyl-d14	*78*		*58 - 132*	*10/29/18 21:02*	*11/02/18 01:58*	*1*

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

Client Sample ID: DET-003-181001-GW **Lab Sample ID: 280-116020-1**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,4,5-Trichlorophenol	0.99	U	20	0.99	0.44	ug/L		11/07/18 16:26	1
2,4,6-Trichlorophenol	0.99	U	20	0.99	0.29	ug/L		11/07/18 16:26	1
2,4-Dichlorophenol	2.0	U	9.9	2.0	0.63	ug/L		11/07/18 16:26	1
2,4-Dimethylphenol	2.0	U	9.9	2.0	0.57	ug/L		11/07/18 16:26	1
2,4-Dinitrophenol	30	U	79	30	9.9	ug/L		11/07/18 16:26	1
2,4-Dinitrotoluene	4.3	U	20	4.3	1.6	ug/L		11/07/18 16:26	1
2,6-Dinitrotoluene	4.3	U	20	4.3	1.9	ug/L		11/07/18 16:26	1
2-Chlorophenol	4.3	U J1	9.9	4.3	2.0	ug/L		11/07/18 16:26	1
2-Methylphenol	2.0	U J1	9.9	2.0	0.97	ug/L		11/07/18 16:26	1
2-Nitrophenol	0.99	U J1	20	0.99	0.38	ug/L		11/07/18 16:26	1
3 & 4 Methylphenol	0.49	U	20	0.49	0.25	ug/L		11/07/18 16:26	1
4,6-Dinitro-2-methylphenol	8.7	U	79	8.7	3.9	ug/L		11/07/18 16:26	1
4-Chloro-3-methylphenol	4.9	U	20	4.9	2.4	ug/L		11/07/18 16:26	1
4-Nitrophenol	3.9	U	49	3.9	1.2	ug/L		11/07/18 16:26	1
Bis(2-ethylhexyl) phthalate	2.0	U	9.9	2.0	0.55	ug/L		11/07/18 16:26	1
Butyl benzyl phthalate	2.0	U	20	2.0	0.99	ug/L		11/07/18 16:26	1
Diethyl phthalate	0.99	U	20	0.99	0.37	ug/L		11/07/18 16:26	1
Dimethyl phthalate	0.49	U	20	0.49	0.21	ug/L		11/07/18 16:26	1
Di-n-butyl phthalate	4.3	U	20	4.3	1.1	ug/L		11/07/18 16:26	1
Di-n-octyl phthalate	0.99	U	20	0.99	0.34	ug/L		11/07/18 16:26	1
Nitrobenzene	2.0	U J1	20	2.0	0.80	ug/L		11/07/18 16:26	1
Pentachlorophenol	59	U	79	59	20	ug/L		11/07/18 16:26	1
Phenol	4.3	U J1	9.9	4.3	2.0	ug/L		11/07/18 16:26	1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	*83*		*43 - 140*	*10/29/18 12:36*	*11/07/18 16:26*	*1*
2-Fluorobiphenyl	*77*		*44 - 119*	*10/29/18 12:36*	*11/07/18 16:26*	*1*
2-Fluorophenol (Surr)	*83*		*19 - 119*	*10/29/18 12:36*	*11/07/18 16:26*	*1*
Nitrobenzene-d5 (Surr)	*79*		*44 - 120*	*10/29/18 12:36*	*11/07/18 16:26*	*1*
Phenol-d5 (Surr)	*82*		*10 - 115*	*10/29/18 12:36*	*11/07/18 16:26*	*1*
Terphenyl-d14 (Surr)	*76*		*50 - 134*	*10/29/18 12:36*	*11/07/18 16:26*	*1*

Client Sample ID: DET-003-181002-GW **Lab Sample ID: 280-116020-2**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	2.0	U	9.8	2.0	0.55	ug/L		11/07/18 17:53	1
Butyl benzyl phthalate	2.0	U	20	2.0	0.98	ug/L		11/07/18 17:53	1
Diethyl phthalate	0.98	U	20	0.98	0.37	ug/L		11/07/18 17:53	1
Dimethyl phthalate	0.49	U	20	0.49	0.21	ug/L		11/07/18 17:53	1
Di-n-butyl phthalate	4.3	U	20	4.3	1.1	ug/L		11/07/18 17:53	1
Di-n-octyl phthalate	0.98	U	20	0.98	0.34	ug/L		11/07/18 17:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	*78*		*43 - 140*	*10/29/18 12:36*	*11/07/18 17:53*	*1*
2-Fluorobiphenyl	*57*		*44 - 119*	*10/29/18 12:36*	*11/07/18 17:53*	*1*
2-Fluorophenol (Surr)	*56*		*19 - 119*	*10/29/18 12:36*	*11/07/18 17:53*	*1*
Nitrobenzene-d5 (Surr)	*54*		*44 - 120*	*10/29/18 12:36*	*11/07/18 17:53*	*1*
Phenol-d5 (Surr)	*59*		*10 - 115*	*10/29/18 12:36*	*11/07/18 17:53*	*1*
Terphenyl-d14 (Surr)	*80*		*50 - 134*	*10/29/18 12:36*	*11/07/18 17:53*	*1*

Client Sample ID: WBGmw-009-181001-GW **Lab Sample ID: 280-116020-4**
Date Collected: 10/23/18 14:35 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	2.2	U	11	2.2	0.61	ug/L		11/07/18 18:21	1
Butyl benzyl phthalate	2.2	U	22	2.2	1.1	ug/L		11/07/18 18:21	1
Diethyl phthalate	1.1	U	22	1.1	0.41	ug/L		11/07/18 18:21	1
Dimethyl phthalate	0.54	U	22	0.54	0.23	ug/L		11/07/18 18:21	1
Di-n-butyl phthalate	4.8	U	22	4.8	1.3	ug/L		11/07/18 18:21	1
Di-n-octyl phthalate	1.1	U	22	1.1	0.38	ug/L		11/07/18 18:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	*85*		*43 - 140*	*10/29/18 12:36*	*11/07/18 18:21*	*1*
2-Fluorobiphenyl	*77*		*44 - 119*	*10/29/18 12:36*	*11/07/18 18:21*	*1*
2-Fluorophenol (Surr)	*87*		*19 - 119*	*10/29/18 12:36*	*11/07/18 18:21*	*1*
Nitrobenzene-d5 (Surr)	*81*		*44 - 120*	*10/29/18 12:36*	*11/07/18 18:21*	*1*
Phenol-d5 (Surr)	*89*		*10 - 115*	*10/29/18 12:36*	*11/07/18 18:21*	*1*
Terphenyl-d14 (Surr)	*80*		*50 - 134*	*10/29/18 12:36*	*11/07/18 18:21*	*1*

Client Sample ID: LL1mw-083-181001-GW **Lab Sample ID: 280-116020-5**
Date Collected: 10/24/18 13:25 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	2.1	U	10	2.1	0.59	ug/L		11/07/18 18:50	1
Butyl benzyl phthalate	2.1	U	21	2.1	1.0	ug/L		11/07/18 18:50	1
Diethyl phthalate	1.0	U	21	1.0	0.40	ug/L		11/07/18 18:50	1
Dimethyl phthalate	0.52	U	21	0.52	0.22	ug/L		11/07/18 18:50	1

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

Client Sample ID: LL1mw-083-181001-GW **Lab Sample ID: 280-116020-5**
Date Collected: 10/24/18 13:25 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Di-n-butyl phthalate	4.6	U	21	4.6	1.2	ug/L		11/07/18 18:50	1
Di-n-octyl phthalate	1.0	U	21	1.0	0.37	ug/L		11/07/18 18:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*		*43 - 140*	*10/29/18 12:36*	*11/07/18 18:50*	*1*
2-Fluorobiphenyl	*70*		*44 - 119*	*10/29/18 12:36*	*11/07/18 18:50*	*1*
2-Fluorophenol (Surr)	*77*		*19 - 119*	*10/29/18 12:36*	*11/07/18 18:50*	*1*
Nitrobenzene-d5 (Surr)	*73*		*44 - 120*	*10/29/18 12:36*	*11/07/18 18:50*	*1*
Phenol-d5 (Surr)	*78*		*10 - 115*	*10/29/18 12:36*	*11/07/18 18:50*	*1*
Terphenyl-d14 (Surr)	*76*		*50 - 134*	*10/29/18 12:36*	*11/07/18 18:50*	*1*

Client Sample ID: LL1mw-084-181001-GW **Lab Sample ID: 280-116020-6**
Date Collected: 10/24/18 09:30 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	1.9	U	9.5	1.9	0.53	ug/L		11/07/18 19:18	1
Butyl benzyl phthalate	1.9	U	19	1.9	0.95	ug/L		11/07/18 19:18	1
Diethyl phthalate	0.95	U	19	0.95	0.36	ug/L		11/07/18 19:18	1
Dimethyl phthalate	0.47	U	19	0.47	0.20	ug/L		11/07/18 19:18	1
Di-n-butyl phthalate	4.2	U	19	4.2	1.1	ug/L		11/07/18 19:18	1
Di-n-octyl phthalate	0.95	U	19	0.95	0.33	ug/L		11/07/18 19:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*87*		*43 - 140*	*10/29/18 12:36*	*11/07/18 19:18*	*1*
2-Fluorobiphenyl	*73*		*44 - 119*	*10/29/18 12:36*	*11/07/18 19:18*	*1*
2-Fluorophenol (Surr)	*76*		*19 - 119*	*10/29/18 12:36*	*11/07/18 19:18*	*1*
Nitrobenzene-d5 (Surr)	*72*		*44 - 120*	*10/29/18 12:36*	*11/07/18 19:18*	*1*
Phenol-d5 (Surr)	*77*		*10 - 115*	*10/29/18 12:36*	*11/07/18 19:18*	*1*
Terphenyl-d14 (Surr)	*79*		*50 - 134*	*10/29/18 12:36*	*11/07/18 19:18*	*1*

Client Sample ID: DA2mw-115-181001-GW **Lab Sample ID: 280-116020-8**
Date Collected: 10/24/18 12:45 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	2.1	U	10	2.1	0.58	ug/L		11/07/18 19:47	1
Butyl benzyl phthalate	2.1	U	21	2.1	1.0	ug/L		11/07/18 19:47	1
Diethyl phthalate	1.0	U	21	1.0	0.39	ug/L		11/07/18 19:47	1
Dimethyl phthalate	0.52	U	21	0.52	0.22	ug/L		11/07/18 19:47	1
Di-n-butyl phthalate	4.5	U	21	4.5	1.2	ug/L		11/07/18 19:47	1
Di-n-octyl phthalate	1.0	U	21	1.0	0.36	ug/L		11/07/18 19:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*79*		*43 - 140*	*10/29/18 12:36*	*11/07/18 19:47*	*1*
2-Fluorobiphenyl	*62*		*44 - 119*	*10/29/18 12:36*	*11/07/18 19:47*	*1*
2-Fluorophenol (Surr)	*66*		*19 - 119*	*10/29/18 12:36*	*11/07/18 19:47*	*1*
Nitrobenzene-d5 (Surr)	*63*		*44 - 120*	*10/29/18 12:36*	*11/07/18 19:47*	*1*
Phenol-d5 (Surr)	*68*		*10 - 115*	*10/29/18 12:36*	*11/07/18 19:47*	*1*
Terphenyl-d14 (Surr)	*81*		*50 - 134*	*10/29/18 12:36*	*11/07/18 19:47*	*1*

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

Client Sample ID: DET-004-181001-GW **Lab Sample ID: 280-116020-12**
Date Collected: 10/24/18 11:20 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,4,5-Trichlorophenol	1.1	U	21	1.1	0.48	ug/L		11/07/18 20:16	1
2,4,6-Trichlorophenol	1.1	U	21	1.1	0.31	ug/L		11/07/18 20:16	1
2,4-Dichlorophenol	2.1	U	11	2.1	0.68	ug/L		11/07/18 20:16	1
2,4-Dimethylphenol	2.1	U	11	2.1	0.62	ug/L		11/07/18 20:16	1
2,4-Dinitrophenol	32	U	85	32	11	ug/L		11/07/18 20:16	1
2,4-Dinitrotoluene	4.7	U	21	4.7	1.8	ug/L		11/07/18 20:16	1
2,6-Dinitrotoluene	4.7	U	21	4.7	2.0	ug/L		11/07/18 20:16	1
2-Chlorophenol	4.7	U	11	4.7	2.1	ug/L		11/07/18 20:16	1
2-Methylphenol	2.1	U	11	2.1	1.0	ug/L		11/07/18 20:16	1
2-Nitrophenol	1.1	U	21	1.1	0.42	ug/L		11/07/18 20:16	1
3 & 4 Methylphenol	0.53	U	21	0.53	0.27	ug/L		11/07/18 20:16	1
4,6-Dinitro-2-methylphenol	9.4	U	85	9.4	4.3	ug/L		11/07/18 20:16	1
4-Chloro-3-methylphenol	5.3	U	21	5.3	2.6	ug/L		11/07/18 20:16	1
4-Nitrophenol	4.3	U	53	4.3	1.3	ug/L		11/07/18 20:16	1
Bis(2-ethylhexyl) phthalate	2.1	U	11	2.1	0.60	ug/L		11/07/18 20:16	1
Butyl benzyl phthalate	2.1	U	21	2.1	1.1	ug/L		11/07/18 20:16	1
Diethyl phthalate	1.1	U	21	1.1	0.40	ug/L		11/07/18 20:16	1
Dimethyl phthalate	0.53	U	21	0.53	0.22	ug/L		11/07/18 20:16	1
Di-n-butyl phthalate	4.7	U	21	4.7	1.2	ug/L		11/07/18 20:16	1
Di-n-octyl phthalate	1.1	U	21	1.1	0.37	ug/L		11/07/18 20:16	1
Nitrobenzene	2.1	U	21	2.1	0.86	ug/L		11/07/18 20:16	1
Pentachlorophenol	64	U	85	64	21	ug/L		11/07/18 20:16	1
Phenol	4.7	U	11	4.7	2.1	ug/L		11/07/18 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*86*		*43 - 140*	*10/29/18 12:36*	*11/07/18 20:16*	*1*
2-Fluorobiphenyl	*76*		*44 - 119*	*10/29/18 12:36*	*11/07/18 20:16*	*1*
2-Fluorophenol (Surr)	*88*		*19 - 119*	*10/29/18 12:36*	*11/07/18 20:16*	*1*
Nitrobenzene-d5 (Surr)	*79*		*44 - 120*	*10/29/18 12:36*	*11/07/18 20:16*	*1*
Phenol-d5 (Surr)	*89*		*10 - 115*	*10/29/18 12:36*	*11/07/18 20:16*	*1*
Terphenyl-d14 (Surr)	*79*		*50 - 134*	*10/29/18 12:36*	*11/07/18 20:16*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Client Sample ID: DET-003-181001-GW **Lab Sample ID: 280-116020-1**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.020	U	0.051	0.020	0.0079	ug/L		12/03/18 15:32	1
4,4'-DDE	0.020	U	0.051	0.020	0.0077	ug/L		12/03/18 15:32	1
4,4'-DDT	0.051	U	0.051	0.051	0.015	ug/L		12/03/18 15:32	1
Aldrin	0.020	U	0.051	0.020	0.0060	ug/L		12/03/18 15:32	1
alpha-BHC	0.020	U	0.051	0.020	0.0054	ug/L		12/03/18 15:32	1
alpha-Chlordane	0.020	U	0.051	0.020	0.0054	ug/L		12/03/18 15:32	1
beta-BHC	0.020	U	0.051	0.020	0.0089	ug/L		12/03/18 15:32	1
delta-BHC	0.020	U	0.051	0.020	0.0059	ug/L		12/03/18 15:32	1
Dieldrin	0.020	U	0.051	0.020	0.0065	ug/L		12/03/18 15:32	1
Endosulfan I	0.020	U	0.051	0.020	0.0059	ug/L		12/03/18 15:32	1
Endosulfan II	0.020	U	0.051	0.020	0.0072	ug/L		12/03/18 15:32	1
Endosulfan sulfate	0.020	U Q	0.051	0.020	0.0058	ug/L		12/03/18 15:32	1

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

Client Sample ID: DET-003-181001-GW **Lab Sample ID: 280-116020-1**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Endrin	0.020	U	0.051	0.020	0.0081	ug/L		12/03/18 15:32	1
Endrin aldehyde	0.020	U	0.051	0.020	0.0090	ug/L		12/03/18 15:32	1
Endrin ketone	0.020	U	0.051	0.020	0.0072	ug/L		12/03/18 15:32	1
gamma-BHC (Lindane)	0.020	U	0.051	0.020	0.0071	ug/L		12/03/18 15:32	1
gamma-Chlordane	0.020	U	0.051	0.020	0.0093	ug/L		12/03/18 15:32	1
Heptachlor	0.020	U	0.051	0.020	0.0079	ug/L		12/03/18 15:32	1
Heptachlor epoxide	0.020	U	0.051	0.020	0.0077	ug/L		12/03/18 15:32	1
Methoxychlor	0.051	U Q	0.051	0.051	0.013	ug/L		12/03/18 15:32	1
Toxaphene	0.82	U	2.0	0.82	0.38	ug/L		12/03/18 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*82*		*34 - 122*	*10/30/18 20:52*	*12/03/18 15:32*	*1*
Tetrachloro-m-xylene	*63*	*M*	*44 - 124*	*10/30/18 20:52*	*12/03/18 15:32*	*1*

Client Sample ID: DET-003-181002-GW **Lab Sample ID: 280-116020-2**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.020	U	0.049	0.020	0.0076	ug/L		12/03/18 15:49	1
4,4'-DDE	0.020	U	0.049	0.020	0.0074	ug/L		12/03/18 15:49	1
4,4'-DDT	0.049	U	0.049	0.049	0.015	ug/L		12/03/18 15:49	1
Aldrin	0.020	U	0.049	0.020	0.0058	ug/L		12/03/18 15:49	1
alpha-BHC	0.020	U	0.049	0.020	0.0052	ug/L		12/03/18 15:49	1
alpha-Chlordane	0.020	U	0.049	0.020	0.0052	ug/L		12/03/18 15:49	1
beta-BHC	0.020	U	0.049	0.020	0.0086	ug/L		12/03/18 15:49	1
delta-BHC	0.020	U M	0.049	0.020	0.0057	ug/L		12/03/18 15:49	1
Dieldrin	0.020	U	0.049	0.020	0.0062	ug/L		12/03/18 15:49	1
Endosulfan I	0.020	U	0.049	0.020	0.0057	ug/L		12/03/18 15:49	1
Endosulfan II	0.020	U	0.049	0.020	0.0069	ug/L		12/03/18 15:49	1
Endosulfan sulfate	0.020	U Q	0.049	0.020	0.0056	ug/L		12/03/18 15:49	1
Endrin	0.020	U	0.049	0.020	0.0078	ug/L		12/03/18 15:49	1
Endrin aldehyde	0.020	U	0.049	0.020	0.0087	ug/L		12/03/18 15:49	1
Endrin ketone	0.020	U	0.049	0.020	0.0069	ug/L		12/03/18 15:49	1
gamma-BHC (Lindane)	0.020	U	0.049	0.020	0.0068	ug/L		12/03/18 15:49	1
gamma-Chlordane	0.020	U	0.049	0.020	0.0090	ug/L		12/03/18 15:49	1
Heptachlor	0.020	U	0.049	0.020	0.0076	ug/L		12/03/18 15:49	1
Heptachlor epoxide	0.020	U	0.049	0.020	0.0074	ug/L		12/03/18 15:49	1
Methoxychlor	0.049	U Q	0.049	0.049	0.013	ug/L		12/03/18 15:49	1
Toxaphene	0.79	U	2.0	0.79	0.36	ug/L		12/03/18 15:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*89*		*34 - 122*	*10/30/18 20:52*	*12/03/18 15:49*	*1*
Tetrachloro-m-xylene	*75*		*44 - 124*	*10/30/18 20:52*	*12/03/18 15:49*	*1*

Client Sample ID: LL1mw-083-181001-GW **Lab Sample ID: 280-116020-5**
Date Collected: 10/24/18 13:25 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.021	U	0.052	0.021	0.0079	ug/L		12/03/18 16:07	1
4,4'-DDE	0.021	U	0.052	0.021	0.0077	ug/L		12/03/18 16:07	1

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

Client Sample ID: LL1mw-083-181001-GW **Lab Sample ID: 280-116020-5**
Date Collected: 10/24/18 13:25 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDT	0.052	U	0.052	0.052	0.015	ug/L		12/03/18 16:07	1
Aldrin	0.021	U	0.052	0.021	0.0061	ug/L		12/03/18 16:07	1
alpha-BHC	0.021	U	0.052	0.021	0.0055	ug/L		12/03/18 16:07	1
alpha-Chlordane	0.021	U	0.052	0.021	0.0055	ug/L		12/03/18 16:07	1
beta-BHC	0.021	U	0.052	0.021	0.0090	ug/L		12/03/18 16:07	1
delta-BHC	**0.0094**	**J**	0.052	0.021	0.0060	ug/L		12/03/18 16:07	1
Dieldrin	0.021	U	0.052	0.021	0.0065	ug/L		12/03/18 16:07	1
Endosulfan I	0.021	U	0.052	0.021	0.0060	ug/L		12/03/18 16:07	1
Endosulfan II	0.021	U	0.052	0.021	0.0072	ug/L		12/03/18 16:07	1
Endosulfan sulfate	0.021	U Q	0.052	0.021	0.0059	ug/L		12/03/18 16:07	1
Endrin	0.021	U	0.052	0.021	0.0082	ug/L		12/03/18 16:07	1
Endrin aldehyde	0.021	U	0.052	0.021	0.0091	ug/L		12/03/18 16:07	1
Endrin ketone	0.021	U	0.052	0.021	0.0072	ug/L		12/03/18 16:07	1
gamma-BHC (Lindane)	0.021	U	0.052	0.021	0.0071	ug/L		12/03/18 16:07	1
gamma-Chlordane	0.021	U	0.052	0.021	0.0094	ug/L		12/03/18 16:07	1
Heptachlor	0.021	U	0.052	0.021	0.0079	ug/L		12/03/18 16:07	1
Heptachlor epoxide	0.021	U	0.052	0.021	0.0077	ug/L		12/03/18 16:07	1
Methoxychlor	0.052	U Q	0.052	0.052	0.013	ug/L		12/03/18 16:07	1
Toxaphene	0.83	U	2.1	0.83	0.38	ug/L		12/03/18 16:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*73*		*34 - 122*	*10/30/18 20:52*	*12/03/18 16:07*	*1*
Tetrachloro-m-xylene	*68*		*44 - 124*	*10/30/18 20:52*	*12/03/18 16:07*	*1*

Client Sample ID: LL1mw-084-181001-GW **Lab Sample ID: 280-116020-6**
Date Collected: 10/24/18 09:30 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.022	U	0.056	0.022	0.0086	ug/L		12/03/18 16:25	1
4,4'-DDE	0.022	U	0.056	0.022	0.0084	ug/L		12/03/18 16:25	1
4,4'-DDT	0.056	U	0.056	0.056	0.017	ug/L		12/03/18 16:25	1
Aldrin	0.022	U	0.056	0.022	0.0066	ug/L		12/03/18 16:25	1
alpha-BHC	0.022	U	0.056	0.022	0.0059	ug/L		12/03/18 16:25	1
alpha-Chlordane	0.022	U	0.056	0.022	0.0059	ug/L		12/03/18 16:25	1
beta-BHC	0.022	U	0.056	0.022	0.0097	ug/L		12/03/18 16:25	1
delta-BHC	0.022	U	0.056	0.022	0.0065	ug/L		12/03/18 16:25	1
Dieldrin	0.022	U	0.056	0.022	0.0071	ug/L		12/03/18 16:25	1
Endosulfan I	0.022	U	0.056	0.022	0.0065	ug/L		12/03/18 16:25	1
Endosulfan II	0.022	U	0.056	0.022	0.0078	ug/L		12/03/18 16:25	1
Endosulfan sulfate	0.022	U Q	0.056	0.022	0.0064	ug/L		12/03/18 16:25	1
Endrin	0.022	U	0.056	0.022	0.0089	ug/L		12/03/18 16:25	1
Endrin aldehyde	0.022	U	0.056	0.022	0.0099	ug/L		12/03/18 16:25	1
Endrin ketone	0.022	U	0.056	0.022	0.0078	ug/L		12/03/18 16:25	1
gamma-BHC (Lindane)	0.022	U	0.056	0.022	0.0077	ug/L		12/03/18 16:25	1
gamma-Chlordane	0.022	U	0.056	0.022	0.010	ug/L		12/03/18 16:25	1
Heptachlor	0.022	U	0.056	0.022	0.0086	ug/L		12/03/18 16:25	1
Heptachlor epoxide	0.022	U	0.056	0.022	0.0084	ug/L		12/03/18 16:25	1
Methoxychlor	0.056	U Q	0.056	0.056	0.015	ug/L		12/03/18 16:25	1
Toxaphene	0.90	U	2.2	0.90	0.41	ug/L		12/03/18 16:25	1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	74		34 - 122	10/30/18 20:52	12/03/18 16:25	1
Tetrachloro-m-xylene	68		44 - 124	10/30/18 20:52	12/03/18 16:25	1

Client Sample ID: DET-004-181001-GW **Lab Sample ID: 280-116020-12**
Date Collected: 10/24/18 11:20 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.021	U	0.054	0.021	0.0083	ug/L		12/03/18 16:42	1
4,4'-DDE	0.021	U	0.054	0.021	0.0081	ug/L		12/03/18 16:42	1
4,4'-DDT	0.054	U	0.054	0.054	0.016	ug/L		12/03/18 16:42	1
Aldrin	0.021	U	0.054	0.021	0.0063	ug/L		12/03/18 16:42	1
alpha-BHC	0.021	U	0.054	0.021	0.0057	ug/L		12/03/18 16:42	1
alpha-Chlordane	0.021	U	0.054	0.021	0.0057	ug/L		12/03/18 16:42	1
beta-BHC	0.021	U	0.054	0.021	0.0093	ug/L		12/03/18 16:42	1
delta-BHC	0.021	U	0.054	0.021	0.0062	ug/L		12/03/18 16:42	1
Dieldrin	0.021	U	0.054	0.021	0.0068	ug/L		12/03/18 16:42	1
Endosulfan I	0.021	U	0.054	0.021	0.0062	ug/L		12/03/18 16:42	1
Endosulfan II	0.021	U	0.054	0.021	0.0075	ug/L		12/03/18 16:42	1
Endosulfan sulfate	0.021	U Q	0.054	0.021	0.0061	ug/L		12/03/18 16:42	1
Endrin	0.021	U	0.054	0.021	0.0085	ug/L		12/03/18 16:42	1
Endrin aldehyde	0.021	U	0.054	0.021	0.0095	ug/L		12/03/18 16:42	1
Endrin ketone	0.021	U	0.054	0.021	0.0075	ug/L		12/03/18 16:42	1
gamma-BHC (Lindane)	0.021	U	0.054	0.021	0.0074	ug/L		12/03/18 16:42	1
gamma-Chlordane	0.021	U	0.054	0.021	0.0098	ug/L		12/03/18 16:42	1
Heptachlor	0.021	U	0.054	0.021	0.0083	ug/L		12/03/18 16:42	1
Heptachlor epoxide	0.021	U	0.054	0.021	0.0081	ug/L		12/03/18 16:42	1
Methoxychlor	0.054	U Q	0.054	0.054	0.014	ug/L		12/03/18 16:42	1
Toxaphene	0.86	U	2.1	0.86	0.39	ug/L		12/03/18 16:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	102		34 - 122	10/30/18 20:52	12/03/18 16:42	1
Tetrachloro-m-xylene	74		44 - 124	10/30/18 20:52	12/03/18 16:42	1

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

Client Sample ID: DET-003-181001-GW **Lab Sample ID: 280-116020-1**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
PCB-1016	0.41	U M	1.0	0.41	0.13	ug/L		11/24/18 07:57	1
PCB-1221	0.26	U M	1.0	0.26	0.22	ug/L		11/24/18 07:57	1
PCB-1232	0.61	U M	1.0	0.61	0.17	ug/L		11/24/18 07:57	1
PCB-1242	0.31	U M	1.0	0.31	0.11	ug/L		11/24/18 07:57	1
PCB-1248	0.31	U Q M	1.0	0.31	0.094	ug/L		11/24/18 07:57	1
PCB-1254	0.26	U M	1.0	0.26	0.12	ug/L		11/24/18 07:57	1
PCB-1260	0.41	U M	1.0	0.41	0.16	ug/L		11/24/18 07:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	74		25 - 120	10/30/18 20:52	11/24/18 07:57	1
DCB Decachlorobiphenyl	84	Q	30 - 136	10/30/18 20:52	11/24/18 07:57	1

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

Client Sample ID: DET-003-181002-GW **Lab Sample ID: 280-116020-2**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
PCB-1016	0.39	U M	0.99	0.39	0.12	ug/L		11/24/18 08:18	1
PCB-1221	0.25	U M	0.99	0.25	0.21	ug/L		11/24/18 08:18	1
PCB-1232	0.59	U M	0.99	0.59	0.16	ug/L		11/24/18 08:18	1
PCB-1242	0.30	U M	0.99	0.30	0.10	ug/L		11/24/18 08:18	1
PCB-1248	0.30	U Q M	0.99	0.30	0.090	ug/L		11/24/18 08:18	1
PCB-1254	0.25	U M	0.99	0.25	0.11	ug/L		11/24/18 08:18	1
PCB-1260	0.39	U M	0.99	0.39	0.16	ug/L		11/24/18 08:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*84*		*25 - 120*	*10/30/18 20:52*	*11/24/18 08:18*	*1*
DCB Decachlorobiphenyl	*85*	*Q*	*30 - 136*	*10/30/18 20:52*	*11/24/18 08:18*	*1*

Client Sample ID: DET-004-181001-GW **Lab Sample ID: 280-116020-12**
Date Collected: 10/24/18 11:20 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
PCB-1016	0.43	U M	1.1	0.43	0.13	ug/L		11/24/18 08:39	1
PCB-1221	0.27	U M	1.1	0.27	0.23	ug/L		11/24/18 08:39	1
PCB-1232	0.64	U M	1.1	0.64	0.18	ug/L		11/24/18 08:39	1
PCB-1242	0.32	U M	1.1	0.32	0.11	ug/L		11/24/18 08:39	1
PCB-1248	0.32	U Q M	1.1	0.32	0.098	ug/L		11/24/18 08:39	1
PCB-1254	0.27	U M	1.1	0.27	0.12	ug/L		11/24/18 08:39	1
PCB-1260	0.43	U M	1.1	0.43	0.17	ug/L		11/24/18 08:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*86*		*25 - 120*	*10/30/18 20:52*	*11/24/18 08:39*	*1*
DCB Decachlorobiphenyl	*108*	*Q*	*30 - 136*	*10/30/18 20:52*	*11/24/18 08:39*	*1*

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Client Sample ID: DET-003-181001-GW **Lab Sample ID: 280-116020-1**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.43	U	1.1	0.43	0.21	ug/L		11/01/18 18:44	1
1,3-Dinitrobenzene	0.21	U	0.43	0.21	0.094	ug/L		11/01/18 18:44	1
2,4,6-Trinitrotoluene	0.21	U	0.43	0.21	0.077	ug/L		11/01/18 18:44	1
2,4-Dinitrotoluene	0.21	U	0.43	0.21	0.089	ug/L		11/01/18 18:44	1
2,6-Dinitrotoluene	0.21	U	0.21	0.21	0.069	ug/L		11/01/18 18:44	1
2-Amino-4,6-dinitrotoluene	0.13	U	0.21	0.13	0.054	ug/L		11/01/18 18:44	1
2-Nitrotoluene	0.21	U	0.43	0.21	0.091	ug/L		11/01/18 18:44	1
3-Nitrotoluene	0.21	U	0.43	0.21	0.089	ug/L		11/01/18 18:44	1
4-Amino-2,6-dinitrotoluene	0.13	U	0.21	0.13	0.061	ug/L		11/01/18 18:44	1
4-Nitrotoluene	0.43	U	1.1	0.43	0.21	ug/L		11/01/18 18:44	1
HMX	0.21	U M	0.43	0.21	0.093	ug/L		11/01/18 18:44	1
Nitrobenzene	0.21	U	0.43	0.21	0.097	ug/L		11/01/18 18:44	1
Nitroglycerin	2.1	U	3.2	2.1	0.98	ug/L		11/01/18 18:44	1
PETN	1.3	U	2.1	1.3	0.44	ug/L		11/01/18 18:44	1
RDX	0.13	U	0.21	0.13	0.056	ug/L		11/01/18 18:44	1
Tetryl	0.21	U	0.26	0.21	0.084	ug/L		11/01/18 18:44	1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dinitrobenzene	*101*		*83 - 119*	*10/30/18 13:24*	*11/01/18 18:44*	*1*

Client Sample ID: WBGmw-009-181001-GW **Lab Sample ID: 280-116020-4**
Date Collected: 10/23/18 14:35 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.40	U Q	1.0	0.40	0.20	ug/L		10/30/18 16:44	1
1,3-Dinitrobenzene	0.20	U Q	0.40	0.20	0.088	ug/L		10/30/18 16:44	1
2,4,6-Trinitrotoluene	0.20	U Q	0.40	0.20	0.072	ug/L		10/30/18 16:44	1
2,4-Dinitrotoluene	0.20	U Q	0.40	0.20	0.083	ug/L		10/30/18 16:44	1
2,6-Dinitrotoluene	0.20	U Q	0.20	0.20	0.064	ug/L		10/30/18 16:44	1
2-Amino-4,6-dinitrotoluene	0.12	U Q	0.20	0.12	0.051	ug/L		10/30/18 16:44	1
2-Nitrotoluene	0.20	U Q	0.40	0.20	0.085	ug/L		10/30/18 16:44	1
3-Nitrotoluene	0.20	U Q	0.40	0.20	0.083	ug/L		10/30/18 16:44	1
4-Amino-2,6-dinitrotoluene	0.12	U Q	0.20	0.12	0.057	ug/L		10/30/18 16:44	1
4-Nitrotoluene	0.40	U Q M	1.0	0.40	0.20	ug/L		10/30/18 16:44	1
HMX	**0.94**	**Q M**	0.40	0.20	0.087	ug/L		10/30/18 16:44	1
Nitrobenzene	0.20	U Q	0.40	0.20	0.091	ug/L		10/30/18 16:44	1
Nitroglycerin	2.0	U Q	3.0	2.0	0.92	ug/L		10/30/18 16:44	1
PETN	1.2	U Q	2.0	1.2	0.41	ug/L		10/30/18 16:44	1
RDX	**2.8**	**Q M**	0.20	0.12	0.052	ug/L		10/30/18 16:44	1
Tetryl	0.20	U Q	0.24	0.20	0.079	ug/L		10/30/18 16:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dinitrobenzene	*71*	*Q*	*83 - 119*	*10/29/18 12:30*	*10/30/18 16:44*	*1*

Client Sample ID: LL1mw-083-181001-GW **Lab Sample ID: 280-116020-5**
Date Collected: 10/24/18 13:25 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	**7.2**	**M**	1.2	0.47	0.24	ug/L		11/01/18 19:07	1
1,3-Dinitrobenzene	0.24	U M	0.47	0.24	0.11	ug/L		11/02/18 23:00	1
2,4,6-Trinitrotoluene	**3.4**		0.47	0.24	0.086	ug/L		11/01/18 19:07	1
2,4-Dinitrotoluene	**5.6**	**M**	0.47	0.24	0.099	ug/L		11/01/18 19:07	1
2,6-Dinitrotoluene	**3.6**	**M**	0.24	0.24	0.076	ug/L		11/01/18 19:07	1
2-Amino-4,6-dinitrotoluene	**14**	**M**	0.24	0.14	0.060	ug/L		11/01/18 19:07	1
2-Nitrotoluene	0.24	U	0.47	0.24	0.10	ug/L		11/01/18 19:07	1
3-Nitrotoluene	0.24	U	0.47	0.24	0.099	ug/L		11/01/18 19:07	1
4-Amino-2,6-dinitrotoluene	**17**		0.24	0.14	0.068	ug/L		11/01/18 19:07	1
4-Nitrotoluene	0.47	U	1.2	0.47	0.24	ug/L		11/01/18 19:07	1
HMX	**1.3**	**M J1**	0.47	0.24	0.10	ug/L		11/01/18 19:07	1
HMX	**0.23**	**J J1**	0.47	0.24	0.10	ug/L		11/02/18 23:00	1
Nitrobenzene	0.24	U	0.47	0.24	0.11	ug/L		11/02/18 23:00	1
Nitroglycerin	2.4	U	3.6	2.4	1.1	ug/L		11/01/18 19:07	1
PETN	1.4	U	2.4	1.4	0.49	ug/L		11/01/18 19:07	1
RDX	**2.1**	**J1**	0.24	0.14	0.062	ug/L		11/01/18 19:07	1
RDX	**0.56**	**J1**	0.24	0.14	0.062	ug/L		11/02/18 23:00	1
Tetryl	0.24	U	0.28	0.24	0.094	ug/L		11/02/18 23:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dinitrobenzene	*118*	*M*	*83 - 119*	*10/30/18 13:24*	*11/01/18 19:07*	*1*
1,2-Dinitrobenzene	*87*		*83 - 119*	*10/30/18 13:24*	*11/02/18 23:00*	*1*

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Client Sample ID: LL1mw-084-181001-GW **Lab Sample ID: 280-116020-6**
Date Collected: 10/24/18 09:30 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	**2.0**	**M**	1.1	0.42	0.21	ug/L		11/01/18 19:30	1
1,3-Dinitrobenzene	**1.2**	**M J1**	0.42	0.21	0.093	ug/L		11/01/18 19:30	1
1,3-Dinitrobenzene	**0.53**	**J1**	0.42	0.21	0.093	ug/L		11/02/18 23:35	1
2,4,6-Trinitrotoluene	**4.6**		0.42	0.21	0.076	ug/L		11/01/18 19:30	1
2,4-Dinitrotoluene	**1.8**		0.42	0.21	0.088	ug/L		11/01/18 19:30	1
2,6-Dinitrotoluene	0.21	U	0.21	0.21	0.068	ug/L		11/01/18 19:30	1
2-Amino-4,6-dinitrotoluene	**9.6**		0.21	0.13	0.053	ug/L		11/01/18 19:30	1
2-Nitrotoluene	0.21	U	0.42	0.21	0.090	ug/L		11/01/18 19:30	1
3-Nitrotoluene	0.21	U	0.42	0.21	0.088	ug/L		11/01/18 19:30	1
4-Amino-2,6-dinitrotoluene	**19**		0.21	0.13	0.061	ug/L		11/01/18 19:30	1
4-Nitrotoluene	0.42	U M	1.1	0.42	0.21	ug/L		11/01/18 19:30	1
HMX	**2.4**	**M J1**	0.42	0.21	0.092	ug/L		11/01/18 19:30	1
HMX	**0.62**	**J1**	0.42	0.21	0.092	ug/L		11/02/18 23:35	1
Nitrobenzene	0.21	U	0.42	0.21	0.096	ug/L		11/01/18 19:30	1
Nitroglycerin	2.1	U	3.2	2.1	0.97	ug/L		11/01/18 19:30	1
PETN	1.3	U	2.1	1.3	0.44	ug/L		11/01/18 19:30	1
RDX	**5.2**	**M J1**	0.21	0.13	0.055	ug/L		11/01/18 19:30	1
RDX	**1.1**	**J1**	0.21	0.13	0.055	ug/L		11/02/18 23:35	1
Tetryl	0.21	U M	0.25	0.21	0.083	ug/L		11/01/18 19:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*118*	*M*	*83 - 119*	*10/30/18 13:24*	*11/01/18 19:30*	*1*
1,2-Dinitrobenzene	*84*		*83 - 119*	*10/30/18 13:24*	*11/02/18 23:35*	*1*

Client Sample ID: DA2mw-115-181001-GW **Lab Sample ID: 280-116020-8**
Date Collected: 10/24/18 12:45 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.44	U M	1.1	0.44	0.22	ug/L		11/01/18 20:39	1
1,3-Dinitrobenzene	0.22	U	0.44	0.22	0.098	ug/L		11/01/18 20:39	1
2,4,6-Trinitrotoluene	0.22	U	0.44	0.22	0.080	ug/L		11/01/18 20:39	1
2,4-Dinitrotoluene	0.22	U	0.44	0.22	0.093	ug/L		11/01/18 20:39	1
2,6-Dinitrotoluene	0.22	U	0.22	0.22	0.071	ug/L		11/01/18 20:39	1
2-Amino-4,6-dinitrotoluene	0.13	U	0.22	0.13	0.056	ug/L		11/01/18 20:39	1
2-Nitrotoluene	0.22	U	0.44	0.22	0.094	ug/L		11/01/18 20:39	1
3-Nitrotoluene	0.22	U	0.44	0.22	0.092	ug/L		11/01/18 20:39	1
4-Amino-2,6-dinitrotoluene	0.13	U	0.22	0.13	0.064	ug/L		11/01/18 20:39	1
4-Nitrotoluene	0.44	U	1.1	0.44	0.22	ug/L		11/01/18 20:39	1
HMX	0.22	U	0.44	0.22	0.097	ug/L		11/01/18 20:39	1
Nitrobenzene	0.22	U J1	0.44	0.22	0.10	ug/L		11/01/18 20:39	1
Nitroglycerin	2.2	U	3.3	2.2	1.0	ug/L		11/01/18 20:39	1
PETN	1.3	U	2.2	1.3	0.46	ug/L		11/01/18 20:39	1
RDX	0.13	U	0.22	0.13	0.058	ug/L		11/01/18 20:39	1
Tetryl	0.22	U	0.27	0.22	0.088	ug/L		11/01/18 20:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*104*		*83 - 119*	*10/30/18 13:24*	*11/01/18 20:39*	*1*

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Client Sample ID: DA2mw-115-181002-GW **Lab Sample ID: 280-116020-9**
Date Collected: 10/24/18 12:45 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.44	U	1.1	0.44	0.22	ug/L		11/01/18 21:47	1
1,3-Dinitrobenzene	0.22	U	0.44	0.22	0.098	ug/L		11/01/18 21:47	1
2,4,6-Trinitrotoluene	0.22	U	0.44	0.22	0.080	ug/L		11/01/18 21:47	1
2,4-Dinitrotoluene	0.22	U	0.44	0.22	0.092	ug/L		11/01/18 21:47	1
2,6-Dinitrotoluene	0.22	U	0.22	0.22	0.071	ug/L		11/01/18 21:47	1
2-Amino-4,6-dinitrotoluene	0.13	U	0.22	0.13	0.056	ug/L		11/01/18 21:47	1
2-Nitrotoluene	0.22	U	0.44	0.22	0.094	ug/L		11/01/18 21:47	1
3-Nitrotoluene	0.22	U	0.44	0.22	0.092	ug/L		11/01/18 21:47	1
4-Amino-2,6-dinitrotoluene	0.13	U	0.22	0.13	0.064	ug/L		11/01/18 21:47	1
4-Nitrotoluene	0.44	U	1.1	0.44	0.22	ug/L		11/01/18 21:47	1
HMX	0.22	U	0.44	0.22	0.097	ug/L		11/01/18 21:47	1
Nitrobenzene	0.22	U	0.44	0.22	0.10	ug/L		11/01/18 21:47	1
Nitroglycerin	2.2	U	3.3	2.2	1.0	ug/L		11/01/18 21:47	1
PETN	1.3	U	2.2	1.3	0.46	ug/L		11/01/18 21:47	1
RDX	0.13	U	0.22	0.13	0.058	ug/L		11/01/18 21:47	1
Tetryl	0.22	U	0.26	0.22	0.087	ug/L		11/01/18 21:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*94*		*83 - 119*	*10/30/18 13:24*	*11/01/18 21:47*	*1*

Client Sample ID: DET-004-181001-GW **Lab Sample ID: 280-116020-12**
Date Collected: 10/24/18 11:20 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.45	U	1.1	0.45	0.22	ug/L		11/01/18 22:10	1
1,3-Dinitrobenzene	0.22	U	0.45	0.22	0.10	ug/L		11/01/18 22:10	1
2,4,6-Trinitrotoluene	0.22	U	0.45	0.22	0.081	ug/L		11/01/18 22:10	1
2,4-Dinitrotoluene	0.22	U	0.45	0.22	0.094	ug/L		11/01/18 22:10	1
2,6-Dinitrotoluene	0.22	U	0.22	0.22	0.072	ug/L		11/01/18 22:10	1
2-Amino-4,6-dinitrotoluene	0.13	U	0.22	0.13	0.057	ug/L		11/01/18 22:10	1
2-Nitrotoluene	0.22	U	0.45	0.22	0.096	ug/L		11/01/18 22:10	1
3-Nitrotoluene	0.22	U	0.45	0.22	0.094	ug/L		11/01/18 22:10	1
4-Amino-2,6-dinitrotoluene	0.13	U	0.22	0.13	0.065	ug/L		11/01/18 22:10	1
4-Nitrotoluene	0.45	U	1.1	0.45	0.22	ug/L		11/01/18 22:10	1
HMX	**2.1**	**M**	0.45	0.22	0.098	ug/L		11/01/18 22:10	1
Nitrobenzene	0.22	U	0.45	0.22	0.10	ug/L		11/01/18 22:10	1
Nitroglycerin	2.2	U	3.4	2.2	1.0	ug/L		11/01/18 22:10	1
PETN	1.3	U	2.2	1.3	0.47	ug/L		11/01/18 22:10	1
RDX	**0.67**	**M**	0.22	0.13	0.059	ug/L		11/01/18 22:10	1
Tetryl	0.22	U	0.27	0.22	0.089	ug/L		11/01/18 22:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*111*		*83 - 119*	*10/30/18 13:24*	*11/01/18 22:10*	*1*

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

Client Sample ID: WBGmw-009-181001-GW **Lab Sample ID: 280-116020-4**
Date Collected: 10/23/18 14:35 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.56	U H	1.4	0.56	0.28	ug/L		11/05/18 22:33	1
1,3-Dinitrobenzene	0.28	U H	0.56	0.28	0.12	ug/L		11/05/18 22:33	1
2,4,6-Trinitrotoluene	0.28	U H	0.56	0.28	0.10	ug/L		11/05/18 22:33	1
2,4-Dinitrotoluene	0.28	U H	0.56	0.28	0.12	ug/L		11/05/18 22:33	1
2,6-Dinitrotoluene	0.28	U H	0.28	0.28	0.090	ug/L		11/05/18 22:33	1
2-Amino-4,6-dinitrotoluene	0.17	U H M	0.28	0.17	0.071	ug/L		11/05/18 22:33	1
2-Nitrotoluene	0.28	U H	0.56	0.28	0.12	ug/L		11/06/18 23:20	1
3-Nitrotoluene	0.28	U H	0.56	0.28	0.12	ug/L		11/05/18 22:33	1
4-Amino-2,6-dinitrotoluene	0.17	U H	0.28	0.17	0.081	ug/L		11/05/18 22:33	1
4-Nitrotoluene	0.56	U H	1.4	0.56	0.28	ug/L		11/05/18 22:33	1
HMX	**1.5**	**H M**	0.56	0.28	0.12	ug/L		11/05/18 22:33	1
Nitrobenzene	0.28	U H	0.56	0.28	0.13	ug/L		11/05/18 22:33	1
Nitroglycerin	2.8	U H	4.2	2.8	1.3	ug/L		11/05/18 22:33	1
PETN	1.7	U H	2.8	1.7	0.58	ug/L		11/05/18 22:33	1
RDX	**4.1**	**H M**	0.28	0.17	0.073	ug/L		11/05/18 22:33	1
Tetryl	0.28	U H	0.34	0.28	0.11	ug/L		11/05/18 22:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*103*		*83 - 119*	*11/02/18 12:09*	*11/05/18 22:33*	*1*
1,2-Dinitrobenzene	*89*		*83 - 119*	*11/02/18 12:09*	*11/06/18 23:20*	*1*

Method: 6010C - Metals (ICP)

Client Sample ID: DET-003-181001-GW **Lab Sample ID: 280-116020-1**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	300	70	18	ug/L		10/29/18 12:38	1
Calcium	**95000**	**Q**	1000	140	35	ug/L		10/29/18 12:38	1
Iron	**1900**		100	85	22	ug/L		10/29/18 12:38	1
Magnesium	**35000**		500	40	11	ug/L		10/29/18 12:38	1
Potassium	**2300**	**J**	3000	940	240	ug/L		10/29/18 12:38	1
Sodium	**13000**		5000	350	120	ug/L		10/29/18 12:38	1

Client Sample ID: WBGmw-009-181001-GW **Lab Sample ID: 280-116020-4**
Date Collected: 10/23/18 14:35 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	300	70	18	ug/L		10/29/18 12:40	1
Calcium	**54000**	**Q**	1000	140	35	ug/L		10/29/18 12:40	1
Iron	85	U	100	85	22	ug/L		10/29/18 12:40	1
Magnesium	**16000**		500	40	11	ug/L		10/29/18 12:40	1
Potassium	**620**	**J**	3000	940	240	ug/L		10/29/18 12:40	1
Sodium	**3600**	**J**	5000	350	120	ug/L		10/29/18 12:40	1

Client Sample ID: LL1mw-084-181001-GW **Lab Sample ID: 280-116020-6**
Date Collected: 10/24/18 09:30 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	**500**		300	70	18	ug/L		10/29/18 12:43	1

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

Client Sample ID: LL1mw-084-181001-GW **Lab Sample ID: 280-116020-6**
Date Collected: 10/24/18 09:30 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Calcium	**51000**	**Q**	1000	140	35	ug/L		10/29/18 12:43	1
Iron	85	U	100	85	22	ug/L		10/29/18 12:43	1
Magnesium	**3600**		500	40	11	ug/L		10/29/18 12:43	1
Potassium	**3600**		3000	940	240	ug/L		10/29/18 12:43	1
Sodium	**3700**	**J**	5000	350	120	ug/L		10/29/18 12:43	1

Client Sample ID: DA2mw-115-181001-GW **Lab Sample ID: 280-116020-8**
Date Collected: 10/24/18 12:45 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	300	70	18	ug/L		10/29/18 12:45	1
Calcium	**120000**	**Q**	1000	140	35	ug/L		10/29/18 12:45	1
Iron	**1000**		100	85	22	ug/L		10/29/18 12:45	1
Magnesium	**32000**		500	40	11	ug/L		10/29/18 12:45	1
Potassium	**3800**		3000	940	240	ug/L		10/29/18 12:45	1
Sodium	**12000**		5000	350	120	ug/L		10/29/18 12:45	1

Client Sample ID: DA2mw-115-181002-GW **Lab Sample ID: 280-116020-9**
Date Collected: 10/24/18 12:45 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	**19**	**J**	300	70	18	ug/L		10/29/18 12:52	1
Calcium	**120000**	**Q**	1000	140	35	ug/L		10/29/18 12:52	1
Iron	**960**		100	85	22	ug/L		10/29/18 12:52	1
Magnesium	**32000**		500	40	11	ug/L		10/29/18 12:52	1
Potassium	**3900**		3000	940	240	ug/L		10/29/18 12:52	1
Sodium	**14000**		5000	350	120	ug/L		10/29/18 12:52	1

Client Sample ID: DET-004-181001-GW **Lab Sample ID: 280-116020-12**
Date Collected: 10/24/18 11:20 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	300	70	18	ug/L		10/29/18 12:55	1
Calcium	**150000**	**Q**	1000	140	35	ug/L		10/29/18 12:55	1
Iron	85	U	100	85	22	ug/L		10/29/18 12:55	1
Magnesium	**29000**		500	40	11	ug/L		10/29/18 12:55	1
Potassium	**1700**	**J**	3000	940	240	ug/L		10/29/18 12:55	1
Sodium	**2300**	**J**	5000	350	120	ug/L		10/29/18 12:55	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: DET-003-181001-GW **Lab Sample ID: 280-116020-1**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Antimony	1.0	U	6.0	1.0	0.40	ug/L		11/02/18 21:33	1
Arsenic	**11**		5.0	1.0	0.33	ug/L		11/02/18 21:33	1
Barium	**49**		3.0	0.95	0.29	ug/L		11/02/18 21:33	1
Beryllium	0.30	U	1.0	0.30	0.080	ug/L		11/02/18 21:33	1
Cadmium	1.0	U	1.0	1.0	0.27	ug/L		11/02/18 21:33	1

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

Client Sample ID: DET-003-181001-GW **Lab Sample ID: 280-116020-1**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chromium	1.8	U	10	1.8	0.50	ug/L		11/02/18 21:33	1
Cobalt	**0.36**	**J**	1.0	0.20	0.054	ug/L		11/02/18 21:33	1
Copper	1.8	U	2.0	1.8	0.56	ug/L		11/02/18 21:33	1
Lead	0.70	U	3.0	0.70	0.18	ug/L		11/02/18 21:33	1
Manganese	**260**		3.5	0.95	0.31	ug/L		11/02/18 21:33	1
Nickel	1.0	U	3.0	1.0	0.30	ug/L		11/02/18 21:33	1
Selenium	2.0	U	5.0	2.0	0.70	ug/L		11/02/18 21:33	1
Silver	0.10	U	5.0	0.10	0.033	ug/L		11/02/18 21:33	1
Thallium	0.20	U	1.0	0.20	0.050	ug/L		11/02/18 21:33	1
Vanadium	2.0	U	6.0	2.0	0.50	ug/L		11/02/18 21:33	1
Zinc	8.0	U	20	8.0	2.0	ug/L		11/02/18 21:33	1

Client Sample ID: WBGmw-009-181001-GW **Lab Sample ID: 280-116020-4**
Date Collected: 10/23/18 14:35 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Antimony	1.0	U	6.0	1.0	0.40	ug/L		11/02/18 21:37	1
Arsenic	1.0	U	5.0	1.0	0.33	ug/L		11/02/18 21:37	1
Barium	**11**		3.0	0.95	0.29	ug/L		11/02/18 21:37	1
Beryllium	0.30	U	1.0	0.30	0.080	ug/L		11/02/18 21:37	1
Cadmium	1.0	U	1.0	1.0	0.27	ug/L		11/02/18 21:37	1
Chromium	1.8	U	10	1.8	0.50	ug/L		11/02/18 21:37	1
Cobalt	**0.16**	**J**	1.0	0.20	0.054	ug/L		11/02/18 21:37	1
Copper	1.8	U	2.0	1.8	0.56	ug/L		11/02/18 21:37	1
Lead	0.70	U	3.0	0.70	0.18	ug/L		11/02/18 21:37	1
Manganese	**22**		3.5	0.95	0.31	ug/L		11/02/18 21:37	1
Nickel	**0.92**	**J**	3.0	1.0	0.30	ug/L		11/02/18 21:37	1
Selenium	2.0	U	5.0	2.0	0.70	ug/L		11/02/18 21:37	1
Silver	0.10	U	5.0	0.10	0.033	ug/L		11/02/18 21:37	1
Thallium	0.20	U	1.0	0.20	0.050	ug/L		11/02/18 21:37	1
Vanadium	2.0	U	6.0	2.0	0.50	ug/L		11/02/18 21:37	1
Zinc	**2.4**	**J**	20	8.0	2.0	ug/L		11/02/18 21:37	1

Client Sample ID: LL1mw-084-181001-GW **Lab Sample ID: 280-116020-6**
Date Collected: 10/24/18 09:30 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Antimony	1.0	U	6.0	1.0	0.40	ug/L		11/02/18 21:41	1
Arsenic	1.0	U	5.0	1.0	0.33	ug/L		11/02/18 21:41	1
Barium	**16**		3.0	0.95	0.29	ug/L		11/02/18 21:41	1
Beryllium	**0.13**	**J**	1.0	0.30	0.080	ug/L		11/02/18 21:41	1
Cadmium	**1.7**		1.0	1.0	0.27	ug/L		11/02/18 21:41	1
Chromium	1.8	U	10	1.8	0.50	ug/L		11/02/18 21:41	1
Cobalt	**13**		1.0	0.20	0.054	ug/L		11/02/18 21:41	1
Copper	**5.3**		2.0	1.8	0.56	ug/L		11/02/18 21:41	1
Lead	**1.0**	**J**	3.0	0.70	0.18	ug/L		11/02/18 21:41	1
Manganese	**140**		3.5	0.95	0.31	ug/L		11/02/18 21:41	1
Nickel	**34**		3.0	1.0	0.30	ug/L		11/02/18 21:41	1
Selenium	**1.5**	**J**	5.0	2.0	0.70	ug/L		11/02/18 21:41	1
Silver	0.10	U	5.0	0.10	0.033	ug/L		11/02/18 21:41	1

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

Client Sample ID: LL1mw-084-181001-GW **Lab Sample ID: 280-116020-6**
Date Collected: 10/24/18 09:30 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Thallium	**0.46**	**J**	1.0	0.20	0.050	ug/L		11/02/18 21:41	1
Vanadium	2.0	U	6.0	2.0	0.50	ug/L		11/02/18 21:41	1
Zinc	**67**		20	8.0	2.0	ug/L		11/02/18 21:41	1

Client Sample ID: DA2mw-115-181001-GW **Lab Sample ID: 280-116020-8**
Date Collected: 10/24/18 12:45 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Antimony	1.0	U	6.0	1.0	0.40	ug/L		11/02/18 21:45	1
Arsenic	**1.6**	**J**	5.0	1.0	0.33	ug/L		11/02/18 21:45	1
Barium	**22**		3.0	0.95	0.29	ug/L		11/02/18 21:45	1
Beryllium	0.30	U	1.0	0.30	0.080	ug/L		11/02/18 21:45	1
Cadmium	1.0	U	1.0	1.0	0.27	ug/L		11/02/18 21:45	1
Chromium	1.8	U	10	1.8	0.50	ug/L		11/02/18 21:45	1
Cobalt	0.20	U	1.0	0.20	0.054	ug/L		11/02/18 21:45	1
Copper	1.8	U	2.0	1.8	0.56	ug/L		11/02/18 21:45	1
Lead	0.70	U	3.0	0.70	0.18	ug/L		11/02/18 21:45	1
Manganese	**110**	**J1**	3.5	0.95	0.31	ug/L		11/02/18 21:45	1
Nickel	1.0	U	3.0	1.0	0.30	ug/L		11/02/18 21:45	1
Selenium	2.0	U	5.0	2.0	0.70	ug/L		11/02/18 21:45	1
Silver	0.10	U	5.0	0.10	0.033	ug/L		11/02/18 21:45	1
Thallium	0.20	U	1.0	0.20	0.050	ug/L		11/02/18 21:45	1
Vanadium	2.0	U	6.0	2.0	0.50	ug/L		11/02/18 21:45	1
Zinc	**2.2**	**J**	20	8.0	2.0	ug/L		11/02/18 21:45	1

Client Sample ID: DA2mw-115-181002-GW **Lab Sample ID: 280-116020-9**
Date Collected: 10/24/18 12:45 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Antimony	1.0	U	6.0	1.0	0.40	ug/L		11/02/18 21:56	1
Arsenic	**1.5**	**J**	5.0	1.0	0.33	ug/L		11/02/18 21:56	1
Barium	**21**		3.0	0.95	0.29	ug/L		11/02/18 21:56	1
Beryllium	0.30	U	1.0	0.30	0.080	ug/L		11/02/18 21:56	1
Cadmium	1.0	U	1.0	1.0	0.27	ug/L		11/02/18 21:56	1
Chromium	1.8	U	10	1.8	0.50	ug/L		11/02/18 21:56	1
Cobalt	0.20	U	1.0	0.20	0.054	ug/L		11/02/18 21:56	1
Copper	1.8	U	2.0	1.8	0.56	ug/L		11/02/18 21:56	1
Lead	0.70	U	3.0	0.70	0.18	ug/L		11/02/18 21:56	1
Manganese	**100**		3.5	0.95	0.31	ug/L		11/02/18 21:56	1
Nickel	1.0	U	3.0	1.0	0.30	ug/L		11/02/18 21:56	1
Selenium	2.0	U	5.0	2.0	0.70	ug/L		11/02/18 21:56	1
Silver	0.10	U	5.0	0.10	0.033	ug/L		11/02/18 21:56	1
Thallium	0.20	U	1.0	0.20	0.050	ug/L		11/02/18 21:56	1
Vanadium	2.0	U	6.0	2.0	0.50	ug/L		11/02/18 21:56	1
Zinc	8.0	U	20	8.0	2.0	ug/L		11/02/18 21:56	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: DET-004-181001-GW **Lab Sample ID: 280-116020-12**
Date Collected: 10/24/18 11:20 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Antimony	1.0	U	6.0	1.0	0.40	ug/L		11/02/18 22:00	1
Arsenic	1.0	U	5.0	1.0	0.33	ug/L		11/02/18 22:00	1
Barium	**72**		3.0	0.95	0.29	ug/L		11/02/18 22:00	1
Beryllium	0.30	U	1.0	0.30	0.080	ug/L		11/02/18 22:00	1
Cadmium	1.0	U	1.0	1.0	0.27	ug/L		11/02/18 22:00	1
Chromium	1.8	U	10	1.8	0.50	ug/L		11/02/18 22:00	1
Cobalt	0.20	U	1.0	0.20	0.054	ug/L		11/02/18 22:00	1
Copper	**1.3**	**J**	2.0	1.8	0.56	ug/L		11/02/18 22:00	1
Lead	0.70	U	3.0	0.70	0.18	ug/L		11/02/18 22:00	1
Manganese	**37**		3.5	0.95	0.31	ug/L		11/02/18 22:00	1
Nickel	**0.81**	**J**	3.0	1.0	0.30	ug/L		11/02/18 22:00	1
Selenium	2.0	U	5.0	2.0	0.70	ug/L		11/02/18 22:00	1
Silver	0.10	U	5.0	0.10	0.033	ug/L		11/02/18 22:00	1
Thallium	0.20	U	1.0	0.20	0.050	ug/L		11/02/18 22:00	1
Vanadium	2.0	U	6.0	2.0	0.50	ug/L		11/02/18 22:00	1
Zinc	**21**		20	8.0	2.0	ug/L		11/02/18 22:00	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: DET-003-181001-GW **Lab Sample ID: 280-116020-1**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	0.027	ug/L		11/06/18 20:52	1

Client Sample ID: WBGmw-009-181001-GW **Lab Sample ID: 280-116020-4**
Date Collected: 10/23/18 14:35 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	0.027	ug/L		11/06/18 20:54	1

Client Sample ID: LL1mw-084-181001-GW **Lab Sample ID: 280-116020-6**
Date Collected: 10/24/18 09:30 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	0.027	ug/L		11/06/18 20:57	1

Client Sample ID: DA2mw-115-181001-GW **Lab Sample ID: 280-116020-8**
Date Collected: 10/24/18 12:45 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	0.027	ug/L		11/06/18 21:03	1

Client Sample ID: DA2mw-115-181002-GW **Lab Sample ID: 280-116020-9**
Date Collected: 10/24/18 12:45 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	0.027	ug/L		11/06/18 21:15	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: DET-004-181001-GW **Lab Sample ID: 280-116020-12**
Date Collected: 10/24/18 11:20 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	0.027	ug/L		11/06/18 21:17	1

General Chemistry

Client Sample ID: DET-003-181001-GW **Lab Sample ID: 280-116020-1**
Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.0050	U	0.010	0.0050	0.0020	mg/L		11/06/18 18:28	1

Client Sample ID: LL1mw-083-181001-GW **Lab Sample ID: 280-116020-5**
Date Collected: 10/24/18 13:25 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Sulfide	1.9	U	4.0	1.9	0.79	mg/L		10/27/18 19:16	1
Nitrate as N	**0.29**	**J J1**	0.50	0.10	0.042	mg/L		10/25/18 18:06	1
Nitrite as N	0.10	U	0.50	0.10	0.049	mg/L		10/25/18 18:06	1
Sulfate	**160**	**J1**	5.0	0.50	0.23	mg/L		10/25/18 18:06	1
Alkalinity	5.0	U	5.0	5.0	1.1	mg/L		11/01/18 23:43	1

Client Sample ID: LL1mw-084-181001-GW **Lab Sample ID: 280-116020-6**
Date Collected: 10/24/18 09:30 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.0050	U	0.010	0.0050	0.0020	mg/L		11/06/18 18:30	1
Sulfide	1.9	U	4.0	1.9	0.79	mg/L		10/27/18 19:16	1
Nitrate as N	**0.31**	**J**	0.50	0.10	0.042	mg/L		10/25/18 19:20	1
Nitrite as N	0.10	U	0.50	0.10	0.049	mg/L		10/25/18 19:20	1
Sulfate	**130**		5.0	0.50	0.23	mg/L		10/25/18 19:20	1
Alkalinity	**17**		5.0	5.0	1.1	mg/L		11/01/18 23:38	1

Client Sample ID: FWGmw-013-181001-GW **Lab Sample ID: 280-116020-7**
Date Collected: 10/24/18 13:55 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.0050	U	0.010	0.0050	0.0020	mg/L		11/06/18 18:31	1

Client Sample ID: DA2mw-115-181001-GW **Lab Sample ID: 280-116020-8**
Date Collected: 10/24/18 12:45 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.0050	U	0.010	0.0050	0.0020	mg/L		11/06/18 18:33	1

Client Sample ID: DA2mw-115-181002-GW **Lab Sample ID: 280-116020-9**
Date Collected: 10/24/18 12:45 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.0050	U	0.010	0.0050	0.0020	mg/L		11/06/18 20:39	1

General Chemistry

Client Sample ID: DET-004-181001-GW **Lab Sample ID: 280-116020-12**
Date Collected: 10/24/18 11:20 **Matrix: Water**
Date Received: 10/24/18 17:47

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.0050	U	0.010	0.0050	0.0020	mg/L		11/06/18 20:40	1

Default Detection Limits

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

TestAmerica Job ID: 280-116020-1

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

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

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

Prep: 3510C

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

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

Prep: 3510C

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

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

Prep: 3520C

Analyte	LOQ	DL	Units	Method
2,4,5-Trichlorophenol	20	0.45	ug/L	8270D
2,4,6-Trichlorophenol	20	0.29	ug/L	8270D
2,4-Dichlorophenol	10	0.64	ug/L	8270D
2,4-Dimethylphenol	10	0.58	ug/L	8270D
2,4-Dinitrophenol	80	10	ug/L	8270D
2,4-Dinitrotoluene	20	1.7	ug/L	8270D
2,6-Dinitrotoluene	20	1.9	ug/L	8270D
2-Chlorophenol	10	2.0	ug/L	8270D
2-Methylphenol	10	0.98	ug/L	8270D
2-Nitrophenol	20	0.39	ug/L	8270D
3 & 4 Methylphenol	20	0.25	ug/L	8270D
4,6-Dinitro-2-methylphenol	80	4.0	ug/L	8270D
4-Chloro-3-methylphenol	20	2.4	ug/L	8270D
4-Nitrophenol	50	1.2	ug/L	8270D
Bis(2-ethylhexyl) phthalate	10	0.56	ug/L	8270D
Butyl benzyl phthalate	20	1.0	ug/L	8270D
Diethyl phthalate	20	0.38	ug/L	8270D
Dimethyl phthalate	20	0.21	ug/L	8270D
Di-n-butyl phthalate	20	1.2	ug/L	8270D
Di-n-octyl phthalate	20	0.35	ug/L	8270D
Nitrobenzene	20	0.81	ug/L	8270D
Pentachlorophenol	80	20	ug/L	8270D
Phenol	10	2.0	ug/L	8270D

Method: 8081B - Organochlorine Pesticides (GC)

Prep: 3510C

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

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

Prep: 3510C

Analyte	LOQ	DL	Units	Method
Endrin	0.050	0.0079	ug/L	8081B
Endrin aldehyde	0.050	0.0088	ug/L	8081B
Endrin ketone	0.050	0.0070	ug/L	8081B
gamma-BHC (Lindane)	0.050	0.0069	ug/L	8081B
gamma-Chlordane	0.050	0.0091	ug/L	8081B
Heptachlor	0.050	0.0077	ug/L	8081B
Heptachlor epoxide	0.050	0.0075	ug/L	8081B
Methoxychlor	0.050	0.013	ug/L	8081B
Toxaphene	2.0	0.37	ug/L	8081B

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

Prep: 3510C

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

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Prep: 3535

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

Method: 6010C - Metals (ICP)

Prep: 3010A

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

Default Detection Limits

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

TestAmerica Job ID: 280-116020-1

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

Prep: 3010A

Analyte	LOQ	DL	Units	Method
Sodium	5000	120	ug/L	6010C

Method: 6020A - Metals (ICP/MS)

Prep: 3020A

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

Method: 7470A - Mercury (CVAA)

Prep: 7470A

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

General Chemistry

Analyte	LOQ	DL	Units	Method
Nitrate as N	0.50	0.042	mg/L	9056
Nitrite as N	0.50	0.049	mg/L	9056
Sulfate	5.0	0.23	mg/L	9056A
Alkalinity	5.0	1.1	mg/L	SM 2320B

General Chemistry

Prep: 9012B

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

General Chemistry

Prep: 9030B

Analyte	LOQ	DL	Units	Method
Sulfide	4.0	0.79	mg/L	9034

Surrogate Summary

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

TestAmerica Job ID: 280-116020-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(81-118)	(85-114)	(80-119)	(89-112)
280-116020-1	DET-003-181001-GW	104	104	104	101
280-116020-1 MS	DET-003-181001-GW	104	98	99	103
280-116020-1 MSD	DET-003-181001-GW	101	98	95	102
280-116020-2	DET-003-181002-GW	101	102	100	99
280-116020-3	FWGTB-181002-TB	97	101	89	99
280-116020-12	DET-004-181001-GW	104	101	102	100
LCS 280-437463/5	Lab Control Sample	102	95	99	103
MB 280-437463/4	Method Blank	95	95	89	102

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(43-140)	(44-119)	(19-119)	(44-120)	(10-115)	(50-134)
280-116020-1	DET-003-181001-GW	83	77	83	79	82	76
280-116020-1 MS	DET-003-181001-GW	93	85	90	86	93	81
280-116020-1 MSD	DET-003-181001-GW	91	76	54	60	66	81
280-116020-2	DET-003-181002-GW	78	57	56	54	59	80
280-116020-4	WBGmw-009-181001-GW	85	77	87	81	89	80
280-116020-5	LL1mw-083-181001-GW	80	70	77	73	78	76
280-116020-6	LL1mw-084-181001-GW	87	73	76	72	77	79
280-116020-8	DA2mw-115-181001-GW	79	62	66	63	68	81
280-116020-12	DET-004-181001-GW	86	76	88	79	89	79
LCS 280-435328/2-A	Lab Control Sample	96	85	91	85	93	84
MB 280-435328/1-A	Method Blank	71	56	58	55	58	82

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(53-106)	(55-111)	(58-132)
280-116020-1	DET-003-181001-GW	57	61	91
280-116020-1 MS	DET-003-181001-GW	51 Q	63	84
280-116020-1 MSD	DET-003-181001-GW	60	69	83

Surrogate Summary

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

TestAmerica Job ID: 280-116020-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(53-106)	(55-111)	(58-132)
280-116020-2	DET-003-181002-GW	63	73	83
280-116020-12	DET-004-181001-GW	47 Q	52 Q	78
LCS 280-435408/2-A	Lab Control Sample	66	78	87
MB 280-435408/1-A	Method Blank	57	56	92

Surrogate Legend

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

Method: 8081B - Organochlorine Pesticides (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)			
		DCBP1	DCBP2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(34-122)	(34-122)	(44-124)	(44-124)
280-116020-1	DET-003-181001-GW		82	63 M	
280-116020-2	DET-003-181002-GW		89	75	
280-116020-5	LL1mw-083-181001-GW		73	68	
280-116020-6	LL1mw-084-181001-GW		74	68	
280-116020-12	DET-004-181001-GW		102	74	
LCS 280-435616/2-A	Lab Control Sample	106		75	
LCS 280-435616/6-A	Lab Control Sample	90		73	
LCSD 280-435616/3-A	Lab Control Sample Dup	115	96	82	80
LCSD 280-435616/7-A	Lab Control Sample Dup	98	82	77	76
MB 280-435616/1-A	Method Blank	104		78	

Surrogate Legend

DCBP = DCB Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX2	DCBP2
Lab Sample ID	Client Sample ID	(25-120)	(30-136)
280-116020-1	DET-003-181001-GW	74	84 Q
280-116020-2	DET-003-181002-GW	84	85 Q
280-116020-12	DET-004-181001-GW	86	108 Q
LCS 280-435616/4-A	Lab Control Sample	78	90
LCSD 280-435616/5-A	Lab Control Sample Dup	82	93
MB 280-435616/1-A	Method Blank	83	88

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCBP = DCB Decachlorobiphenyl

Surrogate Summary

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

TestAmerica Job ID: 280-116020-1

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	12DNB1 (83-119)								
280-116020-1	DET-003-181001-GW	101								
280-116020-4	WBGmw-009-181001-GW	71 Q								
280-116020-4 - RE	WBGmw-009-181001-GW	103								
280-116020-4 - RE	WBGmw-009-181001-GW	89								
280-116020-5	LL1mw-083-181001-GW	118 M								
280-116020-5	LL1mw-083-181001-GW	87								
280-116020-6	LL1mw-084-181001-GW	118 M								
280-116020-6	LL1mw-084-181001-GW	84								
280-116020-8	DA2mw-115-181001-GW	104								
280-116020-8 MS	DA2mw-115-181001-GW	103								
280-116020-8 MSD	DA2mw-115-181001-GW	105								
280-116020-9	DA2mw-115-181002-GW	94								
280-116020-12	DET-004-181001-GW	111								
LCS 280-435346/2-A	Lab Control Sample	78 Q								
LCS 280-435504/2-A	Lab Control Sample	102								
LCS 280-436019/2-A	Lab Control Sample	102								
MB 280-435346/1-A	Method Blank	81 Q								
MB 280-435504/1-A	Method Blank	103								
MB 280-436019/1-A	Method Blank	99								

Surrogate Legend

12DNB = 1,2-Dinitrobenzene

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

Lab Sample ID: MB 280-437463/4
Matrix: Water
Analysis Batch: 437463

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.40	U	1.0	0.40	0.16	ug/L		11/13/18 20:48	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		11/13/18 20:48	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		11/13/18 20:48	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		11/13/18 20:48	1
1,1-Dichloroethene	0.80	U	1.0	0.80	0.23	ug/L		11/13/18 20:48	1
1,2-Dibromoethane	0.40	U	1.0	0.40	0.18	ug/L		11/13/18 20:48	1
1,2-Dichloroethane	0.40	U	1.0	0.40	0.13	ug/L		11/13/18 20:48	1
1,2-Dichloroethene, Total	0.20	U	1.0	0.20	0.24	ug/L		11/13/18 20:48	1
1,2-Dichloropropane	0.40	U	1.0	0.40	0.18	ug/L		11/13/18 20:48	1
2-Butanone (MEK)	4.0	U	6.0	4.0	2.0	ug/L		11/13/18 20:48	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		11/13/18 20:48	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		11/13/18 20:48	1
Acetone	6.4	U	10	6.4	1.9	ug/L		11/13/18 20:48	1
Benzene	0.40	U	1.0	0.40	0.16	ug/L		11/13/18 20:48	1
Bromobenzene	0.40	U	1.0	0.40	0.17	ug/L		11/13/18 20:48	1
Bromochloromethane	0.20	U	1.0	0.20	0.10	ug/L		11/13/18 20:48	1
Bromodichloromethane	0.40	U	1.0	0.40	0.17	ug/L		11/13/18 20:48	1
Bromoform	0.40	U	1.0	0.40	0.19	ug/L		11/13/18 20:48	1
Bromomethane	0.80	U	2.0	0.80	0.21	ug/L		11/13/18 20:48	1
Carbon disulfide	1.6	U	2.0	1.6	0.45	ug/L		11/13/18 20:48	1
Carbon tetrachloride	0.40	U	2.0	0.40	0.19	ug/L		11/13/18 20:48	1
Chlorobenzene	0.40	U	1.0	0.40	0.17	ug/L		11/13/18 20:48	1
Chloroethane	1.6	U	2.0	1.6	0.41	ug/L		11/13/18 20:48	1
Chloroform	0.40	U	1.0	0.40	0.16	ug/L		11/13/18 20:48	1
Chloromethane	0.80	U	2.0	0.80	0.30	ug/L		11/13/18 20:48	1
cis-1,3-Dichloropropene	0.40	U	1.0	0.40	0.16	ug/L		11/13/18 20:48	1
Dibromochloromethane	0.40	U	1.0	0.40	0.17	ug/L		11/13/18 20:48	1
Ethylbenzene	0.40	U	1.0	0.40	0.16	ug/L		11/13/18 20:48	1
Methylene Chloride	0.80	U	5.0	0.80	0.32	ug/L		11/13/18 20:48	1
Styrene	0.40	U	1.0	0.40	0.17	ug/L		11/13/18 20:48	1
Tetrachloroethene	0.40	U	1.0	0.40	0.20	ug/L		11/13/18 20:48	1
Toluene	0.40	U	1.0	0.40	0.17	ug/L		11/13/18 20:48	1
trans-1,3-Dichloropropene	0.40	U	1.0	0.40	0.19	ug/L		11/13/18 20:48	1
Trichloroethene	0.40	U	1.0	0.40	0.16	ug/L		11/13/18 20:48	1
Vinyl chloride	0.20	U	1.5	0.20	0.10	ug/L		11/13/18 20:48	1
Xylenes, Total	0.80	U	1.0	0.80	0.19	ug/L		11/13/18 20:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*81 - 118*		*11/13/18 20:48*	*1*
4-Bromofluorobenzene (Surr)	*95*		*85 - 114*		*11/13/18 20:48*	*1*
Dibromofluoromethane (Surr)	*89*		*80 - 119*		*11/13/18 20:48*	*1*
Toluene-d8 (Surr)	*102*		*89 - 112*		*11/13/18 20:48*	*1*

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

Lab Sample ID: LCS 280-437463/5
Matrix: Water
Analysis Batch: 437463

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	5.13		ug/L		103	74 - 131
1,1,2,2-Tetrachloroethane	5.00	5.15		ug/L		103	71 - 121
1,1,2-Trichloroethane	5.00	5.42		ug/L		108	80 - 119
1,1-Dichloroethane	5.00	5.30		ug/L		106	77 - 125
1,1-Dichloroethene	5.00	5.26		ug/L		105	71 - 131
1,2-Dibromoethane	5.00	5.48		ug/L		110	77 - 121
1,2-Dichloroethane	5.00	5.72		ug/L		114	73 - 128
1,2-Dichloropropane	5.00	5.58		ug/L		112	78 - 122
2-Butanone (MEK)	20.0	22.1		ug/L		110	56 - 143
2-Hexanone	20.0	20.5		ug/L		103	57 - 139
4-Methyl-2-pentanone (MIBK)	20.0	20.9		ug/L		104	67 - 130
Acetone	20.0	20.1		ug/L		100	39 - 160
Benzene	5.00	5.19		ug/L		104	79 - 120
Bromobenzene	5.00	5.15		ug/L		103	80 - 120
Bromochloromethane	5.00	5.31		ug/L		106	78 - 123
Bromodichloromethane	5.00	5.42		ug/L		108	79 - 125
Bromoform	5.00	5.50		ug/L		110	66 - 130
Bromomethane	5.00	4.95		ug/L		99	53 - 141
Carbon disulfide	5.00	5.10		ug/L		102	64 - 133
Carbon tetrachloride	5.00	5.03		ug/L		101	72 - 136
Chlorobenzene	5.00	5.43		ug/L		109	82 - 118
Chloroethane	5.00	5.06		ug/L		101	60 - 138
Chloroform	5.00	5.34		ug/L		107	79 - 124
Chloromethane	5.00	4.58		ug/L		92	50 - 139
cis-1,3-Dichloropropene	5.00	5.71		ug/L		114	75 - 124
Dibromochloromethane	5.00	5.68		ug/L		114	74 - 126
Ethylbenzene	5.00	5.23		ug/L		105	79 - 121
Methylene Chloride	5.00	4.93	J	ug/L		99	74 - 124
Styrene	5.00	5.66		ug/L		113	78 - 123
Tetrachloroethene	5.00	5.03		ug/L		101	74 - 129
Toluene	5.00	5.17		ug/L		103	80 - 121
trans-1,3-Dichloropropene	5.00	5.37		ug/L		107	73 - 127
Trichloroethene	5.00	5.33		ug/L		107	79 - 123
Vinyl chloride	5.00	4.68		ug/L		94	58 - 137
Xylenes, Total	10.0	11.0		ug/L		110	79 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*81 - 118*
4-Bromofluorobenzene (Surr)	*95*		*85 - 114*
Dibromofluoromethane (Surr)	*99*		*80 - 119*
Toluene-d8 (Surr)	*103*		*89 - 112*

Lab Sample ID: 280-116020-1 MS
Matrix: Water
Analysis Batch: 437463

Client Sample ID: DET-003-181001-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	0.40	U H	5.00	5.19	H	ug/L		104	74 - 131

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

Lab Sample ID: 280-116020-1 MS **Client Sample ID: DET-003-181001-GW**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 437463

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	0.80	U H	5.00	5.50	H	ug/L		110	71 - 121
1,1,2-Trichloroethane	0.80	U H	5.00	5.36	H	ug/L		107	80 - 119
1,1-Dichloroethane	0.80	U H	5.00	5.32	H	ug/L		106	77 - 125
1,1-Dichloroethene	0.80	U H	5.00	4.79	H	ug/L		96	71 - 131
1,2-Dibromoethane	0.40	U H	5.00	5.53	H	ug/L		111	77 - 121
1,2-Dichloroethane	0.40	U H	5.00	5.52	H	ug/L		110	73 - 128
1,2-Dichloropropane	0.40	U H	5.00	5.43	H	ug/L		109	78 - 122
2-Butanone (MEK)	4.0	U H	20.0	19.4	H	ug/L		97	56 - 143
2-Hexanone	4.0	U H	20.0	20.8	H	ug/L		104	57 - 139
4-Methyl-2-pentanone (MIBK)	3.2	U H	20.0	21.4	H	ug/L		107	67 - 130
Acetone	6.4	U H	20.0	20.3	H	ug/L		101	39 - 160
Benzene	0.40	U H	5.00	5.11	H	ug/L		102	79 - 120
Bromobenzene	0.40	U H	5.00	5.33	H	ug/L		107	80 - 120
Bromochloromethane	0.20	U H	5.00	5.25	H	ug/L		105	78 - 123
Bromodichloromethane	0.40	U H	5.00	5.30	H	ug/L		106	79 - 125
Bromoform	0.40	U H	5.00	5.48	H	ug/L		110	66 - 130
Bromomethane	0.80	U H	5.00	4.83	H	ug/L		97	53 - 141
Carbon disulfide	1.6	U H	5.00	5.19	H	ug/L		104	64 - 133
Carbon tetrachloride	0.40	U H	5.00	5.12	H	ug/L		102	72 - 136
Chlorobenzene	0.40	U H	5.00	5.26	H	ug/L		105	82 - 118
Chloroethane	1.6	U H	5.00	5.03	H	ug/L		101	60 - 138
Chloroform	0.40	U H	5.00	5.35	H	ug/L		107	79 - 124
Chloromethane	0.80	U H	5.00	4.64	H	ug/L		93	50 - 139
cis-1,3-Dichloropropene	0.40	U H	5.00	5.47	H	ug/L		109	75 - 124
Dibromochloromethane	0.40	U H	5.00	5.60	H	ug/L		112	74 - 126
Ethylbenzene	0.40	U H	5.00	5.18	H	ug/L		104	79 - 121
Methylene Chloride	0.80	U H	5.00	4.94	J H	ug/L		99	74 - 124
Styrene	0.40	U H	5.00	5.54	H	ug/L		111	78 - 123
Tetrachloroethene	0.40	U H	5.00	5.08	H	ug/L		102	74 - 129
Toluene	0.40	U H	5.00	5.20	H	ug/L		104	80 - 121
trans-1,3-Dichloropropene	0.40	U H	5.00	5.30	H	ug/L		106	73 - 127
Trichloroethene	0.40	U H	5.00	5.08	H	ug/L		102	79 - 123
Vinyl chloride	0.20	U H	5.00	4.90	H	ug/L		98	58 - 137
Xylenes, Total	0.80	U H	10.0	10.7	H	ug/L		107	79 - 121

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*
4-Bromofluorobenzene (Surr)	*98*		*85 - 114*
Dibromofluoromethane (Surr)	*99*		*80 - 119*
Toluene-d8 (Surr)	*103*		*89 - 112*

Lab Sample ID: 280-116020-1 MSD **Client Sample ID: DET-003-181001-GW**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 437463

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.40	U H	5.00	5.29	H	ug/L		106	74 - 131	2	20
1,1,2,2-Tetrachloroethane	0.80	U H	5.00	5.68	H	ug/L		114	71 - 121	3	20

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

Lab Sample ID: 280-116020-1 MSD
Matrix: Water
Analysis Batch: 437463

Client Sample ID: DET-003-181001-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2-Trichloroethane	0.80	U H	5.00	5.71	H	ug/L		114	80 - 119	6	20
1,1-Dichloroethane	0.80	U H	5.00	4.92	H	ug/L		98	77 - 125	8	20
1,1-Dichloroethene	0.80	U H	5.00	4.65	H	ug/L		93	71 - 131	3	20
1,2-Dibromoethane	0.40	U H	5.00	5.79	H	ug/L		116	77 - 121	5	20
1,2-Dichloroethane	0.40	U H	5.00	5.81	H	ug/L		116	73 - 128	5	20
1,2-Dichloropropane	0.40	U H	5.00	5.55	H	ug/L		111	78 - 122	2	20
2-Butanone (MEK)	4.0	U H	20.0	18.2	H	ug/L		91	56 - 143	6	20
2-Hexanone	4.0	U H	20.0	21.2	H	ug/L		106	57 - 139	2	20
4-Methyl-2-pentanone (MIBK)	3.2	U H	20.0	21.9	H	ug/L		110	67 - 130	3	20
Acetone	6.4	U H	20.0	19.8	H	ug/L		99	39 - 160	2	20
Benzene	0.40	U H	5.00	5.34	H	ug/L		107	79 - 120	4	20
Bromobenzene	0.40	U H	5.00	5.50	H	ug/L		110	80 - 120	3	20
Bromochloromethane	0.20	U H	5.00	4.92	H	ug/L		98	78 - 123	7	20
Bromodichloromethane	0.40	U H	5.00	5.51	H	ug/L		110	79 - 125	4	20
Bromoform	0.40	U H	5.00	5.53	H	ug/L		111	66 - 130	1	20
Bromomethane	0.80	U H	5.00	4.90	H	ug/L		98	53 - 141	1	20
Carbon disulfide	1.6	U H	5.00	4.64	H	ug/L		93	64 - 133	11	20
Carbon tetrachloride	0.40	U H	5.00	5.24	H	ug/L		105	72 - 136	2	20
Chlorobenzene	0.40	U H	5.00	5.55	H	ug/L		111	82 - 118	5	20
Chloroethane	1.6	U H	5.00	5.15	H	ug/L		103	60 - 138	2	20
Chloroform	0.40	U H	5.00	5.33	H	ug/L		107	79 - 124	0	20
Chloromethane	0.80	U H	5.00	4.77	H	ug/L		95	50 - 139	3	20
cis-1,3-Dichloropropene	0.40	U H	5.00	5.73	H	ug/L		115	75 - 124	5	20
Dibromochloromethane	0.40	U H	5.00	5.45	H	ug/L		109	74 - 126	3	20
Ethylbenzene	0.40	U H	5.00	5.43	H	ug/L		109	79 - 121	5	20
Methylene Chloride	0.80	U H	5.00	4.48	J H	ug/L		90	74 - 124	10	20
Styrene	0.40	U H	5.00	5.90	H	ug/L		118	78 - 123	6	20
Tetrachloroethene	0.40	U H	5.00	5.21	H	ug/L		104	74 - 129	3	20
Toluene	0.40	U H	5.00	5.34	H	ug/L		107	80 - 121	3	20
trans-1,3-Dichloropropene	0.40	U H	5.00	5.46	H	ug/L		109	73 - 127	3	20
Trichloroethene	0.40	U H	5.00	5.11	H	ug/L		102	79 - 123	1	20
Vinyl chloride	0.20	U H	5.00	4.89	H	ug/L		98	58 - 137	0	20
Xylenes, Total	0.80	U H	10.0	11.5	H	ug/L		115	79 - 121	7	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*81 - 118*
4-Bromofluorobenzene (Surr)	*98*		*85 - 114*
Dibromofluoromethane (Surr)	*95*		*80 - 119*
Toluene-d8 (Surr)	*102*		*89 - 112*

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

Lab Sample ID: MB 280-435328/1-A
Matrix: Water
Analysis Batch: 436671

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 435328

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,4,5-Trichlorophenol	1.0	U	20	1.0	0.45	ug/L		11/07/18 14:03	1

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

Lab Sample ID: MB 280-435328/1-A
Matrix: Water
Analysis Batch: 436671

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 435328

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,4,6-Trichlorophenol	1.0	U	20	1.0	0.29	ug/L		11/07/18 14:03	1
2,4-Dichlorophenol	2.0	U	10	2.0	0.64	ug/L		11/07/18 14:03	1
2,4-Dimethylphenol	2.0	U	10	2.0	0.58	ug/L		11/07/18 14:03	1
2,4-Dinitrophenol	30	U	80	30	10	ug/L		11/07/18 14:03	1
2,4-Dinitrotoluene	4.4	U	20	4.4	1.7	ug/L		11/07/18 14:03	1
2,6-Dinitrotoluene	4.4	U	20	4.4	1.9	ug/L		11/07/18 14:03	1
2-Chlorophenol	4.4	U	10	4.4	2.0	ug/L		11/07/18 14:03	1
2-Methylphenol	2.0	U	10	2.0	0.98	ug/L		11/07/18 14:03	1
2-Nitrophenol	1.0	U	20	1.0	0.39	ug/L		11/07/18 14:03	1
3 & 4 Methylphenol	0.50	U	20	0.50	0.25	ug/L		11/07/18 14:03	1
4,6-Dinitro-2-methylphenol	8.8	U	80	8.8	4.0	ug/L		11/07/18 14:03	1
4-Chloro-3-methylphenol	5.0	U	20	5.0	2.4	ug/L		11/07/18 14:03	1
4-Nitrophenol	4.0	U	50	4.0	1.2	ug/L		11/07/18 14:03	1
Bis(2-ethylhexyl) phthalate	2.0	U	10	2.0	0.56	ug/L		11/07/18 14:03	1
Butyl benzyl phthalate	2.0	U	20	2.0	1.0	ug/L		11/07/18 14:03	1
Diethyl phthalate	1.0	U	20	1.0	0.38	ug/L		11/07/18 14:03	1
Dimethyl phthalate	0.50	U	20	0.50	0.21	ug/L		11/07/18 14:03	1
Di-n-butyl phthalate	4.4	U	20	4.4	1.2	ug/L		11/07/18 14:03	1
Di-n-octyl phthalate	1.0	U	20	1.0	0.35	ug/L		11/07/18 14:03	1
Nitrobenzene	2.0	U	20	2.0	0.81	ug/L		11/07/18 14:03	1
Pentachlorophenol	60	U	80	60	20	ug/L		11/07/18 14:03	1
Phenol	4.4	U	10	4.4	2.0	ug/L		11/07/18 14:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*71*		*43 - 140*	*10/29/18 12:36*	*11/07/18 14:03*	*1*
2-Fluorobiphenyl	*56*		*44 - 119*	*10/29/18 12:36*	*11/07/18 14:03*	*1*
2-Fluorophenol (Surr)	*58*		*19 - 119*	*10/29/18 12:36*	*11/07/18 14:03*	*1*
Nitrobenzene-d5 (Surr)	*55*		*44 - 120*	*10/29/18 12:36*	*11/07/18 14:03*	*1*
Phenol-d5 (Surr)	*58*		*10 - 115*	*10/29/18 12:36*	*11/07/18 14:03*	*1*
Terphenyl-d14 (Surr)	*82*		*50 - 134*	*10/29/18 12:36*	*11/07/18 14:03*	*1*

Lab Sample ID: LCS 280-435328/2-A
Matrix: Water
Analysis Batch: 436671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 435328

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	80.0	70.5		ug/L		88	53 - 123
2,4,6-Trichlorophenol	80.0	73.7		ug/L		92	50 - 125
2,4-Dichlorophenol	80.0	70.1		ug/L		88	47 - 121
2,4-Dimethylphenol	80.0	59.3		ug/L		74	31 - 124
2,4-Dinitrophenol	160	134		ug/L		84	23 - 143
2,4-Dinitrotoluene	80.0	72.3		ug/L		90	57 - 128
2,6-Dinitrotoluene	80.0	71.9		ug/L		90	57 - 124
2-Chlorophenol	80.0	70.0		ug/L		87	38 - 117
2-Methylphenol	80.0	71.3		ug/L		89	30 - 117
2-Nitrophenol	80.0	69.0		ug/L		86	47 - 123
3 & 4 Methylphenol	80.0	71.0		ug/L		89	29 - 110
4,6-Dinitro-2-methylphenol	160	161		ug/L		100	44 - 137

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

Lab Sample ID: LCS 280-435328/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 436671 **Prep Batch: 435328**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chloro-3-methylphenol	80.0	72.1		ug/L		90	52 - 119
4-Nitrophenol	160	142		ug/L		89	59 - 129
Bis(2-ethylhexyl) phthalate	80.0	71.7		ug/L		90	55 - 135
Butyl benzyl phthalate	80.0	69.2		ug/L		86	53 - 134
Diethyl phthalate	80.0	72.1		ug/L		90	56 - 125
Dimethyl phthalate	80.0	71.5		ug/L		89	45 - 127
Di-n-butyl phthalate	80.0	71.1		ug/L		89	59 - 127
Di-n-octyl phthalate	80.0	71.6		ug/L		90	51 - 140
Nitrobenzene	80.0	66.8		ug/L		84	45 - 121
Pentachlorophenol	160	134		ug/L		84	35 - 138
Phenol	80.0	72.8		ug/L		91	61 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*96*		*43 - 140*
2-Fluorobiphenyl	*85*		*44 - 119*
2-Fluorophenol (Surr)	*91*		*19 - 119*
Nitrobenzene-d5 (Surr)	*85*		*44 - 120*
Phenol-d5 (Surr)	*93*		*10 - 115*
Terphenyl-d14 (Surr)	*84*		*50 - 134*

Lab Sample ID: 280-116020-1 MS **Client Sample ID: DET-003-181001-GW**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 436671 **Prep Batch: 435328**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	0.99	U	78.1	65.5		ug/L		84	53 - 123
2,4,6-Trichlorophenol	0.99	U	78.1	71.0		ug/L		91	50 - 125
2,4-Dichlorophenol	2.0	U	78.1	67.8		ug/L		87	47 - 121
2,4-Dimethylphenol	2.0	U	78.1	60.3		ug/L		77	31 - 124
2,4-Dinitrophenol	30	U	156	132		ug/L		85	23 - 143
2,4-Dinitrotoluene	4.3	U	78.1	68.9		ug/L		88	57 - 128
2,6-Dinitrotoluene	4.3	U	78.1	68.0		ug/L		87	57 - 124
2-Chlorophenol	4.3	U J1	78.1	67.8		ug/L		87	38 - 117
2-Methylphenol	2.0	U J1	78.1	69.9		ug/L		89	30 - 117
2-Nitrophenol	0.99	U J1	78.1	66.7		ug/L		85	47 - 123
3 & 4 Methylphenol	0.49	U	78.1	68.6		ug/L		88	29 - 110
4,6-Dinitro-2-methylphenol	8.7	U	156	151		ug/L		97	44 - 137
4-Chloro-3-methylphenol	4.9	U	78.1	69.8		ug/L		89	52 - 119
4-Nitrophenol	3.9	U	156	134		ug/L		86	59 - 129
Bis(2-ethylhexyl) phthalate	2.0	U	78.1	65.4		ug/L		84	55 - 135
Butyl benzyl phthalate	2.0	U	78.1	63.9		ug/L		82	53 - 134
Diethyl phthalate	0.99	U	78.1	68.1		ug/L		87	56 - 125
Dimethyl phthalate	0.49	U	78.1	68.1		ug/L		87	45 - 127
Di-n-butyl phthalate	4.3	U	78.1	66.4		ug/L		85	59 - 127
Di-n-octyl phthalate	0.99	U	78.1	65.5		ug/L		84	51 - 140
Nitrobenzene	2.0	U J1	78.1	66.3		ug/L		85	45 - 121
Pentachlorophenol	59	U	156	127		ug/L		81	35 - 138
Phenol	4.3	U J1	78.1	71.0		ug/L		91	61 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	*93*		*43 - 140*
2-Fluorobiphenyl	*85*		*44 - 119*
2-Fluorophenol (Surr)	*90*		*19 - 119*
Nitrobenzene-d5 (Surr)	*86*		*44 - 120*
Phenol-d5 (Surr)	*93*		*10 - 115*
Terphenyl-d14 (Surr)	*81*		*50 - 134*

Lab Sample ID: 280-116020-1 MSD **Client Sample ID: DET-003-181001-GW**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 436671 **Prep Batch: 435328**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,5-Trichlorophenol	0.99	U	78.8	65.9		ug/L		84	53 - 123	1	20
2,4,6-Trichlorophenol	0.99	U	78.8	68.7		ug/L		87	50 - 125	3	20
2,4-Dichlorophenol	2.0	U	78.8	58.4		ug/L		74	47 - 121	15	20
2,4-Dimethylphenol	2.0	U	78.8	54.5		ug/L		69	31 - 124	10	20
2,4-Dinitrophenol	30	U	158	138		ug/L		87	23 - 143	4	20
2,4-Dinitrotoluene	4.3	U	78.8	69.6		ug/L		88	57 - 128	1	20
2,6-Dinitrotoluene	4.3	U	78.8	68.1		ug/L		86	57 - 124	0	20
2-Chlorophenol	4.3	U J1	78.8	43.5	J1	ug/L		55	38 - 117	44	20
2-Methylphenol	2.0	U J1	78.8	53.5	J1	ug/L		68	30 - 117	27	20
2-Nitrophenol	0.99	U J1	78.8	51.0	J1	ug/L		65	47 - 123	27	20
3 & 4 Methylphenol	0.49	U	78.8	57.0		ug/L		72	29 - 110	18	20
4,6-Dinitro-2-methylphenol	8.7	U	158	152		ug/L		97	44 - 137	1	20
4-Chloro-3-methylphenol	4.9	U	78.8	68.2		ug/L		87	52 - 119	2	20
4-Nitrophenol	3.9	U	158	132		ug/L		84	59 - 129	1	20
Bis(2-ethylhexyl) phthalate	2.0	U	78.8	67.0		ug/L		85	55 - 135	3	20
Butyl benzyl phthalate	2.0	U	78.8	64.8		ug/L		82	53 - 134	1	20
Diethyl phthalate	0.99	U	78.8	67.6		ug/L		86	56 - 125	1	20
Dimethyl phthalate	0.49	U	78.8	67.7		ug/L		86	45 - 127	1	20
Di-n-butyl phthalate	4.3	U	78.8	66.8		ug/L		85	59 - 127	1	20
Di-n-octyl phthalate	0.99	U	78.8	66.3		ug/L		84	51 - 140	1	20
Nitrobenzene	2.0	U J1	78.8	47.7	J1	ug/L		61	45 - 121	32	20
Pentachlorophenol	59	U	158	134		ug/L		85	35 - 138	5	20
Phenol	4.3	U J1	78.8	50.1	J1	ug/L		64	61 - 120	35	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	*91*		*43 - 140*
2-Fluorobiphenyl	*76*		*44 - 119*
2-Fluorophenol (Surr)	*54*		*19 - 119*
Nitrobenzene-d5 (Surr)	*60*		*44 - 120*
Phenol-d5 (Surr)	*66*		*10 - 115*
Terphenyl-d14 (Surr)	*81*		*50 - 134*

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

Lab Sample ID: MB 280-435408/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 435950 **Prep Batch: 435408**

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1-Methylnaphthalene	0.012	U	0.10	0.012	0.0059	ug/L		11/01/18 23:01	1
2-Methylnaphthalene	0.012	U	0.10	0.012	0.0060	ug/L		11/01/18 23:01	1

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

Lab Sample ID: MB 280-435408/1-A
Matrix: Water
Analysis Batch: 435950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 435408

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Acenaphthene	0.040	U	0.10	0.040	0.0042	ug/L		11/01/18 23:01	1
Acenaphthylene	0.040	U	0.10	0.040	0.0051	ug/L		11/01/18 23:01	1
Anthracene	0.040	U M	0.10	0.040	0.0056	ug/L		11/01/18 23:01	1
Benzo[a]anthracene	0.012	U	0.10	0.012	0.0042	ug/L		11/01/18 23:01	1
Benzo[a]pyrene	0.012	U M	0.10	0.012	0.0069	ug/L		11/01/18 23:01	1
Benzo[b]fluoranthene	0.012	U M	0.10	0.012	0.0031	ug/L		11/01/18 23:01	1
Benzo[g,h,i]perylene	0.012	U M	0.10	0.012	0.0062	ug/L		11/01/18 23:01	1
Benzo[k]fluoranthene	0.012	U M	0.10	0.012	0.0063	ug/L		11/01/18 23:01	1
Chrysene	0.012	U	0.10	0.012	0.0033	ug/L		11/01/18 23:01	1
Dibenz(a,h)anthracene	0.012	U	0.10	0.012	0.0041	ug/L		11/01/18 23:01	1
Fluoranthene	0.012	U	0.10	0.012	0.0048	ug/L		11/01/18 23:01	1
Fluorene	0.040	U	0.10	0.040	0.0055	ug/L		11/01/18 23:01	1
Indeno[1,2,3-cd]pyrene	0.040	U	0.10	0.040	0.0045	ug/L		11/01/18 23:01	1
Naphthalene	0.012	U	0.10	0.012	0.0080	ug/L		11/01/18 23:01	1
Phenanthrene	0.0181	J	0.10	0.020	0.0093	ug/L		11/01/18 23:01	1
Pyrene	0.020	U	0.10	0.020	0.0061	ug/L		11/01/18 23:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*53 - 106*	*10/29/18 21:02*	*11/01/18 23:01*	*1*
Nitrobenzene-d5	*56*		*55 - 111*	*10/29/18 21:02*	*11/01/18 23:01*	*1*
Terphenyl-d14	*92*		*58 - 132*	*10/29/18 21:02*	*11/01/18 23:01*	*1*

Lab Sample ID: LCS 280-435408/2-A
Matrix: Water
Analysis Batch: 435950

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 435408

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	0.900	0.625		ug/L		69	41 - 115
2-Methylnaphthalene	0.900	0.598		ug/L		66	39 - 114
Acenaphthene	0.900	0.685		ug/L		76	48 - 114
Acenaphthylene	0.900	0.648		ug/L		72	35 - 121
Anthracene	0.900	0.704		ug/L		78	53 - 119
Benzo[a]anthracene	0.900	0.848		ug/L		94	59 - 120
Benzo[a]pyrene	0.900	0.731		ug/L		81	53 - 120
Benzo[b]fluoranthene	0.900	0.757		ug/L		84	53 - 126
Benzo[g,h,i]perylene	0.900	0.632		ug/L		70	44 - 128
Benzo[k]fluoranthene	0.900	0.803		ug/L		89	54 - 125
Chrysene	0.900	0.785		ug/L		87	57 - 120
Dibenz(a,h)anthracene	0.900	0.626		ug/L		70	44 - 131
Fluoranthene	0.900	0.783		ug/L		87	58 - 120
Fluorene	0.900	0.694		ug/L		77	50 - 118
Indeno[1,2,3-cd]pyrene	0.900	0.637		ug/L		71	48 - 130
Naphthalene	0.900	0.595		ug/L		66	43 - 114
Phenanthrene	0.900	0.716		ug/L		80	53 - 115
Pyrene	0.900	0.784		ug/L		87	53 - 121

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

Lab Sample ID: LCS 280-435408/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 435950 **Prep Batch: 435408**

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	66		53 - 106
Nitrobenzene-d5	78		55 - 111
Terphenyl-d14	87		58 - 132

Lab Sample ID: 280-116020-1 MS **Client Sample ID: DET-003-181001-GW**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 435950 **Prep Batch: 435408**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	0.013	U	0.907	0.559		ug/L		62	41 - 115
2-Methylnaphthalene	0.013	U	0.907	0.516		ug/L		57	39 - 114
Acenaphthene	0.042	U M	0.907	0.552	Q	ug/L		61	48 - 114
Acenaphthylene	0.042	U	0.907	0.529	Q	ug/L		58	35 - 121
Anthracene	0.042	U	0.907	0.572	Q	ug/L		63	53 - 119
Benzo[a]anthracene	0.013	U	0.907	0.634		ug/L		70	59 - 120
Benzo[a]pyrene	0.013	U M	0.907	0.524		ug/L		58	53 - 120
Benzo[b]fluoranthene	0.013	U	0.907	0.594		ug/L		66	53 - 126
Benzo[g,h,i]perylene	0.013	U	0.907	0.577		ug/L		64	44 - 128
Benzo[k]fluoranthene	0.013	U M	0.907	0.617		ug/L		68	54 - 125
Chrysene	0.013	U	0.907	0.773		ug/L		85	57 - 120
Dibenz(a,h)anthracene	0.013	U	0.907	0.536		ug/L		59	44 - 131
Fluoranthene	0.013	U	0.907	0.695	Q	ug/L		77	58 - 120
Fluorene	0.042	U	0.907	0.564	Q	ug/L		62	50 - 118
Indeno[1,2,3-cd]pyrene	0.042	U	0.907	0.541		ug/L		60	48 - 130
Naphthalene	0.013	U	0.907	0.542		ug/L		60	43 - 114
Phenanthrene	0.021	U	0.907	0.630	Q	ug/L		70	53 - 115
Pyrene	0.021	U	0.907	0.662	Q	ug/L		73	53 - 121

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	51	Q	53 - 106
Nitrobenzene-d5	63		55 - 111
Terphenyl-d14	84		58 - 132

Lab Sample ID: 280-116020-1 MSD **Client Sample ID: DET-003-181001-GW**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 435950 **Prep Batch: 435408**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene	0.013	U	0.911	0.632		ug/L		69	41 - 115	12	20
2-Methylnaphthalene	0.013	U	0.911	0.595		ug/L		65	39 - 114	14	20
Acenaphthene	0.042	U M	0.911	0.645		ug/L		71	48 - 114	15	20
Acenaphthylene	0.042	U	0.911	0.580		ug/L		64	35 - 121	9	20
Anthracene	0.042	U	0.911	0.599		ug/L		66	53 - 119	5	20
Benzo[a]anthracene	0.013	U	0.911	0.635		ug/L		70	59 - 120	0	20
Benzo[a]pyrene	0.013	U M	0.911	0.523		ug/L		57	53 - 120	0	20
Benzo[b]fluoranthene	0.013	U	0.911	0.604		ug/L		66	53 - 126	2	20
Benzo[g,h,i]perylene	0.013	U	0.911	0.589	M	ug/L		65	44 - 128	2	20
Benzo[k]fluoranthene	0.013	U M	0.911	0.670		ug/L		74	54 - 125	8	20

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

Lab Sample ID: 280-116020-1 MSD **Client Sample ID: DET-003-181001-GW**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 435950 **Prep Batch: 435408**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chrysene	0.013	U	0.911	0.800		ug/L		88	57 - 120	3	20
Dibenz(a,h)anthracene	0.013	U	0.911	0.520		ug/L		57	44 - 131	3	20
Fluoranthene	0.013	U	0.911	0.677		ug/L		74	58 - 120	3	20
Fluorene	0.042	U	0.911	0.611		ug/L		67	50 - 118	8	20
Indeno[1,2,3-cd]pyrene	0.042	U	0.911	0.524		ug/L		58	48 - 130	3	20
Naphthalene	0.013	U	0.911	0.613		ug/L		67	43 - 114	12	20
Phenanthrene	0.021	U	0.911	0.670		ug/L		74	53 - 115	6	20
Pyrene	0.021	U	0.911	0.654		ug/L		72	53 - 121	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*53 - 106*
Nitrobenzene-d5	*69*		*55 - 111*
Terphenyl-d14	*83*		*58 - 132*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 280-435616/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 438138 **Prep Batch: 435616**

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.020	U	0.050	0.020	0.0077	ug/L		11/19/18 20:24	1
4,4'-DDE	0.020	U	0.050	0.020	0.0075	ug/L		11/19/18 20:24	1
4,4'-DDT	0.050	U	0.050	0.050	0.015	ug/L		11/19/18 20:24	1
Aldrin	0.020	U	0.050	0.020	0.0059	ug/L		11/19/18 20:24	1
alpha-BHC	0.020	U	0.050	0.020	0.0053	ug/L		11/19/18 20:24	1
alpha-Chlordane	0.020	U	0.050	0.020	0.0053	ug/L		11/19/18 20:24	1
beta-BHC	0.020	U	0.050	0.020	0.0087	ug/L		11/19/18 20:24	1
delta-BHC	0.020	U	0.050	0.020	0.0058	ug/L		11/19/18 20:24	1
Dieldrin	0.020	U	0.050	0.020	0.0063	ug/L		11/19/18 20:24	1
Endosulfan I	0.020	U	0.050	0.020	0.0058	ug/L		11/19/18 20:24	1
Endosulfan II	0.020	U	0.050	0.020	0.0070	ug/L		11/19/18 20:24	1
Endosulfan sulfate	0.020	U	0.050	0.020	0.0057	ug/L		11/19/18 20:24	1
Endrin	0.020	U	0.050	0.020	0.0079	ug/L		11/19/18 20:24	1
Endrin aldehyde	0.020	U	0.050	0.020	0.0088	ug/L		11/19/18 20:24	1
Endrin ketone	0.020	U	0.050	0.020	0.0070	ug/L		11/19/18 20:24	1
gamma-BHC (Lindane)	0.020	U	0.050	0.020	0.0069	ug/L		11/19/18 20:24	1
gamma-Chlordane	0.020	U	0.050	0.020	0.0091	ug/L		11/19/18 20:24	1
Heptachlor	0.020	U	0.050	0.020	0.0077	ug/L		11/19/18 20:24	1
Heptachlor epoxide	0.020	U	0.050	0.020	0.0075	ug/L		11/19/18 20:24	1
Methoxychlor	0.050	U	0.050	0.050	0.013	ug/L		11/19/18 20:24	1
Toxaphene	0.80	U	2.0	0.80	0.37	ug/L		11/19/18 20:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*104*		*34 - 122*	*10/30/18 20:52*	*11/19/18 20:24*	*1*
Tetrachloro-m-xylene	*78*		*44 - 124*	*10/30/18 20:52*	*11/19/18 20:24*	*1*

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

Lab Sample ID: LCS 280-435616/2-A
Matrix: Water
Analysis Batch: 438138

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 435616

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.500	0.557		ug/L		111	56 - 143
4,4'-DDE	0.500	0.519		ug/L		104	57 - 135
4,4'-DDT	0.500	0.571		ug/L		114	51 - 143
Aldrin	0.500	0.461		ug/L		92	45 - 134
alpha-BHC	0.500	0.510		ug/L		102	54 - 138
alpha-Chlordane	0.500	0.543		ug/L		109	60 - 129
beta-BHC	0.500	0.512		ug/L		102	56 - 136
delta-BHC	0.500	0.541		ug/L		108	52 - 142
Dieldrin	0.500	0.566		ug/L		113	60 - 136
Endosulfan I	0.500	0.513		ug/L		103	62 - 126
Endosulfan II	0.500	0.478		ug/L		96	52 - 135
Endosulfan sulfate	0.500	0.565		ug/L		113	62 - 133
Endrin	0.500	0.559		ug/L		112	60 - 138
Endrin aldehyde	0.500	0.471		ug/L		94	51 - 132
Endrin ketone	0.500	0.554		ug/L		111	58 - 134
gamma-BHC (Lindane)	0.500	0.529		ug/L		106	59 - 134
gamma-Chlordane	0.500	0.542		ug/L		108	56 - 136
Heptachlor	0.500	0.502		ug/L		100	54 - 130
Heptachlor epoxide	0.500	0.557		ug/L		111	61 - 133
Methoxychlor	0.500	0.616		ug/L		123	54 - 145

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*106*		*34 - 122*
Tetrachloro-m-xylene	*75*		*44 - 124*

Lab Sample ID: LCS 280-435616/6-A
Matrix: Water
Analysis Batch: 438138

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 435616

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toxaphene	2.00	2.11		ug/L		106	33 - 134

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*90*		*34 - 122*
Tetrachloro-m-xylene	*73*		*44 - 124*

Lab Sample ID: LCSD 280-435616/3-A
Matrix: Water
Analysis Batch: 438138

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 435616

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	0.500	0.592		ug/L		118	56 - 143	6	30
4,4'-DDD	0.500	0.541		ug/L		108	56 - 143	7	30
4,4'-DDE	0.500	0.554		ug/L		111	57 - 135	6	30
4,4'-DDE	0.500	0.517		ug/L		103	57 - 135	6	30
4,4'-DDT	0.500	0.598		ug/L		120	51 - 143	5	30
4,4'-DDT	0.500	0.596		ug/L		119	51 - 143	6	30

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

Lab Sample ID: LCSD 280-435616/3-A
Matrix: Water
Analysis Batch: 438138

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 435616

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin			0.500	0.487		ug/L		97	45 - 134	5	30
Aldrin			0.500	0.458		ug/L		92	45 - 134	5	30
alpha-BHC			0.500	0.540		ug/L		108	54 - 138	6	30
alpha-BHC			0.500	0.524		ug/L		105	54 - 138	6	30
alpha-Chlordane			0.500	0.576		ug/L		115	60 - 129	6	30
alpha-Chlordane			0.500	0.533		ug/L		107	60 - 129	6	30
beta-BHC			0.500	0.540		ug/L		108	56 - 136	5	30
beta-BHC			0.500	0.492		ug/L		98	56 - 136	5	30
delta-BHC			0.500	0.565		ug/L		113	52 - 142	4	30
delta-BHC			0.500	0.526		ug/L		105	52 - 142	5	30
Dieldrin			0.500	0.603		ug/L		121	60 - 136	6	30
Dieldrin			0.500	0.547		ug/L		109	60 - 136	6	30
Endosulfan I			0.500	0.552		ug/L		110	62 - 126	7	30
Endosulfan I			0.500	0.506		ug/L		101	62 - 126	7	30
Endosulfan II			0.500	0.548		ug/L		110	52 - 135	14	30
Endosulfan II			0.500	0.488		ug/L		98	52 - 135	13	30
Endosulfan sulfate			0.500	0.674	Q	ug/L		135	62 - 133	18	30
Endosulfan sulfate			0.500	0.549		ug/L		110	62 - 133	16	30
Endrin			0.500	0.642		ug/L		128	60 - 138	14	30
Endrin			0.500	0.580		ug/L		116	60 - 138	13	30
Endrin aldehyde			0.500	0.584		ug/L		117	51 - 132	22	30
Endrin aldehyde			0.500	0.497		ug/L		99	51 - 132	21	30
Endrin ketone			0.500	0.621		ug/L		124	58 - 134	11	30
Endrin ketone			0.500	0.513		ug/L		103	58 - 134	11	30
gamma-BHC (Lindane)			0.500	0.559		ug/L		112	59 - 134	5	30
gamma-BHC (Lindane)			0.500	0.530		ug/L		106	59 - 134	5	30
gamma-Chlordane			0.500	0.575		ug/L		115	56 - 136	6	30
gamma-Chlordane			0.500	0.524		ug/L		105	56 - 136	6	30
Heptachlor			0.500	0.533		ug/L		107	54 - 130	6	30
Heptachlor			0.500	0.506		ug/L		101	54 - 130	6	30
Heptachlor epoxide			0.500	0.589		ug/L		118	61 - 133	6	30
Heptachlor epoxide			0.500	0.544		ug/L		109	61 - 133	6	30
Methoxychlor			0.500	0.682		ug/L		136	54 - 145	10	30
Methoxychlor			0.500	0.608		ug/L		122	54 - 145	11	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*115*		*34 - 122*
DCB Decachlorobiphenyl	*96*		*34 - 122*
Tetrachloro-m-xylene	*82*		*44 - 124*
Tetrachloro-m-xylene	*80*		*44 - 124*

Lab Sample ID: LCSD 280-435616/7-A
Matrix: Water
Analysis Batch: 438138

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 435616

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toxaphene			2.00	1.83	J	ug/L		91	33 - 134	15	30
Toxaphene			2.00	1.94	J	ug/L		97	33 - 134	6	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	98		34 - 122
DCB Decachlorobiphenyl	82		34 - 122
Tetrachloro-m-xylene	77		44 - 124
Tetrachloro-m-xylene	76		44 - 124

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

Lab Sample ID: MB 280-435616/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 438587 — **Prep Batch: 435616**

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
PCB-1016	0.40	U M	1.0	0.40	0.12	ug/L		11/24/18 05:07	1
PCB-1221	0.25	U M	1.0	0.25	0.21	ug/L		11/24/18 05:07	1
PCB-1232	0.60	U M	1.0	0.60	0.17	ug/L		11/24/18 05:07	1
PCB-1242	0.30	U M	1.0	0.30	0.10	ug/L		11/24/18 05:07	1
PCB-1248	0.30	U M	1.0	0.30	0.092	ug/L		11/24/18 05:07	1
PCB-1254	0.25	U M	1.0	0.25	0.11	ug/L		11/24/18 05:07	1
PCB-1260	0.40	U M	1.0	0.40	0.16	ug/L		11/24/18 05:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	83		25 - 120	10/30/18 20:52	11/24/18 05:07	1
DCB Decachlorobiphenyl	88		30 - 136	10/30/18 20:52	11/24/18 05:07	1

Lab Sample ID: LCS 280-435616/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 438587 — **Prep Batch: 435616**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
PCB-1016			2.00	1.91		ug/L		95	46 - 129		
PCB-1260			2.00	2.07		ug/L		104	45 - 134		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	78		25 - 120
DCB Decachlorobiphenyl	90		30 - 136

Lab Sample ID: LCSD 280-435616/5-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 438587 — **Prep Batch: 435616**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016			2.00	1.92		ug/L		96	46 - 129	1	30
PCB-1260			2.00	2.10		ug/L		105	45 - 134	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene	82		25 - 120
DCB Decachlorobiphenyl	93		30 - 136

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Lab Sample ID: MB 280-435346/1-A
Matrix: Water
Analysis Batch: 435517

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 435346

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.40	U Q	1.0	0.40	0.20	ug/L		10/30/18 14:04	1
1,3-Dinitrobenzene	0.20	U Q	0.40	0.20	0.089	ug/L		10/30/18 14:04	1
2,4,6-Trinitrotoluene	0.20	U Q	0.40	0.20	0.072	ug/L		10/30/18 14:04	1
2,4-Dinitrotoluene	0.20	U Q	0.40	0.20	0.084	ug/L		10/30/18 14:04	1
2,6-Dinitrotoluene	0.20	U Q	0.20	0.20	0.065	ug/L		10/30/18 14:04	1
2-Amino-4,6-dinitrotoluene	0.12	U Q	0.20	0.12	0.051	ug/L		10/30/18 14:04	1
2-Nitrotoluene	0.20	U Q	0.40	0.20	0.086	ug/L		10/30/18 14:04	1
3-Nitrotoluene	0.20	U Q	0.40	0.20	0.083	ug/L		10/30/18 14:04	1
4-Amino-2,6-dinitrotoluene	0.12	U Q	0.20	0.12	0.058	ug/L		10/30/18 14:04	1
4-Nitrotoluene	0.40	U Q	1.0	0.40	0.20	ug/L		10/30/18 14:04	1
HMX	0.20	U Q	0.40	0.20	0.088	ug/L		10/30/18 14:04	1
Nitrobenzene	0.20	U Q	0.40	0.20	0.091	ug/L		10/30/18 14:04	1
Nitroglycerin	2.0	U Q	3.0	2.0	0.92	ug/L		10/30/18 14:04	1
PETN	1.2	U Q	2.0	1.2	0.42	ug/L		10/30/18 14:04	1
RDX	0.12	U Q	0.20	0.12	0.052	ug/L		10/30/18 14:04	1
Tetryl	0.20	U Q	0.24	0.20	0.079	ug/L		10/30/18 14:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*81*	*Q*	*83 - 119*	*10/29/18 12:30*	*10/30/18 14:04*	*1*

Lab Sample ID: LCS 280-435346/2-A
Matrix: Water
Analysis Batch: 435517

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 435346

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trinitrobenzene	2.00	1.66	Q	ug/L		83	73 - 125
1,3-Dinitrobenzene	2.00	1.53	Q	ug/L		77	78 - 120
2,4,6-Trinitrotoluene	2.00	1.49	Q	ug/L		74	71 - 123
2,4-Dinitrotoluene	2.00	1.40	Q	ug/L		70	78 - 120
2,6-Dinitrotoluene	2.00	1.41	Q	ug/L		71	77 - 127
2-Amino-4,6-dinitrotoluene	2.00	1.31	Q	ug/L		65	79 - 120
2-Nitrotoluene	2.00	1.21	Q	ug/L		61	70 - 127
3-Nitrotoluene	2.00	1.10	Q	ug/L		55	73 - 125
4-Amino-2,6-dinitrotoluene	2.00	1.22	Q	ug/L		61	76 - 125
4-Nitrotoluene	2.00	1.37	Q	ug/L		69	71 - 127
HMX	2.00	1.60	Q	ug/L		80	65 - 135
Nitrobenzene	2.00	1.32	Q	ug/L		66	65 - 134
Nitroglycerin	20.0	17.1	Q	ug/L		85	74 - 127
PETN	20.0	15.9	Q	ug/L		79	73 - 127
RDX	2.00	1.70	Q	ug/L		85	68 - 130
Tetryl	2.00	1.64	Q	ug/L		82	64 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dinitrobenzene	*78*	*Q*	*83 - 119*

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

Lab Sample ID: MB 280-435504/1-A
Matrix: Water
Analysis Batch: 435886

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 435504

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.40	U	1.0	0.40	0.20	ug/L		11/01/18 17:58	1
1,3-Dinitrobenzene	0.20	U	0.40	0.20	0.089	ug/L		11/01/18 17:58	1
2,4,6-Trinitrotoluene	0.20	U	0.40	0.20	0.072	ug/L		11/01/18 17:58	1
2,4-Dinitrotoluene	0.20	U	0.40	0.20	0.084	ug/L		11/01/18 17:58	1
2,6-Dinitrotoluene	0.20	U	0.20	0.20	0.065	ug/L		11/01/18 17:58	1
2-Amino-4,6-dinitrotoluene	0.12	U	0.20	0.12	0.051	ug/L		11/01/18 17:58	1
2-Nitrotoluene	0.20	U	0.40	0.20	0.086	ug/L		11/01/18 17:58	1
3-Nitrotoluene	0.20	U	0.40	0.20	0.083	ug/L		11/01/18 17:58	1
4-Amino-2,6-dinitrotoluene	0.12	U	0.20	0.12	0.058	ug/L		11/01/18 17:58	1
4-Nitrotoluene	0.40	U	1.0	0.40	0.20	ug/L		11/01/18 17:58	1
HMX	0.20	U	0.40	0.20	0.088	ug/L		11/01/18 17:58	1
Nitrobenzene	0.20	U	0.40	0.20	0.091	ug/L		11/01/18 17:58	1
Nitroglycerin	2.0	U	3.0	2.0	0.92	ug/L		11/01/18 17:58	1
PETN	1.2	U	2.0	1.2	0.42	ug/L		11/01/18 17:58	1
RDX	0.12	U	0.20	0.12	0.052	ug/L		11/01/18 17:58	1
Tetryl	0.20	U	0.24	0.20	0.079	ug/L		11/01/18 17:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*103*		*83 - 119*	*10/30/18 13:24*	*11/01/18 17:58*	*1*

Lab Sample ID: LCS 280-435504/2-A
Matrix: Water
Analysis Batch: 435886

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 435504

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trinitrobenzene	2.00	2.16		ug/L		108	73 - 125
1,3-Dinitrobenzene	2.00	2.07		ug/L		103	78 - 120
2,4,6-Trinitrotoluene	2.00	1.97		ug/L		99	71 - 123
2,4-Dinitrotoluene	2.00	1.95		ug/L		98	78 - 120
2,6-Dinitrotoluene	2.00	1.97		ug/L		99	77 - 127
2-Amino-4,6-dinitrotoluene	2.00	1.93		ug/L		97	79 - 120
2-Nitrotoluene	2.00	1.63		ug/L		82	70 - 127
3-Nitrotoluene	2.00	1.68		ug/L		84	73 - 125
4-Amino-2,6-dinitrotoluene	2.00	1.79		ug/L		90	76 - 125
4-Nitrotoluene	2.00	1.84		ug/L		92	71 - 127
HMX	2.00	1.97		ug/L		98	65 - 135
Nitrobenzene	2.00	1.84		ug/L		92	65 - 134
Nitroglycerin	20.0	20.6		ug/L		103	74 - 127
PETN	20.0	20.3		ug/L		101	73 - 127
RDX	2.00	2.10		ug/L		105	68 - 130
Tetryl	2.00	2.12		ug/L		106	64 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dinitrobenzene	*102*		*83 - 119*

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

Lab Sample ID: 280-116020-8 MS
Client Sample ID: DA2mw-115-181001-GW
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 435886
Prep Batch: 435504

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trinitrobenzene	0.44	U M	2.09	2.32		ug/L		111	73 - 125
1,3-Dinitrobenzene	0.22	U	2.09	2.17		ug/L		104	78 - 120
2,4,6-Trinitrotoluene	0.22	U	2.09	2.07		ug/L		99	71 - 123
2,4-Dinitrotoluene	0.22	U	2.09	2.07		ug/L		99	78 - 120
2,6-Dinitrotoluene	0.22	U	2.09	2.03		ug/L		97	77 - 127
2-Amino-4,6-dinitrotoluene	0.13	U	2.09	2.05		ug/L		98	79 - 120
2-Nitrotoluene	0.22	U	2.09	1.61		ug/L		77	70 - 127
3-Nitrotoluene	0.22	U	2.09	1.66		ug/L		79	73 - 125
4-Amino-2,6-dinitrotoluene	0.13	U	2.09	1.90		ug/L		91	76 - 125
4-Nitrotoluene	0.44	U	2.09	1.90		ug/L		91	71 - 127
HMX	0.22	U	2.09	2.41		ug/L		115	65 - 135
Nitrobenzene	0.22	U J1	2.09	1.82		ug/L		87	65 - 134
Nitroglycerin	2.2	U	20.9	21.7		ug/L		104	74 - 127
PETN	1.3	U	20.9	21.1		ug/L		101	73 - 127
RDX	0.13	U	2.09	2.20		ug/L		105	68 - 130
Tetryl	0.22	U	2.09	2.30		ug/L		110	64 - 128

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dinitrobenzene	*103*		*83 - 119*

Lab Sample ID: 280-116020-8 MSD
Client Sample ID: DA2mw-115-181001-GW
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 435886
Prep Batch: 435504

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3,5-Trinitrobenzene	0.44	U M	2.10	2.29		ug/L		109	73 - 125	1	20
1,3-Dinitrobenzene	0.22	U	2.10	2.13		ug/L		101	78 - 120	2	20
2,4,6-Trinitrotoluene	0.22	U	2.10	2.04		ug/L		97	71 - 123	2	20
2,4-Dinitrotoluene	0.22	U	2.10	2.04		ug/L		97	78 - 120	2	20
2,6-Dinitrotoluene	0.22	U	2.10	2.01		ug/L		95	77 - 127	1	20
2-Amino-4,6-dinitrotoluene	0.13	U	2.10	1.97		ug/L		94	79 - 120	4	20
2-Nitrotoluene	0.22	U	2.10	1.62		ug/L		77	70 - 127	1	20
3-Nitrotoluene	0.22	U	2.10	1.65		ug/L		79	73 - 125	1	20
4-Amino-2,6-dinitrotoluene	0.13	U	2.10	1.83		ug/L		87	76 - 125	3	20
4-Nitrotoluene	0.44	U	2.10	1.91		ug/L		91	71 - 127	1	20
HMX	0.22	U	2.10	2.22		ug/L		105	65 - 135	8	20
Nitrobenzene	0.22	U J1	2.10	0.846	J1	ug/L		40	65 - 134	73	20
Nitroglycerin	2.2	U	21.0	21.3		ug/L		101	74 - 127	2	20
PETN	1.3	U	21.0	20.8		ug/L		99	73 - 127	1	20
RDX	0.13	U	2.10	2.17		ug/L		103	68 - 130	1	20
Tetryl	0.22	U	2.10	2.26		ug/L		108	64 - 128	2	20

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

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

Lab Sample ID: MB 280-436019/1-A
Matrix: Water
Analysis Batch: 436368

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436019

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.40	U	1.0	0.40	0.20	ug/L		11/05/18 17:34	1
1,3-Dinitrobenzene	0.20	U	0.40	0.20	0.089	ug/L		11/05/18 17:34	1
2,4,6-Trinitrotoluene	0.20	U	0.40	0.20	0.072	ug/L		11/05/18 17:34	1
2,4-Dinitrotoluene	0.20	U	0.40	0.20	0.084	ug/L		11/05/18 17:34	1
2,6-Dinitrotoluene	0.20	U	0.20	0.20	0.065	ug/L		11/05/18 17:34	1
2-Amino-4,6-dinitrotoluene	0.12	U	0.20	0.12	0.051	ug/L		11/05/18 17:34	1
2-Nitrotoluene	0.345	J	0.40	0.20	0.086	ug/L		11/05/18 17:34	1
3-Nitrotoluene	0.20	U	0.40	0.20	0.083	ug/L		11/05/18 17:34	1
4-Amino-2,6-dinitrotoluene	0.12	U	0.20	0.12	0.058	ug/L		11/05/18 17:34	1
4-Nitrotoluene	0.40	U	1.0	0.40	0.20	ug/L		11/05/18 17:34	1
HMX	0.20	U	0.40	0.20	0.088	ug/L		11/05/18 17:34	1
Nitrobenzene	0.20	U	0.40	0.20	0.091	ug/L		11/05/18 17:34	1
Nitroglycerin	2.0	U	3.0	2.0	0.92	ug/L		11/05/18 17:34	1
PETN	1.2	U	2.0	1.2	0.42	ug/L		11/05/18 17:34	1
RDX	0.12	U	0.20	0.12	0.052	ug/L		11/05/18 17:34	1
Tetryl	0.20	U	0.24	0.20	0.079	ug/L		11/05/18 17:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*99*		*83 - 119*	*11/02/18 12:09*	*11/05/18 17:34*	*1*

Lab Sample ID: LCS 280-436019/2-A
Matrix: Water
Analysis Batch: 436368

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436019

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trinitrobenzene	2.00	2.10		ug/L		105	73 - 125
1,3-Dinitrobenzene	2.00	2.01		ug/L		100	78 - 120
2,4,6-Trinitrotoluene	2.00	1.94		ug/L		97	71 - 123
2,4-Dinitrotoluene	2.00	1.91		ug/L		96	78 - 120
2,6-Dinitrotoluene	2.00	1.92		ug/L		96	77 - 127
2-Amino-4,6-dinitrotoluene	2.00	1.82		ug/L		91	79 - 120
2-Nitrotoluene	2.00	2.09		ug/L		105	70 - 127
3-Nitrotoluene	2.00	1.69		ug/L		84	73 - 125
4-Amino-2,6-dinitrotoluene	2.00	1.72		ug/L		86	76 - 125
4-Nitrotoluene	2.00	1.70	M	ug/L		85	71 - 127
HMX	2.00	2.05		ug/L		102	65 - 135
Nitrobenzene	2.00	1.88		ug/L		94	65 - 134
Nitroglycerin	20.0	20.2		ug/L		101	74 - 127
PETN	20.0	19.6		ug/L		98	73 - 127
RDX	2.00	2.06		ug/L		103	68 - 130
Tetryl	2.00	2.03		ug/L		102	64 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dinitrobenzene	*102*		*83 - 119*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-435183/1-A
Matrix: Water
Analysis Batch: 435360

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 435183

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	300	70	18	ug/L		10/29/18 11:44	1
Calcium	219	J	1000	140	35	ug/L		10/29/18 11:44	1
Iron	85	U	100	85	22	ug/L		10/29/18 11:44	1
Magnesium	40	U	500	40	11	ug/L		10/29/18 11:44	1
Potassium	940	U	3000	940	240	ug/L		10/29/18 11:44	1
Sodium	207	J	5000	350	120	ug/L		10/29/18 11:44	1

Lab Sample ID: LCS 280-435183/2-A
Matrix: Water
Analysis Batch: 435360

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 435183

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aluminum			2000	2090		ug/L		105	86 - 115		
Calcium			50000	50500		ug/L		101	87 - 113		
Iron			1000	1010		ug/L		101	87 - 115		
Magnesium			50000	49800		ug/L		100	85 - 113		
Potassium			50000	50500		ug/L		101	86 - 114		
Sodium			50000	50500		ug/L		101	87 - 115		

Lab Sample ID: LCSD 280-435183/3-A
Matrix: Water
Analysis Batch: 435360

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 435183

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum			2000	2100		ug/L		105	86 - 115	1	20
Calcium			50000	50900		ug/L		102	87 - 113	1	20
Iron			1000	1020		ug/L		102	87 - 115	1	20
Magnesium			50000	50200		ug/L		100	85 - 113	1	20
Potassium			50000	51100		ug/L		102	86 - 114	1	20
Sodium			50000	50200		ug/L		100	87 - 115	0	20

Lab Sample ID: 280-116020-8 MS
Matrix: Water
Analysis Batch: 435360

Client Sample ID: DA2mw-115-181001-GW
Prep Type: Total/NA
Prep Batch: 435183

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aluminum	70	U	2000	2090		ug/L		104	86 - 115		
Calcium	120000	Q	50000	168000	Q	ug/L		98	87 - 113		
Iron	1000		1000	2010		ug/L		102	87 - 115		
Magnesium	32000		50000	82000		ug/L		100	85 - 113		
Potassium	3800		50000	56100		ug/L		105	86 - 114		
Sodium	12000		50000	63500		ug/L		104	87 - 115		

Lab Sample ID: 280-116020-8 MSD
Matrix: Water
Analysis Batch: 435360

Client Sample ID: DA2mw-115-181001-GW
Prep Type: Total/NA
Prep Batch: 435183

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	70	U	2000	2110		ug/L		106	86 - 115	1	20

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

Lab Sample ID: 280-116020-8 MSD
Matrix: Water
Analysis Batch: 435360

Client Sample ID: DA2mw-115-181001-GW
Prep Type: Total/NA
Prep Batch: 435183

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	120000	Q	50000	170000	Q	ug/L		101	87 - 113	1	20
Iron	1000		1000	2020		ug/L		103	87 - 115	0	20
Magnesium	32000		50000	82900		ug/L		101	85 - 113	1	20
Potassium	3800		50000	56800		ug/L		106	86 - 114	1	20
Sodium	12000		50000	63900		ug/L		104	87 - 115	1	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 280-435184/1-A
Matrix: Water
Analysis Batch: 436227

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 435184

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Antimony	1.0	U	6.0	1.0	0.40	ug/L		11/02/18 20:25	1
Arsenic	1.0	U	5.0	1.0	0.33	ug/L		11/02/18 20:25	1
Barium	0.95	U	3.0	0.95	0.29	ug/L		11/02/18 20:25	1
Beryllium	0.30	U	1.0	0.30	0.080	ug/L		11/02/18 20:25	1
Cadmium	1.0	U	1.0	1.0	0.27	ug/L		11/02/18 20:25	1
Chromium	1.8	U	10	1.8	0.50	ug/L		11/02/18 20:25	1
Cobalt	0.20	U	1.0	0.20	0.054	ug/L		11/02/18 20:25	1
Copper	1.8	U	2.0	1.8	0.56	ug/L		11/02/18 20:25	1
Lead	0.70	U	3.0	0.70	0.18	ug/L		11/02/18 20:25	1
Manganese	0.351	J	3.5	0.95	0.31	ug/L		11/02/18 20:25	1
Nickel	1.0	U	3.0	1.0	0.30	ug/L		11/02/18 20:25	1
Selenium	2.0	U	5.0	2.0	0.70	ug/L		11/02/18 20:25	1
Silver	0.10	U	5.0	0.10	0.033	ug/L		11/02/18 20:25	1
Thallium	0.20	U	1.0	0.20	0.050	ug/L		11/02/18 20:25	1
Vanadium	2.0	U	6.0	2.0	0.50	ug/L		11/02/18 20:25	1
Zinc	8.0	U	20	8.0	2.0	ug/L		11/02/18 20:25	1

Lab Sample ID: LCS 280-435184/2-A
Matrix: Water
Analysis Batch: 436227

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 435184

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	40.0	39.6		ug/L		99	85 - 117
Arsenic	40.0	38.2		ug/L		95	84 - 116
Barium	40.0	39.8		ug/L		100	86 - 114
Beryllium	40.0	39.9		ug/L		100	83 - 121
Cadmium	40.0	38.8		ug/L		97	87 - 115
Chromium	40.0	40.9		ug/L		102	85 - 116
Cobalt	40.0	40.4		ug/L		101	86 - 115
Copper	40.0	39.8		ug/L		100	85 - 118
Lead	40.0	40.9		ug/L		102	88 - 115
Manganese	40.0	42.7		ug/L		107	87 - 115
Nickel	40.0	40.3		ug/L		101	85 - 117
Selenium	40.0	39.2		ug/L		98	80 - 120
Silver	40.0	40.5		ug/L		101	85 - 116

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

Lab Sample ID: LCS 280-435184/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 436227
Prep Batch: 435184

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	40.0	40.3		ug/L		101	82 - 116
Vanadium	40.0	39.8		ug/L		100	86 - 115
Zinc	40.0	40.4		ug/L		101	83 - 119

Lab Sample ID: LCSD 280-435184/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 436227
Prep Batch: 435184

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	40.0	40.4		ug/L		101	85 - 117	2	20
Arsenic	40.0	36.5		ug/L		91	84 - 116	5	20
Barium	40.0	39.3		ug/L		98	86 - 114	1	20
Beryllium	40.0	39.1		ug/L		98	83 - 121	2	20
Cadmium	40.0	38.8		ug/L		97	87 - 115	0	20
Chromium	40.0	40.1		ug/L		100	85 - 116	2	20
Cobalt	40.0	39.7		ug/L		99	86 - 115	2	20
Copper	40.0	39.6		ug/L		99	85 - 118	1	20
Lead	40.0	40.7		ug/L		102	88 - 115	0	20
Manganese	40.0	40.7		ug/L		102	87 - 115	5	20
Nickel	40.0	40.1		ug/L		100	85 - 117	1	20
Selenium	40.0	37.3		ug/L		93	80 - 120	5	20
Silver	40.0	40.4		ug/L		101	85 - 116	0	20
Thallium	40.0	40.4		ug/L		101	82 - 116	0	20
Vanadium	40.0	37.8		ug/L		95	86 - 115	5	20
Zinc	40.0	40.7		ug/L		102	83 - 119	1	20

Lab Sample ID: 280-116020-8 MS
Client Sample ID: DA2mw-115-181001-GW
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 436227
Prep Batch: 435184

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	1.0	U	40.0	39.2		ug/L		98	85 - 117
Arsenic	1.6	J	40.0	39.2		ug/L		94	84 - 116
Barium	22		40.0	57.8		ug/L		90	86 - 114
Beryllium	0.30	U	40.0	39.6		ug/L		99	83 - 121
Cadmium	1.0	U	40.0	37.2		ug/L		93	87 - 115
Chromium	1.8	U	40.0	39.1		ug/L		98	85 - 116
Cobalt	0.20	U	40.0	38.1		ug/L		95	86 - 115
Copper	1.8	U	40.0	35.9		ug/L		90	85 - 118
Lead	0.70	U	40.0	38.9		ug/L		97	88 - 115
Manganese	110	J1	40.0	146	J1	ug/L		86	87 - 115
Nickel	1.0	U	40.0	38.0		ug/L		95	85 - 117
Selenium	2.0	U	40.0	37.1		ug/L		93	80 - 120
Silver	0.10	U	40.0	38.4		ug/L		96	85 - 116
Thallium	0.20	U	40.0	39.1		ug/L		98	82 - 116
Vanadium	2.0	U	40.0	36.5		ug/L		91	86 - 115
Zinc	2.2	J	40.0	36.7		ug/L		86	83 - 119

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

Lab Sample ID: 280-116020-8 MSD — **Client Sample ID: DA2mw-115-181001-GW**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436227 — **Prep Batch: 435184**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	1.0	U	40.0	40.5		ug/L		101	85 - 117	3	20
Arsenic	1.6	J	40.0	40.0		ug/L		96	84 - 116	2	20
Barium	22		40.0	61.6		ug/L		99	86 - 114	6	20
Beryllium	0.30	U	40.0	40.3		ug/L		101	83 - 121	2	20
Cadmium	1.0	U	40.0	38.5		ug/L		96	87 - 115	3	20
Chromium	1.8	U	40.0	40.3		ug/L		101	85 - 116	3	20
Cobalt	0.20	U	40.0	39.1		ug/L		98	86 - 115	2	20
Copper	1.8	U	40.0	38.0		ug/L		95	85 - 118	6	20
Lead	0.70	U	40.0	40.2		ug/L		101	88 - 115	3	20
Manganese	110	J1	40.0	152		ug/L		102	87 - 115	4	20
Nickel	1.0	U	40.0	39.8		ug/L		99	85 - 117	5	20
Selenium	2.0	U	40.0	38.3		ug/L		96	80 - 120	3	20
Silver	0.10	U	40.0	40.0		ug/L		100	85 - 116	4	20
Thallium	0.20	U	40.0	40.4		ug/L		101	82 - 116	3	20
Vanadium	2.0	U	40.0	38.9		ug/L		97	86 - 115	7	20
Zinc	2.2	J	40.0	38.7		ug/L		91	83 - 119	5	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-436463/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436628 — **Prep Batch: 436463**

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	0.027	ug/L		11/06/18 20:17	1

Lab Sample ID: LCS 280-436463/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436628 — **Prep Batch: 436463**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	4.95		ug/L		99	82 - 119

Lab Sample ID: LCSD 280-436463/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436628 — **Prep Batch: 436463**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	5.00	5.17		ug/L		103	82 - 119	4	20

Lab Sample ID: 280-116020-8 MS — **Client Sample ID: DA2mw-115-181001-GW**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436628 — **Prep Batch: 436463**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.080	U	5.00	4.80		ug/L		96	82 - 119

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 280-116020-8 MSD — **Client Sample ID: DA2mw-115-181001-GW**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436628 — **Prep Batch: 436463**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.080	U	5.00	5.14		ug/L		103	82 - 119	7	20

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

Lab Sample ID: MB 280-436497/4-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436588 — **Prep Batch: 436497**

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.0050	U	0.010	0.0050	0.0020	mg/L		11/06/18 18:04	1

Lab Sample ID: MB 280-436497/4-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436598 — **Prep Batch: 436497**

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.0050	U	0.010	0.0050	0.0020	mg/L		11/06/18 20:37	1

Lab Sample ID: HLCS 280-436497/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436588 — **Prep Batch: 436497**

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.350	0.361		mg/L		103	90 - 110

Lab Sample ID: HLCS 280-436497/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436598 — **Prep Batch: 436497**

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.350	0.345		mg/L		98	90 - 110

Lab Sample ID: LCS 280-436497/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436588 — **Prep Batch: 436497**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.104		mg/L		104	83 - 116

Lab Sample ID: LCS 280-436497/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436598 — **Prep Batch: 436497**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.0988		mg/L		99	83 - 116

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

Lab Sample ID: LLCS 280-436497/2-A
Matrix: Water
Analysis Batch: 436588

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436497

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.102		mg/L		102	44 - 167

Lab Sample ID: LLCS 280-436497/2-A
Matrix: Water
Analysis Batch: 436598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436497

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.0940		mg/L		94	44 - 167

Lab Sample ID: 280-116020-8 MS
Matrix: Water
Analysis Batch: 436588

Client Sample ID: DA2mw-115-181001-GW
Prep Type: Total/NA
Prep Batch: 436497

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0050	U	0.100	0.103		mg/L		103	83 - 116

Lab Sample ID: 280-116020-8 MSD
Matrix: Water
Analysis Batch: 436588

Client Sample ID: DA2mw-115-181001-GW
Prep Type: Total/NA
Prep Batch: 436497

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0050	U	0.100	0.103		mg/L		103	83 - 116	1	20

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

Lab Sample ID: MB 280-435234/1-A
Matrix: Water
Analysis Batch: 435236

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 435234

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Sulfide	1.9	U	4.0	1.9	0.79	mg/L		10/27/18 19:16	1

Lab Sample ID: LCS 280-435234/2-A
Matrix: Water
Analysis Batch: 435236

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 435234

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	20.8	12.0		mg/L		58	50 - 106

Method: 9056 - Anions, Ion Chromatography

Lab Sample ID: MB 280-434904/6
Matrix: Water
Analysis Batch: 434904

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate as N	0.10	U	0.50	0.10	0.042	mg/L		10/25/18 17:50	1
Nitrite as N	0.10	U	0.50	0.10	0.049	mg/L		10/25/18 17:50	1

Method: 9056 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 280-434904/4
Matrix: Water
Analysis Batch: 434904

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	5.00	5.41		mg/L		108	88 - 111
Nitrite as N	5.00	5.27		mg/L		105	87 - 111

Lab Sample ID: LCSD 280-434904/5
Matrix: Water
Analysis Batch: 434904

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	5.00	5.38		mg/L		108	88 - 111	1	10
Nitrite as N	5.00	5.26		mg/L		105	87 - 111	0	10

Lab Sample ID: MRL 280-434904/3
Matrix: Water
Analysis Batch: 434904

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.200	0.226	J	mg/L		113	50 - 150
Nitrite as N	0.200	0.234	J	mg/L		117	50 - 150

Lab Sample ID: 280-116020-5 MS
Matrix: Water
Analysis Batch: 434904

Client Sample ID: LL1mw-083-181001-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.29	J1	5.00	5.94	J1	mg/L		113	88 - 111
Nitrite as N	0.10	U	5.00	4.91		mg/L		98	87 - 111

Lab Sample ID: 280-116020-5 MSD
Matrix: Water
Analysis Batch: 434904

Client Sample ID: LL1mw-083-181001-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	0.29	J1	5.00	5.58		mg/L		106	88 - 111	6	10
Nitrite as N	0.10	U	5.00	4.62		mg/L		92	87 - 111	6	10

Lab Sample ID: 280-116020-5 DU
Matrix: Water
Analysis Batch: 434904

Client Sample ID: LL1mw-083-181001-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	0.29	J1	0.254	J	mg/L		15	10
Nitrite as N	0.10	U	0.10	U	mg/L		NC	10

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-434905/6
Matrix: Water
Analysis Batch: 434905

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Sulfate	0.50	U	5.0	0.50	0.23	mg/L		10/25/18 17:50	1

Lab Sample ID: LCS 280-434905/4
Matrix: Water
Analysis Batch: 434905

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	100	109		mg/L		109	87 - 112

Lab Sample ID: LCSD 280-434905/5
Matrix: Water
Analysis Batch: 434905

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	100	109		mg/L		109	87 - 112	0	10

Lab Sample ID: MRL 280-434905/3
Matrix: Water
Analysis Batch: 434905

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	2.50	2.64	J	mg/L		106	50 - 150

Lab Sample ID: 280-116020-5 MS
Matrix: Water
Analysis Batch: 434905

Client Sample ID: LL1mw-083-181001-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	160	J1	25.0	185	4	mg/L		105	87 - 112

Lab Sample ID: 280-116020-5 MSD
Matrix: Water
Analysis Batch: 434905

Client Sample ID: LL1mw-083-181001-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	160	J1	25.0	171	4	mg/L		51	87 - 112	8	10

Lab Sample ID: 280-116020-5 DU
Matrix: Water
Analysis Batch: 434905

Client Sample ID: LL1mw-083-181001-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	160	J1	146		mg/L		8	10

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-436100/4
Matrix: Water
Analysis Batch: 436100

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	5.0	U	5.0	5.0	1.1	mg/L		11/01/18 21:09	1

Lab Sample ID: LCS 280-436100/3
Matrix: Water
Analysis Batch: 436100

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity			200	196		mg/L		98	90 - 110		

GC/MS VOA

Analysis Batch: 437463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	8260B	
280-116020-2	DET-003-181002-GW	Total/NA	Water	8260B	
280-116020-3	FWGTB-181002-TB	Total/NA	Water	8260B	
280-116020-12	DET-004-181001-GW	Total/NA	Water	8260B	
MB 280-437463/4	Method Blank	Total/NA	Water	8260B	
LCS 280-437463/5	Lab Control Sample	Total/NA	Water	8260B	
280-116020-1 MS	DET-003-181001-GW	Total/NA	Water	8260B	
280-116020-1 MSD	DET-003-181001-GW	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 435328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	3520C	
280-116020-2	DET-003-181002-GW	Total/NA	Water	3520C	
280-116020-4	WBGmw-009-181001-GW	Total/NA	Water	3520C	
280-116020-5	LL1mw-083-181001-GW	Total/NA	Water	3520C	
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	3520C	
280-116020-8	DA2mw-115-181001-GW	Total/NA	Water	3520C	
280-116020-12	DET-004-181001-GW	Total/NA	Water	3520C	
MB 280-435328/1-A	Method Blank	Total/NA	Water	3520C	
LCS 280-435328/2-A	Lab Control Sample	Total/NA	Water	3520C	
280-116020-1 MS	DET-003-181001-GW	Total/NA	Water	3520C	
280-116020-1 MSD	DET-003-181001-GW	Total/NA	Water	3520C	

Prep Batch: 435408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	3510C	
280-116020-2	DET-003-181002-GW	Total/NA	Water	3510C	
280-116020-12	DET-004-181001-GW	Total/NA	Water	3510C	
MB 280-435408/1-A	Method Blank	Total/NA	Water	3510C	
LCS 280-435408/2-A	Lab Control Sample	Total/NA	Water	3510C	
280-116020-1 MS	DET-003-181001-GW	Total/NA	Water	3510C	
280-116020-1 MSD	DET-003-181001-GW	Total/NA	Water	3510C	

Analysis Batch: 435950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-2	DET-003-181002-GW	Total/NA	Water	8270D SIM	435408
280-116020-12	DET-004-181001-GW	Total/NA	Water	8270D SIM	435408
MB 280-435408/1-A	Method Blank	Total/NA	Water	8270D SIM	435408
LCS 280-435408/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	435408
280-116020-1 MS	DET-003-181001-GW	Total/NA	Water	8270D SIM	435408
280-116020-1 MSD	DET-003-181001-GW	Total/NA	Water	8270D SIM	435408

Analysis Batch: 436671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	8270D	435328
280-116020-2	DET-003-181002-GW	Total/NA	Water	8270D	435328
280-116020-4	WBGmw-009-181001-GW	Total/NA	Water	8270D	435328
280-116020-5	LL1mw-083-181001-GW	Total/NA	Water	8270D	435328

GC/MS Semi VOA (Continued)

Analysis Batch: 436671 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	8270D	435328
280-116020-8	DA2mw-115-181001-GW	Total/NA	Water	8270D	435328
280-116020-12	DET-004-181001-GW	Total/NA	Water	8270D	435328
MB 280-435328/1-A	Method Blank	Total/NA	Water	8270D	435328
LCS 280-435328/2-A	Lab Control Sample	Total/NA	Water	8270D	435328
280-116020-1 MS	DET-003-181001-GW	Total/NA	Water	8270D	435328
280-116020-1 MSD	DET-003-181001-GW	Total/NA	Water	8270D	435328

Analysis Batch: 436903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	8270D SIM	435408

GC Semi VOA

Prep Batch: 435616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	3510C	
280-116020-2	DET-003-181002-GW	Total/NA	Water	3510C	
280-116020-5	LL1mw-083-181001-GW	Total/NA	Water	3510C	
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	3510C	
280-116020-12	DET-004-181001-GW	Total/NA	Water	3510C	
MB 280-435616/1-A	Method Blank	Total/NA	Water	3510C	
LCS 280-435616/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 280-435616/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 280-435616/6-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 280-435616/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 280-435616/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 280-435616/7-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 438138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-435616/1-A	Method Blank	Total/NA	Water	8081B	435616
LCS 280-435616/2-A	Lab Control Sample	Total/NA	Water	8081B	435616
LCS 280-435616/6-A	Lab Control Sample	Total/NA	Water	8081B	435616
LCSD 280-435616/3-A	Lab Control Sample Dup	Total/NA	Water	8081B	435616
LCSD 280-435616/7-A	Lab Control Sample Dup	Total/NA	Water	8081B	435616

Analysis Batch: 438587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	8082A	435616
280-116020-2	DET-003-181002-GW	Total/NA	Water	8082A	435616
280-116020-12	DET-004-181001-GW	Total/NA	Water	8082A	435616
MB 280-435616/1-A	Method Blank	Total/NA	Water	8082A	435616
LCS 280-435616/4-A	Lab Control Sample	Total/NA	Water	8082A	435616
LCSD 280-435616/5-A	Lab Control Sample Dup	Total/NA	Water	8082A	435616

Analysis Batch: 439676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	8081B	435616
280-116020-2	DET-003-181002-GW	Total/NA	Water	8081B	435616

GC Semi VOA (Continued)

Analysis Batch: 439676 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-5	LL1mw-083-181001-GW	Total/NA	Water	8081B	435616
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	8081B	435616
280-116020-12	DET-004-181001-GW	Total/NA	Water	8081B	435616

HPLC/IC

Prep Batch: 435346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-4	WBGmw-009-181001-GW	Total/NA	Water	3535	
MB 280-435346/1-A	Method Blank	Total/NA	Water	3535	
LCS 280-435346/2-A	Lab Control Sample	Total/NA	Water	3535	

Prep Batch: 435504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	3535	
280-116020-5	LL1mw-083-181001-GW	Total/NA	Water	3535	
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	3535	
280-116020-8	DA2mw-115-181001-GW	Total/NA	Water	3535	
280-116020-9	DA2mw-115-181002-GW	Total/NA	Water	3535	
280-116020-12	DET-004-181001-GW	Total/NA	Water	3535	
MB 280-435504/1-A	Method Blank	Total/NA	Water	3535	
LCS 280-435504/2-A	Lab Control Sample	Total/NA	Water	3535	
280-116020-8 MS	DA2mw-115-181001-GW	Total/NA	Water	3535	
280-116020-8 MSD	DA2mw-115-181001-GW	Total/NA	Water	3535	

Analysis Batch: 435517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-4	WBGmw-009-181001-GW	Total/NA	Water	8330B	435346
MB 280-435346/1-A	Method Blank	Total/NA	Water	8330B	435346
LCS 280-435346/2-A	Lab Control Sample	Total/NA	Water	8330B	435346

Analysis Batch: 435886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	8330B	435504
280-116020-5	LL1mw-083-181001-GW	Total/NA	Water	8330B	435504
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	8330B	435504
280-116020-8	DA2mw-115-181001-GW	Total/NA	Water	8330B	435504
280-116020-9	DA2mw-115-181002-GW	Total/NA	Water	8330B	435504
280-116020-12	DET-004-181001-GW	Total/NA	Water	8330B	435504
MB 280-435504/1-A	Method Blank	Total/NA	Water	8330B	435504
LCS 280-435504/2-A	Lab Control Sample	Total/NA	Water	8330B	435504
280-116020-8 MS	DA2mw-115-181001-GW	Total/NA	Water	8330B	435504
280-116020-8 MSD	DA2mw-115-181001-GW	Total/NA	Water	8330B	435504

Prep Batch: 436019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-4 - RE	WBGmw-009-181001-GW	Total/NA	Water	3535	
MB 280-436019/1-A	Method Blank	Total/NA	Water	3535	
LCS 280-436019/2-A	Lab Control Sample	Total/NA	Water	3535	

HPLC/IC (Continued)

Analysis Batch: 436120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-5	LL1mw-083-181001-GW	Total/NA	Water	8330B	435504
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	8330B	435504

Analysis Batch: 436368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-4 - RE	WBGmw-009-181001-GW	Total/NA	Water	8330B	436019
MB 280-436019/1-A	Method Blank	Total/NA	Water	8330B	436019
LCS 280-436019/2-A	Lab Control Sample	Total/NA	Water	8330B	436019

Analysis Batch: 436505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-4 - RE	WBGmw-009-181001-GW	Total/NA	Water	8330B	436019

Metals

Prep Batch: 435183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	3010A	
280-116020-4	WBGmw-009-181001-GW	Total/NA	Water	3010A	
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	3010A	
280-116020-8	DA2mw-115-181001-GW	Total/NA	Water	3010A	
280-116020-9	DA2mw-115-181002-GW	Total/NA	Water	3010A	
280-116020-12	DET-004-181001-GW	Total/NA	Water	3010A	
MB 280-435183/1-A	Method Blank	Total/NA	Water	3010A	
LCS 280-435183/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 280-435183/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
280-116020-8 MS	DA2mw-115-181001-GW	Total/NA	Water	3010A	
280-116020-8 MSD	DA2mw-115-181001-GW	Total/NA	Water	3010A	

Prep Batch: 435184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	3020A	
280-116020-4	WBGmw-009-181001-GW	Total/NA	Water	3020A	
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	3020A	
280-116020-8	DA2mw-115-181001-GW	Total/NA	Water	3020A	
280-116020-9	DA2mw-115-181002-GW	Total/NA	Water	3020A	
280-116020-12	DET-004-181001-GW	Total/NA	Water	3020A	
MB 280-435184/1-A	Method Blank	Total/NA	Water	3020A	
LCS 280-435184/2-A	Lab Control Sample	Total/NA	Water	3020A	
LCSD 280-435184/3-A	Lab Control Sample Dup	Total/NA	Water	3020A	
280-116020-8 MS	DA2mw-115-181001-GW	Total/NA	Water	3020A	
280-116020-8 MSD	DA2mw-115-181001-GW	Total/NA	Water	3020A	

Analysis Batch: 435360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	6010C	435183
280-116020-4	WBGmw-009-181001-GW	Total/NA	Water	6010C	435183
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	6010C	435183
280-116020-8	DA2mw-115-181001-GW	Total/NA	Water	6010C	435183
280-116020-9	DA2mw-115-181002-GW	Total/NA	Water	6010C	435183

Metals (Continued)

Analysis Batch: 435360 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-12	DET-004-181001-GW	Total/NA	Water	6010C	435183
MB 280-435183/1-A	Method Blank	Total/NA	Water	6010C	435183
LCS 280-435183/2-A	Lab Control Sample	Total/NA	Water	6010C	435183
LCSD 280-435183/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	435183
280-116020-8 MS	DA2mw-115-181001-GW	Total/NA	Water	6010C	435183
280-116020-8 MSD	DA2mw-115-181001-GW	Total/NA	Water	6010C	435183

Analysis Batch: 436227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	6020A	435184
280-116020-4	WBGmw-009-181001-GW	Total/NA	Water	6020A	435184
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	6020A	435184
280-116020-8	DA2mw-115-181001-GW	Total/NA	Water	6020A	435184
280-116020-9	DA2mw-115-181002-GW	Total/NA	Water	6020A	435184
280-116020-12	DET-004-181001-GW	Total/NA	Water	6020A	435184
MB 280-435184/1-A	Method Blank	Total/NA	Water	6020A	435184
LCS 280-435184/2-A	Lab Control Sample	Total/NA	Water	6020A	435184
LCSD 280-435184/3-A	Lab Control Sample Dup	Total/NA	Water	6020A	435184
280-116020-8 MS	DA2mw-115-181001-GW	Total/NA	Water	6020A	435184
280-116020-8 MSD	DA2mw-115-181001-GW	Total/NA	Water	6020A	435184

Prep Batch: 436463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	7470A	
280-116020-4	WBGmw-009-181001-GW	Total/NA	Water	7470A	
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	7470A	
280-116020-8	DA2mw-115-181001-GW	Total/NA	Water	7470A	
280-116020-9	DA2mw-115-181002-GW	Total/NA	Water	7470A	
280-116020-12	DET-004-181001-GW	Total/NA	Water	7470A	
MB 280-436463/1-A	Method Blank	Total/NA	Water	7470A	
LCS 280-436463/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 280-436463/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
280-116020-8 MS	DA2mw-115-181001-GW	Total/NA	Water	7470A	
280-116020-8 MSD	DA2mw-115-181001-GW	Total/NA	Water	7470A	

Analysis Batch: 436628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	7470A	436463
280-116020-4	WBGmw-009-181001-GW	Total/NA	Water	7470A	436463
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	7470A	436463
280-116020-8	DA2mw-115-181001-GW	Total/NA	Water	7470A	436463
280-116020-9	DA2mw-115-181002-GW	Total/NA	Water	7470A	436463
280-116020-12	DET-004-181001-GW	Total/NA	Water	7470A	436463
MB 280-436463/1-A	Method Blank	Total/NA	Water	7470A	436463
LCS 280-436463/2-A	Lab Control Sample	Total/NA	Water	7470A	436463
LCSD 280-436463/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	436463
280-116020-8 MS	DA2mw-115-181001-GW	Total/NA	Water	7470A	436463
280-116020-8 MSD	DA2mw-115-181001-GW	Total/NA	Water	7470A	436463

General Chemistry

Analysis Batch: 434904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-5	LL1mw-083-181001-GW	Total/NA	Water	9056	
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	9056	
MB 280-434904/6	Method Blank	Total/NA	Water	9056	
LCS 280-434904/4	Lab Control Sample	Total/NA	Water	9056	
LCSD 280-434904/5	Lab Control Sample Dup	Total/NA	Water	9056	
MRL 280-434904/3	Lab Control Sample	Total/NA	Water	9056	
280-116020-5 MS	LL1mw-083-181001-GW	Total/NA	Water	9056	
280-116020-5 MSD	LL1mw-083-181001-GW	Total/NA	Water	9056	
280-116020-5 DU	LL1mw-083-181001-GW	Total/NA	Water	9056	

Analysis Batch: 434905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-5	LL1mw-083-181001-GW	Total/NA	Water	9056A	
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	9056A	
MB 280-434905/6	Method Blank	Total/NA	Water	9056A	
LCS 280-434905/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-434905/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-434905/3	Lab Control Sample	Total/NA	Water	9056A	
280-116020-5 MS	LL1mw-083-181001-GW	Total/NA	Water	9056A	
280-116020-5 MSD	LL1mw-083-181001-GW	Total/NA	Water	9056A	
280-116020-5 DU	LL1mw-083-181001-GW	Total/NA	Water	9056A	

Prep Batch: 435234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-5	LL1mw-083-181001-GW	Total/NA	Water	9030B	
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	9030B	
MB 280-435234/1-A	Method Blank	Total/NA	Water	9030B	
LCS 280-435234/2-A	Lab Control Sample	Total/NA	Water	9030B	

Analysis Batch: 435236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-5	LL1mw-083-181001-GW	Total/NA	Water	9034	435234
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	9034	435234
MB 280-435234/1-A	Method Blank	Total/NA	Water	9034	435234
LCS 280-435234/2-A	Lab Control Sample	Total/NA	Water	9034	435234

Analysis Batch: 436100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-5	LL1mw-083-181001-GW	Total/NA	Water	SM 2320B	
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	SM 2320B	
MB 280-436100/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-436100/3	Lab Control Sample	Total/NA	Water	SM 2320B	

Prep Batch: 436497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	9012B	
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	9012B	
280-116020-7	FWGmw-013-181001-GW	Total/NA	Water	9012B	
280-116020-8	DA2mw-115-181001-GW	Total/NA	Water	9012B	
280-116020-9	DA2mw-115-181002-GW	Total/NA	Water	9012B	
280-116020-12	DET-004-181001-GW	Total/NA	Water	9012B	

General Chemistry (Continued)

Prep Batch: 436497 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-436497/4-A	Method Blank	Total/NA	Water	9012B	
HLCS 280-436497/1-A	Lab Control Sample	Total/NA	Water	9012B	
LCS 280-436497/3-A	Lab Control Sample	Total/NA	Water	9012B	
LLCS 280-436497/2-A	Lab Control Sample	Total/NA	Water	9012B	
280-116020-8 MS	DA2mw-115-181001-GW	Total/NA	Water	9012B	
280-116020-8 MSD	DA2mw-115-181001-GW	Total/NA	Water	9012B	

Analysis Batch: 436588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-1	DET-003-181001-GW	Total/NA	Water	9012B	436497
280-116020-6	LL1mw-084-181001-GW	Total/NA	Water	9012B	436497
280-116020-7	FWGmw-013-181001-GW	Total/NA	Water	9012B	436497
280-116020-8	DA2mw-115-181001-GW	Total/NA	Water	9012B	436497
MB 280-436497/4-A	Method Blank	Total/NA	Water	9012B	436497
HLCS 280-436497/1-A	Lab Control Sample	Total/NA	Water	9012B	436497
LCS 280-436497/3-A	Lab Control Sample	Total/NA	Water	9012B	436497
LLCS 280-436497/2-A	Lab Control Sample	Total/NA	Water	9012B	436497
280-116020-8 MS	DA2mw-115-181001-GW	Total/NA	Water	9012B	436497
280-116020-8 MSD	DA2mw-115-181001-GW	Total/NA	Water	9012B	436497

Analysis Batch: 436598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116020-9	DA2mw-115-181002-GW	Total/NA	Water	9012B	436497
280-116020-12	DET-004-181001-GW	Total/NA	Water	9012B	436497
MB 280-436497/4-A	Method Blank	Total/NA	Water	9012B	436497
HLCS 280-436497/1-A	Lab Control Sample	Total/NA	Water	9012B	436497
LCS 280-436497/3-A	Lab Control Sample	Total/NA	Water	9012B	436497
LLCS 280-436497/2-A	Lab Control Sample	Total/NA	Water	9012B	436497

Client Sample ID: DET-003-181001-GW — Lab Sample ID: 280-116020-1

Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	437463	11/14/18 01:31	RSN	TAL DEN
Total/NA	Prep	3520C			1015.2 mL	1 mL	435328	10/29/18 12:36	JZ	TAL DEN
Total/NA	Analysis	8270D		1			436671	11/07/18 16:26	AFH	TAL DEN
Total/NA	Prep	3510C			239.2 mL	1 mL	435408	10/29/18 21:02	AJE	TAL DEN
Total/NA	Analysis	8270D SIM		1			436903	11/09/18 01:53	MKW	TAL DEN
Total/NA	Prep	3510C			976 mL	10 mL	435616	10/30/18 20:52	AJE	TAL DEN
Total/NA	Analysis	8081B		1			439676	12/03/18 15:32	TEB	TAL DEN
Total/NA	Prep	3510C			976 mL	10 mL	435616	10/30/18 20:52	AJE	TAL DEN
Total/NA	Analysis	8082A		1			438587	11/24/18 07:57	BJP	TAL DEN
Total/NA	Prep	3535			470.5 mL	5 mL	435504	10/30/18 13:24	CBB	TAL DEN
Total/NA	Analysis	8330B		1			435886	11/01/18 18:44	HKF	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	435183	10/28/18 13:00	DAL	TAL DEN
Total/NA	Analysis	6010C		1			435360	10/29/18 12:38	CRR	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	435184	10/28/18 13:00	DAL	TAL DEN
Total/NA	Analysis	6020A		1			436227	11/02/18 21:33	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	436463	11/06/18 13:14	MRJ	TAL DEN
Total/NA	Analysis	7470A		1			436628	11/06/18 20:52	MRJ	TAL DEN
Total/NA	Prep	9012B			50 mL	50 mL	436497	11/06/18 11:20	RK	TAL DEN
Total/NA	Analysis	9012B		1	50 mL	50 mL	436588	11/06/18 18:28	RK	TAL DEN

Client Sample ID: DET-003-181002-GW — Lab Sample ID: 280-116020-2

Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	437463	11/14/18 02:32	RSN	TAL DEN
Total/NA	Prep	3520C			1022.5 mL	1 mL	435328	10/29/18 12:36	JZ	TAL DEN
Total/NA	Analysis	8270D		1			436671	11/07/18 17:53	AFH	TAL DEN
Total/NA	Prep	3510C			244.5 mL	1 mL	435408	10/29/18 21:02	AJE	TAL DEN
Total/NA	Analysis	8270D SIM		1			435950	11/02/18 01:28	MKW	TAL DEN
Total/NA	Prep	3510C			1013.2 mL	10 mL	435616	10/30/18 20:52	AJE	TAL DEN
Total/NA	Analysis	8081B		1			439676	12/03/18 15:49	TEB	TAL DEN
Total/NA	Prep	3510C			1013.2 mL	10 mL	435616	10/30/18 20:52	AJE	TAL DEN
Total/NA	Analysis	8082A		1			438587	11/24/18 08:18	BJP	TAL DEN

Client Sample ID: FWGTB-181002-TB — Lab Sample ID: 280-116020-3

Date Collected: 10/24/18 10:05 **Matrix: Water**
Date Received: 10/24/18 17:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	437463	11/14/18 02:52	RSN	TAL DEN

Client Sample ID: WBGmw-009-181001-GW — Lab Sample ID: 280-116020-4

Date Collected: 10/23/18 14:35 **Matrix: Water**
Date Received: 10/24/18 17:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			921.8 mL	1 mL	435328	10/29/18 12:36	JZ	TAL DEN
Total/NA	Analysis	8270D		1			436671	11/07/18 18:21	AFH	TAL DEN
Total/NA	Prep	3535	RE		357.2 mL	5 mL	436019	11/02/18 12:09	CBB	TAL DEN
Total/NA	Analysis	8330B	RE	1			436505	11/06/18 23:20	HKF	TAL DEN
Total/NA	Prep	3535			501.8 mL	5 mL	435346	10/29/18 12:30	AJP	TAL DEN
Total/NA	Analysis	8330B		1			435517	10/30/18 16:44	HKF	TAL DEN
Total/NA	Prep	3535	RE		357.2 mL	5 mL	436019	11/02/18 12:09	CBB	TAL DEN
Total/NA	Analysis	8330B	RE	1			436368	11/05/18 22:33	HKF	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	435183	10/28/18 13:00	DAL	TAL DEN
Total/NA	Analysis	6010C		1			435360	10/29/18 12:40	CRR	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	435184	10/28/18 13:00	DAL	TAL DEN
Total/NA	Analysis	6020A		1			436227	11/02/18 21:37	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	436463	11/06/18 13:14	MRJ	TAL DEN
Total/NA	Analysis	7470A		1			436628	11/06/18 20:54	MRJ	TAL DEN

Client Sample ID: LL1mw-083-181001-GW — Lab Sample ID: 280-116020-5

Date Collected: 10/24/18 13:25 **Matrix: Water**
Date Received: 10/24/18 17:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			956.5 mL	1 mL	435328	10/29/18 12:36	JZ	TAL DEN
Total/NA	Analysis	8270D		1			436671	11/07/18 18:50	AFH	TAL DEN
Total/NA	Prep	3510C			968.9 mL	10 mL	435616	10/30/18 20:52	AJE	TAL DEN
Total/NA	Analysis	8081B		1			439676	12/03/18 16:07	TEB	TAL DEN
Total/NA	Prep	3535			421.7 mL	5 mL	435504	10/30/18 13:24	CBB	TAL DEN
Total/NA	Analysis	8330B		1			436120	11/02/18 23:00	HKF	TAL DEN
Total/NA	Prep	3535			421.7 mL	5 mL	435504	10/30/18 13:24	CBB	TAL DEN
Total/NA	Analysis	8330B		1			435886	11/01/18 19:07	HKF	TAL DEN
Total/NA	Prep	9030B			50 mL	50 mL	435234	10/27/18 16:19	EC	TAL DEN
Total/NA	Analysis	9034		1			435236	10/27/18 19:16	EC	TAL DEN
Total/NA	Analysis	9056		1	5 mL	5 mL	434904	10/25/18 18:06	A1D	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	434905	10/25/18 18:06	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			436100	11/01/18 23:43	SGB	TAL DEN

Client Sample ID: LL1mw-084-181001-GW — Lab Sample ID: 280-116020-6

Date Collected: 10/24/18 09:30 **Matrix: Water**
Date Received: 10/24/18 17:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1052.7 mL	1 mL	435328	10/29/18 12:36	JZ	TAL DEN
Total/NA	Analysis	8270D		1			436671	11/07/18 19:18	AFH	TAL DEN
Total/NA	Prep	3510C			892.6 mL	10 mL	435616	10/30/18 20:52	AJE	TAL DEN
Total/NA	Analysis	8081B		1			439676	12/03/18 16:25	TEB	TAL DEN

Client Sample ID: LL1mw-084-181001-GW — Lab Sample ID: 280-116020-6

Date Collected: 10/24/18 09:30 **Matrix: Water**
Date Received: 10/24/18 17:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			475.6 mL	5 mL	435504	10/30/18 13:24	CBB	TAL DEN
Total/NA	Analysis	8330B		1			436120	11/02/18 23:35	HKF	TAL DEN
Total/NA	Prep	3535			475.6 mL	5 mL	435504	10/30/18 13:24	CBB	TAL DEN
Total/NA	Analysis	8330B		1			435886	11/01/18 19:30	HKF	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	435183	10/28/18 13:00	DAL	TAL DEN
Total/NA	Analysis	6010C		1			435360	10/29/18 12:43	CRR	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	435184	10/28/18 13:00	DAL	TAL DEN
Total/NA	Analysis	6020A		1			436227	11/02/18 21:41	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	436463	11/06/18 13:14	MRJ	TAL DEN
Total/NA	Analysis	7470A		1			436628	11/06/18 20:57	MRJ	TAL DEN
Total/NA	Prep	9012B			50 mL	50 mL	436497	11/06/18 11:20	RK	TAL DEN
Total/NA	Analysis	9012B		1	50 mL	50 mL	436588	11/06/18 18:30	RK	TAL DEN
Total/NA	Prep	9030B			50 mL	50 mL	435234	10/27/18 16:19	EC	TAL DEN
Total/NA	Analysis	9034		1			435236	10/27/18 19:16	EC	TAL DEN
Total/NA	Analysis	9056		1	5 mL	5 mL	434904	10/25/18 19:20	A1D	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	434905	10/25/18 19:20	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			436100	11/01/18 23:38	SGB	TAL DEN

Client Sample ID: FWGmw-013-181001-GW — Lab Sample ID: 280-116020-7

Date Collected: 10/24/18 13:55 **Matrix: Water**
Date Received: 10/24/18 17:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9012B			50 mL	50 mL	436497	11/06/18 11:20	RK	TAL DEN
Total/NA	Analysis	9012B		1	50 mL	50 mL	436588	11/06/18 18:31	RK	TAL DEN

Client Sample ID: DA2mw-115-181001-GW — Lab Sample ID: 280-116020-8

Date Collected: 10/24/18 12:45 **Matrix: Water**
Date Received: 10/24/18 17:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			970.4 mL	1 mL	435328	10/29/18 12:36	JZ	TAL DEN
Total/NA	Analysis	8270D		1			436671	11/07/18 19:47	AFH	TAL DEN
Total/NA	Prep	3535			452.4 mL	5 mL	435504	10/30/18 13:24	CBB	TAL DEN
Total/NA	Analysis	8330B		1			435886	11/01/18 20:39	HKF	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	435183	10/28/18 13:00	DAL	TAL DEN
Total/NA	Analysis	6010C		1			435360	10/29/18 12:45	CRR	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	435184	10/28/18 13:00	DAL	TAL DEN
Total/NA	Analysis	6020A		1			436227	11/02/18 21:45	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	436463	11/06/18 13:14	MRJ	TAL DEN
Total/NA	Analysis	7470A		1			436628	11/06/18 21:03	MRJ	TAL DEN
Total/NA	Prep	9012B			50 mL	50 mL	436497	11/06/18 11:20	RK	TAL DEN
Total/NA	Analysis	9012B		1	50 mL	50 mL	436588	11/06/18 18:33	RK	TAL DEN

Lab Chronicle

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

TestAmerica Job ID: 280-116020-1

Client Sample ID: DA2mw-115-181002-GW

Lab Sample ID: 280-116020-9

Date Collected: 10/24/18 12:45
Matrix: Water
Date Received: 10/24/18 17:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			453.7 mL	5 mL	435504	10/30/18 13:24	CBB	TAL DEN
Total/NA	Analysis	8330B		1			435886	11/01/18 21:47	HKF	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	435183	10/28/18 13:00	DAL	TAL DEN
Total/NA	Analysis	6010C		1			435360	10/29/18 12:52	CRR	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	435184	10/28/18 13:00	DAL	TAL DEN
Total/NA	Analysis	6020A		1			436227	11/02/18 21:56	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	436463	11/06/18 13:14	MRJ	TAL DEN
Total/NA	Analysis	7470A		1			436628	11/06/18 21:15	MRJ	TAL DEN
Total/NA	Prep	9012B			50 mL	50 mL	436497	11/06/18 11:20	RK	TAL DEN
Total/NA	Analysis	9012B		1	50 mL	50 mL	436598	11/06/18 20:39	RK	TAL DEN

Client Sample ID: DET-004-181001-GW

Lab Sample ID: 280-116020-12

Date Collected: 10/24/18 11:20
Matrix: Water
Date Received: 10/24/18 17:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	437463	11/14/18 03:12	RSN	TAL DEN
Total/NA	Prep	3520C			939 mL	1 mL	435328	10/29/18 12:36	JZ	TAL DEN
Total/NA	Analysis	8270D		1			436671	11/07/18 20:16	AFH	TAL DEN
Total/NA	Prep	3510C			221.8 mL	1 mL	435408	10/29/18 21:02	AJE	TAL DEN
Total/NA	Analysis	8270D SIM		1			435950	11/02/18 01:58	MKW	TAL DEN
Total/NA	Prep	3510C			930.5 mL	10 mL	435616	10/30/18 20:52	AJE	TAL DEN
Total/NA	Analysis	8081B		1			439676	12/03/18 16:42	TEB	TAL DEN
Total/NA	Prep	3510C			930.5 mL	10 mL	435616	10/30/18 20:52	AJE	TAL DEN
Total/NA	Analysis	8082A		1			438587	11/24/18 08:39	BJP	TAL DEN
Total/NA	Prep	3535			445.4 mL	5 mL	435504	10/30/18 13:24	CBB	TAL DEN
Total/NA	Analysis	8330B		1			435886	11/01/18 22:10	HKF	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	435183	10/28/18 13:00	DAL	TAL DEN
Total/NA	Analysis	6010C		1			435360	10/29/18 12:55	CRR	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	435184	10/28/18 13:00	DAL	TAL DEN
Total/NA	Analysis	6020A		1			436227	11/02/18 22:00	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	436463	11/06/18 13:14	MRJ	TAL DEN
Total/NA	Analysis	7470A		1			436628	11/06/18 21:17	MRJ	TAL DEN
Total/NA	Prep	9012B			50 mL	50 mL	436497	11/06/18 11:20	RK	TAL DEN
Total/NA	Analysis	9012B		1	50 mL	50 mL	436598	11/06/18 20:40	RK	TAL DEN

Laboratory References:

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

Accreditation/Certification Summary

Client: Leidos, Inc. TestAmerica Job ID: 280-116020-1
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

Laboratory: TestAmerica Denver

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

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

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

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

Method Summary

Client: Leidos, Inc. TestAmerica Job ID: 280-116020-1
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL DEN
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL DEN
8081B	Organochlorine Pesticides (GC)	SW846	TAL DEN
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL DEN
8330B	Nitroaromatics and Nitramines (HPLC)	EPA	TAL DEN
6010C	Metals (ICP)	SW846	TAL DEN
6020A	Metals (ICP/MS)	SW846	TAL DEN
7470A	Mercury (CVAA)	SW846	TAL DEN
9012B	Cyanide, Total and/or Amenable	EPA	TAL DEN
9034	Sulfide, Acid Soluble and Insoluble (Titrimetric)	SW846	TAL DEN
9056	Anions, Ion Chromatography	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3010A	Preparation, Total Metals	SW846	TAL DEN
3020A	Preparation, Total Metals	SW846	TAL DEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL DEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL DEN
3535	Solid-Phase Extraction (SPE)	SW846	TAL DEN
5030B	Purge and Trap	SW846	TAL DEN
7470A	Preparation, Mercury	SW846	TAL DEN
9012B	Cyanide, Total and/or Amenable, Distillation	SW846	TAL DEN
9030B	Sulfide, Distillation (Acid Soluble and Insoluble)	SW846	TAL DEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

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

Sample Summary

Client: Leidos, Inc. TestAmerica Job ID: 280-116020-1
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-116020-1	DET-003-181001-GW	Water	10/24/18 10:05	10/24/18 17:47
280-116020-2	DET-003-181002-GW	Water	10/24/18 10:05	10/24/18 17:47
280-116020-3	FWGTB-181002-TB	Water	10/24/18 10:05	10/24/18 17:47
280-116020-4	WBGmw-009-181001-GW	Water	10/23/18 14:35	10/24/18 17:47
280-116020-5	LL1mw-083-181001-GW	Water	10/24/18 13:25	10/24/18 17:47
280-116020-6	LL1mw-084-181001-GW	Water	10/24/18 09:30	10/24/18 17:47
280-116020-7	FWGmw-013-181001-GW	Water	10/24/18 13:55	10/24/18 17:47
280-116020-8	DA2mw-115-181001-GW	Water	10/24/18 12:45	10/24/18 17:47
280-116020-9	DA2mw-115-181002-GW	Water	10/24/18 12:45	10/24/18 17:47
280-116020-12	DET-004-181001-GW	Water	10/24/18 11:20	10/24/18 17:47

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: VMS_G Analysis Batch Number: 435406

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

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

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

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

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

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

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

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

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

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: VMS_G Analysis Batch Number: 435406

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

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

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

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

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

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

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

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

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

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: VMS_G Analysis Batch Number: 437463

Lab Sample ID: 280-116020-12 Client Sample ID: DET-004-181001-GW

Date Analyzed: 11/14/18 03:12 Lab File ID: G1698.D GC Column: DB-624 v1 ID: 32(um)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	newcomer	11/14/18 18:33

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_Y Analysis Batch Number: 433769

Lab Sample ID: ICIS 280-433769/3 Client Sample ID:

Date Analyzed: 10/17/18 10:59 Lab File ID: Y21615.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Pyridine	2.48	Wrong peak	kiekeld	10/17/18 11:37
Isophorone	5.44	Wrong peak	kiekeld	10/17/18 11:38
2-Nitrophenol	5.52	Wrong peak	kiekeld	10/17/18 11:38
2,4-Dimethylphenol	5.54	Wrong peak	kiekeld	10/17/18 11:38
Bis(2-chloroethoxy)methane	5.63	Wrong peak	kiekeld	10/17/18 11:38
Benzoic acid	5.65	Wrong peak	kiekeld	10/17/18 11:38
2,4-Dichlorophenol	5.75	Wrong peak	kiekeld	10/17/18 11:38
Naphthalene-d8 (IS)	5.90	Wrong peak	kiekeld	10/17/18 11:37
Naphthalene	5.92	Wrong peak	kiekeld	10/17/18 11:38
2,6-Dichlorophenol	5.97	Wrong peak	kiekeld	10/17/18 11:38
Caprolactam	6.28	Split Peak	kiekeld	10/17/18 14:16
2-Methylnaphthalene	6.60	Wrong peak	kiekeld	10/17/18 11:39
1-Methylnaphthalene	6.71	Wrong peak	kiekeld	10/17/18 11:39
4,6-Dinitro-2-methylphenol	8.24	Wrong peak	kiekeld	10/17/18 11:39
N-Nitrosodiphenylamine	8.30	Wrong peak	kiekeld	10/17/18 11:40
4-Bromophenyl phenyl ether	8.68	Wrong peak	kiekeld	10/17/18 11:40
Pentachlorophenol	8.96	Wrong peak	kiekeld	10/17/18 11:40
Phenanthrene-d10 (IS)	9.14	Wrong peak	kiekeld	10/17/18 11:37
Phenanthrene	9.17	Wrong peak	kiekeld	10/17/18 11:40
Anthracene	9.22	Wrong peak	kiekeld	10/17/18 11:40
Carbazole	9.37	Wrong peak	kiekeld	10/17/18 11:40
Di-n-butyl phthalate	9.71	Wrong peak	kiekeld	10/17/18 11:40

Lab Sample ID: STD004 280-433769/4 IC Client Sample ID:

Date Analyzed: 10/17/18 11:27 Lab File ID: Y21616.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	5.57	Wrong peak	kiekeld	10/17/18 11:52
Caprolactam	6.25	Wrong peak	kiekeld	10/17/18 11:52

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_Y Analysis Batch Number: 433769

Lab Sample ID: STD010 280-433769/5 IC Client Sample ID:

Date Analyzed: 10/17/18 11:56 Lab File ID: Y21617.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	5.58	Wrong peak	kiekeld	10/17/18 12:25

Lab Sample ID: STD020 280-433769/6 IC Client Sample ID:

Date Analyzed: 10/17/18 12:24 Lab File ID: Y21618.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	5.61	Wrong peak	kiekeld	10/17/18 14:11
4-Nitrophenol	7.73	Wrong peak	kiekeld	10/17/18 14:12

Lab Sample ID: STD050 280-433769/7 IC Client Sample ID:

Date Analyzed: 10/17/18 12:53 Lab File ID: Y21619.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	5.63	Wrong peak	kiekeld	10/17/18 14:12
Caprolactam	6.27	Split Peak	kiekeld	10/17/18 14:13
4-Nitrophenol	7.74	Wrong peak	kiekeld	10/17/18 14:13
4-Nitroaniline	8.20	Wrong peak	kiekeld	10/17/18 14:13

Lab Sample ID: STD120 280-433769/8 IC Client Sample ID:

Date Analyzed: 10/17/18 13:22 Lab File ID: Y21620.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Caprolactam	6.30	Split Peak	kiekeld	10/17/18 14:14

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_Y Analysis Batch Number: 433769

Lab Sample ID: STD160 280-433769/9 IC Client Sample ID:

Date Analyzed: 10/17/18 13:50 Lab File ID: Y21621.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Caprolactam	6.31	Split Peak	kiekeld	10/17/18 14:19
Indeno[1,2,3-cd]pyrene	20.35	Shouldering	kiekeld	10/17/18 14:20

Lab Sample ID: STD200 280-433769/10 IC Client Sample ID:

Date Analyzed: 10/17/18 14:19 Lab File ID: Y21622.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	5.72	Split Peak	kiekeld	10/17/18 15:49
Caprolactam	6.32	Split Peak	kiekeld	10/17/18 15:49
Indeno[1,2,3-cd]pyrene	20.37	Shouldering	kiekeld	10/17/18 15:50

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_Y Analysis Batch Number: 436671

Lab Sample ID: CCV 280-436671/3 Client Sample ID:

Date Analyzed: 11/07/18 12:42 Lab File ID: Y21928.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Caprolactam	6.28	Split Peak	hoeflera	11/07/18 12:33

Lab Sample ID: CCVC 280-436671/42 Client Sample ID:

Date Analyzed: 11/07/18 23:07 Lab File ID: Y21950.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Caprolactam	6.28	Split Peak	hoeflera	11/08/18 09:54
4-Chloro-3-methylphenol	6.42	Split Peak	hoeflera	11/08/18 09:54

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_F Analysis Batch Number: 435404

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

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

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

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

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

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

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

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

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

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_F Analysis Batch Number: 435404

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

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

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

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

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

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

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_F Analysis Batch Number: 435950

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

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

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

Lab Sample ID: MB 280-435408/1-A Client Sample ID:

Date Analyzed: 11/01/18 23:01 Lab File ID: F4483.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Anthracene		Invalid Compound ID	wickhamm	11/02/18 17:10
Benzo[a]pyrene		Invalid Compound ID	wickhamm	11/02/18 17:10
Benzo[b]fluoranthene		Invalid Compound ID	wickhamm	11/02/18 17:10
Benzo[g,h,i]perylene		Invalid Compound ID	wickhamm	11/02/18 17:10
Benzo[k]fluoranthene		Invalid Compound ID	wickhamm	11/02/18 17:10

Lab Sample ID: 280-116020-1 MSD Client Sample ID: DET-003-181001-GW MSD

Date Analyzed: 11/02/18 00:59 Lab File ID: F4487.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[g,h,i]perylene	21.22	Peak assignment corrected	wickhamm	11/02/18 17:13

Lab Sample ID: 280-116020-2 Client Sample ID:

Date Analyzed: 11/02/18 01:28 Lab File ID: F4488.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Phenanthrene-d10	9.20	Peak assignment corrected	wickhamm	11/02/18 17:14
Benzo[k]fluoranthene		Invalid Compound ID	wickhamm	11/02/18 17:14

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_F Analysis Batch Number: 435950

Lab Sample ID: 280-116020-12 Client Sample ID:

Date Analyzed: 11/02/18 01:58 Lab File ID: F4489.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acenaphthene-d10	7.71	Peak assignment corrected	wickhamm	11/02/18 17:14
Phenanthrene-d10	9.21	Peak assignment corrected	wickhamm	11/02/18 17:14

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_F Analysis Batch Number: 436730

Lab Sample ID: STD0001 280-436730/4 IC Client Sample ID:

Date Analyzed: 11/07/18 21:34 Lab File ID: F4565.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrobenzene-d5 (Surr)	5.17	Peak assignment corrected	wickhamm	11/08/18 17:21
2-Fluorobiphenyl	6.94	Peak assignment corrected	wickhamm	11/08/18 17:21
Terphenyl-d14 (Surr)	11.06	Peak assignment corrected	wickhamm	11/08/18 17:22
Indeno[1,2,3-cd]pyrene	20.20	Baseline	wickhamm	11/08/18 17:22
Dibenz(a,h)anthracene	20.30	Baseline	wickhamm	11/08/18 17:22

Lab Sample ID: STD0002 280-436730/5 IC Client Sample ID:

Date Analyzed: 11/07/18 22:02 Lab File ID: F4566.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrobenzene-d5 (Surr)	5.17	Peak assignment corrected	wickhamm	11/08/18 17:23
Benzo[b]fluoranthene	16.00	Incomplete Integration	wickhamm	11/08/18 17:23

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_F Analysis Batch Number: 436903

Lab Sample ID: 280-116020-1 Client Sample ID: DET-003-181001-GW

Date Analyzed: 11/09/18 01:53 Lab File ID: F4573.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acenaphthene		Invalid Compound ID	wickhamm	11/09/18 19:31
Benzo[a]pyrene		Invalid Compound ID	wickhamm	11/09/18 19:31
Benzo[k]fluoranthene		Invalid Compound ID	wickhamm	11/09/18 19:31

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_P2 Analysis Batch Number: 433303

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

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

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

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

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

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

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

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

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

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_P2 Analysis Batch Number: 433303

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

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

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

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

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

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

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

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

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

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_P2 Analysis Batch Number: 433303

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

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

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

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

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

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

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

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

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

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_P2 Analysis Batch Number: 433303

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

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

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

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

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

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

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_P2 Analysis Batch Number: 438138

Lab Sample ID: LCS 280-435616/6-A Client Sample ID:

Date Analyzed: 11/19/18 21:17 Lab File ID: 11190031.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	5.73	Baseline Smoothing	bacat	11/30/18 12:51
Toxaphene Peak 2	7.08	Baseline Smoothing	bacat	11/30/18 12:51
Toxaphene Peak 3	7.22	Baseline Smoothing	bacat	11/30/18 12:51
Toxaphene Peak 4	7.73	Baseline Smoothing	bacat	11/30/18 12:51
Toxaphene Peak 5	8.03	Baseline Smoothing	bacat	11/30/18 12:51

Lab Sample ID: LCSD 280-435616/7-A Client Sample ID:

Date Analyzed: 11/19/18 21:34 Lab File ID: 11190032.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	6.20	Baseline Smoothing	bacat	11/30/18 12:51
Toxaphene Peak 2	6.82	Baseline Smoothing	bacat	11/30/18 12:51
Toxaphene Peak 3	7.48	Baseline Smoothing	bacat	11/30/18 12:51
Toxaphene Peak 4	7.86	Baseline Smoothing	bacat	11/30/18 12:51
Toxaphene Peak 5	8.17	Baseline Smoothing	bacat	11/30/18 12:51

Lab Sample ID: LCSD 280-435616/7-A Client Sample ID:

Date Analyzed: 11/19/18 21:34 Lab File ID: 11190032.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	5.73	Baseline Smoothing	bacat	11/30/18 12:51
Toxaphene Peak 2	7.08	Baseline Smoothing	bacat	11/30/18 12:51
Toxaphene Peak 3	7.22	Baseline Smoothing	bacat	11/30/18 12:51
Toxaphene Peak 4	7.73	Baseline Smoothing	bacat	11/30/18 12:51
Toxaphene Peak 5	8.03	Baseline Smoothing	bacat	11/30/18 12:51

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_P2 Analysis Batch Number: 439676

Lab Sample ID: CCV 280-439676/11 Client Sample ID:

Date Analyzed: 12/03/18 14:39 Lab File ID: 12030011.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	5.72	Baseline Smoothing	bacat	12/03/18 14:57
Toxaphene Peak 2	7.07	Baseline Smoothing	bacat	12/03/18 14:57
Toxaphene Peak 3	7.21	Baseline Smoothing	bacat	12/03/18 14:57
Toxaphene Peak 4	7.72	Baseline Smoothing	bacat	12/03/18 14:57
Toxaphene Peak 5	8.02	Baseline Smoothing	bacat	12/03/18 14:57

Lab Sample ID: 280-116020-1 Client Sample ID: DET-003-181001-GW

Date Analyzed: 12/03/18 15:32 Lab File ID: 12030014.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloro-m-xylene	3.90	Baseline Smoothing	bacat	12/04/18 08:55

Lab Sample ID: 280-116020-2 Client Sample ID: DET-003-181002-GW

Date Analyzed: 12/03/18 15:49 Lab File ID: 12030015.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
beta-BHC	4.79	Baseline Smoothing	bacat	12/04/18 08:57
delta-BHC	5.03	Baseline Smoothing	bacat	12/04/18 08:57
Aldrin	5.34	Baseline Smoothing	bacat	12/04/18 08:57

Lab Sample ID: 280-116020-5 Client Sample ID: LL1mw-083-181001-GW

Date Analyzed: 12/03/18 16:07 Lab File ID: 12030016.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloro-m-xylene	3.78	Baseline Smoothing	bacat	12/04/18 09:02
beta-BHC	4.79	Baseline Smoothing	bacat	12/04/18 09:03
delta-BHC	5.04	Baseline Smoothing	bacat	12/04/18 09:03

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_P2 Analysis Batch Number: 439676

Lab Sample ID: 280-116020-6 Client Sample ID: LL1mw-084-181001-GW

Date Analyzed: 12/03/18 16:25 Lab File ID: 12030017.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
gamma-BHC (Lindane)	4.72	Baseline Smoothing	bacat	12/04/18 09:05

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438388

Lab Sample ID: STDL61248 280-438388/5 Client Sample ID:

Date Analyzed: 11/21/18 10:09 Lab File ID: 11211805.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1248 Peak 4	5.51	Shouldering	patadiab	11/21/18 11:04

Lab Sample ID: STDL51248 280-438388/6 Client Sample ID:

Date Analyzed: 11/21/18 10:30 Lab File ID: 11211806.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1248 Peak 4	5.51	Split Peak	mooret	11/21/18 15:16

Lab Sample ID: STDL52154 280-438388/13 Client Sample ID:

Date Analyzed: 11/21/18 12:58 Lab File ID: 11211813.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1254 Peak 2	5.51	Split Peak	mooret	11/21/18 15:10

Lab Sample ID: STDL42154 280-438388/14 Client Sample ID:

Date Analyzed: 11/21/18 13:19 Lab File ID: 11211814.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1254 Peak 2	5.51	Split Peak	mooret	11/21/18 15:11

Lab Sample ID: STDL32154 280-438388/15 Client Sample ID:

Date Analyzed: 11/21/18 13:41 Lab File ID: 11211815.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1254 Peak 2	5.51	Split Peak	mooret	11/21/18 15:11

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438388

Lab Sample ID: STDL12154 280-438388/17 Client Sample ID:

Date Analyzed: 11/21/18 14:23 Lab File ID: 11211817.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1254 Peak 2	5.51	Split Peak	mooret	11/21/18 15:12

Lab Sample ID: STDL51660 280-438388/20 Client Sample ID:

Date Analyzed: 11/21/18 15:27 Lab File ID: 11211820.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016 Peak 2	3.67	Baseline Smoothing	patadiab	11/23/18 10:03
PCB-1016 Peak 3	4.12	Baseline Smoothing	patadiab	11/23/18 10:03
PCB-1016 Peak 4	4.27	Baseline Smoothing	patadiab	11/23/18 10:03
PCB-1016 Peak 5	4.50	Baseline Smoothing	patadiab	11/23/18 10:03

Lab Sample ID: STDL73262 280-438388/25 Client Sample ID:

Date Analyzed: 11/21/18 17:13 Lab File ID: 11211825.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1232 Peak 5	4.73	Baseline Smoothing	patadiab	11/23/18 10:17
PCB-1262 Peak 1	6.25	Baseline Smoothing	patadiab	11/23/18 10:17
PCB-1262 Peak 2	7.16	Baseline Smoothing	patadiab	11/23/18 10:17
PCB-1262 Peak 3	7.49	Baseline Smoothing	patadiab	11/23/18 10:17
PCB-1262 Peak 4	7.93	Baseline Smoothing	patadiab	11/23/18 10:17
PCB-1262 Peak 5	8.32	Baseline Smoothing	patadiab	11/23/18 10:17

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438388

Lab Sample ID: STDL73262 280-438388/25 Client Sample ID:

Date Analyzed: 11/21/18 17:13 Lab File ID: 11211825.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1232 Peak 1	3.28	Baseline Smoothing	patadiab	11/23/18 10:18
PCB-1232 Peak 2	3.67	Baseline Smoothing	patadiab	11/23/18 10:18
PCB-1232 Peak 3	4.12	Baseline Smoothing	patadiab	11/23/18 10:18
PCB-1232 Peak 4	4.27	Baseline Smoothing	patadiab	11/23/18 10:18
PCB-1232 Peak 5	4.93	Baseline Smoothing	patadiab	11/23/18 10:18
PCB-1262 Peak 1	6.65	Baseline Smoothing	patadiab	11/23/18 10:18

Lab Sample ID: STDL63262 280-438388/26 Client Sample ID:

Date Analyzed: 11/21/18 17:34 Lab File ID: 11211826.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1232 Peak 5	4.73	Baseline Smoothing	patadiab	11/23/18 10:20
PCB-1262 Peak 1	6.25	Baseline Smoothing	patadiab	11/23/18 10:20
PCB-1262 Peak 2	7.16	Baseline Smoothing	patadiab	11/23/18 10:20
PCB-1262 Peak 3	7.49	Baseline Smoothing	patadiab	11/23/18 10:20
PCB-1262 Peak 4	7.93	Baseline Smoothing	patadiab	11/23/18 10:20
PCB-1262 Peak 5	8.32	Baseline Smoothing	patadiab	11/23/18 10:20

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438388

Lab Sample ID: STDL53262 280-438388/27 Client Sample ID:

Date Analyzed: 11/21/18 17:55 Lab File ID: 11211827.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1232 Peak 3	4.12	Baseline Smoothing	patadiab	11/23/18 10:21
PCB-1232 Peak 4	4.26	Baseline Smoothing	patadiab	11/23/18 10:21
PCB-1232 Peak 5	4.73	Baseline Smoothing	patadiab	11/23/18 10:21
PCB-1262 Peak 1	6.25	Baseline Smoothing	patadiab	11/23/18 10:21
PCB-1262 Peak 2	7.15	Baseline Smoothing	patadiab	11/23/18 10:21
PCB-1262 Peak 3	7.49	Baseline Smoothing	patadiab	11/23/18 10:21
PCB-1262 Peak 4	7.93	Baseline Smoothing	patadiab	11/23/18 10:21
PCB-1262 Peak 5	8.32	Baseline Smoothing	patadiab	11/23/18 10:21

Lab Sample ID: ICV 280-438388/40 Client Sample ID:

Date Analyzed: 11/21/18 22:30 Lab File ID: 11211840.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1254 Peak 1	5.18	Baseline Smoothing	patadiab	11/23/18 10:39
PCB-1254 Peak 2	5.51	Baseline Smoothing	patadiab	11/23/18 10:39
PCB-1254 Peak 3	5.85	Baseline Smoothing	patadiab	11/23/18 10:39
PCB-1254 Peak 4	6.62	Baseline Smoothing	patadiab	11/23/18 10:39
PCB-1254 Peak 5	6.99	Baseline Smoothing	patadiab	11/23/18 10:39

Lab Sample ID: ICV 280-438388/41 Client Sample ID:

Date Analyzed: 11/21/18 22:51 Lab File ID: 11211841.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016 Peak 2	3.67	Baseline Smoothing	patadiab	11/23/18 10:41
PCB-1016 Peak 3	4.12	Baseline Smoothing	patadiab	11/23/18 10:41
PCB-1016 Peak 4	4.27	Baseline Smoothing	patadiab	11/23/18 10:41
PCB-1016 Peak 5	4.50	Baseline Smoothing	patadiab	11/23/18 10:41

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438388

Lab Sample ID: ICV 280-438388/43 Client Sample ID:

Date Analyzed: 11/21/18 23:34 Lab File ID: 11211843.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1242 Peak 4	5.24	Peak not integrated	patadiab	11/23/18 11:08
PCB-1242 Peak 5	5.26	Peak not integrated	patadiab	11/23/18 11:08

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: CCVIS 280-438587/3 Client Sample ID:

Date Analyzed: 11/23/18 15:21 Lab File ID: 11231803.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1260 Peak 5	8.33	Peak assignment corrected	patadiab	11/27/18 13:46

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: MB 280-435616/1-A Client Sample ID:

Date Analyzed: 11/24/18 05:07 Lab File ID: 11231842.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1254		Unspecified		
PCB-1260		Unspecified		
PCB-1016 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1016 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1016 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1016 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1016 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1221 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1221 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1221 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1232 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1232 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1232 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1232 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1232 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1242 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1242 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1242 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1242 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1242 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1248 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1248 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1248 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1248 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1248 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:22

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: MB 280-435616/1-A Client Sample ID:

Date Analyzed: 11/24/18 05:07 Lab File ID: 11231842.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1254 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1254 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1254 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1254 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1254 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1260 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1260 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1260 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1260 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:22
PCB-1260 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:22

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: MB 280-435616/1-A Client Sample ID:

Date Analyzed: 11/24/18 05:07 Lab File ID: 11231842.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1254		Unspecified		
PCB-1260		Unspecified		
PCB-1016 Peak 1		Unspecified		
PCB-1016 Peak 2		Unspecified		
PCB-1016 Peak 3		Unspecified		
PCB-1016 Peak 4		Unspecified		
PCB-1016 Peak 5		Unspecified		
PCB-1221 Peak 1		Unspecified		
PCB-1221 Peak 2		Unspecified		
PCB-1221 Peak 3		Unspecified		
PCB-1232 Peak 1		Unspecified		
PCB-1232 Peak 2		Unspecified		
PCB-1232 Peak 3		Unspecified		
PCB-1232 Peak 4		Unspecified		
PCB-1232 Peak 5		Unspecified		
PCB-1242 Peak 1		Unspecified		
PCB-1242 Peak 2		Unspecified		
PCB-1242 Peak 3		Unspecified		
PCB-1242 Peak 4		Unspecified		
PCB-1242 Peak 5		Unspecified		
PCB-1248 Peak 1		Unspecified		
PCB-1248 Peak 2		Unspecified		
PCB-1248 Peak 3		Unspecified		
PCB-1248 Peak 4		Unspecified		
PCB-1248 Peak 5		Unspecified		

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: MB 280-435616/1-A Client Sample ID:

Date Analyzed: 11/24/18 05:07 Lab File ID: 11231842.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1254 Peak 1		Unspecified		
PCB-1254 Peak 2		Unspecified		
PCB-1254 Peak 3		Unspecified		
PCB-1254 Peak 4		Unspecified		
PCB-1254 Peak 5		Unspecified		
PCB-1260 Peak 1		Unspecified		
PCB-1260 Peak 2		Unspecified		
PCB-1260 Peak 3		Unspecified		
PCB-1260 Peak 4		Unspecified		
PCB-1260 Peak 5		Unspecified		

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: 280-116020-1 Client Sample ID: DET-003-181001-GW

Date Analyzed: 11/24/18 07:57 Lab File ID: 11231850.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1254		Unspecified		
PCB-1260		Unspecified		
PCB-1016 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1016 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1016 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1016 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1016 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1221 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1221 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1221 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: 280-116020-1 Client Sample ID: DET-003-181001-GW

Date Analyzed: 11/24/18 07:57 Lab File ID: 11231850.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1254 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1254 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1254 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1254 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1254 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: 280-116020-1 Client Sample ID: DET-003-181001-GW

Date Analyzed: 11/24/18 07:57 Lab File ID: 11231850.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1254		Unspecified		
PCB-1260		Unspecified		
PCB-1016 Peak 1		Unspecified		
PCB-1016 Peak 2		Unspecified		
PCB-1016 Peak 3		Unspecified		
PCB-1016 Peak 4		Unspecified		
PCB-1016 Peak 5		Unspecified		
PCB-1221 Peak 1		Unspecified		
PCB-1221 Peak 2		Unspecified		
PCB-1221 Peak 3		Unspecified		
PCB-1232 Peak 1		Unspecified		
PCB-1232 Peak 2		Unspecified		
PCB-1232 Peak 3		Unspecified		
PCB-1232 Peak 4		Unspecified		
PCB-1232 Peak 5		Unspecified		
PCB-1242 Peak 1		Unspecified		
PCB-1242 Peak 2		Unspecified		
PCB-1242 Peak 3		Unspecified		
PCB-1242 Peak 4		Unspecified		
PCB-1242 Peak 5		Unspecified		
PCB-1248 Peak 1		Unspecified		
PCB-1248 Peak 2		Unspecified		
PCB-1248 Peak 3		Unspecified		
PCB-1248 Peak 4		Unspecified		
PCB-1248 Peak 5		Unspecified		

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PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: 280-116020-1 Client Sample ID: DET-003-181001-GW

Date Analyzed: 11/24/18 07:57 Lab File ID: 11231850.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1254 Peak 1		Unspecified		
PCB-1254 Peak 2		Unspecified		
PCB-1254 Peak 3		Unspecified		
PCB-1254 Peak 4		Unspecified		
PCB-1254 Peak 5		Unspecified		
PCB-1260 Peak 1		Unspecified		
PCB-1260 Peak 2		Unspecified		
PCB-1260 Peak 3		Unspecified		
PCB-1260 Peak 4		Unspecified		
PCB-1260 Peak 5		Unspecified		

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: 280-116020-2 Client Sample ID: DET-003-181002-GW

Date Analyzed: 11/24/18 08:18 Lab File ID: 11231851.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1254		Unspecified		
PCB-1260		Unspecified		
PCB-1016 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1016 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1016 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1016 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1016 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1221 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1221 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1221 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: 280-116020-2 Client Sample ID: DET-003-181002-GW

Date Analyzed: 11/24/18 08:18 Lab File ID: 11231851.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1254 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1254 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1254 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1254 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1254 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: 280-116020-2 Client Sample ID: DET-003-181002-GW

Date Analyzed: 11/24/18 08:18 Lab File ID: 11231851.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1254		Unspecified		
PCB-1260		Unspecified		
PCB-1016 Peak 1		Unspecified		
PCB-1016 Peak 2		Unspecified		
PCB-1016 Peak 3		Unspecified		
PCB-1016 Peak 4		Unspecified		
PCB-1016 Peak 5		Unspecified		
PCB-1221 Peak 1		Unspecified		
PCB-1221 Peak 2		Unspecified		
PCB-1221 Peak 3		Unspecified		
PCB-1232 Peak 1		Unspecified		
PCB-1232 Peak 2		Unspecified		
PCB-1232 Peak 3		Unspecified		
PCB-1232 Peak 4		Unspecified		
PCB-1232 Peak 5		Unspecified		
PCB-1242 Peak 1		Unspecified		
PCB-1242 Peak 2		Unspecified		
PCB-1242 Peak 3		Unspecified		
PCB-1242 Peak 4		Unspecified		
PCB-1242 Peak 5		Unspecified		
PCB-1248 Peak 1		Unspecified		
PCB-1248 Peak 2		Unspecified		
PCB-1248 Peak 3		Unspecified		
PCB-1248 Peak 4		Unspecified		
PCB-1248 Peak 5		Unspecified		

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PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: 280-116020-2 Client Sample ID: DET-003-181002-GW

Date Analyzed: 11/24/18 08:18 Lab File ID: 11231851.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1254 Peak 1		Unspecified		
PCB-1254 Peak 2		Unspecified		
PCB-1254 Peak 3		Unspecified		
PCB-1254 Peak 4		Unspecified		
PCB-1254 Peak 5		Unspecified		
PCB-1260 Peak 1		Unspecified		
PCB-1260 Peak 2		Unspecified		
PCB-1260 Peak 3		Unspecified		
PCB-1260 Peak 4		Unspecified		
PCB-1260 Peak 5		Unspecified		

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: 280-116020-12 Client Sample ID: DET-004-181001-GW

Date Analyzed: 11/24/18 08:39 Lab File ID: 11231852.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1254		Unspecified		
PCB-1260		Unspecified		
PCB-1016 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1016 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1016 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1016 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1016 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1221 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1221 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1221 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1232 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1242 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1248 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: 280-116020-12 Client Sample ID: DET-004-181001-GW

Date Analyzed: 11/24/18 08:39 Lab File ID: 11231852.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1254 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1254 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1254 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1254 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1254 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 1		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 2		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 3		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 4		Invalid Compound ID	patadiab	11/24/18 12:26
PCB-1260 Peak 5		Invalid Compound ID	patadiab	11/24/18 12:26

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: 280-116020-12 Client Sample ID: DET-004-181001-GW

Date Analyzed: 11/24/18 08:39 Lab File ID: 11231852.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1254		Unspecified		
PCB-1260		Unspecified		
PCB-1016 Peak 1		Unspecified		
PCB-1016 Peak 2		Unspecified		
PCB-1016 Peak 3		Unspecified		
PCB-1016 Peak 4		Unspecified		
PCB-1016 Peak 5		Unspecified		
PCB-1221 Peak 1		Unspecified		
PCB-1221 Peak 2		Unspecified		
PCB-1221 Peak 3		Unspecified		
PCB-1232 Peak 1		Unspecified		
PCB-1232 Peak 2		Unspecified		
PCB-1232 Peak 3		Unspecified		
PCB-1232 Peak 4		Unspecified		
PCB-1232 Peak 5		Unspecified		
PCB-1242 Peak 1		Unspecified		
PCB-1242 Peak 2		Unspecified		
PCB-1242 Peak 3		Unspecified		
PCB-1242 Peak 4		Unspecified		
PCB-1242 Peak 5		Unspecified		
PCB-1248 Peak 1		Unspecified		
PCB-1248 Peak 2		Unspecified		
PCB-1248 Peak 3		Unspecified		
PCB-1248 Peak 4		Unspecified		
PCB-1248 Peak 5		Unspecified		

8082A

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 438587

Lab Sample ID: 280-116020-12 Client Sample ID: DET-004-181001-GW

Date Analyzed: 11/24/18 08:39 Lab File ID: 11231852.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1254 Peak 1		Unspecified		
PCB-1254 Peak 2		Unspecified		
PCB-1254 Peak 3		Unspecified		
PCB-1254 Peak 4		Unspecified		
PCB-1254 Peak 5		Unspecified		
PCB-1260 Peak 1		Unspecified		
PCB-1260 Peak 2		Unspecified		
PCB-1260 Peak 3		Unspecified		
PCB-1260 Peak 4		Unspecified		
PCB-1260 Peak 5		Unspecified		

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Analysis Batch Number: 433312

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

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

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

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

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

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

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

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

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

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Analysis Batch Number: 433312

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

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

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

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Analysis Batch Number: 435757

Lab Sample ID: 280-116020-4 Client Sample ID: WBGmw-009-181001-GW

Date Analyzed: 10/31/18 23:20 Lab File ID: 10310018.D GC Column: Luna-phenylhe ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dinitrotoluene		Invalid Compound ID	fiedlerh	11/01/18 08:22
PETN	25.12	Baseline Smoothing	fiedlerh	11/01/18 08:22

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Analysis Batch Number: 436120

Lab Sample ID: 280-116020-5 Client Sample ID: LL1mw-083-181001-GW

Date Analyzed: 11/02/18 23:00 Lab File ID: 11020015.D GC Column: Luna-phenylhe ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,3-Dinitrobenzene		Invalid Compound ID	fiedlerh	11/05/18 11:28
2,4-Dinitrotoluene	20.42	Baseline Smoothing	fiedlerh	11/05/18 11:28

Lab Sample ID: 280-116020-6 Client Sample ID: LL1mw-084-181001-GW

Date Analyzed: 11/02/18 23:35 Lab File ID: 11020016.D GC Column: Luna-phenylhe ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Nitrotoluene		Invalid Compound ID	fiedlerh	11/05/18 11:29
2,4-Dinitrotoluene	20.41	Baseline Smoothing	fiedlerh	11/05/18 11:29

Lab Sample ID: 280-116020-12 Client Sample ID: DET-004-181001-GW

Date Analyzed: 11/03/18 00:10 Lab File ID: 11020017.D GC Column: Luna-phenylhe ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
4-Nitrotoluene		Invalid Compound ID	fiedlerh	11/05/18 11:29

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Analysis Batch Number: 436505

Lab Sample ID: 280-116020-4 RE Client Sample ID: WBGmw-009-181001-GW RE

Date Analyzed: 11/06/18 23:20 Lab File ID: 11060019.D GC Column: Luna-phenylhe ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
4-Nitrotoluene		Invalid Compound ID	fiedlerh	11/07/18 08:14
3-Nitrotoluene	17.71	Baseline Smoothing	fiedlerh	11/07/18 08:14
PETN	25.13	Baseline Smoothing	fiedlerh	11/07/18 08:14

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_X3 Analysis Batch Number: 435517

Lab Sample ID: 280-116020-4 Client Sample ID: WBGmw-009-181001-GW

Date Analyzed: 10/30/18 16:44 Lab File ID: 10300021.D GC Column: UltraCarb5uOD ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HMX	6.66	Baseline Smoothing	fiedlerh	10/31/18 13:31
RDX	7.77	Baseline Smoothing	fiedlerh	10/31/18 13:31
4-Nitrotoluene		Invalid Compound ID	fiedlerh	10/31/18 13:31

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_X3 Analysis Batch Number: 435886

Lab Sample ID: 280-116020-1 Client Sample ID: DET-003-181001-GW

Date Analyzed: 11/01/18 18:44 Lab File ID: 11010015.D GC Column: UltraCarb5uOD ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HMX		Invalid Compound ID	fiedlerh	11/02/18 15:03

Lab Sample ID: 280-116020-5 Client Sample ID: LL1mw-083-181001-GW

Date Analyzed: 11/01/18 19:07 Lab File ID: 11010016.D GC Column: UltraCarb5uOD ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HMX	6.69	Baseline Smoothing	fiedlerh	11/02/18 15:04
1,2-Dinitrobenzene	8.77	Baseline Smoothing	fiedlerh	11/02/18 15:04
1,3,5-Trinitrobenzene	8.93	Baseline Smoothing	fiedlerh	11/02/18 15:04
2-Amino-4,6-dinitrotoluene	11.75	Baseline Smoothing	fiedlerh	11/02/18 15:05
2,6-Dinitrotoluene	11.86	Unspecified		
2,4-Dinitrotoluene	12.09	Baseline Smoothing	fiedlerh	11/02/18 15:05

Lab Sample ID: 280-116020-6 Client Sample ID: LL1mw-084-181001-GW

Date Analyzed: 11/01/18 19:30 Lab File ID: 11010017.D GC Column: UltraCarb5uOD ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HMX	6.69	Baseline Smoothing	fiedlerh	11/02/18 16:06
RDX	7.83	Baseline Smoothing	fiedlerh	11/02/18 16:06
1,2-Dinitrobenzene	8.77	Baseline Smoothing	fiedlerh	11/02/18 16:06
1,3,5-Trinitrobenzene	8.93	Baseline Smoothing	fiedlerh	11/02/18 16:06
1,3-Dinitrobenzene	9.58	Baseline Smoothing	fiedlerh	11/02/18 16:06
4-Nitrotoluene		Invalid Compound ID	fiedlerh	11/02/18 16:06
Tetryl		Invalid Compound ID	fiedlerh	11/02/18 16:06

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_X3 Analysis Batch Number: 435886

Lab Sample ID: 280-116020-8 Client Sample ID: DA2mw-115-181001-GW

Date Analyzed: 11/01/18 20:39 Lab File ID: 11010020.D GC Column: UltraCarb5uOD ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,3,5-Trinitrobenzene		Invalid Compound ID	fiedlerh	11/02/18 15:05

Lab Sample ID: 280-116020-12 Client Sample ID: DET-004-181001-GW

Date Analyzed: 11/01/18 22:10 Lab File ID: 11010024.D GC Column: UltraCarb5uOD ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HMX	6.66	Baseline Smoothing	fiedlerh	11/02/18 15:06
RDX	7.78	Baseline Smoothing	fiedlerh	11/02/18 15:06

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_X3 Analysis Batch Number: 436368

Lab Sample ID: LCS 280-436019/2-A Client Sample ID:

Date Analyzed: 11/05/18 17:57 Lab File ID: 11050010.D GC Column: UltraCarb5uOD ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
4-Nitrotoluene	13.38	Unspecified		

Lab Sample ID: 280-116020-4 RE Client Sample ID: WBGmw-009-181001-GW RE

Date Analyzed: 11/05/18 22:33 Lab File ID: 11050022.D GC Column: UltraCarb5uOD ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HMX	6.67	Baseline Smoothing	fiedlerh	11/06/18 07:50
RDX	7.78	Baseline Smoothing	fiedlerh	11/06/18 07:50
2-Amino-4,6-dinitrotoluene	11.76	Baseline Smoothing	fiedlerh	11/06/18 07:50

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							alpha-Chlordane	2000 ug/mL
							beta-BHC	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							gamma-Chlordane	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
8081/82 Surr_00105	03/25/19	09/25/18	ACETONE, Lot Acetone_00232	1000 mL	AR_SURR_RES_00084	1 mL	DCB Decachlorobiphenyl	0.2 ug/mL
							Tetrachloro-m-xylene	0.2 ug/mL
.AR_SURR_RES_00084	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
8081_EvalBPEM_00013	02/27/19	08/27/18	Hexane, Lot 173156	100 mL	8081EvalBStk2_00020	20 uL	4,4'-DDT	0.04 ug/mL
							Endrin	0.04 ug/mL
.8081EvalBStk2_00020	02/27/19		AccuStandard, Inc, Lot 217101288		(Purchased Reagent)		4,4'-DDT	200 ug/mL
							Endrin	200 ug/mL
8081_IS_00008	12/02/18	06/02/18	Hexane, Lot 189035	500 mL	BNB stock_00014	1 mL	1-Bromo-2-nitrobenzene	2 ug/mL
.BNB stock_00014	08/31/20		Restek, Lot A0127264		(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
8081_IS_00010	06/02/19	12/03/18	Hexane, Lot 189035	500 mL	BNB stock_00016	1 mL	1-Bromo-2-nitrobenzene	2 ug/mL
.BNB stock_00016	08/31/20		Restek, Lot A0127264		(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
8081ABICVL3_00035	02/28/19	10/13/18	Hexane, Lot 190112	100 mL	8081ABICVStk_00034	2.5 mL	4,4'-DDD	25 ng/mL
							4,4'-DDE	25 ng/mL
							4,4'-DDT	25 ng/mL
							Aldrin	25 ng/mL
							alpha-BHC	25 ng/mL
							alpha-Chlordane	25 ng/mL
							beta-BHC	25 ng/mL
							delta-BHC	25 ng/mL
							Dieldrin	25 ng/mL
							Endosulfan I	25 ng/mL
							Endosulfan II	25 ng/mL
							Endosulfan sulfate	25 ng/mL
							Endrin	25 ng/mL
							Endrin aldehyde	25 ng/mL
							Endrin ketone	25 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methoxychlor	2000 ug/mL
..AR_SURR_RES_00093	04/13/19	RESTEK, Lot A0136320			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
8081IcalL1_00025	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABCalStk_00033	0.4 mL	4,4'-DDD	4 ng/mL
							4,4'-DDE	4 ng/mL
							4,4'-DDT	4 ng/mL
							Aldrin	4 ng/mL
							alpha-BHC	4 ng/mL
							alpha-Chlordane	4 ng/mL
							beta-BHC	4 ng/mL
							delta-BHC	4 ng/mL
							Dieldrin	4 ng/mL
							Endosulfan I	4 ng/mL
							Endosulfan II	4 ng/mL
							Endosulfan sulfate	4 ng/mL
							Endrin	4 ng/mL
							Endrin aldehyde	4 ng/mL
							Endrin ketone	4 ng/mL
							gamma-BHC (Lindane)	4 ng/mL
							gamma-Chlordane	4 ng/mL
							Heptachlor	4 ng/mL
							Heptachlor epoxide	4 ng/mL
							Methoxychlor	4 ng/mL
							Hexachlorobenzene	4 ng/mL
							DCB Decachlorobiphenyl	4 ng/mL
							Tetrachloro-m-xylene	4 ng/mL
.8081ABCalStk_00033	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABResPS_00026	0.05 mL	4,4'-DDD	1000 ng/mL
							4,4'-DDE	1000 ng/mL
							4,4'-DDT	1000 ng/mL
							Aldrin	1000 ng/mL
							alpha-BHC	1000 ng/mL
							alpha-Chlordane	1000 ng/mL
							beta-BHC	1000 ng/mL
							delta-BHC	1000 ng/mL
							Dieldrin	1000 ng/mL
							Endosulfan I	1000 ng/mL
							Endosulfan II	1000 ng/mL
							Endosulfan sulfate	1000 ng/mL
							Endrin	1000 ng/mL
							Endrin aldehyde	1000 ng/mL
							Endrin ketone	1000 ng/mL
							gamma-BHC (Lindane)	1000 ng/mL
							gamma-Chlordane	1000 ng/mL
							Heptachlor	1000 ng/mL
							Heptachlor epoxide	1000 ng/mL
							Methoxychlor	1000 ng/mL
					8081HCBStkPS_00021	1 mL	Hexachlorobenzene	1000 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					AR_SURR_RES_00073	0.5 mL	DCB Decachlorobiphenyl	1000 ng/mL
							Tetrachloro-m-xylene	1000 ng/mL
..8081ABResPS_00026	12/20/18		Restek, Lot A0129369		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							alpha-Chlordane	2000 ug/mL
							beta-BHC	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							gamma-Chlordane	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
..8081HCBStkPS_00021	12/20/18		Accustandard, Inc., Lot 216101286		(Purchased Reagent)		Hexachlorobenzene	100 ug/mL
..AR_SURR_RES_00073	12/20/18		RESTEK, Lot A0121594		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
8081IcalL2_00025	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABCalStk_00033	1 mL	4,4'-DDD	10 ng/mL
							4,4'-DDE	10 ng/mL
							4,4'-DDT	10 ng/mL
							Aldrin	10 ng/mL
							alpha-BHC	10 ng/mL
							alpha-Chlordane	10 ng/mL
							beta-BHC	10 ng/mL
							delta-BHC	10 ng/mL
							Dieldrin	10 ng/mL
							Endosulfan I	10 ng/mL
							Endosulfan II	10 ng/mL
							Endosulfan sulfate	10 ng/mL
							Endrin	10 ng/mL
							Endrin aldehyde	10 ng/mL
							Endrin ketone	10 ng/mL
							gamma-BHC (Lindane)	10 ng/mL
							gamma-Chlordane	10 ng/mL
							Heptachlor	10 ng/mL
							Heptachlor epoxide	10 ng/mL
							Methoxychlor	10 ng/mL
							Hexachlorobenzene	10 ng/mL
							DCB Decachlorobiphenyl	10 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tetrachloro-m-xylene	10 ng/mL
.8081ABCalStk_00033	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABResPS_00026	0.05 mL	4,4'-DDD	1000 ng/mL
							4,4'-DDE	1000 ng/mL
							4,4'-DDT	1000 ng/mL
							Aldrin	1000 ng/mL
							alpha-BHC	1000 ng/mL
							alpha-Chlordane	1000 ng/mL
							beta-BHC	1000 ng/mL
							delta-BHC	1000 ng/mL
							Dieldrin	1000 ng/mL
							Endosulfan I	1000 ng/mL
							Endosulfan II	1000 ng/mL
							Endosulfan sulfate	1000 ng/mL
							Endrin	1000 ng/mL
							Endrin aldehyde	1000 ng/mL
							Endrin ketone	1000 ng/mL
							gamma-BHC (Lindane)	1000 ng/mL
							gamma-Chlordane	1000 ng/mL
							Heptachlor	1000 ng/mL
							Heptachlor epoxide	1000 ng/mL
							Methoxychlor	1000 ng/mL
					8081HCBStkPS_00021	1 mL	Hexachlorobenzene	1000 ng/mL
					AR_SURR_RES_00073	0.5 mL	DCB Decachlorobiphenyl	1000 ng/mL
							Tetrachloro-m-xylene	1000 ng/mL
..8081ABResPS_00026	12/20/18		Restek, Lot A0129369		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							alpha-Chlordane	2000 ug/mL
							beta-BHC	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							gamma-Chlordane	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
..8081HCBStkPS_00021	12/20/18		Accustandard, Inc., Lot 216101286		(Purchased Reagent)		Hexachlorobenzene	100 ug/mL
..AR_SURR_RES_00073	12/20/18		RESTEK, Lot A0121594		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
8081IcalL3_00028	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABCalStk_00033	2.5 mL	4,4'-DDD	25 ng/mL
							4,4'-DDE	25 ng/mL
							4,4'-DDT	25 ng/mL
							Aldrin	25 ng/mL
							alpha-BHC	25 ng/mL
							alpha-Chlordane	25 ng/mL
							beta-BHC	25 ng/mL
							delta-BHC	25 ng/mL
							Dieldrin	25 ng/mL
							Endosulfan I	25 ng/mL
							Endosulfan II	25 ng/mL
							Endosulfan sulfate	25 ng/mL
							Endrin	25 ng/mL
							Endrin aldehyde	25 ng/mL
							Endrin ketone	25 ng/mL
							gamma-BHC (Lindane)	25 ng/mL
							gamma-Chlordane	25 ng/mL
							Heptachlor	25 ng/mL
							Heptachlor epoxide	25 ng/mL
							Methoxychlor	25 ng/mL
							Hexachlorobenzene	25 ng/mL
							DCB Decachlorobiphenyl	25 ng/mL
							Tetrachloro-m-xylene	25 ng/mL
.8081ABCalStk_00033	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABResPS_00026	0.05 mL	4,4'-DDD	1000 ng/mL
							4,4'-DDE	1000 ng/mL
							4,4'-DDT	1000 ng/mL
							Aldrin	1000 ng/mL
							alpha-BHC	1000 ng/mL
							alpha-Chlordane	1000 ng/mL
							beta-BHC	1000 ng/mL
							delta-BHC	1000 ng/mL
							Dieldrin	1000 ng/mL
							Endosulfan I	1000 ng/mL
							Endosulfan II	1000 ng/mL
							Endosulfan sulfate	1000 ng/mL
							Endrin	1000 ng/mL
							Endrin aldehyde	1000 ng/mL
							Endrin ketone	1000 ng/mL
							gamma-BHC (Lindane)	1000 ng/mL
							gamma-Chlordane	1000 ng/mL
							Heptachlor	1000 ng/mL
							Heptachlor epoxide	1000 ng/mL
							Methoxychlor	1000 ng/mL
					8081HCBStkPS_00021	1 mL	Hexachlorobenzene	1000 ng/mL
					AR_SURR_RES_00073	0.5 mL	DCB Decachlorobiphenyl	1000 ng/mL
							Tetrachloro-m-xylene	1000 ng/mL
..8081ABResPS_00026	12/20/18		Restek, Lot A0129369		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.571995_00055	10/01/19		Restek, Lot A0140111		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.571995_00056	10/01/19		Restek, Lot A0140111		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-569731_00095	05/31/19		Restek, Lot A0132744		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
.MS-569731_00096	05/31/19		Restek, Lot A0132744		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
.MS-569731_00097	05/31/19		Restek, Lot A0132744		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
.MS-569731_00100	05/31/19		Restek, Lot A0132744		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
.OP-572556_00003	10/01/19		Restek, Lot A0127376		(Purchased Reagent)		Hexachlorocyclopentadiene	4000 ug/mL
.OP-572556_00006	10/01/19		Restek, Lot A0127376		(Purchased Reagent)		Hexachlorocyclopentadiene	4000 ug/mL
8270_LCS_Supp_00308	11/01/18	10/25/18	P&T Methanol, Lot MethanolP&T_00216	50 mL	OP-569732_00001	1 mL	Atrazine	80 ug/mL
							Benzaldehyde	80 ug/mL
							Caprolactam	80 ug/mL
					OP-569732_00002	1 mL	Atrazine	80 ug/mL
							Benzaldehyde	80 ug/mL
							Caprolactam	80 ug/mL
					OP-CustBenz_00026	2 mL	3,3'-Dichlorobenzidine	160 ug/mL
							Benzidine	160 ug/mL
.OP-569732_00001	10/31/19		Restek, Lot A0137125		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
.OP-569732_00002	10/05/19		Restek, Lot A0137125		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
.OP-CustBenz_00026	07/31/22		Restek, Lot A0139914		(Purchased Reagent)		3,3'-Dichlorobenzidine	4000 ug/mL
							Benzidine	4000 ug/mL
8270BO-SIMLCS_00031	09/30/19	10/11/18	P&T Methanol, Lot MethanolP&T_00215	250 mL	571995_00043	225 uL	1,1'-Biphenyl	0.9 ug/mL
							1,2,4,5-Tetrachlorobenzene	0.9 ug/mL
							1,2,4-Trichlorobenzene	0.9 ug/mL
							1,2-Dichlorobenzene	0.9 ug/mL
							1,2-Diphenylhydrazine	0.909877 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dichlorobenzene	0.9 ug/mL
							1,3-Dinitrobenzene	0.9 ug/mL
							1,4-Dichlorobenzene	0.9 ug/mL
							1,4-Dioxane	0.9 ug/mL
							1-Methylnaphthalene	0.9 ug/mL
							2,2'-oxybis[1-chloropropane]	0.9 ug/mL
							2,3,4,6-Tetrachlorophenol	0.9 ug/mL
							2,4,5-Trichlorophenol	0.9 ug/mL
							2,4,6-Trichlorophenol	0.9 ug/mL
							2,4-Dichlorophenol	0.9 ug/mL
							2,4-Dimethylphenol	0.9 ug/mL
							2,4-Dinitrophenol	1.8 ug/mL
							2,4-Dinitrotoluene	0.9 ug/mL
							2,6-Dichlorophenol	0.9 ug/mL
							2,6-Dinitrotoluene	0.9 ug/mL
							2-Chloronaphthalene	0.9 ug/mL
							2-Chlorophenol	0.9 ug/mL
							2-Methylnaphthalene	0.9 ug/mL
							2-Methylphenol	0.9 ug/mL
							2-Nitroaniline	0.9 ug/mL
							2-Nitrophenol	0.9 ug/mL
							3 & 4 Methylphenol	0.9 ug/mL
							3-Methylphenol	0.9 ug/mL
							3-Nitroaniline	0.9 ug/mL
							4,6-Dinitro-2-methylphenol	1.8 ug/mL
							4-Bromophenyl phenyl ether	0.9 ug/mL
							4-Chloro-3-methylphenol	0.9 ug/mL
							4-Chloroaniline	0.9 ug/mL
							4-Chlorophenyl phenyl ether	0.9 ug/mL
							4-Methylphenol	0.9 ug/mL
							4-Nitroaniline	0.9 ug/mL
							4-Nitrophenol	1.8 ug/mL
							Acenaphthene	0.9 ug/mL
							Acenaphthylene	0.9 ug/mL
							Acetophenone	0.9 ug/mL
							Aniline	0.9 ug/mL
							Anthracene	0.9 ug/mL
							Azobenzene	0.9 ug/mL
							Benzo[a]anthracene	0.9 ug/mL
							Benzo[a]pyrene	0.9 ug/mL
							Benzo[b]fluoranthene	0.9 ug/mL
							Benzo[g,h,i]perylene	0.9 ug/mL
							Benzo[k]fluoranthene	0.9 ug/mL
							Benzyl alcohol	0.9 ug/mL
							Bis(2-chloroethoxy)methane	0.9 ug/mL
							Bis(2-chloroethyl)ether	0.9 ug/mL
							Bis(2-ethylhexyl) phthalate	0.9 ug/mL
							Butyl benzyl phthalate	0.9 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbazole	0.9 ug/mL
							Chrysene	0.9 ug/mL
							Di-n-butyl phthalate	0.9 ug/mL
							Di-n-octyl phthalate	0.9 ug/mL
							Dibenz(a,h)anthracene	0.9 ug/mL
							Dibenzofuran	0.9 ug/mL
							Diethyl phthalate	0.9 ug/mL
							Dimethyl phthalate	0.9 ug/mL
							Diphenylamine	0.765 ug/mL
							Fluoranthene	0.9 ug/mL
							Fluorene	0.9 ug/mL
							Hexachlorobenzene	0.9 ug/mL
							Hexachlorobutadiene	0.9 ug/mL
							Hexachlorocyclopentadiene	0.9 ug/mL
							Hexachloroethane	0.9 ug/mL
							Hexadecane	0.9 ug/mL
							Indeno[1,2,3-cd]pyrene	0.9 ug/mL
							Isophorone	0.9 ug/mL
							n-Decane	0.9 ug/mL
							N-Nitrosodi-n-propylamine	0.9 ug/mL
							N-Nitrosodimethylamine	0.9 ug/mL
							N-Nitrosodiphenylamine	0.9 ug/mL
							n-Octadecane	0.9 ug/mL
							Naphthalene	0.9 ug/mL
							Nitrobenzene	0.9 ug/mL
							Pentachlorophenol	1.8 ug/mL
							Phenanthrene	0.9 ug/mL
							Phenol	0.9 ug/mL
							Pyrene	0.9 ug/mL
							Pyridine	1.8 ug/mL
.571995_00043	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
8270Surrogate_00128	07/09/19	10/17/18	ACETONE, Lot Acetone_00232	1000 mL	8270SurStkHL_00282	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
							Terphenyl-d14	100 ug/mL
					8270SurStkHL_00283	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
							Terphenyl-d14	100 ug/mL
					8270SurStkHL_00289	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
							Terphenyl-d14	100 ug/mL
					8270SurStkHL_00290	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenol-d6	100 ug/mL
							Terphenyl-d14	100 ug/mL
.8270SurStkHL_00282	10/17/19		Restek, Lot A0133251		(Purchased Reagent)		2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
.8270SurStkHL_00283	10/17/19		Restek, Lot A0133251		(Purchased Reagent)		2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
.8270SurStkHL_00289	10/17/19		Restek, Lot A0133251		(Purchased Reagent)		2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
.8270SurStkHL_00290	12/31/22		Restek, Lot A0133251		(Purchased Reagent)		2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
8330 LCS_00078	04/30/18	02/08/18	Acetonitrile, Lot ACN_00209	100 mL	8330 LCSMix2_00102	1 mL	2,6-Dinitrotoluene	10 ug/mL
							2-Amino-4,6-dinitrotoluene	10 ug/mL
							2-Nitrotoluene	10 ug/mL
							3-Nitrotoluene	10 ug/mL
							4-Amino-2,6-dinitrotoluene	10 ug/mL
							4-Nitrotoluene	10 ug/mL
							Tetryl	10 ug/mL
					8330_NG_Stk_00061	1 mL	Nitroglycerin	100 ug/mL
					8330_NG_Stk_00062	1 mL	Nitroglycerin	100 ug/mL
					8330_PETN_Stk_00069	1 mL	PETN	100 ug/mL
					8330_PETN_Stk_00070	1 mL	PETN	100 ug/mL
					8330LCSMix1_00097	1 mL	1,3,5-Trinitrobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4,6-Trinitrotoluene	10 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							HMX	10 ug/mL
							Nitrobenzene	10 ug/mL
							RDX	10 ug/mL
.8330 LCSMix2_00102	02/08/19		Restek, Lot A0122699		(Purchased Reagent)		2,6-Dinitrotoluene	1000 ug/mL
							2-Amino-4,6-dinitrotoluene	1000 ug/mL
							2-Nitrotoluene	1000 ug/mL
							3-Nitrotoluene	1000 ug/mL
							4-Amino-2,6-dinitrotoluene	1000 ug/mL
							4-Nitrotoluene	1000 ug/mL
							Tetryl	1000 ug/mL
.8330_NG_Stk_00061	02/08/19		Restek, Lot A0128695		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_NG_Stk_00062	02/08/19		Restek, Lot A0128695		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_PETN_Stk_00069	02/08/19		Restek, Lot A0127970		(Purchased Reagent)		PETN	5000 ug/mL
.8330_PETN_Stk_00070	02/08/19		Restek, Lot A0127970		(Purchased Reagent)		PETN	5000 ug/mL
.8330LCSMix1_00097	02/08/19		Restek, Lot A0122924		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							2,4,6-Trinitrotoluene	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							RDX	1000 ug/mL
8330 LCS_00081	06/28/19	06/13/18	Acetonitrile, Lot ACN_00204	100 mL	8330 LCSMix2_00103	1 mL	2,6-Dinitrotoluene	10 ug/mL
							2-Amino-4,6-dinitrotoluene	10 ug/mL
							2-Nitrotoluene	10 ug/mL
							3-Nitrotoluene	10 ug/mL
							4-Amino-2,6-dinitrotoluene	10 ug/mL
							4-Nitrotoluene	10 ug/mL
							Tetryl	10 ug/mL
					8330_NG_Stk_00057	1 mL	Nitroglycerin	100 ug/mL
					8330_NG_Stk_00063	1 mL	Nitroglycerin	100 ug/mL
					8330_PETN_Stk_00049	1 mL	PETN	100 ug/mL
					8330_PETN_Stk_00066	1 mL	PETN	100 ug/mL
					8330LCSMix1_00102	1 mL	1,3,5-Trinitrobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							2,4,6-Trinitrotoluene	10 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							HMX	10 ug/mL
							Nitrobenzene	10 ug/mL
							RDX	10 ug/mL
.8330 LCSMix2_00103	11/30/21		Restek, Lot A0122699		(Purchased Reagent)		2,6-Dinitrotoluene	1000 ug/mL
							2-Amino-4,6-dinitrotoluene	1000 ug/mL
							2-Nitrotoluene	1000 ug/mL
							3-Nitrotoluene	1000 ug/mL
							4-Amino-2,6-dinitrotoluene	1000 ug/mL
							4-Nitrotoluene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tetryl	1000 ug/mL
.8330_NG_Stk_00057	07/31/19		Restek, Lot A0128695		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_NG_Stk_00063	07/31/19		Restek, Lot A0128695		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_PETN_Stk_00049	06/30/19		Restek, Lot A0120082		(Purchased Reagent)		PETN	5000 ug/mL
.8330_PETN_Stk_00066	05/31/20		Restek, Lot A0127970		(Purchased Reagent)		PETN	5000 ug/mL
.8330LCSMix1_00102	06/20/22		Restek, Lot A0128688		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							2,4,6-Trinitrotoluene	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							RDX	1000 ug/mL
8330 LCS_00082	09/07/19	09/07/18	Acetonitrile, Lot ACN_00215	100 mL	8330 LCSMix2_00104	1 mL	2,6-Dinitrotoluene	10 ug/mL
							2-Amino-4,6-dinitrotoluene	10 ug/mL
							2-Nitrotoluene	10 ug/mL
							3-Nitrotoluene	10 ug/mL
							4-Amino-2,6-dinitrotoluene	10 ug/mL
							4-Nitrotoluene	10 ug/mL
							Tetryl	10 ug/mL
					8330_NG_Stk_00067	1 mL	Nitroglycerin	100 ug/mL
					8330_NG_Stk_00068	1 mL	Nitroglycerin	100 ug/mL
					8330_PETN_Stk_00067	1 mL	PETN	100 ug/mL
					8330_PETN_Stk_00068	1 mL	PETN	100 ug/mL
					8330LCSMix1_00105	1 mL	1,3,5-Trinitrobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							2,4,6-Trinitrotoluene	10 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							HMX	10 ug/mL
							Nitrobenzene	10 ug/mL
							RDX	10 ug/mL
					PicricARestek_00080	1 mL	2,4,6-Trinitrophenol	10 ug/mL
.8330 LCSMix2_00104	09/07/19		Restek, Lot A0122699		(Purchased Reagent)		2,6-Dinitrotoluene	1000 ug/mL
							2-Amino-4,6-dinitrotoluene	1000 ug/mL
							2-Nitrotoluene	1000 ug/mL
							3-Nitrotoluene	1000 ug/mL
							4-Amino-2,6-dinitrotoluene	1000 ug/mL
							4-Nitrotoluene	1000 ug/mL
							Tetryl	1000 ug/mL
.8330_NG_Stk_00067	09/07/19		Restek, Lot A0129124		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_NG_Stk_00068	09/07/19		Restek, Lot A0129124		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_PETN_Stk_00067	09/07/19		Restek, Lot A0127970		(Purchased Reagent)		PETN	5000 ug/mL
.8330_PETN_Stk_00068	09/07/19		Restek, Lot A0127970		(Purchased Reagent)		PETN	5000 ug/mL
.8330LCSMix1_00105	09/07/19		Restek, Lot A0128688		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							2,4,6-Trinitrotoluene	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							HMX	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene	1000 ug/mL
							RDX	1000 ug/mL
.PicricARestek_00080	09/07/19		Restek, Lot A0105913		(Purchased Reagent)		2,4,6-Trinitrophenol	1000 ug/mL
8330 LCS_00083	03/07/19	09/07/18	Acetonitrile, Lot ACN_00215	100 mL	8330 LCSMix2_00104	1 mL	2,6-Dinitrotoluene	10 ug/mL
							2-Amino-4,6-dinitrotoluene	10 ug/mL
							2-Nitrotoluene	10 ug/mL
							3-Nitrotoluene	10 ug/mL
							4-Amino-2,6-dinitrotoluene	10 ug/mL
							4-Nitrotoluene	10 ug/mL
							Tetryl	10 ug/mL
					8330_NG_Stk_00067	1 mL	Nitroglycerin	100 ug/mL
					8330_NG_Stk_00068	1 mL	Nitroglycerin	100 ug/mL
					8330_PETN_Stk_00067	1 mL	PETN	100 ug/mL
					8330_PETN_Stk_00068	1 mL	PETN	100 ug/mL
					8330LCSMix1_00105	1 mL	1,3,5-Trinitrobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							2,4,6-Trinitrotoluene	10 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							HMX	10 ug/mL
							Nitrobenzene	10 ug/mL
							RDX	10 ug/mL
					PicricARestek_00080	1 mL	2,4,6-Trinitrophenol	10 ug/mL
.8330 LCSMix2_00104	09/07/19		Restek, Lot A0122699		(Purchased Reagent)		2,6-Dinitrotoluene	1000 ug/mL
							2-Amino-4,6-dinitrotoluene	1000 ug/mL
							2-Nitrotoluene	1000 ug/mL
							3-Nitrotoluene	1000 ug/mL
							4-Amino-2,6-dinitrotoluene	1000 ug/mL
							4-Nitrotoluene	1000 ug/mL
							Tetryl	1000 ug/mL
.8330_NG_Stk_00067	09/07/19		Restek, Lot A0129124		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_NG_Stk_00068	09/07/19		Restek, Lot A0129124		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_PETN_Stk_00067	09/07/19		Restek, Lot A0127970		(Purchased Reagent)		PETN	5000 ug/mL
.8330_PETN_Stk_00068	09/07/19		Restek, Lot A0127970		(Purchased Reagent)		PETN	5000 ug/mL
.8330LCSMix1_00105	09/07/19		Restek, Lot A0128688		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							2,4,6-Trinitrotoluene	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							RDX	1000 ug/mL
.PicricARestek_00080	09/07/19		Restek, Lot A0105913		(Purchased Reagent)		2,4,6-Trinitrophenol	1000 ug/mL
8330_ADDs_00017	03/01/19	07/23/18	Acetonitrile, Lot 184115	5 mL	3,5-DNA Stock_00029	0.1 mL	3,5-Dinitroaniline	20 ug/mL
.3,5-DNA Stock_00029	02/28/22		Restek, Lot A0129440		(Purchased Reagent)		3,5-Dinitroaniline	1000 ug/mL
8330IntermStk_00055	07/14/18	05/02/18	Acetonitrile, Lot 184115	10 mL	8330ICALStock_00026	1 mL	1,3,5-Trinitrobenzene	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dinitrobenzene	10.01 ug/mL
							2,4,6-Trinitrotoluene	10.04 ug/mL
							2,4-Dinitrotoluene	10.02 ug/mL
							2,6-Dinitrotoluene	10.03 ug/mL
							2-Amino-4,6-dinitrotoluene	10.03 ug/mL
							2-Nitrotoluene	10.03 ug/mL
							3-Nitrotoluene	10.04 ug/mL
							4-Amino-2,6-dinitrotoluene	10.03 ug/mL
							4-Nitrotoluene	10.04 ug/mL
							HMX	10 ug/mL
							Nitrobenzene	10.02 ug/mL
							RDX	10 ug/mL
							Tetryl	10 ug/mL
							1,2-Dinitrobenzene	10 ug/mL
					8330PAStkPS_00054	1 mL	2,4,6-Trinitrophenol	10 ug/mL
					NG__00002	1 mL	Nitroglycerin	100 ug/mL
					PETN_00002	1 mL	PETN	100 ug/mL
.8330ICALStock_00026	07/14/18	07/14/17	Acetonitrile, Lot ACN_00178	10 mL	8330 Stock_TS_00009	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,3-Dinitrobenzene	100.1 ug/mL
							2,4,6-Trinitrotoluene	100.4 ug/mL
							2,4-Dinitrotoluene	100.2 ug/mL
							2,6-Dinitrotoluene	100.3 ug/mL
							2-Amino-4,6-dinitrotoluene	100.3 ug/mL
							2-Nitrotoluene	100.3 ug/mL
							3-Nitrotoluene	100.4 ug/mL
							4-Amino-2,6-dinitrotoluene	100.3 ug/mL
							4-Nitrotoluene	100.4 ug/mL
							HMX	100 ug/mL
							Nitrobenzene	100.2 ug/mL
							RDX	100 ug/mL
							Tetryl	100 ug/mL
					8330SurrStock_00161	1 mL	1,2-Dinitrobenzene	100 ug/mL
..8330 Stock_TS_00009	04/30/20	Ultra Scientific, Lot CR-1002			(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1001 ug/mL
							2,4,6-Trinitrotoluene	1004 ug/mL
							2,4-Dinitrotoluene	1002 ug/mL
							2,6-Dinitrotoluene	1003 ug/mL
							2-Amino-4,6-dinitrotoluene	1003 ug/mL
							2-Nitrotoluene	1003 ug/mL
							3-Nitrotoluene	1004 ug/mL
							4-Amino-2,6-dinitrotoluene	1003 ug/mL
							4-Nitrotoluene	1004 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1002 ug/mL
							RDX	1000 ug/mL
							Tetryl	1000 ug/mL
..8330SurrStock_00161	08/15/24	AccuStandard, Lot 214081391			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.8330PAStkPS_00054	07/19/19	AccuStandard, Lot 216061376-01			(Purchased Reagent)		2,4,6-Trinitrophenol	100 ug/mL
.NG__00002	07/14/18	07/14/17	Acetonitrile, Lot 0000130057	5 mL	8330_NG_Stk_00049	1 mL	Nitroglycerin	1000 ug/mL
..8330_NG_Stk_00049	01/01/20	Restek, Lot A0124122			(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.PETN_00002	07/14/18	07/14/17	Acetonitrile, Lot 0000130057	5 mL	8330_PETN_Stk_00052	1 mL	PETN	1000 mL
..8330_PETN_Stk_00052	01/01/20	Restek, Lot A0124124			(Purchased Reagent)		PETN	5000 ug/mL
8330IntermStk_00056	01/16/19	07/16/18	Acetonitrile, Lot 194301	5 mL	8330_NG_Stk_00051	200 uL	Nitroglycerin	200 ug/mL
					8330_PETN_Stk_00053	200 uL	PETN	200 ug/mL
					8330ICALStock_00028	1 mL	1,3,5-Trinitrobenzene	20 ug/mL
							1,3-Dinitrobenzene	20.02 ug/mL
							2,4,6-Trinitrotoluene	20.08 ug/mL
							2,4-Dinitrotoluene	20.04 ug/mL
							2,6-Dinitrotoluene	20.06 ug/mL
							2-Amino-4,6-dinitrotoluene	20.06 ug/mL
							2-Nitrotoluene	20.06 ug/mL
							3-Nitrotoluene	20.08 ug/mL
							4-Amino-2,6-dinitrotoluene	20.06 ug/mL
							4-Nitrotoluene	20.08 ug/mL
							HMX	20 ug/mL
							Nitrobenzene	20.04 ug/mL
							RDX	20 ug/mL
							Tetryl	20 ug/mL
							1,2-Dinitrobenzene	20 ug/mL
					8330PAStkPS_00056	1 mL	2,4,6-Trinitrophenol	20 ug/mL
.8330_NG_Stk_00051	01/01/20	Restek, Lot A0124122			(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_PETN_Stk_00053	01/01/20	Restek, Lot A0124124			(Purchased Reagent)		PETN	5000 ug/mL
.8330ICALStock_00028	07/16/19	07/16/18	Acetonitrile, Lot ACN_194301	10 mL	8330 Stock_TS_00011	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,3-Dinitrobenzene	100.1 ug/mL
							2,4,6-Trinitrotoluene	100.4 ug/mL
							2,4-Dinitrotoluene	100.2 ug/mL
							2,6-Dinitrotoluene	100.3 ug/mL
							2-Amino-4,6-dinitrotoluene	100.3 ug/mL
							2-Nitrotoluene	100.3 ug/mL
							3-Nitrotoluene	100.4 ug/mL
							4-Amino-2,6-dinitrotoluene	100.3 ug/mL
							4-Nitrotoluene	100.4 ug/mL
							HMX	100 ug/mL
							Nitrobenzene	100.2 ug/mL
							RDX	100 ug/mL
							Tetryl	100 ug/mL
					8330SurrStock_00162	1 mL	1,2-Dinitrobenzene	100 ug/mL
..8330 Stock_TS_00011	04/30/20	Ultra Scientific, Lot CR-1002			(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1001 ug/mL
							2,4,6-Trinitrotoluene	1004 ug/mL
							2,4-Dinitrotoluene	1002 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,6-Dinitrotoluene	1003 ug/mL
							2-Amino-4,6-dinitrotoluene	1003 ug/mL
							2-Nitrotoluene	1003 ug/mL
							3-Nitrotoluene	1004 ug/mL
							4-Amino-2,6-dinitrotoluene	1003 ug/mL
							4-Nitrotoluene	1004 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1002 ug/mL
							RDX	1000 ug/mL
							Tetryl	1000 ug/mL
..8330SurrStock_00162	08/15/24	AccuStandard, Lot 214081391			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330PAStkPS_00056	04/12/20	AccuStandard, Lot 218031154			(Purchased Reagent)		2,4,6-Trinitrophenol	100 ug/mL
8330Surrogate_00098	03/01/19	03/01/18	Acetonitrile, Lot ACN_00210	500 mL	8330SurrStkSS_00123	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00124	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00125	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00126	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00127	1 mL	1,2-Dinitrobenzene	10 ug/mL
.8330SurrStkSS_00123	03/01/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00124	03/01/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00125	03/01/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00126	03/01/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00127	03/01/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
8330Surrogate_00100	03/07/19	09/07/18	Acetonitrile, Lot ACN_00215	500 mL	8330SurrStkSS_00130	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
					8330SurrStkSS_00131	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
					8330SurrStkSS_00132	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
					8330SurrStkSS_00133	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
					8330SurrStkSS_00141	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
.8330SurrStkSS_00130	09/07/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
							1,2-Dinitrobenzene (Surr)	1000 ug/mL
.8330SurrStkSS_00131	09/07/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
							1,2-Dinitrobenzene (Surr)	1000 ug/mL
.8330SurrStkSS_00132	09/07/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
							1,2-Dinitrobenzene (Surr)	1000 ug/mL
.8330SurrStkSS_00133	09/07/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
							1,2-Dinitrobenzene (Surr)	1000 ug/mL
.8330SurrStkSS_00141	09/07/19	Restek, Lot A0131413			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
							1,2-Dinitrobenzene (Surr)	1000 ug/mL
Alk daily lcs_00782	11/08/18	11/01/18	Di Water, Lot na	1000 mL	Alk stk std_00014	4 mL	Alkalinity	200 mg/L
.Alk stk std_00014	04/30/19	Fischer, Lot 172632			(Purchased Reagent)		Alkalinity	50 g/L
AR_1248_ICV_00013	12/06/18	06/06/18	Hexane, Lot 186983	100 mL	AR_1248_RESss_00010	25 uL	PCB-1248	250 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.AR_1248_RESss_00010	06/06/19		RESTEK, Lot A0124143		(Purchased Reagent)		PCB-1248	1000 ug/mL
AR_1248_L1_00022	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_1248_L7_00017	0.25 mL	PCB-1248 Peak 1	0.025 ug/mL
							PCB-1248 Peak 2	0.025 ug/mL
							PCB-1248 Peak 3	0.025 ug/mL
							PCB-1248 Peak 4	0.025 ug/mL
							PCB-1248 Peak 5	0.025 ug/mL
.AR_1248_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_1248_RES_00012	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00012	04/22/19		RESTEK, Lot A0130978		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L2_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_1248_L7_00017	0.5 mL	PCB-1248 Peak 1	0.05 ug/mL
							PCB-1248 Peak 2	0.05 ug/mL
							PCB-1248 Peak 3	0.05 ug/mL
							PCB-1248 Peak 4	0.05 ug/mL
							PCB-1248 Peak 5	0.05 ug/mL
.AR_1248_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_1248_RES_00012	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00012	04/22/19		RESTEK, Lot A0130978		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L3_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_1248_L7_00017	1 mL	PCB-1248 Peak 1	0.1 ug/mL
							PCB-1248 Peak 2	0.1 ug/mL
							PCB-1248 Peak 3	0.1 ug/mL
							PCB-1248 Peak 4	0.1 ug/mL
							PCB-1248 Peak 5	0.1 ug/mL
.AR_1248_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_1248_RES_00012	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00012	04/22/19		RESTEK, Lot A0130978		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L4_00022	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_1248_L7_00017	2.5 mL	PCB-1248 Peak 1	0.25 ug/mL
							PCB-1248 Peak 2	0.25 ug/mL
							PCB-1248 Peak 3	0.25 ug/mL
							PCB-1248 Peak 4	0.25 ug/mL
							PCB-1248 Peak 5	0.25 ug/mL
.AR_1248_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_1248_RES_00012	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00012	04/22/19		RESTEK, Lot A0130978		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L5_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_1248_L7_00017	5 mL	PCB-1248 Peak 1	0.5 ug/mL
							PCB-1248 Peak 2	0.5 ug/mL
							PCB-1248 Peak 3	0.5 ug/mL
							PCB-1248 Peak 4	0.5 ug/mL
							PCB-1248 Peak 5	0.5 ug/mL
.AR_1248_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_1248_RES_00012	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00012	04/22/19		RESTEK, Lot A0130978		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L6_00019	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_1248_L7_00017	7.5 mL	PCB-1248 Peak 1	0.75 ug/mL
							PCB-1248 Peak 2	0.75 ug/mL
							PCB-1248 Peak 3	0.75 ug/mL
							PCB-1248 Peak 4	0.75 ug/mL
							PCB-1248 Peak 5	0.75 ug/mL
.AR_1248_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_1248_RES_00012	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00012	04/22/19		RESTEK, Lot A0130978		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_1248_RES_00012	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
.AR_1248_RES_00012	04/22/19		RESTEK, Lot A0130978		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1660_ICV_00013	12/06/18	06/06/18	Hexane, Lot 186983	100 mL	AR_1660_RESss_00010	25 uL	PCB-1016	250 ng/mL
							PCB-1260	250 ng/mL
					AR_SURR_RES_00090	6.25 uL	DCB Decachlorobiphenyl	12.5 ng/mL
							Tetrachloro-m-xylene	12.5 ng/mL
.AR_1660_RESss_00010	06/06/19		RESTEK, Lot A0114674		(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL
.AR_SURR_RES_00090	06/06/19		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_1660_L1_00031	04/22/19	10/22/18	hexane, Lot Hexane_Cycl_00052	10 mL	AR_1660_L7_00026	0.25 mL	PCB-1016 Peak 1	0.025 ug/mL
							PCB-1016 Peak 2	0.025 ug/mL
							PCB-1016 Peak 3	0.025 ug/mL
							PCB-1016 Peak 4	0.025 ug/mL
							PCB-1016 Peak 5	0.025 ug/mL
							PCB-1260 Peak 1	0.025 ug/mL
							PCB-1260 Peak 2	0.025 ug/mL
							PCB-1260 Peak 3	0.025 ug/mL
							PCB-1260 Peak 4	0.025 ug/mL
							PCB-1260 Peak 5	0.025 ug/mL
							DCB Decachlorobiphenyl	0.00125 ug/mL
							Tetrachloro-m-xylene	0.00125 ug/mL
.AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00094	25 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
..AR_1660_RES_00001	04/22/19		RESTEK, Lot A0134815		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00094	04/22/19		RESTEK, Lot A0136320		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_1660_L2_00030	04/22/19	10/22/18	hexane, Lot Hexane_Cycl_00052	10 mL	AR_1660_L7_00026	0.5 mL	PCB-1016 Peak 1	0.05 ug/mL
							PCB-1016 Peak 2	0.05 ug/mL
							PCB-1016 Peak 3	0.05 ug/mL
							PCB-1016 Peak 4	0.05 ug/mL
							PCB-1016 Peak 5	0.05 ug/mL
							PCB-1260 Peak 1	0.05 ug/mL
							PCB-1260 Peak 2	0.05 ug/mL
							PCB-1260 Peak 3	0.05 ug/mL
							PCB-1260 Peak 4	0.05 ug/mL
							PCB-1260 Peak 5	0.05 ug/mL
							DCB Decachlorobiphenyl	0.0025 ug/mL
							Tetrachloro-m-xylene	0.0025 ug/mL
.AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00094	25 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
..AR_1660_RES_00001	04/22/19		RESTEK, Lot A0134815		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00094	04/22/19	RESTEK, Lot A0136320			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_1660_L3_00031	04/22/19	10/22/18	hexane, Lot Hexane_Cycl_00052	10 mL	AR_1660_L7_00026	1 mL	PCB-1016 Peak 1	0.1 ug/mL
							PCB-1016 Peak 2	0.1 ug/mL
							PCB-1016 Peak 3	0.1 ug/mL
							PCB-1016 Peak 4	0.1 ug/mL
							PCB-1016 Peak 5	0.1 ug/mL
							PCB-1260 Peak 1	0.1 ug/mL
							PCB-1260 Peak 2	0.1 ug/mL
							PCB-1260 Peak 3	0.1 ug/mL
							PCB-1260 Peak 4	0.1 ug/mL
							PCB-1260 Peak 5	0.1 ug/mL
							DCB Decachlorobiphenyl	0.005 ug/mL
							Tetrachloro-m-xylene	0.005 ug/mL
.AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00094	25 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
..AR_1660_RES_00001	04/22/19	RESTEK, Lot A0134815			(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00094	04/22/19	RESTEK, Lot A0136320			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_1660_L4_00068	04/22/19	10/22/18	hexane, Lot Hexane_Cycl_00052	10 mL	AR_1660_L7_00026	2.5 mL	PCB-1016 Peak 1	0.25 ug/mL
							PCB-1016 Peak 2	0.25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1016 Peak 3	0.25 ug/mL
							PCB-1016 Peak 4	0.25 ug/mL
							PCB-1016 Peak 5	0.25 ug/mL
							PCB-1260 Peak 1	0.25 ug/mL
							PCB-1260 Peak 2	0.25 ug/mL
							PCB-1260 Peak 3	0.25 ug/mL
							PCB-1260 Peak 4	0.25 ug/mL
							PCB-1260 Peak 5	0.25 ug/mL
							DCB Decachlorobiphenyl	0.0125 ug/mL
							Tetrachloro-m-xylene	0.0125 ug/mL
.AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00094	25 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
..AR_1660_RES_00001	04/22/19		RESTEK, Lot A0134815		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00094	04/22/19		RESTEK, Lot A0136320		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_1660_L5_00066	04/22/19	10/22/18	hexane, Lot Hexane_Cycl_00052	25 mL	AR_1660_L7_00026	12.5 mL	PCB-1016 Peak 1	0.5 ug/mL
							PCB-1016 Peak 2	0.5 ug/mL
							PCB-1016 Peak 3	0.5 ug/mL
							PCB-1016 Peak 4	0.5 ug/mL
							PCB-1016 Peak 5	0.5 ug/mL
							PCB-1260 Peak 1	0.5 ug/mL
							PCB-1260 Peak 2	0.5 ug/mL
							PCB-1260 Peak 3	0.5 ug/mL
							PCB-1260 Peak 4	0.5 ug/mL
							PCB-1260 Peak 5	0.5 ug/mL
							DCB Decachlorobiphenyl	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00094	25 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
..AR_1660_RES_00001	04/22/19	RESTEK, Lot A0134815			(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00094	04/22/19	RESTEK, Lot A0136320			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_1660_L5_00066	04/22/19	10/22/18	hexane, Lot Hexane_Cycl_00052	25 mL	AR_1660_L7_00026	12.5 mL	PCB-1016	0.5 ug/mL
							PCB-1260	0.5 ug/mL
.AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016	1 ug/mL
							PCB-1260	1 ug/mL
..AR_1660_RES_00001	04/22/19	RESTEK, Lot A0134815			(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL
AR_1660_L6_00033	04/22/19	10/22/18	hexane, Lot Hexane_Cycl_00052	10 mL	AR_1660_L7_00026	7.5 mL	PCB-1016 Peak 1	0.75 ug/mL
							PCB-1016 Peak 2	0.75 ug/mL
							PCB-1016 Peak 3	0.75 ug/mL
							PCB-1016 Peak 4	0.75 ug/mL
							PCB-1016 Peak 5	0.75 ug/mL
							PCB-1260 Peak 1	0.75 ug/mL
							PCB-1260 Peak 2	0.75 ug/mL
							PCB-1260 Peak 3	0.75 ug/mL
							PCB-1260 Peak 4	0.75 ug/mL
							PCB-1260 Peak 5	0.75 ug/mL
							DCB Decachlorobiphenyl	0.0375 ug/mL
							Tetrachloro-m-xylene	0.0375 ug/mL
.AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016 Peak 1	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00094	25 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
..AR_1660_RES_00001	04/22/19		RESTEK, Lot A0134815		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00094	04/22/19		RESTEK, Lot A0136320		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00094	25 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
.AR_1660_RES_00001	04/22/19		RESTEK, Lot A0134815		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
.AR_SURR_RES_00094	04/22/19		RESTEK, Lot A0136320		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
AR_2154_ICV_00013	12/06/18	06/06/18	Hexane, Lot 186983	100 mL	AR_1221_RESss_00010	25 uL	PCB-1221	250 ng/mL
					AR_1254_RESss_00010	25 uL	PCB-1254	250 ng/mL
.AR_1221_RESss_00010	06/06/19		RESTEK, Lot A0117382		(Purchased Reagent)		PCB-1221	1000 ug/mL
.AR_1254_RESss_00010	06/06/19		RESTEK, Lot A0105373		(Purchased Reagent)		PCB-1254	1000 ug/mL
AR_2154_L1_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_2154_L7_00020	0.25 mL	PCB-1221 Peak 1	0.025 ug/mL
							PCB-1221 Peak 2	0.025 ug/mL
							PCB-1221 Peak 3	0.025 ug/mL
							PCB-1254 Peak 1	0.025 ug/mL
							PCB-1254 Peak 2	0.025 ug/mL
							PCB-1254 Peak 3	0.025 ug/mL
							PCB-1254 Peak 4	0.025 ug/mL
							PCB-1254 Peak 5	0.025 ug/mL
.AR_2154_L7_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_2154_RES_00001	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
							PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_2154_RES_00001	04/22/19		RESTEK, Lot A0131802		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L2_00022	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_2154_L7_00020	0.5 mL	PCB-1221 Peak 1	0.05 ug/mL
							PCB-1221 Peak 2	0.05 ug/mL
							PCB-1221 Peak 3	0.05 ug/mL
							PCB-1254 Peak 1	0.05 ug/mL
							PCB-1254 Peak 2	0.05 ug/mL
							PCB-1254 Peak 3	0.05 ug/mL
							PCB-1254 Peak 4	0.05 ug/mL
							PCB-1254 Peak 5	0.05 ug/mL
.AR_2154_L7_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_2154_RES_00001	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
							PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL

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Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1254 Peak 5	1 ug/mL
..AR_2154_RES_00001	04/22/19		RESTEK, Lot A0131802		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L3_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_2154_L7_00020	1 mL	PCB-1221 Peak 1	0.1 ug/mL
							PCB-1221 Peak 2	0.1 ug/mL
							PCB-1221 Peak 3	0.1 ug/mL
							PCB-1254 Peak 1	0.1 ug/mL
							PCB-1254 Peak 2	0.1 ug/mL
							PCB-1254 Peak 3	0.1 ug/mL
							PCB-1254 Peak 4	0.1 ug/mL
							PCB-1254 Peak 5	0.1 ug/mL
.AR_2154_L7_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_2154_RES_00001	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
							PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_2154_RES_00001	04/22/19		RESTEK, Lot A0131802		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L4_00022	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_2154_L7_00020	2.5 mL	PCB-1221 Peak 1	0.25 ug/mL
							PCB-1221 Peak 2	0.25 ug/mL
							PCB-1221 Peak 3	0.25 ug/mL
							PCB-1254 Peak 1	0.25 ug/mL
							PCB-1254 Peak 2	0.25 ug/mL
							PCB-1254 Peak 3	0.25 ug/mL
							PCB-1254 Peak 4	0.25 ug/mL
							PCB-1254 Peak 5	0.25 ug/mL
.AR_2154_L7_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_2154_RES_00001	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_2154_RES_00001	04/22/19		RESTEK, Lot A0131802		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L5_00022	04/22/19	10/23/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_2154_L7_00020	5 mL	PCB-1221 Peak 1	0.5 ug/mL
							PCB-1221 Peak 2	0.5 ug/mL
							PCB-1221 Peak 3	0.5 ug/mL
							PCB-1254 Peak 1	0.5 ug/mL
							PCB-1254 Peak 2	0.5 ug/mL
							PCB-1254 Peak 3	0.5 ug/mL
							PCB-1254 Peak 4	0.5 ug/mL
							PCB-1254 Peak 5	0.5 ug/mL
.AR_2154_L7_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_2154_RES_00001	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
							PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_2154_RES_00001	04/22/19		RESTEK, Lot A0131802		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L6_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_2154_L7_00020	7.5 mL	PCB-1221 Peak 1	0.75 ug/mL
							PCB-1221 Peak 2	0.75 ug/mL
							PCB-1221 Peak 3	0.75 ug/mL
							PCB-1254 Peak 1	0.75 ug/mL
							PCB-1254 Peak 2	0.75 ug/mL
							PCB-1254 Peak 3	0.75 ug/mL
							PCB-1254 Peak 4	0.75 ug/mL
							PCB-1254 Peak 5	0.75 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.AR_2154_L7_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_2154_RES_00001	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
							PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_2154_RES_00001	04/22/19		RESTEK, Lot A0131802		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L7_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_2154_RES_00001	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
							PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
.AR_2154_RES_00001	04/22/19		RESTEK, Lot A0131802		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_3262_ICV_00013	12/06/18	06/06/18	Hexane, Lot 186983	100 mL	AR_1232_RESss_00010	25 uL	PCB-1232	250 ng/mL
.AR_1232_RESss_00010	06/06/19		RESTEK, Lot A095877		(Purchased Reagent)		PCB-1232	1000 ug/mL
AR_3262_L1_00022	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_3262_L7_00017	0.25 mL	PCB-1232 Peak 1	0.025 ug/mL
							PCB-1232 Peak 2	0.025 ug/mL
							PCB-1232 Peak 3	0.025 ug/mL
							PCB-1232 Peak 4	0.025 ug/mL
							PCB-1232 Peak 5	0.025 ug/mL
							PCB-1262 Peak 1	0.025 ug/mL
							PCB-1262 Peak 2	0.025 ug/mL
							PCB-1262 Peak 3	0.025 ug/mL
							PCB-1262 Peak 4	0.025 ug/mL
							PCB-1262 Peak 5	0.025 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.AR_3262_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_3262_RES_00001	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
							PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_3262_RES_00001	04/22/19		RESTEK, Lot A0132023		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L2_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_3262_L7_00017	0.5 mL	PCB-1232 Peak 1	0.05 ug/mL
							PCB-1232 Peak 2	0.05 ug/mL
							PCB-1232 Peak 3	0.05 ug/mL
							PCB-1232 Peak 4	0.05 ug/mL
							PCB-1232 Peak 5	0.05 ug/mL
							PCB-1262 Peak 1	0.05 ug/mL
							PCB-1262 Peak 2	0.05 ug/mL
							PCB-1262 Peak 3	0.05 ug/mL
							PCB-1262 Peak 4	0.05 ug/mL
							PCB-1262 Peak 5	0.05 ug/mL
.AR_3262_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_3262_RES_00001	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
							PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_3262_RES_00001	04/22/19		RESTEK, Lot A0132023		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L3_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_3262_L7_00017	1 mL	PCB-1232 Peak 1	0.1 ug/mL
							PCB-1232 Peak 2	0.1 ug/mL
							PCB-1232 Peak 3	0.1 ug/mL
							PCB-1232 Peak 4	0.1 ug/mL
							PCB-1232 Peak 5	0.1 ug/mL
							PCB-1262 Peak 1	0.1 ug/mL
							PCB-1262 Peak 2	0.1 ug/mL
							PCB-1262 Peak 3	0.1 ug/mL
							PCB-1262 Peak 4	0.1 ug/mL
							PCB-1262 Peak 5	0.1 ug/mL
.AR_3262_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_3262_RES_00001	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
							PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_3262_RES_00001	04/22/19		RESTEK, Lot A0132023		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L4_00022	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_3262_L7_00017	2.5 mL	PCB-1232 Peak 1	0.25 ug/mL
							PCB-1232 Peak 2	0.25 ug/mL
							PCB-1232 Peak 3	0.25 ug/mL
							PCB-1232 Peak 4	0.25 ug/mL
							PCB-1232 Peak 5	0.25 ug/mL
							PCB-1262 Peak 1	0.25 ug/mL
							PCB-1262 Peak 2	0.25 ug/mL
							PCB-1262 Peak 3	0.25 ug/mL
							PCB-1262 Peak 4	0.25 ug/mL
							PCB-1262 Peak 5	0.25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.AR_3262_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_3262_RES_00001	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
							PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_3262_RES_00001	04/22/19		RESTEK, Lot A0132023		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L5_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_3262_L7_00017	5 mL	PCB-1232 Peak 1	0.5 ug/mL
							PCB-1232 Peak 2	0.5 ug/mL
							PCB-1232 Peak 3	0.5 ug/mL
							PCB-1232 Peak 4	0.5 ug/mL
							PCB-1232 Peak 5	0.5 ug/mL
							PCB-1262 Peak 1	0.5 ug/mL
							PCB-1262 Peak 2	0.5 ug/mL
							PCB-1262 Peak 3	0.5 ug/mL
							PCB-1262 Peak 4	0.5 ug/mL
							PCB-1262 Peak 5	0.5 ug/mL
.AR_3262_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_3262_RES_00001	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
							PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_3262_RES_00001	04/22/19		RESTEK, Lot A0132023		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L6_00019	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_3262_L7_00017	7.5 mL	PCB-1232 Peak 1	0.75 ug/mL
							PCB-1232 Peak 2	0.75 ug/mL
							PCB-1232 Peak 3	0.75 ug/mL
							PCB-1232 Peak 4	0.75 ug/mL
							PCB-1232 Peak 5	0.75 ug/mL
							PCB-1262 Peak 1	0.75 ug/mL
							PCB-1262 Peak 2	0.75 ug/mL
							PCB-1262 Peak 3	0.75 ug/mL
							PCB-1262 Peak 4	0.75 ug/mL
							PCB-1262 Peak 5	0.75 ug/mL
.AR_3262_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_3262_RES_00001	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
							PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_3262_RES_00001	04/22/19		RESTEK, Lot A0132023		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_3262_RES_00001	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
							PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.AR_3262_RES_00001	04/22/19		RESTEK, Lot A0132023		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_4268_ICV_00013	12/06/18	06/06/18	Hexane, Lot 186983	100 mL	AR_1242_RESss_00010	25 uL	PCB-1242	250 ng/mL
.AR_1242_RESss_00010	06/06/19		RESTEK, Lot A0105175		(Purchased Reagent)		PCB-1242	1000 ug/mL
AR_4268_L1_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_4268_L7_00016	0.25 mL	PCB-1242 Peak 1	0.025 ug/mL
							PCB-1242 Peak 2	0.025 ug/mL
							PCB-1242 Peak 3	0.025 ug/mL
							PCB-1242 Peak 4	0.025 ug/mL
							PCB-1242 Peak 5	0.025 ug/mL
							PCB-1268 Peak 1	0.025 ug/mL
							PCB-1268 Peak 2	0.025 ug/mL
							PCB-1268 Peak 3	0.025 ug/mL
							PCB-1268 Peak 4	0.025 ug/mL
							PCB-1268 Peak 5	0.025 ug/mL
.AR_4268_L7_00016	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_4268_RES_00001	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
							PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_4268_RES_00001	04/22/19		RESTEK, Lot A0133093		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L2_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_4268_L7_00016	0.5 mL	PCB-1242 Peak 1	0.05 ug/mL
							PCB-1242 Peak 2	0.05 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1242 Peak 3	0.05 ug/mL
							PCB-1242 Peak 4	0.05 ug/mL
							PCB-1242 Peak 5	0.05 ug/mL
							PCB-1268 Peak 1	0.05 ug/mL
							PCB-1268 Peak 2	0.05 ug/mL
							PCB-1268 Peak 3	0.05 ug/mL
							PCB-1268 Peak 4	0.05 ug/mL
							PCB-1268 Peak 5	0.05 ug/mL
.AR_4268_L7_00016	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_4268_RES_00001	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
							PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_4268_RES_00001	04/22/19		RESTEK, Lot A0133093		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L3_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_4268_L7_00016	1 mL	PCB-1242 Peak 1	0.1 ug/mL
							PCB-1242 Peak 2	0.1 ug/mL
							PCB-1242 Peak 3	0.1 ug/mL
							PCB-1242 Peak 4	0.1 ug/mL
							PCB-1242 Peak 5	0.1 ug/mL
							PCB-1268 Peak 1	0.1 ug/mL
							PCB-1268 Peak 2	0.1 ug/mL
							PCB-1268 Peak 3	0.1 ug/mL
							PCB-1268 Peak 4	0.1 ug/mL
							PCB-1268 Peak 5	0.1 ug/mL
.AR_4268_L7_00016	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_4268_RES_00001	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
							PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_4268_RES_00001	04/22/19		RESTEK, Lot A0133093		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L4_00023	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_4268_L7_00016	2.5 mL	PCB-1242 Peak 1	0.25 ug/mL
							PCB-1242 Peak 2	0.25 ug/mL
							PCB-1242 Peak 3	0.25 ug/mL
							PCB-1242 Peak 4	0.25 ug/mL
							PCB-1242 Peak 5	0.25 ug/mL
							PCB-1268 Peak 1	0.25 ug/mL
							PCB-1268 Peak 2	0.25 ug/mL
							PCB-1268 Peak 3	0.25 ug/mL
							PCB-1268 Peak 4	0.25 ug/mL
							PCB-1268 Peak 5	0.25 ug/mL
.AR_4268_L7_00016	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_4268_RES_00001	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
							PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_4268_RES_00001	04/22/19		RESTEK, Lot A0133093		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L5_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_4268_L7_00016	5 mL	PCB-1242 Peak 1	0.5 ug/mL
							PCB-1242 Peak 2	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1242 Peak 3	0.5 ug/mL
							PCB-1242 Peak 4	0.5 ug/mL
							PCB-1242 Peak 5	0.5 ug/mL
							PCB-1268 Peak 1	0.5 ug/mL
							PCB-1268 Peak 2	0.5 ug/mL
							PCB-1268 Peak 3	0.5 ug/mL
							PCB-1268 Peak 4	0.5 ug/mL
							PCB-1268 Peak 5	0.5 ug/mL
.AR_4268_L7_00016	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_4268_RES_00001	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
							PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_4268_RES_00001	04/22/19		RESTEK, Lot A0133093		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L6_00018	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_4268_L7_00016	7.5 mL	PCB-1242 Peak 1	0.75 ug/mL
							PCB-1242 Peak 2	0.75 ug/mL
							PCB-1242 Peak 3	0.75 ug/mL
							PCB-1242 Peak 4	0.75 ug/mL
							PCB-1242 Peak 5	0.75 ug/mL
							PCB-1268 Peak 1	0.75 ug/mL
							PCB-1268 Peak 2	0.75 ug/mL
							PCB-1268 Peak 3	0.75 ug/mL
							PCB-1268 Peak 4	0.75 ug/mL
							PCB-1268 Peak 5	0.75 ug/mL
.AR_4268_L7_00016	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_4268_RES_00001	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
							PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_4268_RES_00001	04/22/19		RESTEK, Lot A0133093		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L7_00016	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_4268_RES_00001	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
							PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
.AR_4268_RES_00001	04/22/19		RESTEK, Lot A0133093		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
BNB IS_00012	01/26/19	07/26/18	Hexane, Lot 190112	100 mL	BNB 10000ppb_00008	10 mL	1-Bromo-2-nitrobenzene	1000 ng/mL
.BNB 10000ppb_00008	01/26/19	07/26/18	Hexane, Lot 190112	100 mL	BNB stock_00015	1 mL	1-Bromo-2-nitrobenzene	10000 ng/mL
..BNB stock_00015	07/26/19		Restek, Lot A0127264		(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
CN 10ppm_00320	11/12/18	11/05/18	2% NaOH, Lot 1% NaOH_00322	100 mg/L	CN CAL Std_00062	1 mL	Cyanide, Amenable	10 mg/L
							Cyanide, Free	10 mg/L
							Cyanide, Non-amenable	10 mg/L
							Cyanide, Total	10 mg/L
							Cyanide, Weak Acid Dissociable	10 mg/L
.CN CAL Std_00062	11/30/18		Ricca, Lot 1805F17		(Purchased Reagent)		Cyanide, Amenable	1000 mg/L
							Cyanide, Free	1000 mg/L
							Cyanide, Non-amenable	1000 mg/L
							Cyanide, Total	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Cyanide, Weak Acid Dissociable	1000 mg/L
CN CAL 1 ppm_01452	11/07/18	11/06/18	1% NaOH, Lot N/A	100 mL	CN 10ppm_00320	10 mL	Cyanide, Total	1 mg/L
.CN 10ppm_00320	11/12/18	11/05/18	2% NaOH, Lot 1% NaOH_00322	100 mg/L	CN CAL Std_00062	1 mL	Cyanide, Total	10 mg/L
..CN CAL Std_00062	11/30/18		Ricca, Lot 1805F17		(Purchased Reagent)		Cyanide, Total	1000 mg/L
CN ICV Daily_01219	11/07/18	11/06/18	1% HNO3, Lot N/A	100 mL	CN ICV Int_00510	1 mL	Cyanide, Total	0.1 mg/L
.CN ICV Int_00510	11/12/18	11/05/18	1% NaOH, Lot 1% NaOH_00322	100 mL	CN ICV Std_00052	1 mL	Cyanide, Total	10 mg/L
..CN ICV Std_00052	11/30/18		SPEX, Lot 13-66YPX		(Purchased Reagent)		Cyanide, Total	1000 mg/L
CN ICV Int_00510	11/12/18	11/05/18	1% NaOH, Lot 1% NaOH_00322	100 mL	CN ICV Std_00052	1 mL	Cyanide, Amenable	10 mg/L
							Cyanide, Free	10 mg/L
							Cyanide, Non-amenable	0 mg/L
							Cyanide, Total	10 mg/L
							Cyanide, Weak Acid Dissociable	10 mg/L
.CN ICV Std_00052	11/30/18		SPEX, Lot 13-66YPX		(Purchased Reagent)		Cyanide, Amenable	1000 mg/L
							Cyanide, Free	1000 mg/L
							Cyanide, Non-amenable	0 mg/L
							Cyanide, Total	1000 mg/L
							Cyanide, Weak Acid Dissociable	1000 mg/L
Hg Biwk ICV_00260	11/12/18	10/29/18	1% HNO3, Lot K23022	100 mL	Hg ICV Stock_00010	0.4 mL	Mercury	0.4 mg/L
.Hg ICV Stock_00010	03/05/19		Inorganic Ventures, Lot H2-HG02113R		(Purchased Reagent)		Mercury	100 mg/L
Hg Daily Spk_02284	11/07/18	11/06/18	1% HNO3, Lot K23022	100 mL	Hg Mnth Spike_00133	1 mL	Mercury	0.1 mg/L
.Hg Mnth Spike_00133	11/10/18	10/10/18	1% HNO3, Lot K23022	100 mL	Hg Ultra Prim_00012	1 mL	Mercury	10 mg/L
..Hg Ultra Prim_00012	03/09/19		Ultra Scientific, Lot T00602		(Purchased Reagent)		Mercury	1000 mg/L
IC CAL cl/so4_00225	10/18/18	10/11/18	Di Water, Lot na	100 mL	IC CL cal_00054	25 mL	Chloride	250 mg/L
					IC sulfatecal_00053	25 mL	Sulfate	250 mg/L
.IC CL cal_00054	08/30/19		SPEX CertiPrep, Lot 4-101CL-2X		(Purchased Reagent)		Chloride	1000 mg/L
.IC sulfatecal_00053	08/30/19		SPEX CertiPrep, Lot 4-131SO4-2X		(Purchased Reagent)		Sulfate	1000 mg/L
IC CAL cl/so4_00226	10/26/18	10/19/18	Di Water, Lot na	100 mL	IC sulfatecal_00053	25 mL	Sulfate	250 mg/L
.IC sulfatecal_00053	08/30/19		SPEX CertiPrep, Lot 4-131SO4-2X		(Purchased Reagent)		Sulfate	1000 mg/L
IC Cal low_00406	10/18/18	10/11/18	Di Water, Lot NA	100 mL	IC Br cal_00015	5 mL	Bromide	50 mg/L
					IC FL cal_00012	5 mL	Fluoride	50 mg/L
					IC N02 CAL_00043	5 mL	Nitrite as N	50 mg/L
					IC N03 cal_00019	5 mL	Nitrate as N	50 mg/L
					IC P04 cal_00018	5 mL	Orthophosphate as P	50 mg/L
.IC Br cal_00015	01/31/19		Ricca, Lot 4707D55		(Purchased Reagent)		Bromide	1000 mg/L
.IC FL cal_00012	10/31/18		Ricca, Lot 4704K15		(Purchased Reagent)		Fluoride	1000 mg/L
.IC N02 CAL_00043	01/31/19		RICCA, Lot 4808990		(Purchased Reagent)		Nitrite as N	1000 ppm
.IC N03 cal_00019	01/31/20		Ricca, Lot 2807e96		(Purchased Reagent)		Nitrate as N	1000 mg/L
.IC P04 cal_00018	11/30/19		RICCA, Lot 4711L59		(Purchased Reagent)		Orthophosphate as P	1000 mg/L
IC Cal low_00408	10/26/18	10/19/18	Di Water, Lot NA	100 mL	IC N02 CAL_00043	5 mL	Nitrite as N	50 mg/L
					IC N03 cal_00019	5 mL	Nitrate as N	50 mg/L
.IC N02 CAL_00043	01/31/19		RICCA, Lot 4808990		(Purchased Reagent)		Nitrite as N	1000 ppm
.IC N03 cal_00019	01/31/20		Ricca, Lot 2807e96		(Purchased Reagent)		Nitrate as N	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
IC ICV 5_00212	10/21/18	10/14/18	Di Water, Lot na	10 mL	IC NO2 ICV_00016	0.5 mL	Nitrite as N	50 mg/L
					IC NO3 ICV_00012	0.5 mL	Nitrate as N	50 mg/L
					IC PO4 ICV_00015	0.5 mL	Orthophosphate as P	50 mg/L
.IC NO2 ICV_00016	05/31/20	ERA, Lot 020518			(Purchased Reagent)		Nitrite as N	1000 mg/L
.IC NO3 ICV_00012	12/31/18	ERA, Lot 140616			(Purchased Reagent)		Nitrate as N	1000 mg/L
.IC PO4 ICV_00015	06/30/19	ERA, Lot 060617			(Purchased Reagent)		Orthophosphate as P	1000 mg/L
IC LCS_01382	10/26/18	10/25/18	Di Water, Lot 27	200 mL	IC Cal low_00409	20 mL	Nitrite as N	5 mg/L
							Nitrate as N	5 mg/L
							Orthophosphate as P	5 mg/L
					IC sulfatecal_00053	20 mL	Sulfate	100 mg/L
.IC Cal low_00409	10/31/18	10/24/18	Di Water, Lot NA	100 mL	IC N02 CAL_00043	5 mL	Nitrite as N	50 mg/L
					IC N03 cal_00019	5 mL	Nitrate as N	50 mg/L
					IC P04 cal_00018	5 mL	Orthophosphate as P	50 mg/L
..IC N02 CAL_00043	01/31/19	RICCA, Lot 4808990			(Purchased Reagent)		Nitrite as N	1000 ppm
..IC N03 cal_00019	01/31/20	Ricca, Lot 2807e96			(Purchased Reagent)		Nitrate as N	1000 mg/L
..IC P04 cal_00018	11/30/19	RICCA, Lot 4711L59			(Purchased Reagent)		Orthophosphate as P	1000 mg/L
.IC sulfatecal_00053	08/30/19	SPEX CertiPrep, Lot 4-131SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC SO4 ICV_00017	06/30/19	ERA, Lot 210617			(Purchased Reagent)		Sulfate	1000 mg/L
ICMS/MSD WEEK_00560	10/27/18	10/20/18	Di Water, Lot NA	10 mL	IC SPK 6 ANIO_00021	5 mL	Nitrate as N	500.003 mg/L
							Sulfate	2500.26 mg/L
					IC SPK N02SOL_00013	5 mL	Nitrite as N	499.973 mg/L
.IC SPK 6 ANIO_00021	10/01/19	10/01/18	Di Water, Lot NA	1000 mL	IC MS/MSD N03_00005	6.068 g	Nitrate as N	1000.01 mg/L
					IC MS/MSD S04_00005	9.0704 g	Sulfate	5000.51 mg/L
..IC MS/MSD N03_00005	09/27/28	FISHER, Lot 176192			(Purchased Reagent)		Nitrate as N	0.1648 g/g
..IC MS/MSD S04_00005	09/29/20	FISHER, Lot 147276			(Purchased Reagent)		Sulfate	0.5513 g/g
.IC SPK N02SOL_00013	06/05/19	06/05/18	Di Water, Lot na	500 mL	IC MS/MSD N02_00002	2.4628 g	Nitrite as N	999.946 mg/L
..IC MS/MSD N02_00002	01/12/27	fisher, Lot 164254			(Purchased Reagent)		Nitrite as N	0.20301 g/g
ICP CCV_00349	05/04/19	10/25/18	5%/5% HCL/HNO3, Lot SEE LOGBOOK	500 mL	ICP ICAL1A_00811	250 mL	Aluminum	0.5 mg/L
							Calcium	5 mg/L
							Iron	2.5 mg/L
							Magnesium	20 mg/L
							Potassium	50 mg/L
							Sodium	5 mg/L
.ICP ICAL1A_00811	05/04/19	10/25/18	5%/5% HCL/HNO3, Lot SEE LOGBOOK	1000 mL	Icp cal std 3_00018	10 mL	Aluminum	1 mg/L
							Calcium	10 mg/L
							Iron	5 mg/L
							Magnesium	40 mg/L
							Potassium	100 mg/L
							Sodium	10 mg/L
..Icp cal std 3_00018	08/23/19	Inorganic Ventures, Lot M2-MEB663620			(Purchased Reagent)		Aluminum	100 mg/L
							Calcium	1000 mg/L
							Iron	500 mg/L
							Magnesium	4000 mg/L
							Potassium	10000 mg/L
							Sodium	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
ICP CCVH_00612	12/11/18	10/22/18	5%/5% HCL/HNO3, Lot SEE LOGBOOK	500 mL	ICP ICAL2A_00511	250 mL	Aluminum	50 mg/L
							Iron	50 mg/L
							Sodium	250 mg/L
.ICP ICAL2A_00511	12/11/18	10/22/18	5%HCl/5% HNO3, Lot see reagent log	1000 mL	10000 Al_00018	10 mL	Aluminum	100 mg/L
					10000 Fe_00021	10 mL	Iron	100 mg/L
					10000 Na_00067	50 mL	Sodium	500 mg/L
..10000 Al_00018	06/26/19	Inorganic Ventures, Lot K2-AL			(Purchased Reagent)		Aluminum	10000 mg/L
..10000 Fe_00021	08/08/19	Inorganic Ventures, Lot M2-FE659835			(Purchased Reagent)		Iron	10000 mg/L
..10000 Na_00067	09/05/19	Inorganic Ventures, Lot N2-NA668816			(Purchased Reagent)		Sodium	10000 mg/L
ICP ICSA_00173	12/14/18	10/19/18	5%/5% HCL/HNO3, Lot SEE LOGBOOK	500 mL	Icp stk ICSA_00024	50 mL	Aluminum	500 mg/L
							Calcium	500 mg/L
							Iron	200 mg/L
							Magnesium	500 mg/L
.Icp stk ICSA_00024	07/30/19	Inorganic Ventures, Lot K2-MEB643109			(Purchased Reagent)		Aluminum	5000 mg/L
							Calcium	5000 mg/L
							Iron	2000 mg/L
							Magnesium	5000 mg/L
ICP ICSAB_00193	12/01/18	10/22/18	5%/5% HCL/HNO3, Lot SEE LOGBOOK	250 mL	10000 Si_00015	0.25 mL	Si	10 mg/L
							SiO2	21.4 mg/L
					ANALYTES B_00014	2.5 mL	Barium	0.5 mg/L
							Beryllium	0.5 mg/L
							Cadmium	1 mg/L
							Chromium	0.5 mg/L
							Cobalt	0.5 mg/L
							Copper	0.5 mg/L
							Lead	1 mg/L
							Manganese	0.5 mg/L
							Nickel	1 mg/L
							Silver	1 mg/L
							Vanadium	0.5 mg/L
							Zinc	1 mg/L
					ICP ISAB 1B_00011	2.5 mL	Thallium	10 mg/L
					ICP ISAB STD1_00010	2.5 mL	Antimony	1 mg/L
							Arsenic	2 mg/L
							B	2 mg/L
							Li	1 mg/L
							Mo	1 mg/L
							P	2 mg/L
							Potassium	50 mg/L
							Selenium	5 mg/L
							Sodium	50 mg/L
							Sr	1 mg/L
					ICP ISAB STD2_00013	2.5 mL	Sn	10 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ti	1 mg/L
					Icp stk ICSA_00024	25 mL	Aluminum	500 mg/L
							Calcium	500 mg/L
							Iron	200 mg/L
							Magnesium	500 mg/L
.10000 Si_00015	09/24/19	Inorganic ventures, Lot M2-SI657321			(Purchased Reagent)		Si	10000 mg/L
							SiO2	21400 mg/L
.ANALYTES B_00014	04/01/19	SPEX, Lot 5-177MKBY			(Purchased Reagent)		Barium	50 mg/L
							Beryllium	50 mg/L
							Cadmium	100 mg/L
							Chromium	50 mg/L
							Cobalt	50 mg/L
							Copper	50 mg/L
							Lead	100 mg/L
							Manganese	50 mg/L
							Nickel	100 mg/L
							Silver	100 mg/L
							Vanadium	50 mg/L
							Zinc	100 mg/L
.ICP ISAB 1B_00011	12/01/18	High Purity, Lot 1734922			(Purchased Reagent)		Thallium	1000 mg/L
.ICP ISAB STD1_00010	12/01/18	High Purity, Lot 1734921			(Purchased Reagent)		Antimony	100 mg/L
							Arsenic	200 mg/L
							B	200 mg/L
							Li	100 mg/L
							Mo	100 mg/L
							P	200 mg/L
							Potassium	5000 mg/L
							Selenium	500 mg/L
							Sodium	5000 mg/L
							Sr	100 mg/L
.ICP ISAB STD2_00013	01/03/19	High Purity, Lot 1721944			(Purchased Reagent)		Sn	1000 mg/L
							Ti	100 mg/L
.Icp stk ICSA_00024	07/30/19	Inorganic Ventures, Lot K2-MEB643109			(Purchased Reagent)		Aluminum	5000 mg/L
							Calcium	5000 mg/L
							Iron	2000 mg/L
							Magnesium	5000 mg/L
ICP ICV_00671	04/30/19	10/29/18	5%HNO3/5% HCl, Lot SEE LOGBOOK	100 mL	Icp ICVL A_00014	1 mL	Aluminum	0.25 ppm
							Calcium	2 ppm
							Iron	0.25 ppm
							Magnesium	10 ppm
							Potassium	20 ppm
							Sodium	2 ppm
.Icp ICVL A_00014	04/30/19	High Purity, Lot 1810602			(Purchased Reagent)		Aluminum	25 mg/L
							Calcium	200 mg/L
							Iron	25 mg/L
							Magnesium	1000 mg/L
							Potassium	2000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Sodium	200 mg/L
ICP ICVH_00784	04/30/19	10/29/18	5%HNO3/5% HCl, Lot SEE LOGBOOK	100 mL	Icp ICVH_00746	1 mL	Aluminum	40 mg/L
							Iron	80 mg/L
							Sodium	40 mg/L
.Icp ICVH_00746	09/30/19	High Purity, Lot 1824227			(Purchased Reagent)		Aluminum	4000 mg/L
							Iron	8000 mg/L
							Sodium	4000 mg/L
ICP LLCCV_02387	10/30/18	10/29/18	5%HNO3/5% HCl, Lot SEE LOGBOOK	100 mL	ICP LLCCV-4_00008	1 mL	Aluminum	100 ppb
							Calcium	200 ppb
							Iron	100 ppb
							Magnesium	200 ppb
							Potassium	3000 ppb
							Sodium	1000 ppb
.ICP LLCCV-4_00008	09/26/19	Inorganic Ventures, Lot M2-MEb670719			(Purchased Reagent)		Aluminum	10 mg/L
							Calcium	20 mg/L
							Iron	10 mg/L
							Magnesium	20 mg/L
							Potassium	300 mg/L
							Sodium	100 mg/L
ICP SPK 2B_00080	08/16/19	Inorganic Ventures, Lot N2-MEB665203			(Purchased Reagent)		Antimony	50 mg/L
							B	100 mg/L
							Mo	100 mg/L
							Si	1000 mg/L
							SiO2	2140 mg/L
							Sn	200 mg/L
							Sulfur	200 mg/L
							Ti	100 mg/L
							Zr	50 mg/L
ICP SPK 3A_00154	10/18/19	Inorganic Ventures, Lot N2-MEB672708			(Purchased Reagent)		Aluminum	200 mg/L
							Arsenic	100 mg/L
							Barium	200 mg/L
							Beryllium	5 mg/L
							Bi	200 mg/L
							Cadmium	10 mg/L
							Calcium	5000 mg/L
							Chromium	20 mg/L
							Cobalt	50 mg/L
							Copper	25 mg/L
							Iron	100 mg/L
							Lead	50 mg/L
							Li	100 mg/L
							Magnesium	5000 mg/L
							Manganese	50 mg/L
							Nickel	50 mg/L
							P	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Potassium	5000 mg/L
							Selenium	200 mg/L
							Silver	5 mg/L
							Sodium	5000 mg/L
							Sr	100 mg/L
							Th	100 mg/L
							Thallium	200 mg/L
							U	200 mg/L
							Vanadium	50 mg/L
							Zinc	50 mg/L
ms 77 RL_01790	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	50 mL	ms 77 cal std_01898	0.5 mL	Arsenic	1 ppb
							Barium	1 ppb
							Beryllium	1 ppb
							Cadmium	1 ppb
							Chromium	1 ppb
							Cobalt	1 ppb
							Copper	1 ppb
							Lead	1 ppb
							Manganese	1 ppb
							Nickel	1 ppb
							Selenium	1 ppb
							Silver	1 ppb
							Thallium	1 ppb
							Zinc	1 ppb
							Antimony	1 ppb
.ms 77 cal std_01898	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	100 mL	MS CALSTD-1_00125	0.5 mL	Arsenic	0.1 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.1 mg/L
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Zinc	0.1 mg/L
					MS CALSTD-2_00094	0.5 mL	Antimony	0.1 mg/L
..MS CALSTD-1_00125	04/10/19	Inorganic Ventures, Lot m2-meb660182			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Thallium	20 mg/L
							Zinc	20 mg/L
..MS CALSTD-2_00094	08/06/19	Inorganic Ventures, Lot m2-meb664004			(Purchased Reagent)		Antimony	20 mg/L
ms 77 alt RL_01066	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	50 mL	1 ppm V_00017	0.25 mL	Vanadium	5 ppb
.1 ppm V_00017	04/11/19	10/12/18	2%HNO3/0.5% HCl, Lot 185595/187518	50 mL	1000 V_00015	0.05 mL	Vanadium	1 mg/L
..1000 V_00015	08/31/19	Inorganoc Ventures, Lot K2-V651103			(Purchased Reagent)		Vanadium	1000 mg/L
ms 77 cal std_01898	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	100 mL	MS CALSTD-1_00125	0.5 mL	Arsenic	0.1 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.1 mg/L
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.1 mg/L
							Zinc	0.1 mg/L
					MS CALSTD-2_00094	0.5 mL	Antimony	0.1 mg/L
.MS CALSTD-1_00125	04/10/19	Inorganic Ventures, Lot m2-meb660182			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
.MS CALSTD-2_00094	08/06/19	Inorganic Ventures, Lot m2-meb664004			(Purchased Reagent)		Antimony	20 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
ms 77 ccv_01905	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	100 mL	ms 77 cal std_01898	50 mL	Arsenic	0.05 mg/L
							Barium	0.05 mg/L
							Beryllium	0.05 mg/L
							Cadmium	0.05 mg/L
							Chromium	0.05 mg/L
							Cobalt	0.05 mg/L
							Copper	0.05 mg/L
							Lead	0.05 mg/L
							Manganese	0.05 mg/L
							Nickel	0.05 mg/L
							Selenium	0.05 mg/L
							Silver	0.05 mg/L
							Thallium	0.05 mg/L
							Vanadium	0.05 mg/L
							Zinc	0.05 mg/L
							Antimony	0.05 mg/L
.ms 77 cal std_01898	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	100 mL	MS CALSTD-1_00125	0.5 mL	Arsenic	0.1 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.1 mg/L
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.1 mg/L
							Zinc	0.1 mg/L
					MS CALSTD-2_00094	0.5 mL	Antimony	0.1 mg/L
..MS CALSTD-1_00125	04/10/19	Inorganic Ventures, Lot m2-meb660182			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Zinc	20 mg/L
..MS CALSTD-2_00094	08/06/19	Inorganic Ventures, Lot m2-meb664004			(Purchased Reagent)		Antimony	20 mg/L
ms 77 icsa_00385	11/08/18	11/01/18	2%HNO3/0.5% HCl, Lot 200458/198300	50 mL	MS ICSA STOCK_00030	5 mL	Mo	2 mg/L
.MS ICSA STOCK_00030	05/08/19	Inorganic Ventures, Lot m2-meb662772			(Purchased Reagent)		Mo	20 mg/L
ms 77 icsab_00384	11/08/18	11/01/18	5%HNO3/5% HCl, Lot 200458/198300	100 mL	MS CALSTD-1_00125	0.5 mL	Arsenic	0.1 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.1 mg/L
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.1 mg/L
							Zinc	0.1 mg/L
					MS CALSTD-2_00094	0.5 mL	Antimony	0.1 mg/L
							Mo	2.1 mg/L
					MS ICSA STOCK_00030	10 mL	Mo	2.1 mg/L
.MS CALSTD-1_00125	04/10/19	Inorganic Ventures, Lot m2-meb660182			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
.MS CALSTD-2_00094	08/06/19	Inorganic Ventures, Lot m2-meb664004			(Purchased Reagent)		Antimony	20 mg/L
							Mo	20 mg/L
.MS ICSA STOCK_00030	05/08/19	Inorganic Ventures, Lot m2-meb662772			(Purchased Reagent)		Mo	20 mg/L
MS 77 ICV_01902	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	50 mL	MS ICV StockA_00008	0.1 mL	Arsenic	40 ug/L
							Barium	40 ug/L
							Beryllium	40 ug/L
							Cadmium	40 ug/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chromium	40 ug/L
							Cobalt	40 ug/L
							Copper	40 ug/L
							Lead	40 ug/L
							Manganese	40 ug/L
							Nickel	40 ug/L
							Selenium	40 ug/L
							Thallium	40 ug/L
							Vanadium	40 ug/L
							Zinc	40 ug/L
					MS ICV StockB_00008	0.1 mL	Antimony	40 ug/L
							Silver	40 ug/L
.MS ICV StockA_00008	11/30/18		HIGH PURITY, Lot 1731407		(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
.MS ICV StockB_00008	11/30/18		HIGH PURITY, Lot 1731408		(Purchased Reagent)		Antimony	20 mg/L
							Silver	20 mg/L
MS 77 LLCCV_01708	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	100 mL	MS LLCCV 2A_00006	1 mL	Antimony	0.002 mg/L
					MS LLCCV1_00020	1 mL	Arsenic	0.005 mg/L
							Barium	0.001 mg/L
							Beryllium	0.001 mg/L
							Cadmium	0.001 mg/L
							Chromium	0.002 mg/L
							Cobalt	0.001 mg/L
							Copper	0.002 mg/L
							Lead	0.001 mg/L
							Manganese	0.001 mg/L
							Nickel	0.002 mg/L
							Selenium	0.005 mg/L
							Silver	0.005 mg/L
							Thallium	0.001 mg/L
							Vanadium	0.005 mg/L
							Zinc	0.01 mg/L
.MS LLCCV 2A_00006	08/03/19		Inorganic Ventures, Lot m2-meb664006		(Purchased Reagent)		Antimony	0.2 mg/L
.MS LLCCV1_00020	08/03/19		Inorganic Ventures, Lot m2-meb664005		(Purchased Reagent)		Arsenic	0.5 mg/L
							Barium	0.1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.2 mg/L
							Cobalt	0.1 mg/L
							Copper	0.2 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.2 mg/L
							Selenium	0.5 mg/L
							Silver	0.5 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.5 mg/L
							Zinc	1 mg/L
MS CALSTD-1_00129	07/14/19	Inorganic Ventures, Lot M2-MEB660182			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Th	20 mg/L
							Thallium	20 mg/L
							U	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
MS spike 2_00072	03/13/19	09/13/18	1% HNO3, Lot 192582	250 mL	1000 B_00017	5 mL	B	20 mg/L
					1000 Li_00037	10 mL	Li	40 mg/L
					1000 Mo_00013	5 mL	Mo	20 mg/L
					1000 Sb_00018	5 mL	Antimony	20 mg/L
					1000 Sn_00015	5 mL	Sn	20 mg/L
					1000 Sr_00011	5 mL	Sr	20 mg/L
					1000 W IV_00014	5 mL	W	20 mg/L
					1000 Zr_00017	5 mL	Zr	20 mg/L
					10000 Al_00018	5 mL	Aluminum	200 mg/L
					10000 Fe_00021	5 mL	Iron	200 mg/L
.1000 B_00017	07/25/19	Inorganic Ventures, Lot M2-B663296			(Purchased Reagent)		B	1000 mg/L
.1000 Li_00037	09/12/19	Inorganic Ventures, Lot N2-L1665824			(Purchased Reagent)		Li	1000 mg/L
.1000 Mo_00013	08/31/19	Inorganic Ventures, Lot M2-MO657085			(Purchased Reagent)		Mo	1000 mg/L
.1000 Sb_00018	05/04/19	Inorganic Ventures, Lot M2-SB661224			(Purchased Reagent)		Antimony	1000 mg/L
.1000 Sn_00015	08/24/19	Inorganic Ventures, Lot M2-SN659324			(Purchased Reagent)		Sn	1000 mg/L
.1000 Sr_00011	08/24/19	Inorganic Ventures, Lot M2-SR658331			(Purchased Reagent)		Sr	1000 mg/L
.1000 W IV_00014	07/06/19	Inorganic Ventures, Lot n2-w664865			(Purchased Reagent)		W	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.1000 Zr_00017	03/13/19	Inorganic Ventures, Lot M2-ZR655896			(Purchased Reagent)		Zr	1000 mg/L
.10000 Al_00018	06/26/19	Inorganic Ventures, Lot K2-AL			(Purchased Reagent)		Aluminum	10000 mg/L
.10000 Fe_00021	08/08/19	Inorganic Ventures, Lot M2-FE659835			(Purchased Reagent)		Iron	10000 mg/L
MS-DFTPP_00047							Aramite, Total	
							Diallate	
							Isosafrole	
							Methyl Phenols,Total	
							Phthalic acid	
							Tentatively Identified Compound	
							Total Cresols	
							TPAH	
					MS-47548-U_00015	1 mL	4,4'-DDD	0.05 ug/mL
							4,4'-DDE	0.05 ug/mL
							4,4'-DDT	50 ug/mL
							Benzidine_T	50 ug/mL
							DFTPP	50 ug/mL
							Pentachlorophenol_T	50 ug/mL
.MS-47548-U_00015	03/31/19	Supelco, Lot XA19099V			(Purchased Reagent)		4,4'-DDD	1 ug/mL
							4,4'-DDE	1 ug/mL
							4,4'-DDT	1000 ug/mL
							Benzidine_T	1000 ug/mL
							DFTPP	1000 ug/mL
							Pentachlorophenol_T	1000 ug/mL
MS-FAMSSV_100_00019	04/04/19	06/26/18	Methylene Chloride, Lot 187286	0.5 mL	MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA004_00038	11/30/18	10/09/18	Methylene Chloride, Lot 187286	0.5 mL	MS-HSLA_STK_00047	10 uL	2,4,6-Tribromophenol (Surr)	4 ug/mL
							2-Fluorobiphenyl	4 ug/mL
							2-Fluorophenol (Surr)	4 ug/mL
							Nitrobenzene-d5	4 ug/mL
							Phenol-d5 (Surr)	4 ug/mL
							Terphenyl-d14	4 ug/mL
							Famphur	4 ug/mL
							Alachlor	4 ug/mL
							3,3'-Dichlorobenzidine	4 ug/mL
							Benzoic acid	8 ug/mL
							Atrazine	4 ug/mL
							Caprolactam	4 ug/mL
							1,1'-Biphenyl	4 ug/mL
							1,2,4,5-Tetrachlorobenzene	4 ug/mL
							1,2,4-Trichlorobenzene	4 ug/mL
							1,2-Dichlorobenzene	4 ug/mL
							1,2-Diphenylhydrazine	4.0439 ug/mL
							1,3-Dichlorobenzene	4 ug/mL
							1,3-Dinitrobenzene	4 ug/mL
							1,4-Dichlorobenzene	4 ug/mL
							1,4-Dioxane	4 ug/mL
							1-Methylnaphthalene	4 ug/mL
							2,2'-oxybis[1-chloropropane]	4 ug/mL
							2,3,4,6-Tetrachlorophenol	4 ug/mL
							2,4,5-Trichlorophenol	4 ug/mL
							2,4,6-Trichlorophenol	4 ug/mL
							2,4-Dichlorophenol	4 ug/mL
							2,4-Dimethylphenol	4 ug/mL
							2,4-Dinitrophenol	8 ug/mL
							2,4-Dinitrotoluene	4 ug/mL
							2,6-Dichlorophenol	4 ug/mL
							2,6-Dinitrotoluene	4 ug/mL
							2-Chloronaphthalene	4 ug/mL
							2-Chlorophenol	4 ug/mL
							2-Methylnaphthalene	4 ug/mL
							2-Methylphenol	4 ug/mL
							2-Nitroaniline	4 ug/mL
							2-Nitrophenol	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3 & 4 Methylphenol	4 ug/mL
							3-Nitroaniline	4 ug/mL
							4,6-Dinitro-2-methylphenol	8 ug/mL
							4-Bromophenyl phenyl ether	4 ug/mL
							4-Chloro-3-methylphenol	4 ug/mL
							4-Chloroaniline	4 ug/mL
							4-Chlorophenyl phenyl ether	4 ug/mL
							4-Nitroaniline	4 ug/mL
							4-Nitrophenol	8 ug/mL
							Acenaphthene	4 ug/mL
							Acenaphthylene	4 ug/mL
							Acetophenone	4 ug/mL
							Aniline	4 ug/mL
							Anthracene	4 ug/mL
							Azobenzene	4 ug/mL
							Benzo[a]anthracene	4 ug/mL
							Benzo[a]pyrene	4 ug/mL
							Benzo[b]fluoranthene	4 ug/mL
							Benzo[g,h,i]perylene	4 ug/mL
							Benzo[k]fluoranthene	4 ug/mL
							Benzyl alcohol	4 ug/mL
							Bis(2-chloroethoxy)methane	4 ug/mL
							Bis(2-chloroethyl)ether	4 ug/mL
							Bis(2-ethylhexyl) phthalate	4 ug/mL
							Butyl benzyl phthalate	4 ug/mL
							Carbazole	4 ug/mL
							Chrysene	4 ug/mL
							Di-n-butyl phthalate	4 ug/mL
							Di-n-octyl phthalate	4 ug/mL
							Dibenz(a,h)anthracene	4 ug/mL
							Dibenzofuran	4 ug/mL
							Diethyl phthalate	4 ug/mL
							Dimethyl phthalate	4 ug/mL
							Diphenylamine	3.4 ug/mL
							Fluoranthene	4 ug/mL
							Fluorene	4 ug/mL
							Hexachlorobenzene	4 ug/mL
							Hexachlorobutadiene	4 ug/mL
							Hexachlorocyclopentadiene	4 ug/mL
							Hexachloroethane	4 ug/mL
							Indeno[1,2,3-cd]pyrene	4 ug/mL
							Isophorone	4 ug/mL
							N-Nitrosodi-n-propylamine	4 ug/mL
							N-Nitrosodimethylamine	4 ug/mL
							N-Nitrosodiphenylamine	4 ug/mL
							Naphthalene	4 ug/mL
							Nitrobenzene	4 ug/mL
							Pentachlorophenol	8 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene	4 ug/mL
							Phenol	4 ug/mL
							Pyrene	4 ug/mL
							Pyridine	8 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00047	11/30/18	06/21/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00042	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00007	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00005	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00042	05/31/19		Restek, Lot A0127668		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00007	11/30/18		Restek, Lot A0127472		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00005	11/30/18		Restek, Lot A0127580		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA010_00038	11/30/18	10/09/18	Methylene Chloride, Lot 187286	0.5 mL	MS-HSLA_STK_00047	25 uL	2,4,6-Tribromophenol (Surr)	10 ug/mL
							2-Fluorobiphenyl	10 ug/mL
							2-Fluorophenol (Surr)	10 ug/mL
							Nitrobenzene-d5	10 ug/mL
							Phenol-d5 (Surr)	10 ug/mL
							Terphenyl-d14	10 ug/mL
							Famphur	10 ug/mL
							Alachlor	10 ug/mL
							3,3'-Dichlorobenzidine	10 ug/mL
							Benzoic acid	20 ug/mL
							Atrazine	10 ug/mL
							Caprolactam	10 ug/mL
							1,1'-Biphenyl	10 ug/mL
							1,2,4,5-Tetrachlorobenzene	10 ug/mL
							1,2,4-Trichlorobenzene	10 ug/mL
							1,2-Dichlorobenzene	10 ug/mL
							1,2-Diphenylhydrazine	10.1097 ug/mL
							1,3-Dichlorobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							1,4-Dichlorobenzene	10 ug/mL
							1,4-Dioxane	10 ug/mL
							1-Methylnaphthalene	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,2'-oxybis[1-chloropropane]	10 ug/mL
							2,3,4,6-Tetrachlorophenol	10 ug/mL
							2,4,5-Trichlorophenol	10 ug/mL
							2,4,6-Trichlorophenol	10 ug/mL
							2,4-Dichlorophenol	10 ug/mL
							2,4-Dimethylphenol	10 ug/mL
							2,4-Dinitrophenol	20 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							2,6-Dichlorophenol	10 ug/mL
							2,6-Dinitrotoluene	10 ug/mL
							2-Chloronaphthalene	10 ug/mL
							2-Chlorophenol	10 ug/mL
							2-Methylnaphthalene	10 ug/mL
							2-Methylphenol	10 ug/mL
							2-Nitroaniline	10 ug/mL
							2-Nitrophenol	10 ug/mL
							3 & 4 Methylphenol	10 ug/mL
							3-Nitroaniline	10 ug/mL
							4,6-Dinitro-2-methylphenol	20 ug/mL
							4-Bromophenyl phenyl ether	10 ug/mL
							4-Chloro-3-methylphenol	10 ug/mL
							4-Chloroaniline	10 ug/mL
							4-Chlorophenyl phenyl ether	10 ug/mL
							4-Nitroaniline	10 ug/mL
							4-Nitrophenol	20 ug/mL
							Acenaphthene	10 ug/mL
							Acenaphthylene	10 ug/mL
							Acetophenone	10 ug/mL
							Aniline	10 ug/mL
							Anthracene	10 ug/mL
							Azobenzene	10 ug/mL
							Benzo[a]anthracene	10 ug/mL
							Benzo[a]pyrene	10 ug/mL
							Benzo[b]fluoranthene	10 ug/mL
							Benzo[g,h,i]perylene	10 ug/mL
							Benzo[k]fluoranthene	10 ug/mL
							Benzyl alcohol	10 ug/mL
							Bis(2-chloroethoxy)methane	10 ug/mL
							Bis(2-chloroethyl)ether	10 ug/mL
							Bis(2-ethylhexyl) phthalate	10 ug/mL
							Butyl benzyl phthalate	10 ug/mL
							Carbazole	10 ug/mL
							Chrysene	10 ug/mL
							Di-n-butyl phthalate	10 ug/mL
							Di-n-octyl phthalate	10 ug/mL
							Dibenz(a,h)anthracene	10 ug/mL
							Dibenzofuran	10 ug/mL
							Diethyl phthalate	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dimethyl phthalate	10 ug/mL
							Diphenylamine	8.5 ug/mL
							Fluoranthene	10 ug/mL
							Fluorene	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Hexachlorobutadiene	10 ug/mL
							Hexachlorocyclopentadiene	10 ug/mL
							Hexachloroethane	10 ug/mL
							Indeno[1,2,3-cd]pyrene	10 ug/mL
							Isophorone	10 ug/mL
							N-Nitrosodi-n-propylamine	10 ug/mL
							N-Nitrosodimethylamine	10 ug/mL
							N-Nitrosodiphenylamine	10 ug/mL
							Naphthalene	10 ug/mL
							Nitrobenzene	10 ug/mL
							Pentachlorophenol	20 ug/mL
							Phenanthrene	10 ug/mL
							Phenol	10 ug/mL
							Pyrene	10 ug/mL
							Pyridine	20 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00047	11/30/18	06/21/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00042	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00007	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00005	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00042	05/31/19		Restek, Lot A0127668		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00007	11/30/18		Restek, Lot A0127472		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00005	11/30/18		Restek, Lot A0127580		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA020_00038	11/30/18	10/09/18	Methylene Chloride, Lot 187286	0.5 mL	MS-HSLA_STK_00047	50 uL	2,4,6-Tribromophenol (Surr)	20 ug/mL
							2-Fluorobiphenyl	20 ug/mL
							2-Fluorophenol (Surr)	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Phenol-d5 (Surr)	20 ug/mL
							Terphenyl-d14	20 ug/mL
							Famphur	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Benzyl alcohol	20 ug/mL
							Bis(2-chloroethoxy)methane	20 ug/mL
							Bis(2-chloroethyl)ether	20 ug/mL
							Bis(2-ethylhexyl) phthalate	20 ug/mL
							Butyl benzyl phthalate	20 ug/mL
							Carbazole	20 ug/mL
							Chrysene	20 ug/mL
							Di-n-butyl phthalate	20 ug/mL
							Di-n-octyl phthalate	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Dibenzofuran	20 ug/mL
							Diethyl phthalate	20 ug/mL
							Dimethyl phthalate	20 ug/mL
							Diphenylamine	17 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Hexachlorobenzene	20 ug/mL
							Hexachlorobutadiene	20 ug/mL
							Hexachlorocyclopentadiene	20 ug/mL
							Hexachloroethane	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Isophorone	20 ug/mL
							N-Nitrosodi-n-propylamine	20 ug/mL
							N-Nitrosodimethylamine	20 ug/mL
							N-Nitrosodiphenylamine	20 ug/mL
							Naphthalene	20 ug/mL
							Nitrobenzene	20 ug/mL
							Pentachlorophenol	40 ug/mL
							Phenanthrene	20 ug/mL
							Phenol	20 ug/mL
							Pyrene	20 ug/mL
							Pyridine	40 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00047	11/30/18	06/21/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MS-568023_00042	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00007	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00005	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00042	05/31/19		Restek, Lot A0127668		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00007	11/30/18		Restek, Lot A0127472		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00005	11/30/18		Restek, Lot A0127580		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA050_00039	11/30/18	10/09/18	Methylene Chloride, Lot 187286	0.5 mL	MS-HSLA_STK_00047	125 uL	2,4,6-Tribromophenol (Surr)	50 ug/mL
							2-Fluorobiphenyl	50 ug/mL
							2-Fluorophenol (Surr)	50 ug/mL
							Nitrobenzene-d5	50 ug/mL
							Phenol-d5 (Surr)	50 ug/mL
							Terphenyl-d14	50 ug/mL
							Famphur	50 ug/mL
							Alachlor	50 ug/mL
							3,3'-Dichlorobenzidine	50 ug/mL
							Benzoic acid	100 ug/mL
							Atrazine	50 ug/mL
							Caprolactam	50 ug/mL
							1,1'-Biphenyl	50 ug/mL
							1,2,4,5-Tetrachlorobenzene	50 ug/mL
							1,2,4-Trichlorobenzene	50 ug/mL
							1,2-Dichlorobenzene	50 ug/mL
							1,2-Diphenylhydrazine	50.5487 ug/mL
							1,3-Dichlorobenzene	50 ug/mL
							1,3-Dinitrobenzene	50 ug/mL
							1,4-Dichlorobenzene	50 ug/mL
							1,4-Dioxane	50 ug/mL
							1-Methylnaphthalene	50 ug/mL
							2,2'-oxybis[1-chloropropane]	50 ug/mL
							2,3,4,6-Tetrachlorophenol	50 ug/mL
							2,4,5-Trichlorophenol	50 ug/mL
							2,4,6-Trichlorophenol	50 ug/mL
							2,4-Dichlorophenol	50 ug/mL
							2,4-Dimethylphenol	50 ug/mL
							2,4-Dinitrophenol	100 ug/mL
							2,4-Dinitrotoluene	50 ug/mL
							2,6-Dichlorophenol	50 ug/mL
							2,6-Dinitrotoluene	50 ug/mL
							2-Chloronaphthalene	50 ug/mL
							2-Chlorophenol	50 ug/mL
							2-Methylnaphthalene	50 ug/mL
							2-Methylphenol	50 ug/mL
							2-Nitroaniline	50 ug/mL
							2-Nitrophenol	50 ug/mL
							3 & 4 Methylphenol	50 ug/mL
							3-Nitroaniline	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,6-Dinitro-2-methylphenol	100 ug/mL
							4-Bromophenyl phenyl ether	50 ug/mL
							4-Chloro-3-methylphenol	50 ug/mL
							4-Chloroaniline	50 ug/mL
							4-Chlorophenyl phenyl ether	50 ug/mL
							4-Nitroaniline	50 ug/mL
							4-Nitrophenol	100 ug/mL
							Acenaphthene	50 ug/mL
							Acenaphthylene	50 ug/mL
							Acetophenone	50 ug/mL
							Aniline	50 ug/mL
							Anthracene	50 ug/mL
							Azobenzene	50 ug/mL
							Benzo[a]anthracene	50 ug/mL
							Benzo[a]pyrene	50 ug/mL
							Benzo[b]fluoranthene	50 ug/mL
							Benzo[g,h,i]perylene	50 ug/mL
							Benzo[k]fluoranthene	50 ug/mL
							Benzyl alcohol	50 ug/mL
							Bis(2-chloroethoxy)methane	50 ug/mL
							Bis(2-chloroethyl)ether	50 ug/mL
							Bis(2-ethylhexyl) phthalate	50 ug/mL
							Butyl benzyl phthalate	50 ug/mL
							Carbazole	50 ug/mL
							Chrysene	50 ug/mL
							Di-n-butyl phthalate	50 ug/mL
							Di-n-octyl phthalate	50 ug/mL
							Dibenz(a,h)anthracene	50 ug/mL
							Dibenzofuran	50 ug/mL
							Diethyl phthalate	50 ug/mL
							Dimethyl phthalate	50 ug/mL
							Diphenylamine	42.5 ug/mL
							Fluoranthene	50 ug/mL
							Fluorene	50 ug/mL
							Hexachlorobenzene	50 ug/mL
							Hexachlorobutadiene	50 ug/mL
							Hexachlorocyclopentadiene	50 ug/mL
							Hexachloroethane	50 ug/mL
							Indeno[1,2,3-cd]pyrene	50 ug/mL
							Isophorone	50 ug/mL
							N-Nitrosodi-n-propylamine	50 ug/mL
							N-Nitrosodimethylamine	50 ug/mL
							N-Nitrosodiphenylamine	50 ug/mL
							Naphthalene	50 ug/mL
							Nitrobenzene	50 ug/mL
							Pentachlorophenol	100 ug/mL
							Phenanthrene	50 ug/mL
							Phenol	50 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyrene	50 ug/mL
							Pyridine	100 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00047	11/30/18	06/21/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00042	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00007	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00005	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00042	05/31/19		Restek, Lot A0127668		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00007	11/30/18		Restek, Lot A0127472		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00005	11/30/18		Restek, Lot A0127580		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA080_00038	11/30/18	10/09/18	Methylene Chloride, Lot 187286	0.5 mL	MS-HSLA_STK_00047	200 uL	2,4,6-Tribromophenol (Surr)	80 ug/mL
							2-Fluorobiphenyl	80 ug/mL
							2-Fluorophenol (Surr)	80 ug/mL
							Nitrobenzene-d5	80 ug/mL
							Phenol-d5 (Surr)	80 ug/mL
							Terphenyl-d14	80 ug/mL
							Famphur	80 ug/mL
							Alachlor	80 ug/mL
							3,3'-Dichlorobenzidine	80 ug/mL
							Benzoic acid	160 ug/mL
							Atrazine	80 ug/mL
							Caprolactam	80 ug/mL
							1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	160 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00047	11/30/18	06/21/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00042	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00007	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00005	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00042	05/31/19		Restek, Lot A0127668		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00007	11/30/18		Restek, Lot A0127472		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00005	11/30/18		Restek, Lot A0127580		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA120_00038	11/30/18	10/09/18	Methylene Chloride, Lot 187286	0.5 mL	MS-HSLA_STK_00047	300 uL	2,4,6-Tribromophenol (Surr)	120 ug/mL
							2-Fluorobiphenyl	120 ug/mL
							2-Fluorophenol (Surr)	120 ug/mL
							Nitrobenzene-d5	120 ug/mL
							Phenol-d5 (Surr)	120 ug/mL
							Terphenyl-d14	120 ug/mL
							Famphur	120 ug/mL
							Alachlor	120 ug/mL
							3,3'-Dichlorobenzidine	120 ug/mL
							Benzoic acid	240 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzyl alcohol	120 ug/mL
							Bis(2-chloroethoxy)methane	120 ug/mL
							Bis(2-chloroethyl)ether	120 ug/mL
							Bis(2-ethylhexyl) phthalate	120 ug/mL
							Butyl benzyl phthalate	120 ug/mL
							Carbazole	120 ug/mL
							Chrysene	120 ug/mL
							Di-n-butyl phthalate	120 ug/mL
							Di-n-octyl phthalate	120 ug/mL
							Dibenz(a,h)anthracene	120 ug/mL
							Dibenzofuran	120 ug/mL
							Diethyl phthalate	120 ug/mL
							Dimethyl phthalate	120 ug/mL
							Diphenylamine	102 ug/mL
							Fluoranthene	120 ug/mL
							Fluorene	120 ug/mL
							Hexachlorobenzene	120 ug/mL
							Hexachlorobutadiene	120 ug/mL
							Hexachlorocyclopentadiene	120 ug/mL
							Hexachloroethane	120 ug/mL
							Indeno[1,2,3-cd]pyrene	120 ug/mL
							Isophorone	120 ug/mL
							N-Nitrosodi-n-propylamine	120 ug/mL
							N-Nitrosodimethylamine	120 ug/mL
							N-Nitrosodiphenylamine	120 ug/mL
							Naphthalene	120 ug/mL
							Nitrobenzene	120 ug/mL
							Pentachlorophenol	240 ug/mL
							Phenanthrene	120 ug/mL
							Phenol	120 ug/mL
							Pyrene	120 ug/mL
							Pyridine	240 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00047	11/30/18	06/21/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00042	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00007	1 mL	3,3'-Dichlorobenzidine	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732 HSL_00005	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00042	05/31/19		Restek, Lot A0127668		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00007	11/30/18		Restek, Lot A0127472		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00005	11/30/18		Restek, Lot A0127580		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA160_00038	11/30/18	10/09/18	Methylene Chloride, Lot 187286	0.5 mL	MS-HSLA_STK_00047	400 uL	2,4,6-Tribromophenol (Surr)	160 ug/mL
							2-Fluorobiphenyl	160 ug/mL
							2-Fluorophenol (Surr)	160 ug/mL
							Nitrobenzene-d5	160 ug/mL
							Phenol-d5 (Surr)	160 ug/mL
							Terphenyl-d14	160 ug/mL
							Famphur	160 ug/mL
							Alachlor	160 ug/mL
							3,3'-Dichlorobenzidine	160 ug/mL
							Benzoic acid	320 ug/mL
							Atrazine	160 ug/mL
							Caprolactam	160 ug/mL
							1,1'-Biphenyl	160 ug/mL
							1,2,4,5-Tetrachlorobenzene	160 ug/mL
							1,2,4-Trichlorobenzene	160 ug/mL
							1,2-Dichlorobenzene	160 ug/mL
							1,2-Diphenylhydrazine	161.756 ug/mL
							1,3-Dichlorobenzene	160 ug/mL
							1,3-Dinitrobenzene	160 ug/mL
							1,4-Dichlorobenzene	160 ug/mL
							1,4-Dioxane	160 ug/mL
							1-Methylnaphthalene	160 ug/mL
							2,2'-oxybis[1-chloropropane]	160 ug/mL
							2,3,4,6-Tetrachlorophenol	160 ug/mL
							2,4,5-Trichlorophenol	160 ug/mL
							2,4,6-Trichlorophenol	160 ug/mL
							2,4-Dichlorophenol	160 ug/mL
							2,4-Dimethylphenol	160 ug/mL
							2,4-Dinitrophenol	320 ug/mL
							2,4-Dinitrotoluene	160 ug/mL
							2,6-Dichlorophenol	160 ug/mL
							2,6-Dinitrotoluene	160 ug/mL
							2-Chloronaphthalene	160 ug/mL
							2-Chlorophenol	160 ug/mL
							2-Methylnaphthalene	160 ug/mL
							2-Methylphenol	160 ug/mL
							2-Nitroaniline	160 ug/mL
							2-Nitrophenol	160 ug/mL
							3 & 4 Methylphenol	160 ug/mL
							3-Nitroaniline	160 ug/mL
							4,6-Dinitro-2-methylphenol	320 ug/mL
							4-Bromophenyl phenyl ether	160 ug/mL
							4-Chloro-3-methylphenol	160 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chloroaniline	160 ug/mL
							4-Chlorophenyl phenyl ether	160 ug/mL
							4-Nitroaniline	160 ug/mL
							4-Nitrophenol	320 ug/mL
							Acenaphthene	160 ug/mL
							Acenaphthylene	160 ug/mL
							Acetophenone	160 ug/mL
							Aniline	160 ug/mL
							Anthracene	160 ug/mL
							Azobenzene	160 ug/mL
							Benzo[a]anthracene	160 ug/mL
							Benzo[a]pyrene	160 ug/mL
							Benzo[b]fluoranthene	160 ug/mL
							Benzo[g,h,i]perylene	160 ug/mL
							Benzo[k]fluoranthene	160 ug/mL
							Benzyl alcohol	160 ug/mL
							Bis(2-chloroethoxy)methane	160 ug/mL
							Bis(2-chloroethyl)ether	160 ug/mL
							Bis(2-ethylhexyl) phthalate	160 ug/mL
							Butyl benzyl phthalate	160 ug/mL
							Carbazole	160 ug/mL
							Chrysene	160 ug/mL
							Di-n-butyl phthalate	160 ug/mL
							Di-n-octyl phthalate	160 ug/mL
							Dibenz(a,h)anthracene	160 ug/mL
							Dibenzofuran	160 ug/mL
							Diethyl phthalate	160 ug/mL
							Dimethyl phthalate	160 ug/mL
							Diphenylamine	136 ug/mL
							Fluoranthene	160 ug/mL
							Fluorene	160 ug/mL
							Hexachlorobenzene	160 ug/mL
							Hexachlorobutadiene	160 ug/mL
							Hexachlorocyclopentadiene	160 ug/mL
							Hexachloroethane	160 ug/mL
							Indeno[1,2,3-cd]pyrene	160 ug/mL
							Isophorone	160 ug/mL
							N-Nitrosodi-n-propylamine	160 ug/mL
							N-Nitrosodimethylamine	160 ug/mL
							N-Nitrosodiphenylamine	160 ug/mL
							Naphthalene	160 ug/mL
							Nitrobenzene	160 ug/mL
							Pentachlorophenol	320 ug/mL
							Phenanthrene	160 ug/mL
							Phenol	160 ug/mL
							Pyrene	160 ug/mL
							Pyridine	320 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00047	11/30/18	06/21/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00042	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00007	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00005	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00042	05/31/19		Restek, Lot A0127668		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00007	11/30/18		Restek, Lot A0127472		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00005	11/30/18		Restek, Lot A0127580		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA200_00038	11/30/18	10/09/18	Methylene Chloride, Lot 187286	0.5 mL	MS-HSLA_STK_00047	500 uL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
							Famphur	200 ug/mL
							Alachlor	200 ug/mL
							3,3'-Dichlorobenzidine	200 ug/mL
							Benzoic acid	400 ug/mL
							Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
							1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00047	11/30/18	06/21/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00042	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00007	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00005	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00042	05/31/19		Restek, Lot A0127668		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00007	11/30/18		Restek, Lot A0127472		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00005	11/30/18		Restek, Lot A0127580		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLACCV080_00172	11/30/18	10/01/18	Methylene Chloride, Lot 187286	0.5 mL	MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLACCV080_00172	11/30/18	10/01/18	Methylene Chloride, Lot 187286	0.5 mL	MS-HSLA_STK_00047	200 uL	2,4,6-Tribromophenol (Surr)	80 ug/mL
							2-Fluorobiphenyl	80 ug/mL
							2-Fluorophenol (Surr)	80 ug/mL
							Nitrobenzene-d5	80 ug/mL
							Phenol-d5 (Surr)	80 ug/mL
							Terphenyl-d14	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenol	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-HSLA_STK_00047	11/30/18	06/21/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-571995_00002	2 mL	2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenol	200 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenol	1000 ug/mL
MS-HSLB1B3SSV_00051	03/06/19	08/16/18	Methylene Chloride, Lot 187286	0.5 mL	MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLB1B3SSV_00051	03/06/19	08/16/18	Methylene Chloride, Lot 187286	0.5 mL	MS-HSLB1_STK_00012	250 uL	2,4,5-Trichlorophenol	100 ug/mL
							2,4,6-Trichlorophenol	100 ug/mL
							2,4-Dichlorophenol	100 ug/mL
							2,4-Dimethylphenol	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dinitrophenol	200 ug/mL
							2,4-Dinitrotoluene	100 ug/mL
							2,6-Dinitrotoluene	100 ug/mL
							2-Chlorophenol	100 ug/mL
							2-Methylphenol	100 ug/mL
							2-Nitrophenol	100 ug/mL
							3 & 4 Methylphenol	100 ug/mL
							4,6-Dinitro-2-methylphenol	200 ug/mL
							4-Chloro-3-methylphenol	100 ug/mL
							4-Nitrophenol	200 ug/mL
							Bis(2-ethylhexyl) phthalate	100 ug/mL
							Butyl benzyl phthalate	100 ug/mL
							Di-n-butyl phthalate	100 ug/mL
							Di-n-octyl phthalate	100 ug/mL
							Diethyl phthalate	100 ug/mL
							Dimethyl phthalate	100 ug/mL
							Nitrobenzene	100 ug/mL
							Pentachlorophenol	200 ug/mL
							Phenol	100 ug/mL
.MS-HSLB1_STK_00012	03/31/19	06/18/18	Methylene Chloride, Lot 187286	5 mL	MS-571995.SEC_00002	1 mL	2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenol	200 ug/mL
..MS-571995.SEC_00002	03/31/19		Restek, Lot A0131190		(Purchased Reagent)		2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenol	1000 ug/mL
MS-HSLB2SSV_00046	02/28/19	08/16/18	Methylene Chloride, Lot 187286	0.5 mL	MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
.MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-SIM CCV_00080	01/30/19	10/30/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MS-SIM CCV_00080	01/30/19	10/30/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIMSL_00027	30 uL	2-methylnaphthalene-d10	0.6 ug/mL
							Fluoranthene-d10	0.6 ug/mL
							2-Methylnaphthalene	1.2 ug/mL
							1-Methylnaphthalene	0.6 ug/mL
							Acenaphthene	0.6 ug/mL
							Acenaphthylene	0.6 ug/mL
							Anthracene	0.6 ug/mL
							Benzo[a]anthracene	0.6 ug/mL
							Benzo[a]pyrene	0.6 ug/mL
							Benzo[b]fluoranthene	0.6 ug/mL
							Benzo[g,h,i]perylene	0.6 ug/mL
							Benzo[k]fluoranthene	0.6 ug/mL
							Chrysene	0.6 ug/mL
							Dibenz(a,h)anthracene	0.6 ug/mL
							Fluoranthene	0.6 ug/mL
							Fluorene	0.6 ug/mL
							Indeno[1,2,3-cd]pyrene	0.6 ug/mL
							Naphthalene	0.6 ug/mL
							Phenanthrene	0.6 ug/mL
							Pyrene	0.6 ug/mL
							2-Fluorobiphenyl	0.6 ug/mL
							Nitrobenzene-d5	0.6 ug/mL
							Terphenyl-d14	0.6 ug/mL
.MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
..MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
...MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
...MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
..MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
...MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-SIM SSV2_00004	03/31/19	07/02/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-SIM SSV2_00004	03/31/19	07/02/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM SSV_00130	30 uL	1-Methylnaphthalene	0.6 ug/mL
							2-Methylnaphthalene	0.6 ug/mL
							Acenaphthene	0.6 ug/mL
							Acenaphthylene	0.6 ug/mL
							Anthracene	0.6 ug/mL
							Benzo[a]anthracene	0.6 ug/mL
							Benzo[a]pyrene	0.6 ug/mL
							Benzo[b]fluoranthene	0.6 ug/mL
							Benzo[g,h,i]perylene	0.6 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[k]fluoranthene	0.6 ug/mL
							Chrysene	0.6 ug/mL
							Dibenz(a,h)anthracene	0.6 ug/mL
							Fluoranthene	0.6 ug/mL
							Fluorene	0.6 ug/mL
							Indeno[1,2,3-cd]pyrene	0.6 ug/mL
							Naphthalene	0.6 ug/mL
							Phenanthrene	0.6 ug/mL
							Pyrene	0.6 ug/mL
.MS-SIM SSV_00130	03/31/19	07/02/18	Methylene Chloride, Lot 187286	10 mL	MS-HSLB1_STK_00012	1 mL	1-Methylnaphthalene	20 ug/mL
							2-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
..MS-HSLB1_STK_00012	03/31/19	06/18/18	Methylene Chloride, Lot 187286	5 mL	MS-571995.SEC_00002	1 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
...MS-571995.SEC_00002	03/31/19		Restek, Lot A0131190		(Purchased Reagent)		1-Methylnaphthalene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methylnaphthalene	1000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Anthracene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Chrysene	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Naphthalene	1000 ug/mL
							Phenanthrene	1000 ug/mL
							Pyrene	1000 ug/mL
MS-SIMSL 0.01_00005	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL Int._00026	5 uL	2-methylnaphthalene-d10	0.01 ug/mL
							Fluoranthene-d10	0.01 ug/mL
							2-Methylnaphthalene	0.02 ug/mL
							1-Methylnaphthalene	0.01 ug/mL
							Acenaphthene	0.01 ug/mL
							Acenaphthylene	0.01 ug/mL
							Anthracene	0.01 ug/mL
							Benzo[a]anthracene	0.01 ug/mL
							Benzo[a]pyrene	0.01 ug/mL
							Benzo[b]fluoranthene	0.01 ug/mL
							Benzo[g,h,i]perylene	0.01 ug/mL
							Benzo[k]fluoranthene	0.01 ug/mL
							Chrysene	0.01 ug/mL
							Dibenz(a,h)anthracene	0.01 ug/mL
							Fluoranthene	0.01 ug/mL
							Fluorene	0.01 ug/mL
							Indeno[1,2,3-cd]pyrene	0.01 ug/mL
							Naphthalene	0.01 ug/mL
							Phenanthrene	0.01 ug/mL
							Pyrene	0.01 ug/mL
							2-Fluorobiphenyl	0.01 ug/mL
							Nitrobenzene-d5	0.01 ug/mL
							Terphenyl-d14	0.01 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22	Restek, Lot A0129635			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL Int._00026	01/30/19	08/01/18	Methylene Chloride, Lot 187286	10 mL	MS-SIMSL_00027	1 mL	2-methylnaphthalene-d10	2 ug/mL
							Fluoranthene-d10	2 ug/mL
							2-Methylnaphthalene	4 ug/mL
							1-Methylnaphthalene	2 ug/mL
							Acenaphthene	2 ug/mL
							Acenaphthylene	2 ug/mL
							Anthracene	2 ug/mL
							Benzo[a]anthracene	2 ug/mL
							Benzo[a]pyrene	2 ug/mL
							Benzo[b]fluoranthene	2 ug/mL
							Benzo[g,h,i]perylene	2 ug/mL
							Benzo[k]fluoranthene	2 ug/mL
							Chrysene	2 ug/mL
							Dibenz(a,h)anthracene	2 ug/mL
							Fluoranthene	2 ug/mL
							Fluorene	2 ug/mL
							Indeno[1,2,3-cd]pyrene	2 ug/mL
							Naphthalene	2 ug/mL
							Phenanthrene	2 ug/mL
							Pyrene	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL
							Nitrobenzene-d5	2 ug/mL
							Terphenyl-d14	2 ug/mL
..MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
...DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
...MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
....MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
....MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
...MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
....MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MS-SIMSL 0.02_00079	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL Int._00026	10 uL	2-methylnaphthalene-d10	0.02 ug/mL
							Fluoranthene-d10	0.02 ug/mL
							2-Methylnaphthalene	0.04 ug/mL
							1-Methylnaphthalene	0.02 ug/mL
							Acenaphthene	0.02 ug/mL
							Acenaphthylene	0.02 ug/mL
							Anthracene	0.02 ug/mL
							Benzo[a]anthracene	0.02 ug/mL
							Benzo[a]pyrene	0.02 ug/mL
							Benzo[b]fluoranthene	0.02 ug/mL
							Benzo[g,h,i]perylene	0.02 ug/mL
							Benzo[k]fluoranthene	0.02 ug/mL
							Chrysene	0.02 ug/mL
							Dibenz(a,h)anthracene	0.02 ug/mL
							Fluoranthene	0.02 ug/mL
							Fluorene	0.02 ug/mL
							Indeno[1,2,3-cd]pyrene	0.02 ug/mL
							Naphthalene	0.02 ug/mL
							Phenanthrene	0.02 ug/mL
							Pyrene	0.02 ug/mL
							2-Fluorobiphenyl	0.02 ug/mL
							Nitrobenzene-d5	0.02 ug/mL
							Terphenyl-d14	0.02 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL Int._00026	01/30/19	08/01/18	Methylene Chloride, Lot 187286	10 mL	MS-SIMSL_00027	1 mL	2-methylnaphthalene-d10	2 ug/mL
							Fluoranthene-d10	2 ug/mL
							2-Methylnaphthalene	4 ug/mL
							1-Methylnaphthalene	2 ug/mL
							Acenaphthene	2 ug/mL
							Acenaphthylene	2 ug/mL
							Anthracene	2 ug/mL
							Benzo[a]anthracene	2 ug/mL
							Benzo[a]pyrene	2 ug/mL
							Benzo[b]fluoranthene	2 ug/mL
							Benzo[g,h,i]perylene	2 ug/mL
							Benzo[k]fluoranthene	2 ug/mL
							Chrysene	2 ug/mL
							Dibenz(a,h)anthracene	2 ug/mL
							Fluoranthene	2 ug/mL
							Fluorene	2 ug/mL
							Indeno[1,2,3-cd]pyrene	2 ug/mL
							Naphthalene	2 ug/mL
							Phenanthrene	2 ug/mL
							Pyrene	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL
							Nitrobenzene-d5	2 ug/mL
							Terphenyl-d14	2 ug/mL
..MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
...DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
...MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
....MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
....MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
...MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
....MS-567685_00004	01/30/19	Restek, Lot A0130500			(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MS-SIMSL 0.05_00007	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL Int._00026	25 uL	2-methylnaphthalene-d10	0.05 ug/mL
							Fluoranthene-d10	0.05 ug/mL
							2-Methylnaphthalene	0.1 ug/mL
							1-Methylnaphthalene	0.05 ug/mL
							Acenaphthene	0.05 ug/mL
							Acenaphthylene	0.05 ug/mL
							Anthracene	0.05 ug/mL
							Benzo[a]anthracene	0.05 ug/mL
							Benzo[a]pyrene	0.05 ug/mL
							Benzo[b]fluoranthene	0.05 ug/mL
							Benzo[g,h,i]perylene	0.05 ug/mL
							Benzo[k]fluoranthene	0.05 ug/mL
							Chrysene	0.05 ug/mL
							Dibenz(a,h)anthracene	0.05 ug/mL
							Fluoranthene	0.05 ug/mL
							Fluorene	0.05 ug/mL
							Indeno[1,2,3-cd]pyrene	0.05 ug/mL
							Naphthalene	0.05 ug/mL
							Phenanthrene	0.05 ug/mL
							Pyrene	0.05 ug/mL
							2-Fluorobiphenyl	0.05 ug/mL
							Nitrobenzene-d5	0.05 ug/mL
							Terphenyl-d14	0.05 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22	Restek, Lot A0129635			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL Int._00026	01/30/19	08/01/18	Methylene Chloride, Lot 187286	10 mL	MS-SIMSL_00027	1 mL	2-methylnaphthalene-d10	2 ug/mL
							Fluoranthene-d10	2 ug/mL
							2-Methylnaphthalene	4 ug/mL
							1-Methylnaphthalene	2 ug/mL
							Acenaphthene	2 ug/mL
							Acenaphthylene	2 ug/mL
							Anthracene	2 ug/mL
							Benzo[a]anthracene	2 ug/mL
							Benzo[a]pyrene	2 ug/mL
							Benzo[b]fluoranthene	2 ug/mL
							Benzo[g,h,i]perylene	2 ug/mL
							Benzo[k]fluoranthene	2 ug/mL
							Chrysene	2 ug/mL
							Dibenz(a,h)anthracene	2 ug/mL
							Fluoranthene	2 ug/mL
							Fluorene	2 ug/mL
							Indeno[1,2,3-cd]pyrene	2 ug/mL
							Naphthalene	2 ug/mL
							Phenanthrene	2 ug/mL
							Pyrene	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL
							Nitrobenzene-d5	2 ug/mL
							Terphenyl-d14	2 ug/mL
..MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
...DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
...MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
....MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
....MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
...MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
....MS-567685_00004	01/30/19	Restek, Lot A0130500			(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MS-SIMSL 0.1_00075	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL Int._00026	50 uL	2-methylnaphthalene-d10	0.1 ug/mL
							Fluoranthene-d10	0.1 ug/mL
							2-Methylnaphthalene	0.2 ug/mL
							1-Methylnaphthalene	0.1 ug/mL
							Acenaphthene	0.1 ug/mL
							Acenaphthylene	0.1 ug/mL
							Anthracene	0.1 ug/mL
							Benzo[a]anthracene	0.1 ug/mL
							Benzo[a]pyrene	0.1 ug/mL
							Benzo[b]fluoranthene	0.1 ug/mL
							Benzo[g,h,i]perylene	0.1 ug/mL
							Benzo[k]fluoranthene	0.1 ug/mL
							Chrysene	0.1 ug/mL
							Dibenz(a,h)anthracene	0.1 ug/mL
							Fluoranthene	0.1 ug/mL
							Fluorene	0.1 ug/mL
							Indeno[1,2,3-cd]pyrene	0.1 ug/mL
							Naphthalene	0.1 ug/mL
							Phenanthrene	0.1 ug/mL
							Pyrene	0.1 ug/mL
							2-Fluorobiphenyl	0.1 ug/mL
							Nitrobenzene-d5	0.1 ug/mL
							Terphenyl-d14	0.1 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22	Restek, Lot A0129635			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL Int._00026	01/30/19	08/01/18	Methylene Chloride, Lot 187286	10 mL	MS-SIMSL_00027	1 mL	2-methylnaphthalene-d10	2 ug/mL
							Fluoranthene-d10	2 ug/mL
							2-Methylnaphthalene	4 ug/mL
							1-Methylnaphthalene	2 ug/mL
							Acenaphthene	2 ug/mL
							Acenaphthylene	2 ug/mL
							Anthracene	2 ug/mL
							Benzo[a]anthracene	2 ug/mL
							Benzo[a]pyrene	2 ug/mL
							Benzo[b]fluoranthene	2 ug/mL
							Benzo[g,h,i]perylene	2 ug/mL
							Benzo[k]fluoranthene	2 ug/mL
							Chrysene	2 ug/mL
							Dibenz(a,h)anthracene	2 ug/mL
							Fluoranthene	2 ug/mL
							Fluorene	2 ug/mL
							Indeno[1,2,3-cd]pyrene	2 ug/mL
							Naphthalene	2 ug/mL
							Phenanthrene	2 ug/mL
							Pyrene	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL
							Nitrobenzene-d5	2 ug/mL
							Terphenyl-d14	2 ug/mL
..MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Terphenyl-d14	20 ug/mL
...DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
...MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
....MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
....MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
...MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
....MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Terphenyl-d14	5000 ug/mL
MS-SIMSL 0.3_00074	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL Int._00026	150 uL	2-methylnaphthalene-d10	0.3 ug/mL
							Fluoranthene-d10	0.3 ug/mL
							2-Methylnaphthalene	0.6 ug/mL
							1-Methylnaphthalene	0.3 ug/mL
							Acenaphthene	0.3 ug/mL
							Acenaphthylene	0.3 ug/mL
							Anthracene	0.3 ug/mL
							Benzo[a]anthracene	0.3 ug/mL
							Benzo[a]pyrene	0.3 ug/mL
							Benzo[b]fluoranthene	0.3 ug/mL
							Benzo[g,h,i]perylene	0.3 ug/mL
							Benzo[k]fluoranthene	0.3 ug/mL
							Chrysene	0.3 ug/mL
							Dibenz(a,h)anthracene	0.3 ug/mL
							Fluoranthene	0.3 ug/mL
							Fluorene	0.3 ug/mL
							Indeno[1,2,3-cd]pyrene	0.3 ug/mL
							Naphthalene	0.3 ug/mL
							Phenanthrene	0.3 ug/mL
							Pyrene	0.3 ug/mL
							2-Fluorobiphenyl	0.3 ug/mL
							Nitrobenzene-d5	0.3 ug/mL
							Terphenyl-d14	0.3 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22	Restek, Lot A0129635			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL Int._00026	01/30/19	08/01/18	Methylene Chloride, Lot 187286	10 mL	MS-SIMSL_00027	1 mL	2-methylnaphthalene-d10	2 ug/mL
							Fluoranthene-d10	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methylnaphthalene	4 ug/mL
							1-Methylnaphthalene	2 ug/mL
							Acenaphthene	2 ug/mL
							Acenaphthylene	2 ug/mL
							Anthracene	2 ug/mL
							Benzo[a]anthracene	2 ug/mL
							Benzo[a]pyrene	2 ug/mL
							Benzo[b]fluoranthene	2 ug/mL
							Benzo[g,h,i]perylene	2 ug/mL
							Benzo[k]fluoranthene	2 ug/mL
							Chrysene	2 ug/mL
							Dibenz(a,h)anthracene	2 ug/mL
							Fluoranthene	2 ug/mL
							Fluorene	2 ug/mL
							Indeno[1,2,3-cd]pyrene	2 ug/mL
							Naphthalene	2 ug/mL
							Phenanthrene	2 ug/mL
							Pyrene	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL
							Nitrobenzene-d5	2 ug/mL
							Terphenyl-d14	2 ug/mL
..MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
...DOD_ADD_SURR_00002	05/22/19	O2SI, Lot 334026			(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
...MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
....MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
....MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
...MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
....MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MS-SIMSL 0.6_00144	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL_00027	30 uL	2-methylnaphthalene-d10	0.6 ug/mL
							Fluoranthene-d10	0.6 ug/mL
							2-Methylnaphthalene	1.2 ug/mL
							1-Methylnaphthalene	0.6 ug/mL
							Acenaphthene	0.6 ug/mL
							Acenaphthylene	0.6 ug/mL
							Anthracene	0.6 ug/mL
							Benzo[a]anthracene	0.6 ug/mL
							Benzo[a]pyrene	0.6 ug/mL
							Benzo[b]fluoranthene	0.6 ug/mL
							Benzo[g,h,i]perylene	0.6 ug/mL
							Benzo[k]fluoranthene	0.6 ug/mL
							Chrysene	0.6 ug/mL
							Dibenz(a,h)anthracene	0.6 ug/mL
							Fluoranthene	0.6 ug/mL
							Fluorene	0.6 ug/mL
							Indeno[1,2,3-cd]pyrene	0.6 ug/mL
							Naphthalene	0.6 ug/mL
							Phenanthrene	0.6 ug/mL
							Pyrene	0.6 ug/mL
							2-Fluorobiphenyl	0.6 ug/mL
							Nitrobenzene-d5	0.6 ug/mL
							Terphenyl-d14	0.6 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
..DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
..MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
...MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
...MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
..MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
...MS-567685_00004	01/30/19	Restek, Lot A0130500			(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MS-SIMSL 1.2_00075	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL_00027	60 uL	2-methylnaphthalene-d10	1.2 ug/mL
							Fluoranthene-d10	1.2 ug/mL
							2-Methylnaphthalene	2.4 ug/mL
							1-Methylnaphthalene	1.2 ug/mL
							Acenaphthene	1.2 ug/mL
							Acenaphthylene	1.2 ug/mL
							Anthracene	1.2 ug/mL
							Benzo[a]anthracene	1.2 ug/mL
							Benzo[a]pyrene	1.2 ug/mL
							Benzo[b]fluoranthene	1.2 ug/mL
							Benzo[g,h,i]perylene	1.2 ug/mL
							Benzo[k]fluoranthene	1.2 ug/mL
							Chrysene	1.2 ug/mL
							Dibenz(a,h)anthracene	1.2 ug/mL
							Fluoranthene	1.2 ug/mL
							Fluorene	1.2 ug/mL
							Indeno[1,2,3-cd]pyrene	1.2 ug/mL
							Naphthalene	1.2 ug/mL
							Phenanthrene	1.2 ug/mL
							Pyrene	1.2 ug/mL
							2-Fluorobiphenyl	1.2 ug/mL
							Nitrobenzene-d5	1.2 ug/mL
							Terphenyl-d14	1.2 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
..DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
..MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
...MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
...MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
..MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
...MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MS-SIMSL 2.5_00074	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL_00027	125 uL	2-methylnaphthalene-d10	2.5 ug/mL
							Fluoranthene-d10	2.5 ug/mL
							2-Methylnaphthalene	5 ug/mL
							1-Methylnaphthalene	2.5 ug/mL
							Acenaphthene	2.5 ug/mL
							Acenaphthylene	2.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Anthracene	2.5 ug/mL
							Benzo[a]anthracene	2.5 ug/mL
							Benzo[a]pyrene	2.5 ug/mL
							Benzo[b]fluoranthene	2.5 ug/mL
							Benzo[g,h,i]perylene	2.5 ug/mL
							Benzo[k]fluoranthene	2.5 ug/mL
							Chrysene	2.5 ug/mL
							Dibenz(a,h)anthracene	2.5 ug/mL
							Fluoranthene	2.5 ug/mL
							Fluorene	2.5 ug/mL
							Indeno[1,2,3-cd]pyrene	2.5 ug/mL
							Naphthalene	2.5 ug/mL
							Phenanthrene	2.5 ug/mL
							Pyrene	2.5 ug/mL
							2-Fluorobiphenyl	2.5 ug/mL
							Nitrobenzene-d5	2.5 ug/mL
							Terphenyl-d14	2.5 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22	Restek, Lot A0129635			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
..DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
..MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
...MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
...MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
..MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
...MS-567685_00004	01/30/19	Restek, Lot A0130500			(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MS-SIMSL 5_00076	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL_00027	250 uL	2-methylnaphthalene-d10	5 ug/mL
							Fluoranthene-d10	5 ug/mL
							2-Methylnaphthalene	10 ug/mL
							1-Methylnaphthalene	5 ug/mL
							Acenaphthene	5 ug/mL
							Acenaphthylene	5 ug/mL
							Anthracene	5 ug/mL
							Benzo[a]anthracene	5 ug/mL
							Benzo[a]pyrene	5 ug/mL
							Benzo[b]fluoranthene	5 ug/mL
							Benzo[g,h,i]perylene	5 ug/mL
							Benzo[k]fluoranthene	5 ug/mL
							Chrysene	5 ug/mL
							Dibenz(a,h)anthracene	5 ug/mL
							Fluoranthene	5 ug/mL
							Fluorene	5 ug/mL
							Indeno[1,2,3-cd]pyrene	5 ug/mL
							Naphthalene	5 ug/mL
							Phenanthrene	5 ug/mL
							Pyrene	5 ug/mL
							2-Fluorobiphenyl	5 ug/mL
							Nitrobenzene-d5	5 ug/mL
							Terphenyl-d14	5 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
...MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
..DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
..MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
...MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
...MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
..MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
...MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MV-568718-D_00014	05/31/22		RESTEK, Lot A0127975		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
MV-ARCH SS A_00107	04/18/19	10/18/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
MV-BFB_00026							1,2-Dichloroethene, Total	
							1,2-Dichloroethene, Total (URS)	
							1,3-Dichloropropene, Total	

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							TAH	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
							Xylenes, Total (URS)	
					MV-STS110N1_00066	1.25 mL	BFB	50 ug/mL
.MV-STS110N1_00066	10/31/19	Ultra Scientific, Lot CH-3248Z			(Purchased Reagent)		BFB	2000 ug/mL
MV-BFB_00027							1,2-Dichloroethene, Total	
							1,2-Dichloroethene, Total (URS)	
							1,3-Dichloropropene, Total	
							TAH	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
							Xylenes, Total (URS)	
					MV-STS110N1_00066	1.25 mL	BFB	50 ug/mL
.MV-STS110N1_00066	10/31/19	Ultra Scientific, Lot CH-3248Z			(Purchased Reagent)		BFB	2000 ug/mL
MV-MegaMain B_00002	10/31/18	09/29/18	P&T Methanol, Lot 181124	50 mL	MV-569721.sec_00005	800 uL	2-Butanone (MEK)	200 ug/mL
							2-Hexanone	200 ug/mL
							4-Methyl-2-pentanone (MIBK)	200 ug/mL
							Acetone	200 ug/mL
					MV-569722.sec_00005	1000 uL	Bromomethane	50 ug/mL
							Chloroethane	50 ug/mL
							Chloromethane	50 ug/mL
							Vinyl chloride	50 ug/mL
					MV-571992.sec_00001	1000 uL	1,1,1-Trichloroethane	50 ug/mL
							1,1,2,2-Tetrachloroethane	50 ug/mL
							1,1,2-Trichloroethane	50 ug/mL
							1,1-Dichloroethane	50 ug/mL
							1,1-Dichloroethene	50 ug/mL
							1,2-Dibromoethane	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							1,2-Dichloroethene, Total	100 ug/mL
							1,2-Dichloropropane	50 ug/mL
							Benzene	50 ug/mL
							Bromobenzene	50 ug/mL
							Bromochloromethane	50 ug/mL
							Bromodichloromethane	50 ug/mL
							Bromoform	50 ug/mL
							Carbon disulfide	50 ug/mL
							Carbon tetrachloride	50 ug/mL
							Chlorobenzene	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chloroform	50 ug/mL
							cis-1,3-Dichloropropene	50 ug/mL
							Dibromochloromethane	50 ug/mL
							Ethylbenzene	50 ug/mL
							Methylene Chloride	50 ug/mL
							Styrene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Toluene	50 ug/mL
							trans-1,3-Dichloropropene	50 ug/mL
							Trichloroethene	50 ug/mL
							Xylenes, Total	100 ug/mL
.MV-569721.sec_00005	01/31/20		RESTEK, Lot A0113880		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.MV-569722.sec_00005	06/30/20		RESTEK, Lot A0128832		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-571992.sec_00001	12/31/18		RESTEK, Lot A0123775		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloroethene, Total	5000 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MV-MegaMain B_00003	11/30/18	11/01/18	P&T Methanol, Lot 181124	50 mL	MV-569721.sec_00005	800 uL	2-Butanone (MEK)	200 ug/mL
							2-Hexanone	200 ug/mL
							4-Methyl-2-pentanone (MIBK)	200 ug/mL
							Acetone	200 ug/mL
					MV-569722.sec_00005	1000 uL	Bromomethane	50 ug/mL
							Chloroethane	50 ug/mL
							Chloromethane	50 ug/mL
							Vinyl chloride	50 ug/mL
					MV-571992.sec_00001	1000 uL	1,1,1-Trichloroethane	50 ug/mL
							1,1,2,2-Tetrachloroethane	50 ug/mL
							1,1,2-Trichloroethane	50 ug/mL
							1,1-Dichloroethane	50 ug/mL
							1,1-Dichloroethene	50 ug/mL
							1,2-Dibromoethane	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							1,2-Dichloroethene, Total	100 ug/mL
							1,2-Dichloropropane	50 ug/mL
							Benzene	50 ug/mL
							Bromobenzene	50 ug/mL
							Bromochloromethane	50 ug/mL
							Bromodichloromethane	50 ug/mL
							Bromoform	50 ug/mL
							Carbon disulfide	50 ug/mL
							Carbon tetrachloride	50 ug/mL
							Chlorobenzene	50 ug/mL
							Chloroform	50 ug/mL
							cis-1,3-Dichloropropene	50 ug/mL
							Dibromochloromethane	50 ug/mL
							Ethylbenzene	50 ug/mL
							Methylene Chloride	50 ug/mL
							Styrene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Toluene	50 ug/mL
							trans-1,3-Dichloropropene	50 ug/mL
							Trichloroethene	50 ug/mL
							Xylenes, Total	100 ug/mL
.MV-569721.sec_00005	01/31/20		RESTEK, Lot A0113880		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.MV-569722.sec_00005	06/30/20		RESTEK, Lot A0128832		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-571992.sec_00001	12/31/18		RESTEK, Lot A0123775		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloroethene, Total	5000 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
MV-MegaMainA_00002	10/31/18	10/04/18	P&T Methanol, Lot 181124	50 mL	MV-568720_00022	1266 uL	Acrolein	500.07 ug/mL
					MV-569721_00006	800 uL	2-Butanone (MEK)	200 ug/mL
							2-Hexanone	200 ug/mL
							4-Methyl-2-pentanone (MIBK)	200 ug/mL
							Acetone	200 ug/mL
					MV-569722_00008	1000 uL	Bromomethane	50 ug/mL
							Chloroethane	50 ug/mL
							Chloromethane	50 ug/mL
							Dichlorodifluoromethane	50 ug/mL
							Dichlorofluoromethane	50 ug/mL
							Trichlorofluoromethane	50 ug/mL
							Vinyl chloride	50 ug/mL
					MV-569723_00004	1000 uL	2-Chloroethyl vinyl ether	50 ug/mL
					MV-569724_00016	1000 uL	Vinyl acetate	100 ug/mL
					MV-569727_00007	4000 uL	Cyclohexanone	2000 ug/mL
					MV-571992_00001	1000 uL	1,1,1,2-Tetrachloroethane	50 ug/mL
							1,1,1-Trichloroethane	50 ug/mL
							1,1,2,2-Tetrachloroethane	50 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	50 ug/mL
							1,1,2-Trichloroethane	50 ug/mL
							1,1-Dichloroethane	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,1-Dichloroethene	50 ug/mL
							1,1-Dichloropropene	50 ug/mL
							1,2,3-Trichlorobenzene	50 ug/mL
							1,2,3-Trichloropropane	50 ug/mL
							1,2,4-Trichlorobenzene	50 ug/mL
							1,2,4-Trimethylbenzene	50 ug/mL
							1,2-Dibromo-3-Chloropropane	50 ug/mL
							1,2-Dibromoethane	50 ug/mL
							1,2-Dichlorobenzene	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							1,2-Dichloropropane	50 ug/mL
							1,3,5-Trimethylbenzene	50 ug/mL
							1,3-Dichlorobenzene	50 ug/mL
							1,3-Dichloropropane	50 ug/mL
							1,4-Dichlorobenzene	50 ug/mL
							1,4-Dioxane	1000 ug/mL
							2,2-Dichloropropane	50 ug/mL
							2-Chlorotoluene	50 ug/mL
							2-Methyl-2-propanol	500 ug/mL
							3-Chloro-1-propene	50 ug/mL
							4-Chlorotoluene	50 ug/mL
							4-Isopropyltoluene	50 ug/mL
							Acrylonitrile	500 ug/mL
							Benzene	50 ug/mL
							Bromobenzene	50 ug/mL
							Bromochloromethane	50 ug/mL
							Bromodichloromethane	50 ug/mL
							Bromoform	50 ug/mL
							Carbon disulfide	50 ug/mL
							Carbon tetrachloride	50 ug/mL
							Chlorobenzene	50 ug/mL
							Chloroform	50 ug/mL
							cis-1,2-Dichloroethene	50 ug/mL
							cis-1,3-Dichloropropene	50 ug/mL
							Cyclohexane	50 ug/mL
							Dibromochloromethane	50 ug/mL
							Dibromomethane	50 ug/mL
							Ethyl ether	50 ug/mL
							Ethyl methacrylate	50 ug/mL
							Ethylbenzene	50 ug/mL
							Hexachlorobutadiene	50 ug/mL
							Hexane	50 ug/mL
							Iodomethane	50 ug/mL
							Isobutyl alcohol	1250 ug/mL
							Isopropylbenzene	50 ug/mL
							m-Xylene & p-Xylene	50 ug/mL
							Methyl acetate	100 ug/mL
							Methyl tert-butyl ether	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methylcyclohexane	50 ug/mL
							Methylene Chloride	50 ug/mL
							n-Butylbenzene	50 ug/mL
							N-Propylbenzene	50 ug/mL
							Naphthalene	50 ug/mL
							o-Xylene	50 ug/mL
							sec-Butylbenzene	50 ug/mL
							Styrene	50 ug/mL
							tert-Butylbenzene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Tetrahydrofuran	100 ug/mL
							Toluene	50 ug/mL
							trans-1,2-Dichloroethene	50 ug/mL
							trans-1,3-Dichloropropene	50 ug/mL
							trans-1,4-Dichloro-2-butene	50 ug/mL
							Trichloroethene	50 ug/mL
					MV-CUS17739_00004	2500 uL	1-Chlorohexane	50 ug/mL
							2-Pentanone	200 ug/mL
							sec-Butyl Alcohol	1500 ug/mL
.MV-568720_00022	10/31/18		RESTEK, Lot A0137497		(Purchased Reagent)		Acrolein	19750 ug/mL
.MV-569721_00006	10/31/20		RESTEK, Lot A0131486		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.MV-569722_00008	10/31/20		RESTEK, Lot A0131502		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569723_00004	12/31/20		RESTEK, Lot A0133302		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.MV-569724_00016	10/31/18		RESTEK, Lot A0137562		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
.MV-569727_00007	02/29/20		RESTEK, Lot A0124672		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
.MV-571992_00001	12/31/18		RESTEK, Lot A0123711		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
.MV-CUS17739_00004	10/31/20		Ultra, Lot CS-4707		(Purchased Reagent)		1-Chlorohexane	1000 ug/mL
							2-Pentanone	4000 ug/mL
							sec-Butyl Alcohol	30000 ug/mL
MV-MegaMainA_00002	10/31/18	10/04/18	P&T Methanol, Lot 181124	50 mL	MV-571992_00001	1000 uL	1,2-Dichloroethene, Total	100 ug/mL
							Xylenes, Total	100 ug/mL
.MV-571992_00001	12/31/18		RESTEK, Lot A0123711		(Purchased Reagent)		1,2-Dichloroethene, Total	5000 ug/mL
							Xylenes, Total	5000 ug/mL
MV-MegaMainA_00005	11/30/18	11/01/18	P&T Methanol, Lot 181124	50 mL	MV-569721_00006	800 uL	2-Butanone (MEK)	200 ug/mL
							2-Hexanone	200 ug/mL
							4-Methyl-2-pentanone (MIBK)	200 ug/mL
							Acetone	200 ug/mL
					MV-569722_00008	1000 uL	Bromomethane	50 ug/mL
							Chloroethane	50 ug/mL
							Chloromethane	50 ug/mL
							Vinyl chloride	50 ug/mL
					MV-571992_00001	1000 uL	1,1,1-Trichloroethane	50 ug/mL
							1,1,2,2-Tetrachloroethane	50 ug/mL
							1,1,2-Trichloroethane	50 ug/mL
							1,1-Dichloroethane	50 ug/mL
							1,1-Dichloroethene	50 ug/mL
							1,2-Dibromoethane	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							1,2-Dichloroethene, Total	100 ug/mL
							1,2-Dichloropropane	50 ug/mL
							Benzene	50 ug/mL
							Bromobenzene	50 ug/mL
							Bromochloromethane	50 ug/mL
							Bromodichloromethane	50 ug/mL
							Bromoform	50 ug/mL
							Carbon disulfide	50 ug/mL
							Carbon tetrachloride	50 ug/mL
							Chlorobenzene	50 ug/mL
							Chloroform	50 ug/mL
							cis-1,3-Dichloropropene	50 ug/mL
							Dibromochloromethane	50 ug/mL
							Ethylbenzene	50 ug/mL
							Methylene Chloride	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Styrene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Toluene	50 ug/mL
							trans-1,3-Dichloropropene	50 ug/mL
							Trichloroethene	50 ug/mL
							Xylenes, Total	100 ug/mL
.MV-569721_00006	10/31/20		RESTEK, Lot A0131486		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.MV-569722_00008	10/31/20		RESTEK, Lot A0131502		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-571992_00001	12/31/18		RESTEK, Lot A0123711		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloroethene, Total	5000 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
SFD CAL INT_01577	10/31/18	10/27/18	Di Water, Lot NA	500 mL	50% NaOH_00013	2 mL	Sodium Hydroxide	2000 mg/L
					SFD CAL STK_00006	3.89513 g	Sulfide	1040 mg/L
.50% NaOH_00013	10/31/18		Fisher, Lot 166472		(Purchased Reagent)		Sodium Hydroxide	50 %
.SFD CAL STK_00006	10/01/23		ACROS, Lot A0390872		(Purchased Reagent)		Sulfide	0.1335 g/g

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
SIM_LVI_SURR_00006	02/11/19	10/01/18	ACETONE, Lot Acetone_00198	500 mL	8270SIMSurStk_00001	1 mL	2,4,6 - Tribromophenol	2 ug/mL
							2,4,6-Tribromophenol (Surr)	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL
							2-Fluorophenol (Surr)	2 ug/mL
							2-methylnaphthalene-d10	2 ug/mL
							Fluoranthene-d10	2 ug/mL
							Fluoranthene-d10 (Surr)	2 ug/mL
							Nitrobenzene-d5	2 ug/mL
							Phenol-d5 (Surr)	2 ug/mL
							Phenol-d6	2 ug/mL
							Terphenyl-d14	2 ug/mL
.8270SIMSurStk_00001	02/11/19		o2si, Lot 334025		(Purchased Reagent)		2,4,6 - Tribromophenol	1000 mg/L
							2,4,6-Tribromophenol (Surr)	1000 mg/L
							2-Fluorobiphenyl	1000 mg/L
							2-Fluorophenol (Surr)	1000 mg/L
							2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
							Fluoranthene-d10 (Surr)	1000 mg/L
							Nitrobenzene-d5	1000 mg/L
							Phenol-d5 (Surr)	1000 mg/L
							Phenol-d6	1000 mg/L
							Terphenyl-d14	1000 mg/L

Reagent

1000 B_00017

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 18, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- December 18, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

tel: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGB1
Lot Number:	M2-B663296
Matrix:	H2O
Value / Analyte(s):	1 000 µg/mL ea: Boron
Starting Material:	Recrystallized Boric Acid
Starting Material Lot#:	M2-B02142
Starting Material Purity:	100.0000%

4938584
ID: 1000 B_00017
Exp: 12/18/21 Prpd: SJS
1000 B IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 5 µg/mL

Density: 1.001 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM 3107 Lot Number: 110830

Assay Method #2 **1004 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	< 0.000108	M	Eu	< 0.000108	O	Na	< 0.006144	M	Se	< 0.001738	M	Zn	0.000509
O	Al	< 0.030720	M	Fe	< 0.004779	M	Nb	< 0.000108	O	Si	0.001028	M	Zr	< 0.000217
M	As	< 0.000869	M	Ga	< 0.000108	M	Nd	< 0.000108	M	Sm	< 0.000108			
M	Au	< 0.000108	M	Gd	< 0.000108	M	Ni	< 0.001303	M	Sn	< 0.000325			
s	B	<	M	Ge	< 0.000434	M	Os	< 0.003039	M	Sr	< 0.000108			
M	Ba	< 0.000217	M	Hf	< 0.000108	i	P	< 0.000001	M	Ta	< 0.000108			
O	Be	< 0.000409	M	Hg	< 0.000217	M	Pb	< 0.000108	M	Tb	< 0.000108			
M	Bi	< 0.000108	M	Ho	< 0.000108	M	Pd	< 0.000108	M	Te	< 0.000325			
O	Ca	0.000864	M	In	< 0.000108	M	Pr	< 0.000108	M	Th	< 0.000108			
M	Cd	< 0.000108	M	Ir	< 0.000108	M	Pt	< 0.000108	M	Ti	< 0.000651			
M	Ce	< 0.000108	O	K	< 0.010240	M	Rb	< 0.000108	M	Tl	< 0.000108			
M	Co	< 0.000108	M	La	< 0.000108	M	Re	< 0.000108	M	Tm	< 0.000108			
M	Cr	< 0.000434	M	Li	< 0.000108	M	Rh	< 0.000108	M	U	< 0.000108			
M	Cs	< 0.000108	M	Lu	< 0.000108	M	Ru	< 0.000108	M	V	< 0.004128			
M	Cu	< 0.000434	O	Mg	0.000019	i	S	< 0.000001	M	W	< 0.000108			
M	Dy	< 0.000108	M	Mn	< 0.000217	M	Sb	< 0.000434	M	Y	< 0.000108			
M	Er	< 0.000108	M	Mo	< 0.000217	M	Sc	< 0.001955	M	Yb	< 0.000108			

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 10.81 +3 4 B(OH)3 and B(OH)4-1

Chemical Compatibility -Moderately soluble in HCl, HNO3, H2SO4 and HF aqueous matrices and very soluble in NH4OH . Stable with all metals and inorganic anions at low to moderate ppm levels.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-1,000 ppm solutions chemically stable for years in 1% HNO3 / LDPE container. 1000 -10,000 ppm stable for years in dilute NH4OH / LDPE container.

B Containing Samples (Preparation and Solution) -Metal (Crystalline form is scarcely attacked by acids or alkaline solutions; amorphous form is soluble in conc. HNO3 or H2SO4); B(OH)3 (water soluble); Ores(avoid acid digestions and use caustic fusions in PtE); Organic Matrices (dry ash mixed with Na2CO3 in PtE at 450EC then increase heat to 1000EC to fuse; or perform a Na2O2 fusion in a NiE crucible / Parr bomb).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 11 amu	700 ppt	N/A	
ICP-OES 208.959 nm	0.007/0.0005 µg/mL	1	Mo
ICP-OES 249.678 nm	0.004/0.003 µg/mL	1	Os, W, Co, Cr, Hf
ICP-OES 249.773 nm	0.003/0.001 µg/mL	1	W, Ce, Co, Th, Ta, Mn, Mo, Fe

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

Reagent

1000 Li_00037

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 16, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- March 16, 2022

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

Tel: 800.669.6799 / 540.585.3030
Fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

A2LA ACCREDITED Testing Laboratory Certificate 883.01
A2LA ACCREDITED Reference Material Producer Certificate 883.02

5107546
ID: 1000 Li_00037
Exp: 03/16/22 Prpd: SJS
1000 Li

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGLI1
Lot Number:	N2-LI665824
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Lithium
Starting Material:	Li2CO3
Starting Material Lot#:	1613
Starting Material Purity:	99.9985%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 4 µg/mL

Density: 1.005 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **999 ± 4 µg/mL**
ICP Assay NIST SRM 3129a Lot Number: 100714

Assay Method #2 **1000 ± 1 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM by two independent methods—Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.004204	M	Eu	<	0.006306	O	Na		0.016217	M	Se	<	0.016817	O	Zn		0.001621
O	Al		0.000459	O	Fe		0.001081	M	Nb	<	0.001051	O	Si		0.025948	M	Zr	<	0.010511
M	As	<	0.021022	M	Ga	<	0.002102	M	Nd	<	0.004204	M	Sm	<	0.002102				
M	Au	<	0.006306	M	Gd	<	0.002102	O	Ni	<	0.002300	O	Sn	<	0.006000				
O	B		0.000270	M	Ge	<	0.012613	n	Os	<		O	Sr		0.000108				
O	Ba		0.000108	M	Hf	<	0.004204	O	P	<	0.002500	M	Ta	<	0.014715				
O	Be	<	0.000200	O	Hg	<	0.015000	M	Pb	<	0.006306	M	Tb	<	0.000630				
M	Bi	<	0.000840	M	Ho	<	0.001051	M	Pd	<	0.010511	M	Te	<	0.063067				
O	Ca		0.024867	O	In	<	0.004000	M	Pr	<	0.000630	M	Th	<	0.002102				
M	Cd	<	0.006306	M	Ir	<	0.010511	M	Pt	<	0.004204	O	Ti	<	0.000700				
M	Ce	<	0.010511	O	K		0.011082	M	Rb	<	0.002102	M	Tl	<	0.002102				
M	Co	<	0.006306	M	La	<	0.001051	M	Re	<	0.002102	M	Tm	<	0.000840				
M	Cr	<	0.010511	s	Li	<		M	Rh	<	0.002102	M	U	<	0.004204				
M	Cs	<	0.000630	M	Lu	<	0.000840	M	Ru	<	0.004204	O	V	<	0.000900				
O	Cu	<	0.001400	O	Mg		0.007027	O	S		0.009190	O	W	<	0.004000				
M	Dy	<	0.012613	O	Mn		0.000037	M	Sb	<	0.001051	M	Y	<	0.084089				
M	Er	<	0.010511	M	Mo	<	0.004204	M	Sc	<	0.021022	M	Yb	<	0.002102				

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 6.94 +1 (6) Li+(aq) large effective radius due to hydration sphere

Chemical Compatibility -Soluble in HCl, HNO3, H2SO4 and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.

Li Containing Samples (Preparation and Solution) -Metal (Dissolves very rapidly in water); Ores (Sodium carbonate fusion in Pt0 followed by HCl dissolution-blank levels of Li in sodium carbonate critical); Organic Matrices (Sulfuric / peroxide digestion or nitric / sulfuric / perchloric acid decomposition).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 7 amu	10 ppt	n/a	
ICP-OES 323.261 nm	1.1 / 0.05 micro;g/mL	1	Sb, Th, Ni
ICP-OES 460.286 nm	0.9 / 0.04 µg/mL	1	Zr, Th
ICP-OES 670.784 nm	0.002 / 0.00002 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

Reagent

1000 Mo_00013

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01

ACCREDITED Reference Material Producer Certificate 863.02

4938580
ID: 1000 As_00020
Exp: 05/24/21 Prpd: SJS
1000 As IV

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAS1
Lot Number:	M2-AS657780
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Arsenic
Starting Material:	As Metal
Starting Material Lot#:	1971 and 1851
Starting Material Purity:	99.9991%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 5 µg/mL

Certified Density: 1.011 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **999 ± 4 µg/mL**
ICP Assay NIST SRM 3103a Lot Number: 100818

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

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4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

O	Ag	<	0.002234	M	Eu	<	0.000466	O	Na		0.000767	M	Se	<	0.002797	O	Zn		0.000370
O	Al		0.001986	O	Fe		0.000079	O	Nb	<	0.005585	O	Si		0.004236	M	Zr	<	0.001865
s	As	<		M	Ga	<	0.000466	M	Nd	<	0.000466	M	Sm	<	0.000466				
M	Au	<	0.002796	M	Gd	<	0.000466	M	Ni		0.000486	M	Sn	<	0.000932				
O	B		0.000556	M	Ge	<	0.000932	M	Os	<	0.000466	M	Sr	<	0.001865				
O	Ba	<	0.000670	M	Hf	<	0.000466	O	P	<	0.027925	M	Ta	<	0.000466				
O	Be	<	0.000111	M	Hg	<	0.009321	M	Pb	<	0.002797	M	Tb	<	0.000466				
M	Bi	<	0.000466	M	Ho	<	0.000466	M	Pd	<	0.000466	M	Te	<	0.004663				
O	Ca		0.000503	M	In	<	0.023315	M	Pr	<	0.000466	M	Th	<	0.000466				
M	Cd	<	0.000466	M	Ir	<	0.000466	M	Pt	<	0.000466	O	Ti		0.000052				
M	Ce	<	0.000466	O	K		0.000185	M	Rb	<	0.001865	M	Tl	<	0.000466				
M	Co	<	0.000466	M	La	<	0.000466	M	Re	<	0.000466	M	Tm	<	0.000466				
O	Cr	<	0.002122	O	Li	<	0.000111	M	Rh	<	0.000466	M	U	<	0.000466				
M	Cs	<	0.000932	M	Lu	<	0.000466	M	Ru	<	0.000466	M	V	<	0.001865				
O	Cu	<	0.002904	O	Mg		0.000034	O	S	<	0.017872	M	W	<	0.004663				
M	Dy	<	0.000466	O	Mn		0.000018	M	Sb	<	0.000466	O	Y	<	0.000558				
M	Er	<	0.000466	M	Mo	<	0.000466	O	Sc	<	0.001005	M	Yb	<	0.000466				

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 24, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- May 24, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Brenda Francis
Product Documentation Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 74.92 ; mix of +3 and +5 ; 6 ; H_3AsO_4 and $HAsO_2$

Chemical Compatibility - Arsenic has no cationic chemistry. It is soluble in HCl, HNO_3,H_3PO_4, H_2SO_4 and HF aqueous matrices water and NH_4OH . It is stable with most inorganic anions (forms arsenate when boiled with chromate) but many cationic metals form the insoluble arsenates under pH neutral conditions. When fluorinated and / or under acidic conditions arsenate formation is typically not a problem at moderate to low concentrations.

Stability - 2-100 ppb levels stable for months alone or mixed with other elements at equivalent levels in 1% HNO_3 / LDPE container.

As Containing Samples (Preparation and Solution) - Metal (soluble in 1:1 H_2O / HNO_3); Oxides (the oxide exists in crystalline and amorphous forms where the amorphic form is more water soluble. The oxides typically dissolve in dilute acidic solutions when boiled); Minerals (one gram of powered sample is fused in a Ni crucible with 10 grams of a 1:1 mix of K_2CO_3 and KNO_3 and the melt extracted with hot water); Organic Matrices (0.2 to 0.5 grams of sample are fused with 15 grams of a 1:1 Na_2CO_3 / Na_2O_2 mix in a Ni crucible. The fuseate is extracted with water and acidified with HNO_3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 75 amu	20 ppt	N/A	40Ar35Cl, 59Co16O, 36Ar38Ar1H,8Ar37Cl,Ar39K, 150Nd2+,150Sm2+
ICP-OES 189.042 nm	0.05/0.005 µg/mL	1	Cr
ICP-OES 193.696 nm	0.1/0.01 µg/mL	1	V, Ge
ICP-OES 228.812 nm	0.1/0.01 µg/mL	1	Cd, Pt, Ir, Co

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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u_{ts} = transport stability standard uncertainty

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

O	Ag	<	0.002234	M	Eu	<	0.000466	O	Na		0.000767	M	Se	<	0.002797	O	Zn		0.000370
O	Al		0.001986	O	Fe		0.000079	O	Nb	<	0.005585	O	Si		0.004236	M	Zr	<	0.001865
s	As	<		M	Ga	<	0.000466	M	Nd	<	0.000466	M	Sm	<	0.000466				
M	Au	<	0.002796	M	Gd	<	0.000466	M	Ni		0.000486	M	Sn	<	0.000932				
O	B		0.000556	M	Ge	<	0.000932	M	Os	<	0.000466	M	Sr	<	0.001865				
O	Ba	<	0.000670	M	Hf	<	0.000466	O	P	<	0.027925	M	Ta	<	0.000466				
O	Be	<	0.000111	M	Hg	<	0.009321	M	Pb	<	0.002797	M	Tb	<	0.000466				
M	Bi	<	0.000466	M	Ho	<	0.000466	M	Pd	<	0.000466	M	Te	<	0.004663				
O	Ca		0.000503	M	In	<	0.023315	M	Pr	<	0.000466	M	Th	<	0.000466				
M	Cd	<	0.000466	M	Ir	<	0.000466	M	Pt	<	0.000466	O	Ti		0.000052				
M	Ce	<	0.000466	O	K		0.000185	M	Rb	<	0.001865	M	Tl	<	0.000466				
M	Co	<	0.000466	M	La	<	0.000466	M	Re	<	0.000466	M	Tm	<	0.000466				
O	Cr	<	0.002122	O	Li	<	0.000111	M	Rh	<	0.000466	M	U	<	0.000466				
M	Cs	<	0.000932	M	Lu	<	0.000466	M	Ru	<	0.000466	M	V	<	0.001865				
O	Cu	<	0.002904	O	Mg		0.000034	O	S	<	0.017872	M	W	<	0.004663				
M	Dy	<	0.000466	O	Mn		0.000018	M	Sb	<	0.000466	O	Y	<	0.000558				
M	Er	<	0.000466	M	Mo	<	0.000466	O	Sc	<	0.001005	M	Yb	<	0.000466				

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

4938580
ID: 1000 As_00020
Exp: 05/24/21 Prpd: SJS
1000 As IV

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAS1
Lot Number:	M2-AS657780
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Arsenic
Starting Material:	As Metal
Starting Material Lot#:	1971 and 1851
Starting Material Purity:	99.9991%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 5 µg/mL

Certified Density: 1.011 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **999 ± 4 µg/mL**
ICP Assay NIST SRM 3103a Lot Number: 100818

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

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

Reagent

1000 Sb_00018

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 22, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 22, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

toll: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

4799296
ID: 1000 Sb_00018
Exp: 09/22/21 Prpd: SJS
1000 Sb IV

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSB1
Lot Number:	M2-SB661224
Matrix:	1% (v/v) HNO3 3% (v/v) Tartaric Acid
Value / Analyte(s):	1 000 µg/mL ea: Antimony
Starting Material:	Sb Metal
Starting Material Lot#:	1857
Starting Material Purity:	99.9898%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value:	1000 ± 8 µg/mL
Density:	1.021 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1000 ± 4 µg/mL**
ICP Assay NIST SRM 3102a Lot Number: 140911

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	< 0.000100	M	Eu	< 0.000100	O	Na	0.007430	M	Se	< 0.003732	M	Zn	0.000243
O	Al	0.000972	O	Fe	0.002146	O	Nb	< 0.001813	O	Si	0.019119	M	Zr	< 0.001210
M	As	< 0.003228	M	Ga	< 0.000100	M	Nd	< 0.000100	M	Sm	< 0.000100			
M	Au	< 0.001993	M	Gd	< 0.000100	O	Ni	0.000525	M	Sn	< 0.001815			
O	B	0.003132	M	Ge	< 0.000807	M	Os	< 0.000099	O	Sr	< 0.000085			
O	Ba	< 0.001067	M	Hf	< 0.000100	O	P	0.006825	O	Ta	< 0.001013			
O	Be	< 0.000028	M	Hg	< 0.000299	M	Pb	< 0.000605	M	Tb	< 0.000100			
M	Bi	< 0.000100	M	Ho	< 0.000100	M	Pd	< 0.000201	M	Te	< 0.001109			
O	Ca	0.001113	M	In	< 0.000100	M	Pr	< 0.001008	M	Th	< 0.000100			
M	Cd	< 0.000100	M	Ir	< 0.000398	M	Pt	< 0.000100	O	Tl	0.001106			
O	Ce	< 0.007469	O	K	0.052286	M	Rb	< 0.002824	M	Tl	< 0.000100			
M	Co	< 0.000100	O	La	< 0.000759	M	Re	< 0.000100	M	Tm	< 0.000100			
O	Cr	0.010314	O	Li	< 0.000053	M	Rh	< 0.000100	M	U	< 0.000100			
M	Cs	< 0.002017	M	Lu	< 0.000100	M	Ru	< 0.000099	M	V	< 0.000100			
O	Cu	< 0.000597	O	Mg	0.000486	n	S	<	M	W	< 0.001008			
M	Dy	< 0.000403	O	Mn	0.000172	s	Sb	<	M	Y	< 0.000100			
M	Er	< 0.000100	M	Mo	0.000317	O	Sc	< 0.000049	O	Yb	< 0.000064			

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 121.75 +3 6 Sb(O)C4H4O6-1

Chemical Compatibility -Stable in conc. HCl, dilute or conc. HF. Stable in dilute HNO3 as the fluoride or tartrate complex. Avoid basic media. Stable with most metals and inorganic anions in acidic media as the tartrate provided the acidity is not too high or the acid is oxidizing causing loss of the stabilizing tartrate ion. The fluoride complex of antimony is stable in strong acid but you should only mix with other metals that are fluorinated.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-2% HNO3 / LDPE container.

Sb Containing Samples (Preparation and Solution) -Metal and alloys (Soluble in H2O / HF / HNO3 mixture); Oxides (Soluble in HCl and tartaric acid or H2O / HF / HNO3 mixtures); Ores (fusion with Na2CO3 in Pt0 followed by dissolving the fuseate in a H2O / HF / HNO3 mixture); Organic based (sulfuric acid / hydrogen peroxide digestion)

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 121 amu	5 ppt	N/A	105Pd16O, 89Y16O2
ICP-OES 206.833 nm	0.03/0.003 µg/mL	1	Ta, Cr, Ge, Hf
ICP-OES 217.581 nm	0.05/0.005 µg/mL	1	Nb, W, Re, Fe
ICP-OES 231.147 nm	0.06/0.006 µg/mL	1	Ni, Co, Pt

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

Reagent

1000 Sn_00015

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 06, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 06, 2021**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com
tel: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSN1
Lot Number:	M2-SN659324
Matrix:	tr. HNO3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Tin
Starting Material:	Sn shot
Starting Material Lot#:	1789
Starting Material Purity:	99.9976%

5203484
ID: 1000 Sn_00015
Exp: 07/06/17 Prpd: SJS
1000 Sn IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 6 µg/mL

Density: 1.001 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 3 µg/mL**
ICP Assay NIST SRM 3161a Lot Number: 140917

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

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000100	M	Eu	<	0.000100	O	Na		0.000683	M	Se	<	0.005701	O	Zn	<	0.000308
O	Al	<	0.004116	O	Fe		0.000989	M	Nb	<	0.000200	O	Si		0.012513	O	Zr	<	0.000514
M	As	<	0.001100	M	Ga	<	0.000100	M	Nd	<	0.000100	M	Sm	<	0.000100				
M	Au	<	0.000199	M	Gd	<	0.000500	O	Ni	<	0.001234	s	Sn	<					
O	B	<	0.001296	M	Ge	<	0.000700	M	Os	<	0.000099	O	Sr	<	0.000025				
O	Ba	<	0.000246	M	Hf	<	0.001600	O	P	<	0.020580	O	Ta	<	0.009261				
O	Be	<	0.000102	M	Hg	<	0.000996	M	Pb		0.003700	M	Tb	<	0.000100				
M	Bi		0.000337	M	Ho	<	0.000100	M	Pd	<	0.000100	M	Te	<	0.001800				
O	Ca		0.000470	O	In		0.005468	M	Pr	<	0.006001	M	Th	<	0.000100				
O	Cd	<	0.000284	M	Ir	<	0.000099	M	Pt	<	0.000200	O	Tl	<	0.000514				
M	Ce	<	0.010001	O	K	<	0.003447	M	Rb	<	0.000500	M	Tl	<	0.000100				
O	Co	<	0.001337	O	La	<	0.001025	M	Re	<	0.000100	M	Tm	<	0.000100				
O	Cr	<	0.001029	O	Li	<	0.000077	M	Rh	<	0.000100	M	U	<	0.000100				
M	Cs	<	0.030005	M	Lu	<	0.000200	M	Ru	<	0.000099	M	V	<	0.000500				
O	Cu	<	0.002058	O	Mg		0.000037	n	S	<		M	W	<	0.000100				
M	Dy	<	0.000100	M	Mn	<	0.000100	O	Sb	<	0.020580	M	Y	<	0.000100				
M	Er	<	0.000100	M	Mo	<	0.000100	O	Sc	<	0.000164	M	Yb	<	0.000100				

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 118.71 +4 4,5, 6,7,8 Sn(OH)xFy2-

Chemical Compatibility -Soluble in HCl and dilute HF / HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away. (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated.) Stable with most inorganic anions provided it is in the chemical form shown above.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the Sn(OH)xFy2- for 1 year in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Sn(OH)xFy2- chemically stable for years in 2-5% HNO3 / trace HF in a LDPE container.

Sn Containing Samples (Preparation and Solution) - Metal (Soluble in HF / HNO3 or HCl); Oxides - SnO (soluble in HCl), SnO2 -very resistant to all acids including HF(Fusion with equal parts of Na2CO3 and S. It is then soluble in water or dilute acids as the thiostannate.); Alloys (Treat first 0.1 g with 10 mL conc. H2SO4 to boiling until the alloy disintegrates and nearly all of the sulfuric acid is expelled. Then add 100 mL O2 free water and 50 mL of conc HCl or transfer to a plastic container and add 1 mL HF in either case warming gently to bring about solution.); Organic Matrices (Volatility and precipitation of the insoluble stannic oxide are problems. Consultation of the literature should be made for individual matrices / Sn compounds.)

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 120 amu	5 ppt	N/A	120Te, 104Ru16O, 104Pd16O
ICP-OES 189.989 nm	0.03 / 0.003 µg/mL	1	
ICP-OES 242.949 nm	0.1 / 0.01 µg/mL	1	W, Mo, Rh ,Ta, Co

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

Reagent

1000 Sr_00011

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 14, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- June 14, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

300 Technology Drive
Christiansburg, VA 24073-USA
inorganicventures.com
Fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR1
Lot Number:	M2-SR658331
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Strontium
Starting Material:	SrCO3
Starting Material Lot#:	1716 1967 1966
Starting Material Purity:	99.9937%

4938582
ID: 1000 Sr_00011
Exp: 06/14/18 Prpd: SJS
1000 Sr IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value:	1002 ± 5 µg/mL
Density:	1.001 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**1002 ± 3 µg/mL** ICP Assay NIST SRM 3153a Lot Number: 990906
Assay Method #2	**1001 ± 3 µg/mL** EDTA NIST SRM 928 Lot Number: 928

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

O	Ag	<	0.003318	M	Eu	<	0.000995	O	Na		0.000474	M	Se	<	0.023047	O	Zn		0.000121
O	Al		0.000486	O	Fe		0.000826	M	Nb	<	0.000497	O	Si		0.001483	M	Zr	<	0.007967
M	As	<	0.001493	M	Ga	<	0.001991	M	Nd	<	0.000497	M	Sm	<	0.000497				
M	Au	<	0.005394	M	Gd	<	0.002987	M	Ni		0.001357	M	Sn		0.000306				
O	B	<	0.005530	M	Ge	<	0.004979	M	Os	<	0.000490	s	Sr	<					
M	Ba		0.104336	M	Hf	<	0.000497	O	P	<	0.033180	M	Ta	<	0.000497				
O	Be	<	0.000132	M	Hg	<	0.000980	M	Pb		0.001160	M	Tb	<	0.000497				
M	Bi		0.000350	M	Ho	<	0.000497	M	Pd	<	0.002451	O	Te	<	0.022120				
O	Ca		0.003185	M	In	<	0.000497	M	Pr	<	0.000995	M	Th	<	0.000497				
M	Cd		0.000153	M	Ir	<	0.000490	M	Pt	<	0.002987	M	Ti		0.000186				
M	Ce		0.001193	O	K		0.001945	M	Rb	<	0.006971	M	Tl	<	0.000497				
M	Co		0.000153	M	La	<	0.003983	M	Re	<	0.000497	M	Tm	<	0.000497				
O	Cr	<	0.005530	O	Li	<	0.004202	O	Rh	<	0.006636	M	U	<	0.000497				
M	Cs	<	0.001991	M	Lu	<	0.000497	M	Ru	<	0.000980	M	V	<	0.001991				
O	Cu	<	0.006636	O	Mg		0.000126	O	S	<	0.055300	M	W	<	0.001493				
M	Dy	<	0.000497	M	Mn		0.000120	M	Sb	<	0.003983	O	Y	<	0.003318				
M	Er	<	0.000497	M	Mo	<	0.006971	O	Sc	<	0.003318	M	Yb		0.000043				

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 Sr(H2O)6+2
Chemical Compatibility - Soluble in HCl, and HNO3. Avoid H2SO4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO3 / LDPE container.
Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

Reagent

1000 v_00015

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
Inorganicventures.com

tel: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGV1
Lot Number:	K2-V651103
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Vanadium
Starting Material:	V2O5
Starting Material Lot#:	1782
Starting Material Purity:	99.9947%

4780772
ID: 1000 V_00015
Exp: 08/22/20 Prpd: SJS
1000 V IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 5 µg/mL

Certified Density: 1.016 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**1001 ± 3 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #2	**999 ± 5 µg/mL** ICP Assay NIST SRM 3165 Lot Number: 992706

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

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

Characterization of CRM by two independent methods | **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000199	M	Eu	<	0.000099	O	Na		0.007915	M	Se	<	0.006683	O	Zn	<	0.006624
M	Al		0.009352	O	Fe		0.033582	M	Nb		0.001127	O	Si		0.002638	M	Zr	<	0.001995
M	As	<	0.001596	M	Ga		0.000433	M	Nd	<	0.000399	M	Sm	<	0.000099				
M	Au	<	0.000300	M	Gd	<	0.000099	M	Ni	<	0.006982	M	Sn	<	0.001396				
M	B	<	0.016458	M	Ge	<	0.000399	M	Os	<	0.000100	O	Sr		0.000143				
M	Ba		0.000184	M	Hf	<	0.000099	O	P	<	0.055200	M	Ta	<	0.000099				
M	Be	<	0.000498	M	Hg	<	0.008001	M	Pb		0.000238	M	Tb	<	0.000099				
M	Bi	<	0.000399	M	Ho	<	0.000099	M	Pd	<	0.000099	M	Te	<	0.001197				
O	Ca		0.011993	M	In	<	0.000099	M	Pr	<	0.000099	M	Th	<	0.000199				
M	Cd	<	0.000099	M	Ir	<	0.000100	M	Pt	<	0.000199	M	Ti		0.001452				
M	Ce	<	0.000399	O	K	<	0.110400	M	Rb	<	0.000598	M	Tl	<	0.001396				
M	Co	<	0.000099	M	La	<	0.000199	M	Re	<	0.000099	M	Tm	<	0.000099				
O	Cr		0.016311	O	Li	<	0.003312	M	Rh	<	0.000399	M	U	<	0.000199				
M	Cs	<	0.000184	M	Lu	<	0.000099	M	Ru	<	0.000100	s	V	<					
M	Cu	<	0.002793	O	Mg	<	0.033120	n	S	<		M	W		0.000368				
M	Dy	<	0.000099	M	Mn		0.000650	M	Sb		0.009363	M	Y	<	0.000099				
M	Er	<	0.000099	M	Mo		0.011021	M	Sc	<	0.000498	M	Yb	<	0.000099				

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

-While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 50.94 +5 6 H2V10O284-
Chemical Compatibility -Soluble in HCl, HNO3, H2SO4, HF, H3PO4 and strong basic media. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
V Containing Samples (Preparation and Solution) -Metal (Fusion with NaOH or KOH in Ni0 or Na2CO3 / KNO3); Oxides (V2O3 - use HCl, V2O4 - use HCl or HNO3, V2O5 - use concentrated acids); Ores (Na2CO3 / KNO3 in Pt0 caution - nitrates attack Pto followed by water extraction of fuseate); Organic Matrices (Ash at 450 EC followed by dissolving according to V2O5 above) .
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 51 amu	4 ppt	N/A	34S16O1H, 35Cl16O, 38Ar13C, 36Ar15N, 36Ar14N1H, 37Cl14N,36S15N, 33S18O, 34S17O, 102Ru+2,02Pd+2
ICP-OES 290.882 nm	0.008 / 0.0008 µg/mL	1	Hf, Nb
ICP-OES 292.402 nm	0.006 / 0.001 µg/mL	1	Th
ICP-OES 309.311 nm	0.005 / 0.001 µg/mL	1	Mg, U, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 22, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- August 22, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

James King Jr
Chemist, Technical Manager

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

1000 W IV_00014

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGW1
Lot Number:	N2-W664865
Matrix:	0.2% (v/v) HNO3 2% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Tungsten
Starting Material:	W Powder
Starting Material Lot#:	1898
Starting Material Purity:	99.9941%

5204592
ID: 1000 W IV_00014
Exp:07/05/19 Prpd:LMT Opn:07/05/18
1000 Tungsten IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 6 µg/mL

Density: 1.007 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **999 ± 6 µg/mL**
ICP Assay NIST SRM 3163 Lot Number: 140606

Assay Method #2 **997 ± 7 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.001202	M	Eu	<	0.000200	O	Na		0.001960	M	Se	<	0.004000	M	Zn	0.002074
O	Al	<	0.033570	M	Fe	<	0.079372	M	Nb	<	0.180390	i	Si	<		O	Zr	< 0.005595
M	As	<	0.010422	M	Ga	<	0.000200	M	Nd	<	0.000200	M	Sm	<	0.000200			
M	Au	<	0.030804	M	Gd	<	0.000200	M	Ni	<	0.017638	M	Sn		0.000266			
M	B	<	0.003808	M	Ge	<	0.001403	M	Os	<	0.000200	M	Sr	<	0.000801			
M	Ba	<	0.002004	M	Hf		0.000288	i	P	<		M	Ta		0.011947			
M	Be	<	0.000601	i	Hg	<		M	Pb	<	0.005612	M	Tb	<	0.000200			
M	Bi	<	0.009219	M	Ho	<	0.000200	M	Pd	<	0.001800	M	Te	<	0.001603			
O	Ca		0.004290	M	In	<	0.000200	M	Pr	<	0.000601	M	Th	<	0.012426			
M	Cd	<	0.000200	M	Ir	<	0.000200	M	Pt	<	0.001603	M	Ti		0.004115			
M	Ce	<	0.000200	O	K		0.039229	M	Rb	<	0.001603	M	Tl	<	0.003206			
M	Co	<	0.000200	M	La	<	0.000200	M	Re	<	0.300651	M	Tm	<	0.000200			
O	Cr	<	0.011190	O	Li	<	0.000434	M	Rh	<	0.000200	M	U	<	0.001202			
M	Cs		0.000088	M	Lu	<	0.000200	M	Ru	<	0.000200	M	V	<	0.009219			
M	Cu	<	0.003607	M	Mg		0.000632	i	S	<		s	W	<				
M	Dy	<	0.000200	M	Mn	<	0.005211	M	Sb	<	0.008819	M	Y	<	0.000200			
M	Er	<	0.000200	M	Mo		0.000232	O	Sc	<	0.000543	M	Yb	<	0.000200			

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 183.85 +6 6,7,8,9 WOF5-2(chemical form as received)
Chemical Compatibility -W is very readily hydrolyzed requiring 0.1 to 1% HF solutions for stabile acidic solutions. The [WOF5]-2 is soluble in % levels of HCl and HNO3 provided it is in the [WOF5]-2 form. Stable at ppm levels with some metals provided it is fluorinated. <U>Do not mix with Alkaline or Rare Earths</U>. W is best to be mixed only with other fluorinated metals (Ti, Zr, Hf, Nb, Ta, Mo, Si, Sn, Ge). Look for yellow WO3 precipitate if mixed with other transitions at higher levels indicating instability. The yellow WO3 will form over a period of weeks even in trace HF, therefore, <U>HF levels of W multi-element blends should be ∼ 1%</U>.
Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the [WOF5]-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the [WOF5]-2 chemically stable for years in 1% HF in a LDPE container.
W Containing Samples (Preparation and Solution) -Metal (Soluble in HF / HNO3); Oxide (soluble in HF or NH4OH) ; Organic Matrices (dry ash at 450 0C in Pt0 and dissolve oxide with HF).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 182 amu	5 ppt	N/A	166Er16O
ICP-OES 207.911 nm	0.03/0.001 µg/mL	1	Ru, In
ICP-OES 209.475 nm	0.05/0.008 µg/mL	1	Mo
ICP-OES 224.875 nm	0.05/0.005 µg/mL	1	Co, Rh, Ag

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 19, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 19, 2022

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

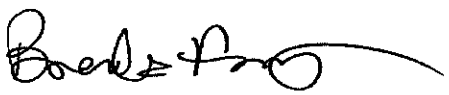
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Brenda Francis
Product Documentation Technician



Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

1000 Zr_00017

INORGANIC VENTURES™
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

4902292
ID: 1000 Zr_00017
Exp: 03/17/17 Prpd: SJS
1000 Zr IV

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGZR1
Lot Number:	M2-ZR655896
Matrix:	tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Zirconium
Starting Material:	ZrO2
Starting Material Lot#:	1842
Starting Material Purity:	99.9913%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value:	998 ± 5 µg/mL
Density:	1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**998 ± 3 µg/mL**
	ICP Assay NIST SRM 3169 Lot Number: 130920

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

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{its} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{its} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

n	Ag	<		M	Eu	<	0.000247	O	Na	<	0.314400	M	Se	<	0.494400	O	Zn		0.000102
O	Al	<	0.073360	O	Fe		0.004477	O	Nb	<	0.104800	O	Si	<	0.104800	s	Zr	<	
M	As	<	0.012360	M	Ga	<	0.001236	M	Nd	<	0.000742	M	Sm	<	0.007416				
M	Au	<	0.012360	M	Gd	<	0.000247	O	Ni	<	0.003144	M	Sn	<	0.024720				
M	B	<	0.009888	M	Ge	<	0.000742	n	Os	<		M	Sr		0.000295				
M	Ba	<	0.007416	O	Hf		0.010745	O	P	<	0.052400	O	Ta	<	0.104800				
M	Be	<	0.000247	O	Hg	<	0.001048	M	Pb		0.000316	M	Tb	<	0.000247				
M	Bi	<	0.017304	M	Ho	<	0.000247	M	Pd	<	0.024720	M	Te	<	0.247200				
O	Ca	<	0.104800	M	In	<	0.002472	M	Pr	<	0.000247	M	Th	<	0.012360				
O	Cd		0.059101	M	Ir	<	0.012360	M	Pt	<	0.024720	M	Ti	<	0.017304				
M	Ce	<	0.002472	O	K	<	0.157200	M	Rb	<	0.002472	M	Tl	<	0.000247				
M	Co	<	0.002472	M	La	<	0.000247	M	Re	<	0.000247	M	Tm	<	0.000247				
O	Cr	<	0.010480	M	Li	<	0.009888	M	Rh	<	0.000247	M	U	<	0.001236				
M	Cs	<	0.012360	M	Lu	<	0.000247	M	Ru	<	0.000247	M	V	<	0.019776				
O	Cu		0.002238	O	Mg		0.000111	O	S		0.044774	M	W	<	0.024720				
M	Dy	<	0.000247	M	Mn	<	0.012360	M	Sb	<	0.002472	M	Y	<	0.000247				
M	Er	<	0.000247	O	Mo		0.001656	O	Sc	<	0.002096	M	Yb	<	0.000247				

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.8799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 17, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- March 17, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

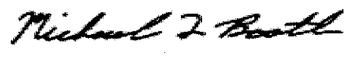
Certificate Prepared By:

James King Jr
Chemist, Technical Manager



Certificate Approved By:

Michael Booth
Supervisor, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



Revision 1: Added 30 mL Phrases. 092117JB

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 91.22 +4 6,7,8 Zr(F)6-2
Chemical Compatibility -Soluble in concentrated HCl, HF, H2SO4 (very hot) and HNO3. Avoid H3PO4and neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions but precipitation with phosphate, oxalate, and tartrate with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.
Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the Zr(F)6-2 + Zr(OH)4F2-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Zr(F)6-2 chemically stable for years in 2-5% HNO3 / trace HF in a LDPE container.
Zr Containing Samples (Preparation and Solution) -Metal (Soluble in H2O / HF / HNO3); Oxide unlike TiO2 th ZrO2 is best fused in one of the following ways (Na2O2 in Ni0, Na2CO3 in Pt0 or Borax in Pt0); Organic Matrices (dry ash at 450 0C in Pt0 and dissolve by fusing with Na2CO3 and dissolving in HF / HNO3 / H2O).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 90 amu	2 ppt	N/A	74Ge16O, 74Se16O, [180X+2 (where X = Hf, Ta, W)]
ICP-OES 272.261 nm	0.018/0.001 µg/mL	1	Cr, V, Th, W
ICP-OES 339.198 nm	0.008/0.0007 µg/mL	1	Th, Mo
ICP-OES 343.823 nm	0.007/0.0004 µg/mL	1	Hf, Nb

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

Reagent

10000 Al_00018

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 08, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 08, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Donna Senn

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

300 Technology Drive
Christiansburg, VA 24073 - USA
Inorganic Ventures

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAL10
Lot Number:	K2-AL653003
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Aluminum
Starting Material:	Al Shot
Starting Material Lot#:	1834
Starting Material Purity:	99.9965%

4785865
ID: 10000 Al_00018
Exp: 11/08/20 Prpd: CML
10000 Al IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10030 ± 33 µg/mL

Certified Density: 1.083 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **10008 ± 39 µg/mL**
ICP Assay NIST SRM 3101a Lot Number: 140903

Assay Method #2 **10039 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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

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

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\ (u_{char\ a})^2 + (w_b)^2\ (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM by one method

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000521	M	Eu	<	0.000521	O	Na		0.039566	M	Se	<	0.003648	M	Zn	0.030987
s	Al	<		O	Fe		0.031494	M	Nb	<	0.000521	O	Si		0.185691	O	Zr	0.000399
M	As	<	0.012509	M	Ga		0.002264	M	Nd		0.004290	M	Sm	<	0.002085			
M	Au	<	0.000518	M	Gd	<	0.004170	O	Ni	<	0.012890	M	Sn	<	0.005212			
O	B		0.008253	M	Ge	<	0.002606	M	Os	<	0.000518	O	Sr		0.000202			
O	Ba	<	0.000659	M	Hf	<	0.000521	n	P	<		M	Ta	<	0.000521			
O	Be	<	0.000258	M	Hg	<	0.001555	M	Pb		0.001549	M	Tb	<	0.000521			
M	Bi	<	0.005212	M	Ho	<	0.000521	M	Pd	<	0.000521	M	Te	<	0.014072			
O	Ca		0.013185	M	In	<	0.002085	M	Pr		0.000953	M	Th	<	0.007297			
M	Cd	<	0.004170	M	Ir	<	0.000518	M	Pt	<	0.000521	O	Ti		0.001589			
M	Ce		0.011680	O	K		0.026175	M	Rb	<	0.000521	M	Tl		0.003099			
M	Co	<	0.000521	O	La		0.007115	M	Re	<	0.000521	M	Tm	<	0.000521			
O	Cr		0.001038	O	Li	<	0.000103	M	Rh	<	0.000521	M	U	<	0.005212			
M	Cs	<	0.000521	M	Lu	<	0.000521	M	Ru	<	0.000518	M	V		0.001549			
O	Cu		0.030608	O	Mg		0.016615	i	S	<		M	W	<	0.000521			
M	Dy	<	0.003127	O	Mn		0.000589	M	Sb	<	0.018763	O	Y	<	0.002578			
M	Er		0.000834	M	Mo	<	0.002085	O	Sc		0.000548	M	Yb	<	0.000521			

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 26.98 +3 6 Al(H2O)6+3

Chemical Compatibility -Soluble in HCl, HNO3, HF and H2SO4. Avoid neutral media. Soluble in strongly basic NaOH forming the Al(OH)4(H2O)21- species. Stable with most metals and inorganic anions. The phosphate is insoluble in water and only slightly soluble in acid.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

Al Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); a- Al2O3 (Na2CO3 fusion in Pt0);

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 27 amu	30 ppt	N/A	12C15N, 13C14N, 1H12C14N, 11B16O, 54Cr2+, 54Fe2+
ICP-OES 167.078 nm	0.1/0.009 µg/mL	1	Fe
ICP-OES 394.401 nm	0.05/0.006 µg/mL	1	U, Ce
ICP-OES 396.152 nm	0.03/0.006 µg/mL	1	Mo, Zr, Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

Reagent

10000 Fe_00021

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 12, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 12, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

300 Technology Drive
Christiansburg, VA 24073 - USA
Tel: 800.669.6799 - 540.585.3030
Fax: 540.585.3012
inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGFE10
Lot Number:	M2-FE659835
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Iron
Starting Material:	Iron Metal
Starting Material Lot#:	2031 & 2146
Starting Material Purity:	99.9919%

4954179
ID: 10000 Fe_00021
Exp: 07/12/21 Prpd: SJS
10000 Fe IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value:	9993 ± 25 µg/mL
Density:	1.040 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10014 ± 52 µg/mL** ICP Assay NIST SRM 3126a Lot Number: 140812
Assay Method #2	**9988 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000607	M	Eu	<	0.000607	O	Na		0.009866	M	Se	<	0.032805	O	Zn	0.119626
M	Al		0.009492	s	Fe	<		M	Nb	<	0.000607	O	Si		0.035517	M	Zr	< 0.002430
M	As		0.060562	M	Ga	<	0.048601	M	Nd	<	0.000607	M	Sm	<	0.000607			
M	Au	<	0.008508	M	Gd	<	0.000607	O	Ni		0.182522	M	Sn	<	0.012150			
M	B	<	0.015187	M	Ge		0.060202	M	Os	<	0.001215	O	Sr	<	0.000997			
O	Ba	<	0.002494	M	Hf	<	0.000607	i	P	<	0.000001	M	Ta	<	0.000607			
M	Be	<	0.000607	M	Hg	<	0.001215	M	Pb		0.001321	M	Tb	<	0.000607			
M	Bi	<	0.000607	M	Ho	<	0.000607	M	Pd	<	0.000607	M	Te	<	0.001822			
O	Ca		0.022445	M	In	<	0.000607	M	Pr	<	0.000607	M	Th	<	0.001215			
M	Cd	<	0.000607	M	Ir	<	0.006685	M	Pt	<	0.000607	M	Ti	<	0.009720			
M	Ce	<	0.000607	O	K		0.003453	M	Rb	<	0.000607	M	Tl	<	0.000607			
O	Co		0.254052	M	La	<	0.000607	M	Re	<	0.000607	M	Tm	<	0.000607			
O	Cr		0.034284	O	Li	<	0.000124	M	Rh	<	0.000607	M	U	<	0.002430			
M	Cs	<	0.000607	M	Lu	<	0.000607	M	Ru	<	0.000607	M	V	<	0.003645			
O	Cu		0.019732	O	Mg		0.001973	O	S		0.032064	M	W	<	0.003645			
M	Dy	<	0.000607	O	Mn		0.073995	M	Sb		0.043139	M	Y	<	0.000607			
M	Er	<	0.000607	M	Mo		0.012016	M	Sc	<	0.001822	M	Yb	<	0.000607			

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 55.85 +3 6 Fe(H2O)63+
Chemical Compatibility -Stable in HCl, HNO3, H2SO4 ,HF and H3PO4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
Fe Containing Samples (Preparation and Solution) - Metal (Soluble in HCl); Oxides (If the oxide has been at a high temperature then Na2CO3 fusion in Pt0 followed by HCl dissolution otherwise dissolve in dilute HCl); Ores (See Oxides above using only the fusion approach).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 56 amu	970 ppt	N/A	40Ar15N1H, 40Ar16O, 36Ar17O1H , 38Ar18O, 37Cl18O1H, 40Ca16O
ICP-OES 238.204 nm	0.005/0.001 µg/mL	1	Ru, Co
ICP-OES 239.562 nm	0.005/0.001 µg/mL	1	Co, W, Cr
ICP-OES 259.940 nm	0.006/0.001 µg/mL	1	Hf, Nb

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

Reagent

10000 Na_00067

10.3 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 06, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 06, 2022

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

tel: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGNA10
Lot Number:	N2-NA668816
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Sodium
Starting Material:	Na2CO3
Starting Material Lot#:	1870
Starting Material Purity:	99.9997%

5225623
ID: 10000 Na_00067
Exp: 06/06/22 Prpd: SJS
10000 Na IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9997 ± 18 µg/mL

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **10000 ± 18 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

Assay Method #2 **9966 ± 58 µg/mL**
ICP Assay NIST SRM 3152a Lot Number: 120715

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

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

Characterization of CRM by two independent methods — Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.002004	M	Eu	<	0.001002	s	Na	<		M	Se	<	0.028065	M	Zn	<	0.001002
O	Al	<	0.007396	M	Fe	<	0.008018	M	Nb	<	0.001002	O	Si	<	0.024654	M	Zr	<	0.001002
M	As	<	0.002004	M	Ga	<	0.001002	M	Nd	<	0.001002	M	Sm	<	0.001002				
M	Au	<	0.001002	M	Gd	<	0.001002	M	Ni	<	0.003007	M	Sn	<	0.003007				
O	B	<	0.024654	M	Ge	<	0.002004	M	Os	<	0.018045	M	Sr		0.001145				
M	Ba		0.000127	M	Hf	<	0.001002	O	P	<	0.043145	M	Ta	<	0.001002				
O	Be	<	0.000739	M	Hg	<	0.003007	M	Pb	<	0.001002	M	Tb	<	0.001002				
M	Bi	<	0.001002	M	Ho	<	0.001002	M	Pd	<	0.001002	M	Te	<	0.006014				
O	Ca		0.059185	M	In	<	0.001002	M	Pr	<	0.001002	M	Th	<	0.001002				
M	Cd	<	0.001002	M	Ir	<	0.001002	M	Pt	<	0.001002	M	Ti	<	0.002004				
M	Ce	<	0.001002	O	K		0.018935	M	Rb	<	0.001002	M	Tl	<	0.001002				
O	Co	<	0.004314	M	La	<	0.001002	M	Re	<	0.001002	M	Tm	<	0.001002				
M	Cr	<	0.004009	O	Li	<	0.000246	M	Rh	<	0.001002	M	U	<	0.001002				
M	Cs	<	0.001002	M	Lu	<	0.001002	M	Ru	<	0.001002	M	V	<	0.008018				
M	Cu	<	0.005011	M	Mg		0.004580	O	S	<	0.036982	M	W	<	0.002004				
M	Dy	<	0.001002	M	Mn	<	0.002004	M	Sb	<	0.001002	M	Y	<	0.001002				
M	Er	<	0.001002	M	Mo	<	0.001002	M	Sc	<	0.001002	M	Yb	<	0.001002				

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 22.99 +1 (6) Na+(aq) largely ionic in nature

Chemical Compatibility -Soluble in HCl, HNO3, H2SO4 and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.

Na Containing Samples (Preparation and Solution) - Metal (Dissolves very rapidly in water); Ores (Lithium carbonate fusion in graphite crucible followed by HCl dissolution - blank levels of Na in lithium carbonate critical); Organic Matrices (Sulfuric / peroxide digestion or nitric/sulfuric/perchloric acid decomposition).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 23 amu	310 ppt	n/a	46Ti+2 , 46Ca+2
ICP-OES 330.237 nm	2.0 / 0.09 µg/mL	1	Pd, Zn
ICP-OES 588.995 nm	0.03 / 0.006 µg/mL	1	2nd order radiation from R.E.s on some optical designs
ICP-OES 589.595 nm	0.07 / 0.00009 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

Reagent

10000 Si_00015

INORGANIC VENTURES™
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSI10
Lot Number:	M2-SI657321
Matrix:	1% (v/v) HNO3 1.4% (v/v) HF
Value / Analyte(s):	10 000 µg/mL ea: Silicon
Starting Material:	Fumed Silica
Starting Material Lot#:	1771
Starting Material Purity:	99.9908%

4938600
ID: 10000 Si_00015
Exp: 04/25/21 Prpd: SJS
10000 SI IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10023 ± 48 µg/mL

Density: 1.045 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **10051 ± 52 µg/mL**
ICP Assay NIST SRM 3150 Lot Number: 130912

Assay Method #2 **9989 ± 57 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.001488	M	Eu	<	0.000248	O	Na		0.016935	M	Se	<	0.002977	O	Zn	<	0.012935
O	Al		0.112342	M	Fe		0.026932	O	Nb	<	0.005610	s	Si	<		O	Zr	<	0.001122
M	As	<	0.003953	M	Ga	<	0.000248	M	Nd	<	0.000248	M	Sm	<	0.000248				
M	Au	<	0.029405	M	Gd	<	0.000248	M	Ni	<	0.003225	M	Sn	<	0.000744				
O	B		0.143798	M	Ge	<	0.001240	M	Os	<	0.000247	O	Sr		0.001081				
O	Ba		0.002655	M	Hf		0.001987	i	P	<	0.000001	M	Ta		0.015006				
O	Be	<	0.000336	M	Hg	<	0.001482	M	Pb	<	0.000744	M	Tb	<	0.000248				
M	Bi		0.007751	M	Ho	<	0.000248	M	Pd	<	0.000248	M	Te	<	0.000744				
O	Ca		0.211203	M	In	<	0.000496	M	Pr	<	0.000248	M	Th	<	0.007940				
M	Cd	<	0.000248	M	Ir	<	0.000247	M	Pt	<	0.000248	O	Ti		0.004305				
M	Ce	<	0.000992	O	K		0.027489	M	Rb	<	0.068983	M	Tl	<	0.007940				
M	Co	<	0.000248	M	La	<	0.000248	M	Re	<	0.000248	M	Tm	<	0.000248				
O	Cr	<	0.004488	O	Li		0.000096	M	Rh	<	0.000248	M	U	<	0.000248				
M	Cs	<	0.006451	M	Lu	<	0.000248	M	Ru	<	0.000247	M	V	<	0.005459				
O	Cu	<	0.001945	O	Mg		0.013364	O	S		1.364159	M	W	<	0.005459				
M	Dy	<	0.000248	M	Mn	<	0.002481	M	Sb	<	0.003970	M	Y	<	0.000248				
M	Er	<	0.000248	M	Mo	<	0.002233	O	Sc	<	0.000235	M	Yb	<	0.000248				

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 25, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 25, 2021**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Brenda Francis
Product Documentation Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Revision1: Added 30mL statements 092217JAK

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 28.09 +4 6 Si(OH)x(F)y2-

Chemical Compatibility -Soluble in HCl, HF, H3PO4 H2SO4 and HNO3 as the Si(OH)x(F)y2-. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths, or high levels of transition elements unless they are fluorinated. Stable with most inorganic anions with a tendency to hydrolyze forming silicic acid (silicic acid is soluble up to ∼100 ppm in water) in all dilute acids except HF.

Stability - 2-100 ppb levels - stability unknown - (alone or mixed with all other metals) as the Si(OH)x(F)y2-. 1-10,000 ppm single element solutions as the Si(OH)x(F)y2- chemically stable for years in 2-5 % HNO3 / trace HF in a LDPE container.

Si Containing Samples (Preparation and Solution) -Metal (Soluble in 1:1:1 H2O / HF / HNO3); Oxide - SiO2, amorphic (dissolve by heating in 1:1:1 H2O / HF / HNO3); Oxide - quartz (fuse in Pt0 with Na2CO3); Geological Samples(fuse in Pt0with Na2CO3 followed by HCl solution of the fuseate); Organic Matrices containing silicates and non volatile silicon compounds (dry ash at 4500C in Pt0 and dissolve by gently warming with 1:1:1 H2O / HF / H2SO4 or fuse / ash with Na2CO3 and dissolve fuseate with HCl / H2O); Silicone Oils - dimethyl silicones depolymerize to form volatile monomer units when heated (Measure directly in alcoholic KOH / xylene mixture where sample is treated first with the KOH at 60-1000C to "unzip" the Si- O-Si polymeric structure or digest with conc. H2SO4 / H2O2 followed by cooling and dissolution of the dehydrated silica with HF.) Note that the direct analysis of silicone oils in an organic solvent will result in false high results due to high vapor pressure of volatile monomer units like hexamethylcyclotrisiloxane. The KOH forms the K2+Si(CH3)2O= salt which is not volatile at room temperature.

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 28 amu	4000 - 8000 ppt	N/A	N2, 12C16O
ICP-OES 212.412 nm	0.02/0.01 µg/mL	1	Hf, Os, Mo, Ta
ICP-OES 251.611 nm	0.012/0.003 µg/mL	1	Ta, U, Zn, Th
ICP-OES 288.158 nm	0.03/0.004 µg/mL	1	Ta, Ce, Cr, Cd, Th

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

Reagent

3,5-DNA Stock_00029

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31661 **Lot No.:** A0129440

Description : 3,5-Dinitroaniline Standard

3, 5-Dinitroaniline Std 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

X2

500 & 50/57

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	3,5-Dinitroaniline	1,004.0 µg/mL	+/- 5.9635	µg/mL	Gravimetric
	CAS # 618-87-1 (Lot 10311HS)		+/- 30.3937	µg/mL	Unstressed
	Purity 99%		+/- 30.3937	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

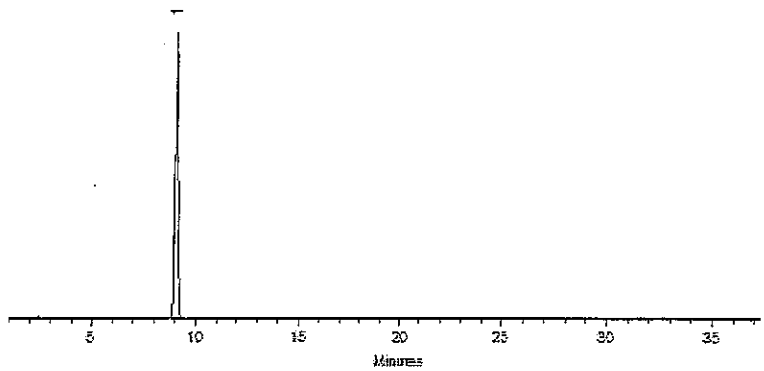
Flow Rate:
1.0 ml/min.

Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210 nm



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

Date Mixed: 26-Jul-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 28-Jul-2017

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

50% NaOH_00013

Fisher Scientific

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0090918

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	**SS254**	**Quality Test / Release Date**	**10/7/2016**
Lot Number	**166472**	**Expiration Date**	**Oct/18**
Description	**SODIUM HYDROXIDE, 50%, CERTIFIED**		
Country of Origin	**United States**		
Chemical Origin	**Inorganic-non animal**		
BSE/TSE Comment	This product is of mineral origin, not animal origin, and to the best of our knowledge, does not contribute to BSE or TSE.		
Chemical Comment	This product is not manufactured with natural latex rubber or genetically modified organisms. Also it is not manufactured using allergenic materials, including dyes/food dyes, eggs/egg products, fish/shellfish/crustaceans, flavors, glutens, legumes, milk, mollusks, MSG, mustards, plant nuts/seeds/oils, peanuts/peanut products, protein hydrolysates, soybean products, spices, sulfites, sulfates, tree nuts or oils, and wheat.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	CLEAR, COLORLESS LIQUID HAVING NO SEDIMENT OR PARTICULATES
AMMONIUM HYDROX. PPT	%	<= 0.010	<0.010
ASSAY	%	Inclusive Between 50 - 52	50
CARBONATE	%	<= 0.10	0.06
CHLORIDE	%	<= 0.005	<0.005
HEAVY METALS (as Ag)	%	<= 0.001	<0.001
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	ppm	<= 5	<5
NITROGEN COMPOUNDS	ppm	<= 5	<5
PHOSPHATE (PO4)	ppm	<= 5	<5
POTASSIUM (K)	%	<= 0.025	<0.003
SILICA (SiO2)	%	<= 0.01	<0.01
SULFATE (SO4)	%	<= 0.002	<0.002



Teresa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis BPF

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.
*Based on suggested storage condition.

Reagent

571995_00043

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0136052

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2019 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBH5677) **Purity** 99%	1,002.0 µg/mL	+/- 5.8257 µg/mL +/- 11.9780 µg/mL +/- 19.0628 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 161108JLM) **Purity** 99%	1,002.0 µg/mL	+/- 5.8257 µg/mL +/- 11.9780 µg/mL +/- 19.0628 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	2,011.2 µg/mL	+/- 11.6933 µg/mL +/- 24.0420 µg/mL +/- 38.2625 µg/mL	Gravimetric Unstressed Stressed
4	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,005.1 µg/mL	+/- 5.8439 µg/mL +/- 12.0154 µg/mL +/- 19.1224 µg/mL	Gravimetric Unstressed Stressed
5	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,002.6 µg/mL	+/- 5.8292 µg/mL +/- 11.9851 µg/mL +/- 19.0742 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,001.4 µg/mL	+/- 5.8222 µg/mL +/- 11.9708 µg/mL +/- 19.0513 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) **CAS #** 124-18-5 (Lot SHBH3926V) **Purity** 99%	1,000.7 µg/mL	+/- 5.8180 µg/mL +/- 11.9620 µg/mL +/- 19.0374 µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,007.1	µg/mL	+/-	5.8552	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0385	µg/mL	Unstressed
	Purity 99%				+/-	19.1592	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,001.0	µg/mL	+/-	5.8199	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	11.9660	µg/mL	Unstressed
	Purity 99%				+/-	19.0437	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,004.4	µg/mL	+/-	5.8397	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0067	µg/mL	Unstressed
	Purity 99%				+/-	19.1084	µg/mL	Stressed
11	Benzyl alcohol		1,005.2	µg/mL	+/-	5.8443	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	12.0162	µg/mL	Unstressed
	Purity 99%				+/-	19.1236	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot 68996CMV)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,006.7	µg/mL	+/-	5.8528	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 5510800)			+/-	12.0336	µg/mL	Unstressed
	Purity 98%				+/-	19.1513	µg/mL	Stressed
15	Acetophenone		1,005.5	µg/mL	+/-	5.8459	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG7113)			+/-	12.0194	µg/mL	Unstressed
	Purity 99%				+/-	19.1287	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		501.0	µg/mL	+/-	2.9196	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.9923	µg/mL	Unstressed
	Purity 99%				+/-	9.5334	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.7	µg/mL	+/-	2.9235	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0002	µg/mL	Unstressed
	Purity 99%				+/-	9.5461	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot NOPCF)			+/-	11.9915	µg/mL	Unstressed
	Purity 99%				+/-	19.0843	µg/mL	Stressed
19	Hexachloroethane		1,003.4	µg/mL	+/-	5.8339	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9947	µg/mL	Unstressed
	Purity 99%				+/-	19.0894	µg/mL	Stressed
20	Nitrobenzene		1,002.3	µg/mL	+/-	5.8273	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	11.9812	µg/mL	Unstressed
	Purity 99%				+/-	19.0678	µg/mL	Stressed
21	Isophorone		1,003.3	µg/mL	+/-	5.8334	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.9938	µg/mL	Unstressed
	Purity 98%				+/-	19.0879	µg/mL	Stressed
22	2-Nitrophenol		1,007.7	µg/mL	+/-	5.8587	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0457	µg/mL	Unstressed
	Purity 99%				+/-	19.1706	µg/mL	Stressed
23	2,4-Dimethylphenol		1,000.9	µg/mL	+/-	5.8191	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.9644	µg/mL	Unstressed
	Purity 99%				+/-	19.0412	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 4621000)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
25	2,4-Dichlorophenol		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9915	µg/mL	Unstressed
	Purity 99%				+/-	19.0843	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,005.0	µg/mL	+/-	5.8432	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0138	µg/mL	Unstressed
	Purity 99%				+/-	19.1198	µg/mL	Stressed
27	Naphthalene		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
29	4-Chloroaniline		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
30	Hexachlorobutadiene		1,002.5	µg/mL	+/-	5.8284	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9835	µg/mL	Unstressed
	Purity 99%				+/-	19.0716	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,007.7	µg/mL	+/-	5.8587	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBG8884)			+/-	12.0459	µg/mL	Unstressed
	Purity 96%				+/-	19.1708	µg/mL	Stressed
33	1-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-9)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,004.3	µg/mL	+/-	5.8389	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0051	µg/mL	Unstressed
	Purity 99%				+/-	19.1059	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,007.1	µg/mL	+/-	5.8552	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012017H)			+/-	12.0385	µg/mL	Unstressed
	Purity 99%				+/-	19.1592	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,003.5	µg/mL	+/-	5.8342	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	11.9955	µg/mL	Unstressed
	Purity 99%				+/-	19.0907	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,006.4	µg/mL	+/-	5.8513	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0306	µg/mL	Unstressed
	Purity 99%				+/-	19.1465	µg/mL	Stressed
38	2-Chloronaphthalene		1,002.9	µg/mL	+/-	5.8308	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	11.9883	µg/mL	Unstressed
	Purity 99%				+/-	19.0792	µg/mL	Stressed
39	Biphenyl		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed

40	2-Nitroaniline		1,004.5	µg/mL	+/-	5.8401	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	12.0075	µg/mL	Unstressed
	Purity 99%				+/-	19.1097	µg/mL	Stressed
41	Acenaphthylene		1,006.0	µg/mL	+/-	5.8491	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot O03R)			+/-	12.0260	µg/mL	Unstressed
	Purity 97%				+/-	19.1392	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,001.8	µg/mL	+/-	5.8246	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBN4329V)			+/-	11.9756	µg/mL	Unstressed
	Purity 99%				+/-	19.0590	µg/mL	Stressed
43	Dimethylphthalate		1,003.7	µg/mL	+/-	5.8358	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/-	11.9987	µg/mL	Unstressed
	Purity 99%				+/-	19.0957	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.7	µg/mL	+/-	5.8183	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot BCBB8606V)			+/-	11.9628	µg/mL	Unstressed
	Purity 99%				+/-	19.0387	µg/mL	Stressed
45	3-Nitroaniline		1,005.2	µg/mL	+/-	5.8443	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBX1283V)			+/-	12.0162	µg/mL	Unstressed
	Purity 99%				+/-	19.1236	µg/mL	Stressed
46	Acenaphthene		1,005.9	µg/mL	+/-	5.8482	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKCC8329)			+/-	12.0242	µg/mL	Unstressed
	Purity 99%				+/-	19.1363	µg/mL	Stressed
47	2,4-Dinitrophenol		2,008.3	µg/mL	+/-	11.6766	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBF9439V)			+/-	24.0077	µg/mL	Unstressed
	Purity 99%				+/-	38.2080	µg/mL	Stressed
48	Dibenzofuran		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBW2691V)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
49	4-Nitrophenol		2,009.3	µg/mL	+/-	11.6824	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBV0501V)			+/-	24.0197	µg/mL	Unstressed
	Purity 99%				+/-	38.2270	µg/mL	Stressed
50	2,4-Dinitrotoluene		1,003.9	µg/mL	+/-	5.8366	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	12.0003	µg/mL	Unstressed
	Purity 99%				+/-	19.0983	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,001.9	µg/mL	+/-	5.8253	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot B180305L)			+/-	11.9772	µg/mL	Unstressed
	Purity 99%				+/-	19.0615	µg/mL	Stressed
52	Fluorene		1,002.0	µg/mL	+/-	5.8257	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10193329)			+/-	11.9780	µg/mL	Unstressed
	Purity 99%				+/-	19.0628	µg/mL	Stressed
53	n-Hexadecane (C16)		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBG2582V)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
54	Diethylphthalate		1,003.3	µg/mL	+/-	5.8335	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBV9622V)			+/-	11.9939	µg/mL	Unstressed
	Purity 99%				+/-	19.0881	µg/mL	Stressed
55	4-Chlorophenyl phenyl ether		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBX5225V)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed

56	4-Nitroaniline		1,003.1	µg/mL	+/-	5.8319	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9907	µg/mL	Unstressed
	Purity 98%				+/-	19.0830	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,003.7	µg/mL	+/-	11.6495	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC25844V)			+/-	23.9520	µg/mL	Unstressed
	Purity 99%				+/-	38.1192	µg/mL	Stressed
58	Diphenylamine		852.3	µg/mL	+/-	4.9555	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1888	µg/mL	Unstressed
	Purity 99%				+/-	16.2154	µg/mL	Stressed
59	Azobenzene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBQ0927V)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,022.3	µg/mL	+/-	5.9439	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.2210	µg/mL	Unstressed
	Purity 99%				+/-	19.4496	µg/mL	Stressed
61	Hexachlorobenzene		1,002.5	µg/mL	+/-	5.8288	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot 7013600)			+/-	11.9843	µg/mL	Unstressed
	Purity 99%				+/-	19.0729	µg/mL	Stressed
62	Pentachlorophenol		2,002.1	µg/mL	+/-	11.6406	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170306KJA)			+/-	23.9336	µg/mL	Unstressed
	Purity 99%				+/-	38.0900	µg/mL	Stressed
63	n-Octadecane (C18)		1,002.9	µg/mL	+/-	5.8308	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot OGCDK)			+/-	11.9883	µg/mL	Unstressed
	Purity 99%				+/-	19.0792	µg/mL	Stressed
64	Phenanthrene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
65	Anthracene		1,000.3	µg/mL	+/-	5.8156	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBV7759V)			+/-	11.9573	µg/mL	Unstressed
	Purity 99%				+/-	19.0298	µg/mL	Stressed
66	Carbazole		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 6489700)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.7	µg/mL	+/-	5.8470	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0218	µg/mL	Unstressed
	Purity 99%				+/-	19.1325	µg/mL	Stressed
68	Fluoranthene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	12.0204	µg/mL	Unstressed
	Purity 98%				+/-	19.1302	µg/mL	Stressed
69	Pyrene		1,005.8	µg/mL	+/-	5.8478	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0234	µg/mL	Unstressed
	Purity 99%				+/-	19.1351	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8156	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKBZ4553V)			+/-	11.9571	µg/mL	Unstressed
	Purity 98%				+/-	19.0295	µg/mL	Stressed
71	Benz(a)anthracene		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012012)			+/-	11.9915	µg/mL	Unstressed
	Purity 98%				+/-	19.0842	µg/mL	Stressed

72	Chrysene		1,004.6	µg/mL	+/-	5.8408	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0091	µg/mL	Unstressed
	Purity 99%				+/-	19.1122	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,002.7	µg/mL	+/-	5.8296	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	11.9859	µg/mL	Unstressed
	Purity 99%				+/-	19.0754	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.9	µg/mL	+/-	5.8602	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 6016000)			+/-	12.0489	µg/mL	Unstressed
	Purity 99%				+/-	19.1756	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.6	µg/mL	+/-	5.8350	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9971	µg/mL	Unstressed
	Purity 99%				+/-	19.0932	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012017K)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
77	Benzo(a)pyrene		1,002.1	µg/mL	+/-	5.8261	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	11.9788	µg/mL	Unstressed
	Purity 99%				+/-	19.0640	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,004.0	µg/mL	+/-	5.8373	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0019	µg/mL	Unstressed
	Purity 99%				+/-	19.1008	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.9	µg/mL	+/-	5.8249	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9764	µg/mL	Unstressed
	Purity 99%				+/-	19.0602	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.9	µg/mL	+/-	5.8195	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9652	µg/mL	Unstressed
	Purity 99%				+/-	19.0425	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

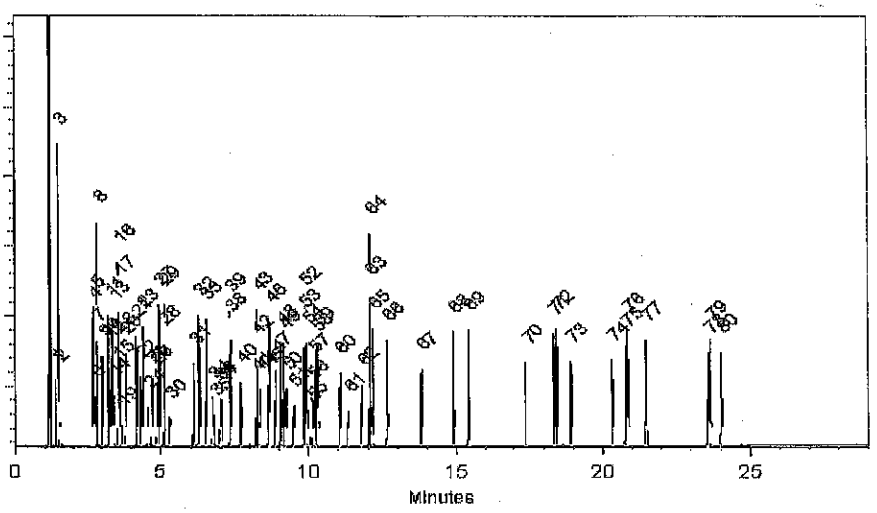
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Joseph Jaglowski - Mix Technician

Date Mixed: 12-Mar-2018 **Balance:** 1128360905

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 27-Mar-2018

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

571995_00044

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0136052

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2019 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBH5677) **Purity** 99%	1,002.0 µg/mL	+/- 5.8257 µg/mL +/- 11.9780 µg/mL +/- 19.0628 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 161108JLM) **Purity** 99%	1,002.0 µg/mL	+/- 5.8257 µg/mL +/- 11.9780 µg/mL +/- 19.0628 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	2,011.2 µg/mL	+/- 11.6933 µg/mL +/- 24.0420 µg/mL +/- 38.2625 µg/mL	Gravimetric Unstressed Stressed
4	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,005.1 µg/mL	+/- 5.8439 µg/mL +/- 12.0154 µg/mL +/- 19.1224 µg/mL	Gravimetric Unstressed Stressed
5	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,002.6 µg/mL	+/- 5.8292 µg/mL +/- 11.9851 µg/mL +/- 19.0742 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,001.4 µg/mL	+/- 5.8222 µg/mL +/- 11.9708 µg/mL +/- 19.0513 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) **CAS #** 124-18-5 (Lot SHBH3926V) **Purity** 99%	1,000.7 µg/mL	+/- 5.8180 µg/mL +/- 11.9620 µg/mL +/- 19.0374 µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,007.1	µg/mL	+/-	5.8552	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0385	µg/mL	Unstressed
	Purity 99%				+/-	19.1592	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,001.0	µg/mL	+/-	5.8199	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	11.9660	µg/mL	Unstressed
	Purity 99%				+/-	19.0437	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,004.4	µg/mL	+/-	5.8397	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0067	µg/mL	Unstressed
	Purity 99%				+/-	19.1084	µg/mL	Stressed
11	Benzyl alcohol		1,005.2	µg/mL	+/-	5.8443	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	12.0162	µg/mL	Unstressed
	Purity 99%				+/-	19.1236	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot 68996CMV)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,006.7	µg/mL	+/-	5.8528	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 5510800)			+/-	12.0336	µg/mL	Unstressed
	Purity 98%				+/-	19.1513	µg/mL	Stressed
15	Acetophenone		1,005.5	µg/mL	+/-	5.8459	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG7113)			+/-	12.0194	µg/mL	Unstressed
	Purity 99%				+/-	19.1287	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		501.0	µg/mL	+/-	2.9196	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.9923	µg/mL	Unstressed
	Purity 99%				+/-	9.5334	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.7	µg/mL	+/-	2.9235	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0002	µg/mL	Unstressed
	Purity 99%				+/-	9.5461	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot NOPCF)			+/-	11.9915	µg/mL	Unstressed
	Purity 99%				+/-	19.0843	µg/mL	Stressed
19	Hexachloroethane		1,003.4	µg/mL	+/-	5.8339	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9947	µg/mL	Unstressed
	Purity 99%				+/-	19.0894	µg/mL	Stressed
20	Nitrobenzene		1,002.3	µg/mL	+/-	5.8273	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	11.9812	µg/mL	Unstressed
	Purity 99%				+/-	19.0678	µg/mL	Stressed
21	Isophorone		1,003.3	µg/mL	+/-	5.8334	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.9938	µg/mL	Unstressed
	Purity 98%				+/-	19.0879	µg/mL	Stressed
22	2-Nitrophenol		1,007.7	µg/mL	+/-	5.8587	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0457	µg/mL	Unstressed
	Purity 99%				+/-	19.1706	µg/mL	Stressed
23	2,4-Dimethylphenol		1,000.9	µg/mL	+/-	5.8191	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.9644	µg/mL	Unstressed
	Purity 99%				+/-	19.0412	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 4621000)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
25	2,4-Dichlorophenol		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9915	µg/mL	Unstressed
	Purity 99%				+/-	19.0843	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,005.0	µg/mL	+/-	5.8432	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0138	µg/mL	Unstressed
	Purity 99%				+/-	19.1198	µg/mL	Stressed
27	Naphthalene		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
29	4-Chloroaniline		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
30	Hexachlorobutadiene		1,002.5	µg/mL	+/-	5.8284	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9835	µg/mL	Unstressed
	Purity 99%				+/-	19.0716	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,007.7	µg/mL	+/-	5.8587	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBG8884)			+/-	12.0459	µg/mL	Unstressed
	Purity 96%				+/-	19.1708	µg/mL	Stressed
33	1-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-9)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,004.3	µg/mL	+/-	5.8389	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0051	µg/mL	Unstressed
	Purity 99%				+/-	19.1059	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,007.1	µg/mL	+/-	5.8552	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012017H)			+/-	12.0385	µg/mL	Unstressed
	Purity 99%				+/-	19.1592	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,003.5	µg/mL	+/-	5.8342	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	11.9955	µg/mL	Unstressed
	Purity 99%				+/-	19.0907	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,006.4	µg/mL	+/-	5.8513	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0306	µg/mL	Unstressed
	Purity 99%				+/-	19.1465	µg/mL	Stressed
38	2-Chloronaphthalene		1,002.9	µg/mL	+/-	5.8308	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	11.9883	µg/mL	Unstressed
	Purity 99%				+/-	19.0792	µg/mL	Stressed
39	Biphenyl		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed

40	2-Nitroaniline		1,004.5	µg/mL	+/-	5.8401	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	12.0075	µg/mL	Unstressed
	Purity 99%				+/-	19.1097	µg/mL	Stressed
41	Acenaphthylene		1,006.0	µg/mL	+/-	5.8491	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot O03R)			+/-	12.0260	µg/mL	Unstressed
	Purity 97%				+/-	19.1392	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,001.8	µg/mL	+/-	5.8246	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBN4329V)			+/-	11.9756	µg/mL	Unstressed
	Purity 99%				+/-	19.0590	µg/mL	Stressed
43	Dimethylphthalate		1,003.7	µg/mL	+/-	5.8358	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/-	11.9987	µg/mL	Unstressed
	Purity 99%				+/-	19.0957	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.7	µg/mL	+/-	5.8183	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot BCBB8606V)			+/-	11.9628	µg/mL	Unstressed
	Purity 99%				+/-	19.0387	µg/mL	Stressed
45	3-Nitroaniline		1,005.2	µg/mL	+/-	5.8443	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBX1283V)			+/-	12.0162	µg/mL	Unstressed
	Purity 99%				+/-	19.1236	µg/mL	Stressed
46	Acenaphthene		1,005.9	µg/mL	+/-	5.8482	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKCC8329)			+/-	12.0242	µg/mL	Unstressed
	Purity 99%				+/-	19.1363	µg/mL	Stressed
47	2,4-Dinitrophenol		2,008.3	µg/mL	+/-	11.6766	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBF9439V)			+/-	24.0077	µg/mL	Unstressed
	Purity 99%				+/-	38.2080	µg/mL	Stressed
48	Dibenzofuran		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBW2691V)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
49	4-Nitrophenol		2,009.3	µg/mL	+/-	11.6824	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBV0501V)			+/-	24.0197	µg/mL	Unstressed
	Purity 99%				+/-	38.2270	µg/mL	Stressed
50	2,4-Dinitrotoluene		1,003.9	µg/mL	+/-	5.8366	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	12.0003	µg/mL	Unstressed
	Purity 99%				+/-	19.0983	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,001.9	µg/mL	+/-	5.8253	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot B180305L)			+/-	11.9772	µg/mL	Unstressed
	Purity 99%				+/-	19.0615	µg/mL	Stressed
52	Fluorene		1,002.0	µg/mL	+/-	5.8257	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10193329)			+/-	11.9780	µg/mL	Unstressed
	Purity 99%				+/-	19.0628	µg/mL	Stressed
53	n-Hexadecane (C16)		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBG2582V)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
54	Diethylphthalate		1,003.3	µg/mL	+/-	5.8335	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBV9622V)			+/-	11.9939	µg/mL	Unstressed
	Purity 99%				+/-	19.0881	µg/mL	Stressed
55	4-Chlorophenyl phenyl ether		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBX5225V)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed

56	4-Nitroaniline		1,003.1	µg/mL	+/-	5.8319	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9907	µg/mL	Unstressed
	Purity 98%				+/-	19.0830	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,003.7	µg/mL	+/-	11.6495	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC25844V)			+/-	23.9520	µg/mL	Unstressed
	Purity 99%				+/-	38.1192	µg/mL	Stressed
58	Diphenylamine		852.3	µg/mL	+/-	4.9555	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1888	µg/mL	Unstressed
	Purity 99%				+/-	16.2154	µg/mL	Stressed
59	Azobenzene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBQ0927V)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,022.3	µg/mL	+/-	5.9439	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.2210	µg/mL	Unstressed
	Purity 99%				+/-	19.4496	µg/mL	Stressed
61	Hexachlorobenzene		1,002.5	µg/mL	+/-	5.8288	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot 7013600)			+/-	11.9843	µg/mL	Unstressed
	Purity 99%				+/-	19.0729	µg/mL	Stressed
62	Pentachlorophenol		2,002.1	µg/mL	+/-	11.6406	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170306KJA)			+/-	23.9336	µg/mL	Unstressed
	Purity 99%				+/-	38.0900	µg/mL	Stressed
63	n-Octadecane (C18)		1,002.9	µg/mL	+/-	5.8308	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot OGCDK)			+/-	11.9883	µg/mL	Unstressed
	Purity 99%				+/-	19.0792	µg/mL	Stressed
64	Phenanthrene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
65	Anthracene		1,000.3	µg/mL	+/-	5.8156	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBV7759V)			+/-	11.9573	µg/mL	Unstressed
	Purity 99%				+/-	19.0298	µg/mL	Stressed
66	Carbazole		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 6489700)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.7	µg/mL	+/-	5.8470	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0218	µg/mL	Unstressed
	Purity 99%				+/-	19.1325	µg/mL	Stressed
68	Fluoranthene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	12.0204	µg/mL	Unstressed
	Purity 98%				+/-	19.1302	µg/mL	Stressed
69	Pyrene		1,005.8	µg/mL	+/-	5.8478	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0234	µg/mL	Unstressed
	Purity 99%				+/-	19.1351	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8156	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKBZ4553V)			+/-	11.9571	µg/mL	Unstressed
	Purity 98%				+/-	19.0295	µg/mL	Stressed
71	Benz(a)anthracene		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012012)			+/-	11.9915	µg/mL	Unstressed
	Purity 98%				+/-	19.0842	µg/mL	Stressed

72	Chrysene		1,004.6	µg/mL	+/-	5.8408	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0091	µg/mL	Unstressed
	Purity 99%				+/-	19.1122	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,002.7	µg/mL	+/-	5.8296	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	11.9859	µg/mL	Unstressed
	Purity 99%				+/-	19.0754	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.9	µg/mL	+/-	5.8602	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 6016000)			+/-	12.0489	µg/mL	Unstressed
	Purity 99%				+/-	19.1756	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.6	µg/mL	+/-	5.8350	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9971	µg/mL	Unstressed
	Purity 99%				+/-	19.0932	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012017K)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
77	Benzo(a)pyrene		1,002.1	µg/mL	+/-	5.8261	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	11.9788	µg/mL	Unstressed
	Purity 99%				+/-	19.0640	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,004.0	µg/mL	+/-	5.8373	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0019	µg/mL	Unstressed
	Purity 99%				+/-	19.1008	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.9	µg/mL	+/-	5.8249	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9764	µg/mL	Unstressed
	Purity 99%				+/-	19.0602	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.9	µg/mL	+/-	5.8195	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9652	µg/mL	Unstressed
	Purity 99%				+/-	19.0425	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

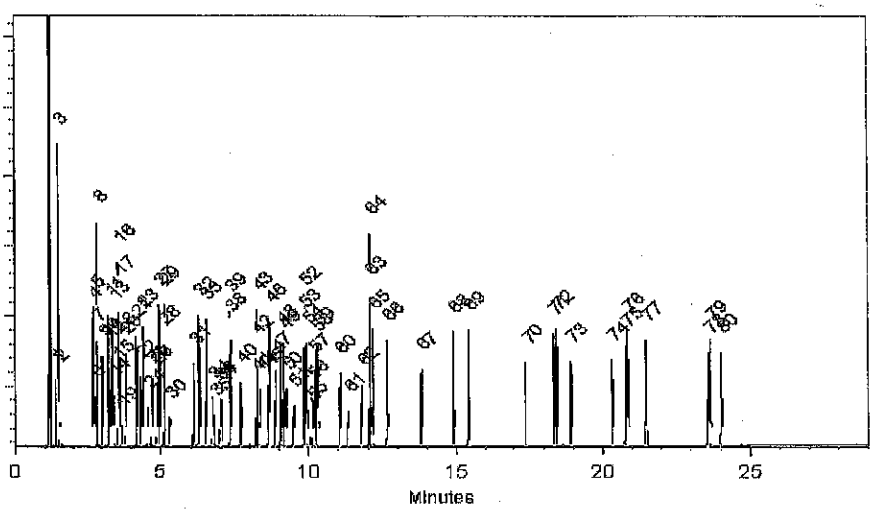
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Joseph Jaglowski - Mix Technician **Date Mixed:** 12-Mar-2018 **Balance:** 1128360905

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 27-Mar-2018

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

571995_00049

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0140111

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane		1,006.6 µg/mL	+/- 5.8525	µg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBJ5124)		+/- 12.0330	µg/mL	Unstressed
	Purity 99%			+/- 19.1503	µg/mL	Stressed
2	N-Nitrosodimethylamine		1,005.1 µg/mL	+/- 5.8437	µg/mL	Gravimetric
	CAS # 62-75-9	(Lot 180322JLM)		+/- 12.0150	µg/mL	Unstressed
	Purity 99%			+/- 19.1217	µg/mL	Stressed
3	Pyridine		2,012.7 µg/mL	+/- 11.7020	µg/mL	Gravimetric
	CAS # 110-86-1	(Lot SHBC7174V)		+/- 24.0599	µg/mL	Unstressed
	Purity 99%			+/- 38.2910	µg/mL	Stressed
4	Phenol		1,008.6 µg/mL	+/- 5.8641	µg/mL	Gravimetric
	CAS # 108-95-2	(Lot SHBF9719V)		+/- 12.0569	µg/mL	Unstressed
	Purity 99%			+/- 19.1883	µg/mL	Stressed
5	Aniline		1,006.2 µg/mL	+/- 5.8501	µg/mL	Gravimetric
	CAS # 62-53-3	(Lot K22Z462)		+/- 12.0282	µg/mL	Unstressed
	Purity 99%			+/- 19.1427	µg/mL	Stressed
6	Bis(2-chloroethyl)ether		1,009.5 µg/mL	+/- 5.8693	µg/mL	Gravimetric
	CAS # 111-44-4	(Lot SHBD4430V)		+/- 12.0676	µg/mL	Unstressed
	Purity 99%			+/- 19.2054	µg/mL	Stressed
7	n-Decane (C10)		1,010.0 µg/mL	+/- 5.8722	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBJ8526)		+/- 12.0736	µg/mL	Unstressed
	Purity 99%			+/- 19.2150	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 5670100)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
25	2,4-Dichlorophenol		1,009.0	µg/mL	+/-	5.8664	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0616	µg/mL	Unstressed
	Purity 99%				+/-	19.1959	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
27	Naphthalene		1,008.3	µg/mL	+/-	5.8623	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	12.0533	µg/mL	Unstressed
	Purity 99%				+/-	19.1826	µg/mL	Stressed
28	2,6-Dichlorophenol		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
29	4-Chloroaniline		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
30	Hexachlorobutadiene		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8461	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	12.0199	µg/mL	Unstressed
	Purity 96%				+/-	19.1294	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.4	µg/mL	+/-	5.8283	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 523400-9)			+/-	11.9833	µg/mL	Unstressed
	Purity 98%				+/-	19.0712	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,007.2	µg/mL	+/-	5.8559	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0401	µg/mL	Unstressed
	Purity 99%				+/-	19.1617	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0640	µg/mL	Unstressed
	Purity 99%				+/-	19.1997	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
39	Biphenyl		1,006.3	µg/mL	+/-	5.8507	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0294	µg/mL	Unstressed
	Purity 99%				+/-	19.1446	µg/mL	Stressed

56	4-Nitroaniline		1,007.5	µg/mL	+/-	5.8579	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	12.0442	µg/mL	Unstressed
	Purity 98%				+/-	19.1681	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,012.4	µg/mL	+/-	11.7003	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot B180716L)			+/-	24.0564	µg/mL	Unstressed
	Purity 99%				+/-	38.2853	µg/mL	Stressed
58	Diphenylamine		856.1	µg/mL	+/-	4.9889	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.2395	µg/mL	Unstressed
	Purity 99%				+/-	16.2906	µg/mL	Stressed
59	Azobenzene		1,009.8	µg/mL	+/-	5.8709	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBS6535V)			+/-	12.0709	µg/mL	Unstressed
	Purity 97%				+/-	19.2106	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
61	Hexachlorobenzene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LRAB8468)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
62	Pentachlorophenol		2,005.9	µg/mL	+/-	11.6625	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170717KJA)			+/-	23.9787	µg/mL	Unstressed
	Purity 99%				+/-	38.1617	µg/mL	Stressed
63	n-Octadecane (C18)		1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot T7N4E)			+/-	12.0114	µg/mL	Unstressed
	Purity 99%				+/-	19.1160	µg/mL	Stressed
64	Phenanthrene		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
65	Anthracene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
66	Carbazole		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 7528800)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
68	Fluoranthene		1,002.6	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9856	µg/mL	Unstressed
	Purity 98%				+/-	19.0749	µg/mL	Stressed
69	Pyrene		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
70	Benzyl butyl phthalate		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKCF0058)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
71	Benz(a)anthracene		1,004.8	µg/mL	+/-	5.8422	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012018)			+/-	12.0118	µg/mL	Unstressed
	Purity 96%				+/-	19.1166	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

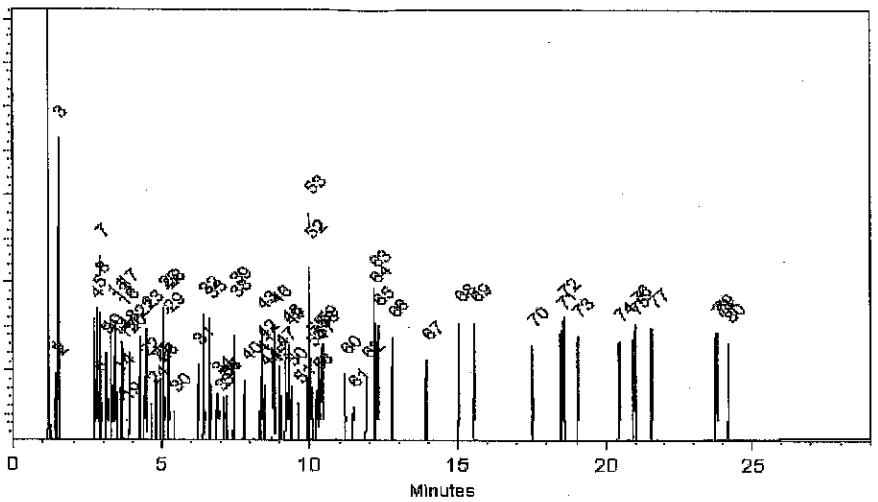
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 30-Jul-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Aug-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,007.3	µg/mL	+/-	5.8565	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	12.0413	µg/mL	Unstressed
	Purity 99%				+/-	19.1636	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.0	µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 7170200)			+/-	12.0377	µg/mL	Unstressed
	Purity 99%				+/-	19.1579	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.7	µg/mL	+/-	5.8356	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9983	µg/mL	Unstressed
	Purity 99%				+/-	19.0951	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,005.7	µg/mL	+/-	5.8472	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	12.0222	µg/mL	Unstressed
	Purity 99%				+/-	19.1332	µg/mL	Stressed
77	Benzo(a)pyrene		1,008.8	µg/mL	+/-	5.8653	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0593	µg/mL	Unstressed
	Purity 99%				+/-	19.1921	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

40	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,007.5	µg/mL	+/- 5.8577 +/- 12.0437 +/- 19.1674	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	Acenaphthylene **CAS #** 208-96-8 **Purity** 97%	(Lot O03R)	1,007.2	µg/mL	+/- 5.8557 +/- 12.0395 +/- 19.1608	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,3-Dinitrobenzene **CAS #** 99-65-0 **Purity** 99%	(Lot BCBN4329V)	1,008.9	µg/mL	+/- 5.8658 +/- 12.0605 +/- 19.1940	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,009.2	µg/mL	+/- 5.8676 +/- 12.0640 +/- 19.1997	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot 1437483V)	1,009.1	µg/mL	+/- 5.8670 +/- 12.0628 +/- 19.1978	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	3-Nitroaniline **CAS #** 99-09-2 **Purity** 99%	(Lot MKBX1283V)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKCC8329)	1,008.1	µg/mL	+/- 5.8612 +/- 12.0509 +/- 19.1788	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot STBG3580V)	2,013.2	µg/mL	+/- 11.7049 +/- 24.0659 +/- 38.3005	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKCD9952)	1,007.0	µg/mL	+/- 5.8548 +/- 12.0377 +/- 19.1579	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBK1842V)	2,015.4	µg/mL	+/- 11.7177 +/- 24.0922 +/- 38.3424	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,009.5	µg/mL	+/- 5.8693 +/- 12.0676 +/- 19.2054	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot PR-30126)	1,005.3	µg/mL	+/- 5.8449 +/- 12.0174 +/- 19.1255	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	Fluorene **CAS #** 86-73-7 **Purity** 98%	(Lot 10174662)	1,007.7	µg/mL	+/- 5.8591 +/- 12.0465 +/- 19.1718	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	n-Hexadecane (C16) **CAS #** 544-76-3 **Purity** 99%	(Lot SHBJ3997)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Diethylphthalate **CAS #** 84-66-2 **Purity** 99%	(Lot MKCB0810V)	1,007.4	µg/mL	+/- 5.8571 +/- 12.0425 +/- 19.1655	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	4-Chlorophenyl phenyl ether **CAS #** 7005-72-3 **Purity** 99%	(Lot MKBX5225V)	1,006.7	µg/mL	+/- 5.8530 +/- 12.0342 +/- 19.1522	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,009.7	µg/mL	+/-	5.8705	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	12.0700	µg/mL	Unstressed
	Purity 99%				+/-	19.2092	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
11	Benzyl alcohol		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBJ0534)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,007.7	µg/mL	+/-	5.8589	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	12.0461	µg/mL	Unstressed
	Purity 99%				+/-	19.1712	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 7577400)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
15	Acetophenone		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		504.9	µg/mL	+/-	2.9423	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0389	µg/mL	Unstressed
	Purity 99%				+/-	9.6077	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.8	µg/mL	+/-	2.9242	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0018	µg/mL	Unstressed
	Purity 99%				+/-	9.5487	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
19	Hexachloroethane		1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9708	µg/mL	Unstressed
	Purity 99%				+/-	19.0513	µg/mL	Stressed
20	Nitrobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
21	Isophorone		1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0629	µg/mL	Unstressed
	Purity 98%				+/-	19.1979	µg/mL	Stressed
22	2-Nitrophenol		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
23	2,4-Dimethylphenol		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed

Reagent

571995_00050

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0140111

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane		1,006.6 µg/mL	+/- 5.8525	µg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBJ5124)		+/- 12.0330	µg/mL	Unstressed
	Purity 99%			+/- 19.1503	µg/mL	Stressed
2	N-Nitrosodimethylamine		1,005.1 µg/mL	+/- 5.8437	µg/mL	Gravimetric
	CAS # 62-75-9	(Lot 180322JLM)		+/- 12.0150	µg/mL	Unstressed
	Purity 99%			+/- 19.1217	µg/mL	Stressed
3	Pyridine		2,012.7 µg/mL	+/- 11.7020	µg/mL	Gravimetric
	CAS # 110-86-1	(Lot SHBC7174V)		+/- 24.0599	µg/mL	Unstressed
	Purity 99%			+/- 38.2910	µg/mL	Stressed
4	Phenol		1,008.6 µg/mL	+/- 5.8641	µg/mL	Gravimetric
	CAS # 108-95-2	(Lot SHBF9719V)		+/- 12.0569	µg/mL	Unstressed
	Purity 99%			+/- 19.1883	µg/mL	Stressed
5	Aniline		1,006.2 µg/mL	+/- 5.8501	µg/mL	Gravimetric
	CAS # 62-53-3	(Lot K22Z462)		+/- 12.0282	µg/mL	Unstressed
	Purity 99%			+/- 19.1427	µg/mL	Stressed
6	Bis(2-chloroethyl)ether		1,009.5 µg/mL	+/- 5.8693	µg/mL	Gravimetric
	CAS # 111-44-4	(Lot SHBD4430V)		+/- 12.0676	µg/mL	Unstressed
	Purity 99%			+/- 19.2054	µg/mL	Stressed
7	n-Decane (C10)		1,010.0 µg/mL	+/- 5.8722	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBJ8526)		+/- 12.0736	µg/mL	Unstressed
	Purity 99%			+/- 19.2150	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 5670100)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
25	2,4-Dichlorophenol		1,009.0	µg/mL	+/-	5.8664	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0616	µg/mL	Unstressed
	Purity 99%				+/-	19.1959	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
27	Naphthalene		1,008.3	µg/mL	+/-	5.8623	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	12.0533	µg/mL	Unstressed
	Purity 99%				+/-	19.1826	µg/mL	Stressed
28	2,6-Dichlorophenol		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
29	4-Chloroaniline		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
30	Hexachlorobutadiene		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8461	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	12.0199	µg/mL	Unstressed
	Purity 96%				+/-	19.1294	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.4	µg/mL	+/-	5.8283	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 523400-9)			+/-	11.9833	µg/mL	Unstressed
	Purity 98%				+/-	19.0712	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,007.2	µg/mL	+/-	5.8559	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0401	µg/mL	Unstressed
	Purity 99%				+/-	19.1617	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0640	µg/mL	Unstressed
	Purity 99%				+/-	19.1997	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
39	Biphenyl		1,006.3	µg/mL	+/-	5.8507	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0294	µg/mL	Unstressed
	Purity 99%				+/-	19.1446	µg/mL	Stressed

56	4-Nitroaniline		1,007.5	µg/mL	+/-	5.8579	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	12.0442	µg/mL	Unstressed
	Purity 98%				+/-	19.1681	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,012.4	µg/mL	+/-	11.7003	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot B180716L)			+/-	24.0564	µg/mL	Unstressed
	Purity 99%				+/-	38.2853	µg/mL	Stressed
58	Diphenylamine		856.1	µg/mL	+/-	4.9889	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.2395	µg/mL	Unstressed
	Purity 99%				+/-	16.2906	µg/mL	Stressed
59	Azobenzene		1,009.8	µg/mL	+/-	5.8709	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBS6535V)			+/-	12.0709	µg/mL	Unstressed
	Purity 97%				+/-	19.2106	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
61	Hexachlorobenzene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LRAB8468)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
62	Pentachlorophenol		2,005.9	µg/mL	+/-	11.6625	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170717KJA)			+/-	23.9787	µg/mL	Unstressed
	Purity 99%				+/-	38.1617	µg/mL	Stressed
63	n-Octadecane (C18)		1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot T7N4E)			+/-	12.0114	µg/mL	Unstressed
	Purity 99%				+/-	19.1160	µg/mL	Stressed
64	Phenanthrene		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
65	Anthracene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
66	Carbazole		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 7528800)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
68	Fluoranthene		1,002.6	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9856	µg/mL	Unstressed
	Purity 98%				+/-	19.0749	µg/mL	Stressed
69	Pyrene		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
70	Benzyl butyl phthalate		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKCF0058)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
71	Benz(a)anthracene		1,004.8	µg/mL	+/-	5.8422	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012018)			+/-	12.0118	µg/mL	Unstressed
	Purity 96%				+/-	19.1166	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

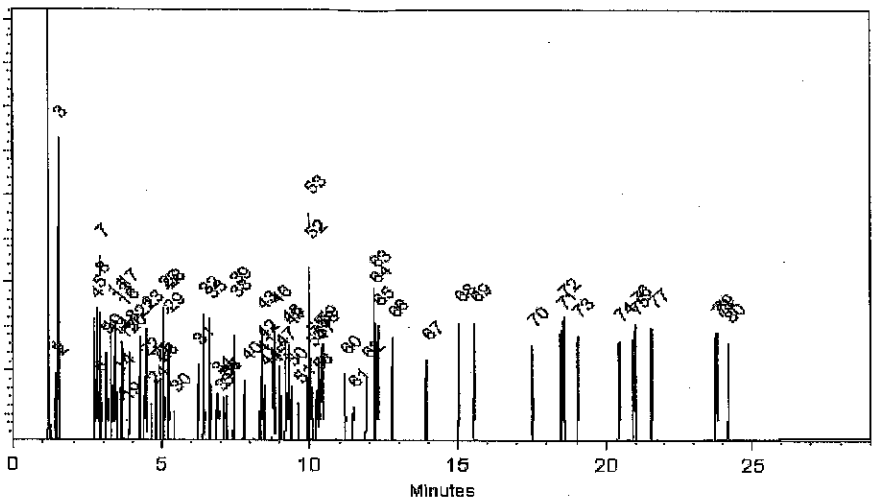
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 30-Jul-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Aug-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,007.3	µg/mL	+/-	5.8565	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	12.0413	µg/mL	Unstressed
	Purity 99%				+/-	19.1636	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.0	µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 7170200)			+/-	12.0377	µg/mL	Unstressed
	Purity 99%				+/-	19.1579	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.7	µg/mL	+/-	5.8356	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9983	µg/mL	Unstressed
	Purity 99%				+/-	19.0951	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,005.7	µg/mL	+/-	5.8472	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	12.0222	µg/mL	Unstressed
	Purity 99%				+/-	19.1332	µg/mL	Stressed
77	Benzo(a)pyrene		1,008.8	µg/mL	+/-	5.8653	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0593	µg/mL	Unstressed
	Purity 99%				+/-	19.1921	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

40	2-Nitroaniline		1,007.5 µg/mL	+/- 5.8577	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)		+/- 12.0437	µg/mL	Unstressed
	Purity 99%			+/- 19.1674	µg/mL	Stressed
41	Acenaphthylene		1,007.2 µg/mL	+/- 5.8557	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot O03R)		+/- 12.0395	µg/mL	Unstressed
	Purity 97%			+/- 19.1608	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,008.9 µg/mL	+/- 5.8658	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBN4329V)		+/- 12.0605	µg/mL	Unstressed
	Purity 99%			+/- 19.1940	µg/mL	Stressed
43	Dimethylphthalate		1,009.2 µg/mL	+/- 5.8676	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)		+/- 12.0640	µg/mL	Unstressed
	Purity 99%			+/- 19.1997	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,009.1 µg/mL	+/- 5.8670	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)		+/- 12.0628	µg/mL	Unstressed
	Purity 99%			+/- 19.1978	µg/mL	Stressed
45	3-Nitroaniline		1,009.8 µg/mL	+/- 5.8711	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBX1283V)		+/- 12.0712	µg/mL	Unstressed
	Purity 99%			+/- 19.2112	µg/mL	Stressed
46	Acenaphthene		1,008.1 µg/mL	+/- 5.8612	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKCC8329)		+/- 12.0509	µg/mL	Unstressed
	Purity 99%			+/- 19.1788	µg/mL	Stressed
47	2,4-Dinitrophenol		2,013.2 µg/mL	+/- 11.7049	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBG3580V)		+/- 24.0659	µg/mL	Unstressed
	Purity 99%			+/- 38.3005	µg/mL	Stressed
48	Dibenzofuran		1,007.0 µg/mL	+/- 5.8548	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKCD9952)		+/- 12.0377	µg/mL	Unstressed
	Purity 99%			+/- 19.1579	µg/mL	Stressed
49	4-Nitrophenol		2,015.4 µg/mL	+/- 11.7177	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBK1842V)		+/- 24.0922	µg/mL	Unstressed
	Purity 99%			+/- 38.3424	µg/mL	Stressed
50	2,4-Dinitrotoluene		1,009.5 µg/mL	+/- 5.8693	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)		+/- 12.0676	µg/mL	Unstressed
	Purity 99%			+/- 19.2054	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,005.3 µg/mL	+/- 5.8449	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot PR-30126)		+/- 12.0174	µg/mL	Unstressed
	Purity 99%			+/- 19.1255	µg/mL	Stressed
52	Fluorene		1,007.7 µg/mL	+/- 5.8591	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)		+/- 12.0465	µg/mL	Unstressed
	Purity 98%			+/- 19.1718	µg/mL	Stressed
53	n-Hexadecane (C16)		1,009.8 µg/mL	+/- 5.8711	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBJ3997)		+/- 12.0712	µg/mL	Unstressed
	Purity 99%			+/- 19.2112	µg/mL	Stressed
54	Diethylphthalate		1,007.4 µg/mL	+/- 5.8571	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKCB0810V)		+/- 12.0425	µg/mL	Unstressed
	Purity 99%			+/- 19.1655	µg/mL	Stressed
55	4-Chlorophenyl phenyl ether		1,006.7 µg/mL	+/- 5.8530	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBX5225V)		+/- 12.0342	µg/mL	Unstressed
	Purity 99%			+/- 19.1522	µg/mL	Stressed

8	2-Chlorophenol		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,009.7	µg/mL	+/-	5.8705	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	12.0700	µg/mL	Unstressed
	Purity 99%				+/-	19.2092	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
11	Benzyl alcohol		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBJ0534)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,007.7	µg/mL	+/-	5.8589	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	12.0461	µg/mL	Unstressed
	Purity 99%				+/-	19.1712	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 7577400)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
15	Acetophenone		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		504.9	µg/mL	+/-	2.9423	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0389	µg/mL	Unstressed
	Purity 99%				+/-	9.6077	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.8	µg/mL	+/-	2.9242	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0018	µg/mL	Unstressed
	Purity 99%				+/-	9.5487	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
19	Hexachloroethane		1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9708	µg/mL	Unstressed
	Purity 99%				+/-	19.0513	µg/mL	Stressed
20	Nitrobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
21	Isophorone		1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0629	µg/mL	Unstressed
	Purity 98%				+/-	19.1979	µg/mL	Stressed
22	2-Nitrophenol		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
23	2,4-Dimethylphenol		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed

Reagent

571995_00051

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0140111

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane		1,006.6 µg/mL	+/- 5.8525 µg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBJ5124)		+/- 12.0330 µg/mL	Unstressed
	Purity 99%			+/- 19.1503 µg/mL	Stressed
2	N-Nitrosodimethylamine		1,005.1 µg/mL	+/- 5.8437 µg/mL	Gravimetric
	CAS # 62-75-9	(Lot 180322JLM)		+/- 12.0150 µg/mL	Unstressed
	Purity 99%			+/- 19.1217 µg/mL	Stressed
3	Pyridine		2,012.7 µg/mL	+/- 11.7020 µg/mL	Gravimetric
	CAS # 110-86-1	(Lot SHBC7174V)		+/- 24.0599 µg/mL	Unstressed
	Purity 99%			+/- 38.2910 µg/mL	Stressed
4	Phenol		1,008.6 µg/mL	+/- 5.8641 µg/mL	Gravimetric
	CAS # 108-95-2	(Lot SHBF9719V)		+/- 12.0569 µg/mL	Unstressed
	Purity 99%			+/- 19.1883 µg/mL	Stressed
5	Aniline		1,006.2 µg/mL	+/- 5.8501 µg/mL	Gravimetric
	CAS # 62-53-3	(Lot K22Z462)		+/- 12.0282 µg/mL	Unstressed
	Purity 99%			+/- 19.1427 µg/mL	Stressed
6	Bis(2-chloroethyl)ether		1,009.5 µg/mL	+/- 5.8693 µg/mL	Gravimetric
	CAS # 111-44-4	(Lot SHBD4430V)		+/- 12.0676 µg/mL	Unstressed
	Purity 99%			+/- 19.2054 µg/mL	Stressed
7	n-Decane (C10)		1,010.0 µg/mL	+/- 5.8722 µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBJ8526)		+/- 12.0736 µg/mL	Unstressed
	Purity 99%			+/- 19.2150 µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 5670100)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
25	2,4-Dichlorophenol		1,009.0	µg/mL	+/-	5.8664	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0616	µg/mL	Unstressed
	Purity 99%				+/-	19.1959	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
27	Naphthalene		1,008.3	µg/mL	+/-	5.8623	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	12.0533	µg/mL	Unstressed
	Purity 99%				+/-	19.1826	µg/mL	Stressed
28	2,6-Dichlorophenol		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
29	4-Chloroaniline		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
30	Hexachlorobutadiene		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8461	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	12.0199	µg/mL	Unstressed
	Purity 96%				+/-	19.1294	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.4	µg/mL	+/-	5.8283	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 523400-9)			+/-	11.9833	µg/mL	Unstressed
	Purity 98%				+/-	19.0712	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,007.2	µg/mL	+/-	5.8559	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0401	µg/mL	Unstressed
	Purity 99%				+/-	19.1617	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0640	µg/mL	Unstressed
	Purity 99%				+/-	19.1997	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
39	Biphenyl		1,006.3	µg/mL	+/-	5.8507	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0294	µg/mL	Unstressed
	Purity 99%				+/-	19.1446	µg/mL	Stressed

56	4-Nitroaniline		1,007.5	µg/mL	+/-	5.8579	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	12.0442	µg/mL	Unstressed
	Purity 98%				+/-	19.1681	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,012.4	µg/mL	+/-	11.7003	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot B180716L)			+/-	24.0564	µg/mL	Unstressed
	Purity 99%				+/-	38.2853	µg/mL	Stressed
58	Diphenylamine		856.1	µg/mL	+/-	4.9889	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.2395	µg/mL	Unstressed
	Purity 99%				+/-	16.2906	µg/mL	Stressed
59	Azobenzene		1,009.8	µg/mL	+/-	5.8709	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBS6535V)			+/-	12.0709	µg/mL	Unstressed
	Purity 97%				+/-	19.2106	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
61	Hexachlorobenzene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LRAB8468)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
62	Pentachlorophenol		2,005.9	µg/mL	+/-	11.6625	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170717KJA)			+/-	23.9787	µg/mL	Unstressed
	Purity 99%				+/-	38.1617	µg/mL	Stressed
63	n-Octadecane (C18)		1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot T7N4E)			+/-	12.0114	µg/mL	Unstressed
	Purity 99%				+/-	19.1160	µg/mL	Stressed
64	Phenanthrene		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
65	Anthracene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
66	Carbazole		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 7528800)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
68	Fluoranthene		1,002.6	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9856	µg/mL	Unstressed
	Purity 98%				+/-	19.0749	µg/mL	Stressed
69	Pyrene		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
70	Benzyl butyl phthalate		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKCF0058)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
71	Benz(a)anthracene		1,004.8	µg/mL	+/-	5.8422	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012018)			+/-	12.0118	µg/mL	Unstressed
	Purity 96%				+/-	19.1166	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

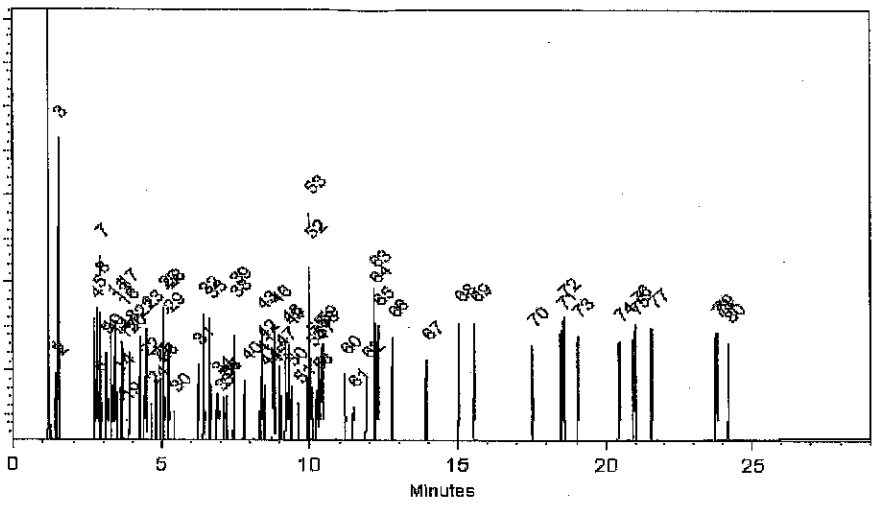
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 30-Jul-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Aug-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,007.3	µg/mL	+/-	5.8565	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	12.0413	µg/mL	Unstressed
	Purity 99%				+/-	19.1636	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.0	µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 7170200)			+/-	12.0377	µg/mL	Unstressed
	Purity 99%				+/-	19.1579	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.7	µg/mL	+/-	5.8356	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9983	µg/mL	Unstressed
	Purity 99%				+/-	19.0951	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,005.7	µg/mL	+/-	5.8472	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	12.0222	µg/mL	Unstressed
	Purity 99%				+/-	19.1332	µg/mL	Stressed
77	Benzo(a)pyrene		1,008.8	µg/mL	+/-	5.8653	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0593	µg/mL	Unstressed
	Purity 99%				+/-	19.1921	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

40	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,007.5	µg/mL	+/- 5.8577 +/- 12.0437 +/- 19.1674	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	Acenaphthylene **CAS #** 208-96-8 **Purity** 97%	(Lot O03R)	1,007.2	µg/mL	+/- 5.8557 +/- 12.0395 +/- 19.1608	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,3-Dinitrobenzene **CAS #** 99-65-0 **Purity** 99%	(Lot BCBN4329V)	1,008.9	µg/mL	+/- 5.8658 +/- 12.0605 +/- 19.1940	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,009.2	µg/mL	+/- 5.8676 +/- 12.0640 +/- 19.1997	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot 1437483V)	1,009.1	µg/mL	+/- 5.8670 +/- 12.0628 +/- 19.1978	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	3-Nitroaniline **CAS #** 99-09-2 **Purity** 99%	(Lot MKBX1283V)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKCC8329)	1,008.1	µg/mL	+/- 5.8612 +/- 12.0509 +/- 19.1788	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot STBG3580V)	2,013.2	µg/mL	+/- 11.7049 +/- 24.0659 +/- 38.3005	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKCD9952)	1,007.0	µg/mL	+/- 5.8548 +/- 12.0377 +/- 19.1579	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBK1842V)	2,015.4	µg/mL	+/- 11.7177 +/- 24.0922 +/- 38.3424	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,009.5	µg/mL	+/- 5.8693 +/- 12.0676 +/- 19.2054	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot PR-30126)	1,005.3	µg/mL	+/- 5.8449 +/- 12.0174 +/- 19.1255	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	Fluorene **CAS #** 86-73-7 **Purity** 98%	(Lot 10174662)	1,007.7	µg/mL	+/- 5.8591 +/- 12.0465 +/- 19.1718	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	n-Hexadecane (C16) **CAS #** 544-76-3 **Purity** 99%	(Lot SHBJ3997)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Diethylphthalate **CAS #** 84-66-2 **Purity** 99%	(Lot MKCB0810V)	1,007.4	µg/mL	+/- 5.8571 +/- 12.0425 +/- 19.1655	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	4-Chlorophenyl phenyl ether **CAS #** 7005-72-3 **Purity** 99%	(Lot MKBX5225V)	1,006.7	µg/mL	+/- 5.8530 +/- 12.0342 +/- 19.1522	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,009.7	µg/mL	+/-	5.8705	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	12.0700	µg/mL	Unstressed
	Purity 99%				+/-	19.2092	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
11	Benzyl alcohol		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBJ0534)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,007.7	µg/mL	+/-	5.8589	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	12.0461	µg/mL	Unstressed
	Purity 99%				+/-	19.1712	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 7577400)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
15	Acetophenone		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		504.9	µg/mL	+/-	2.9423	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0389	µg/mL	Unstressed
	Purity 99%				+/-	9.6077	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.8	µg/mL	+/-	2.9242	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0018	µg/mL	Unstressed
	Purity 99%				+/-	9.5487	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
19	Hexachloroethane		1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9708	µg/mL	Unstressed
	Purity 99%				+/-	19.0513	µg/mL	Stressed
20	Nitrobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
21	Isophorone		1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0629	µg/mL	Unstressed
	Purity 98%				+/-	19.1979	µg/mL	Stressed
22	2-Nitrophenol		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
23	2,4-Dimethylphenol		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed

Reagent

571995_00052

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0140111

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane		1,006.6 µg/mL	+/- 5.8525	µg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBJ5124)		+/- 12.0330	µg/mL	Unstressed
	Purity 99%			+/- 19.1503	µg/mL	Stressed
2	N-Nitrosodimethylamine		1,005.1 µg/mL	+/- 5.8437	µg/mL	Gravimetric
	CAS # 62-75-9	(Lot 180322JLM)		+/- 12.0150	µg/mL	Unstressed
	Purity 99%			+/- 19.1217	µg/mL	Stressed
3	Pyridine		2,012.7 µg/mL	+/- 11.7020	µg/mL	Gravimetric
	CAS # 110-86-1	(Lot SHBC7174V)		+/- 24.0599	µg/mL	Unstressed
	Purity 99%			+/- 38.2910	µg/mL	Stressed
4	Phenol		1,008.6 µg/mL	+/- 5.8641	µg/mL	Gravimetric
	CAS # 108-95-2	(Lot SHBF9719V)		+/- 12.0569	µg/mL	Unstressed
	Purity 99%			+/- 19.1883	µg/mL	Stressed
5	Aniline		1,006.2 µg/mL	+/- 5.8501	µg/mL	Gravimetric
	CAS # 62-53-3	(Lot K22Z462)		+/- 12.0282	µg/mL	Unstressed
	Purity 99%			+/- 19.1427	µg/mL	Stressed
6	Bis(2-chloroethyl)ether		1,009.5 µg/mL	+/- 5.8693	µg/mL	Gravimetric
	CAS # 111-44-4	(Lot SHBD4430V)		+/- 12.0676	µg/mL	Unstressed
	Purity 99%			+/- 19.2054	µg/mL	Stressed
7	n-Decane (C10)		1,010.0 µg/mL	+/- 5.8722	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBJ8526)		+/- 12.0736	µg/mL	Unstressed
	Purity 99%			+/- 19.2150	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 5670100)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
25	2,4-Dichlorophenol		1,009.0	µg/mL	+/-	5.8664	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0616	µg/mL	Unstressed
	Purity 99%				+/-	19.1959	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
27	Naphthalene		1,008.3	µg/mL	+/-	5.8623	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	12.0533	µg/mL	Unstressed
	Purity 99%				+/-	19.1826	µg/mL	Stressed
28	2,6-Dichlorophenol		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
29	4-Chloroaniline		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
30	Hexachlorobutadiene		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8461	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	12.0199	µg/mL	Unstressed
	Purity 96%				+/-	19.1294	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.4	µg/mL	+/-	5.8283	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 523400-9)			+/-	11.9833	µg/mL	Unstressed
	Purity 98%				+/-	19.0712	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,007.2	µg/mL	+/-	5.8559	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0401	µg/mL	Unstressed
	Purity 99%				+/-	19.1617	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0640	µg/mL	Unstressed
	Purity 99%				+/-	19.1997	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
39	Biphenyl		1,006.3	µg/mL	+/-	5.8507	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0294	µg/mL	Unstressed
	Purity 99%				+/-	19.1446	µg/mL	Stressed

56	4-Nitroaniline		1,007.5	µg/mL	+/-	5.8579	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	12.0442	µg/mL	Unstressed
	Purity 98%				+/-	19.1681	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,012.4	µg/mL	+/-	11.7003	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot B180716L)			+/-	24.0564	µg/mL	Unstressed
	Purity 99%				+/-	38.2853	µg/mL	Stressed
58	Diphenylamine		856.1	µg/mL	+/-	4.9889	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.2395	µg/mL	Unstressed
	Purity 99%				+/-	16.2906	µg/mL	Stressed
59	Azobenzene		1,009.8	µg/mL	+/-	5.8709	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBS6535V)			+/-	12.0709	µg/mL	Unstressed
	Purity 97%				+/-	19.2106	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
61	Hexachlorobenzene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LRAB8468)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
62	Pentachlorophenol		2,005.9	µg/mL	+/-	11.6625	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170717KJA)			+/-	23.9787	µg/mL	Unstressed
	Purity 99%				+/-	38.1617	µg/mL	Stressed
63	n-Octadecane (C18)		1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot T7N4E)			+/-	12.0114	µg/mL	Unstressed
	Purity 99%				+/-	19.1160	µg/mL	Stressed
64	Phenanthrene		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
65	Anthracene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
66	Carbazole		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 7528800)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
68	Fluoranthene		1,002.6	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9856	µg/mL	Unstressed
	Purity 98%				+/-	19.0749	µg/mL	Stressed
69	Pyrene		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
70	Benzyl butyl phthalate		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKCF0058)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
71	Benz(a)anthracene		1,004.8	µg/mL	+/-	5.8422	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012018)			+/-	12.0118	µg/mL	Unstressed
	Purity 96%				+/-	19.1166	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

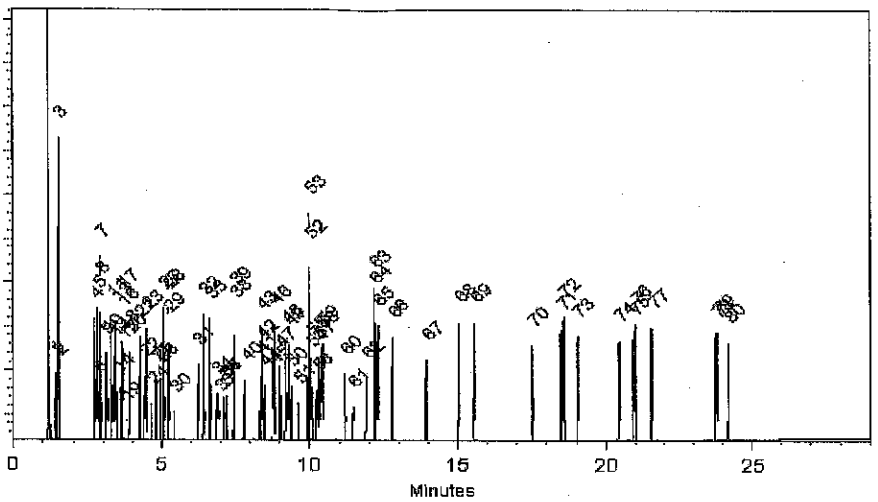
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 30-Jul-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Aug-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,007.3	µg/mL	+/-	5.8565	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	12.0413	µg/mL	Unstressed
	Purity 99%				+/-	19.1636	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.0	µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 7170200)			+/-	12.0377	µg/mL	Unstressed
	Purity 99%				+/-	19.1579	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.7	µg/mL	+/-	5.8356	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9983	µg/mL	Unstressed
	Purity 99%				+/-	19.0951	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,005.7	µg/mL	+/-	5.8472	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	12.0222	µg/mL	Unstressed
	Purity 99%				+/-	19.1332	µg/mL	Stressed
77	Benzo(a)pyrene		1,008.8	µg/mL	+/-	5.8653	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0593	µg/mL	Unstressed
	Purity 99%				+/-	19.1921	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

40	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,007.5	µg/mL	+/- 5.8577 +/- 12.0437 +/- 19.1674	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	Acenaphthylene **CAS #** 208-96-8 **Purity** 97%	(Lot O03R)	1,007.2	µg/mL	+/- 5.8557 +/- 12.0395 +/- 19.1608	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,3-Dinitrobenzene **CAS #** 99-65-0 **Purity** 99%	(Lot BCBN4329V)	1,008.9	µg/mL	+/- 5.8658 +/- 12.0605 +/- 19.1940	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,009.2	µg/mL	+/- 5.8676 +/- 12.0640 +/- 19.1997	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot 1437483V)	1,009.1	µg/mL	+/- 5.8670 +/- 12.0628 +/- 19.1978	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	3-Nitroaniline **CAS #** 99-09-2 **Purity** 99%	(Lot MKBX1283V)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKCC8329)	1,008.1	µg/mL	+/- 5.8612 +/- 12.0509 +/- 19.1788	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot STBG3580V)	2,013.2	µg/mL	+/- 11.7049 +/- 24.0659 +/- 38.3005	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKCD9952)	1,007.0	µg/mL	+/- 5.8548 +/- 12.0377 +/- 19.1579	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBK1842V)	2,015.4	µg/mL	+/- 11.7177 +/- 24.0922 +/- 38.3424	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,009.5	µg/mL	+/- 5.8693 +/- 12.0676 +/- 19.2054	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot PR-30126)	1,005.3	µg/mL	+/- 5.8449 +/- 12.0174 +/- 19.1255	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	Fluorene **CAS #** 86-73-7 **Purity** 98%	(Lot 10174662)	1,007.7	µg/mL	+/- 5.8591 +/- 12.0465 +/- 19.1718	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	n-Hexadecane (C16) **CAS #** 544-76-3 **Purity** 99%	(Lot SHBJ3997)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Diethylphthalate **CAS #** 84-66-2 **Purity** 99%	(Lot MKCB0810V)	1,007.4	µg/mL	+/- 5.8571 +/- 12.0425 +/- 19.1655	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	4-Chlorophenyl phenyl ether **CAS #** 7005-72-3 **Purity** 99%	(Lot MKBX5225V)	1,006.7	µg/mL	+/- 5.8530 +/- 12.0342 +/- 19.1522	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,009.7	µg/mL	+/-	5.8705	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	12.0700	µg/mL	Unstressed
	Purity 99%				+/-	19.2092	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
11	Benzyl alcohol		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBJ0534)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,007.7	µg/mL	+/-	5.8589	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	12.0461	µg/mL	Unstressed
	Purity 99%				+/-	19.1712	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 7577400)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
15	Acetophenone		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		504.9	µg/mL	+/-	2.9423	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0389	µg/mL	Unstressed
	Purity 99%				+/-	9.6077	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.8	µg/mL	+/-	2.9242	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0018	µg/mL	Unstressed
	Purity 99%				+/-	9.5487	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
19	Hexachloroethane		1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9708	µg/mL	Unstressed
	Purity 99%				+/-	19.0513	µg/mL	Stressed
20	Nitrobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
21	Isophorone		1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0629	µg/mL	Unstressed
	Purity 98%				+/-	19.1979	µg/mL	Stressed
22	2-Nitrophenol		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
23	2,4-Dimethylphenol		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed

Reagent

571995_00053

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0140111

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane		1,006.6 µg/mL	+/- 5.8525 µg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBJ5124)		+/- 12.0330 µg/mL	Unstressed
	Purity 99%			+/- 19.1503 µg/mL	Stressed
2	N-Nitrosodimethylamine		1,005.1 µg/mL	+/- 5.8437 µg/mL	Gravimetric
	CAS # 62-75-9	(Lot 180322JLM)		+/- 12.0150 µg/mL	Unstressed
	Purity 99%			+/- 19.1217 µg/mL	Stressed
3	Pyridine		2,012.7 µg/mL	+/- 11.7020 µg/mL	Gravimetric
	CAS # 110-86-1	(Lot SHBC7174V)		+/- 24.0599 µg/mL	Unstressed
	Purity 99%			+/- 38.2910 µg/mL	Stressed
4	Phenol		1,008.6 µg/mL	+/- 5.8641 µg/mL	Gravimetric
	CAS # 108-95-2	(Lot SHBF9719V)		+/- 12.0569 µg/mL	Unstressed
	Purity 99%			+/- 19.1883 µg/mL	Stressed
5	Aniline		1,006.2 µg/mL	+/- 5.8501 µg/mL	Gravimetric
	CAS # 62-53-3	(Lot K22Z462)		+/- 12.0282 µg/mL	Unstressed
	Purity 99%			+/- 19.1427 µg/mL	Stressed
6	Bis(2-chloroethyl)ether		1,009.5 µg/mL	+/- 5.8693 µg/mL	Gravimetric
	CAS # 111-44-4	(Lot SHBD4430V)		+/- 12.0676 µg/mL	Unstressed
	Purity 99%			+/- 19.2054 µg/mL	Stressed
7	n-Decane (C10)		1,010.0 µg/mL	+/- 5.8722 µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBJ8526)		+/- 12.0736 µg/mL	Unstressed
	Purity 99%			+/- 19.2150 µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 5670100)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
25	2,4-Dichlorophenol		1,009.0	µg/mL	+/-	5.8664	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0616	µg/mL	Unstressed
	Purity 99%				+/-	19.1959	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
27	Naphthalene		1,008.3	µg/mL	+/-	5.8623	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	12.0533	µg/mL	Unstressed
	Purity 99%				+/-	19.1826	µg/mL	Stressed
28	2,6-Dichlorophenol		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
29	4-Chloroaniline		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
30	Hexachlorobutadiene		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8461	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	12.0199	µg/mL	Unstressed
	Purity 96%				+/-	19.1294	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.4	µg/mL	+/-	5.8283	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 523400-9)			+/-	11.9833	µg/mL	Unstressed
	Purity 98%				+/-	19.0712	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,007.2	µg/mL	+/-	5.8559	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0401	µg/mL	Unstressed
	Purity 99%				+/-	19.1617	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0640	µg/mL	Unstressed
	Purity 99%				+/-	19.1997	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
39	Biphenyl		1,006.3	µg/mL	+/-	5.8507	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0294	µg/mL	Unstressed
	Purity 99%				+/-	19.1446	µg/mL	Stressed

56	4-Nitroaniline		1,007.5	µg/mL	+/-	5.8579	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	12.0442	µg/mL	Unstressed
	Purity 98%				+/-	19.1681	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,012.4	µg/mL	+/-	11.7003	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot B180716L)			+/-	24.0564	µg/mL	Unstressed
	Purity 99%				+/-	38.2853	µg/mL	Stressed
58	Diphenylamine		856.1	µg/mL	+/-	4.9889	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.2395	µg/mL	Unstressed
	Purity 99%				+/-	16.2906	µg/mL	Stressed
59	Azobenzene		1,009.8	µg/mL	+/-	5.8709	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBS6535V)			+/-	12.0709	µg/mL	Unstressed
	Purity 97%				+/-	19.2106	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
61	Hexachlorobenzene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LRAB8468)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
62	Pentachlorophenol		2,005.9	µg/mL	+/-	11.6625	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170717KJA)			+/-	23.9787	µg/mL	Unstressed
	Purity 99%				+/-	38.1617	µg/mL	Stressed
63	n-Octadecane (C18)		1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot T7N4E)			+/-	12.0114	µg/mL	Unstressed
	Purity 99%				+/-	19.1160	µg/mL	Stressed
64	Phenanthrene		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
65	Anthracene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
66	Carbazole		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 7528800)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
68	Fluoranthene		1,002.6	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9856	µg/mL	Unstressed
	Purity 98%				+/-	19.0749	µg/mL	Stressed
69	Pyrene		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
70	Benzyl butyl phthalate		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKCF0058)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
71	Benz(a)anthracene		1,004.8	µg/mL	+/-	5.8422	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012018)			+/-	12.0118	µg/mL	Unstressed
	Purity 96%				+/-	19.1166	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

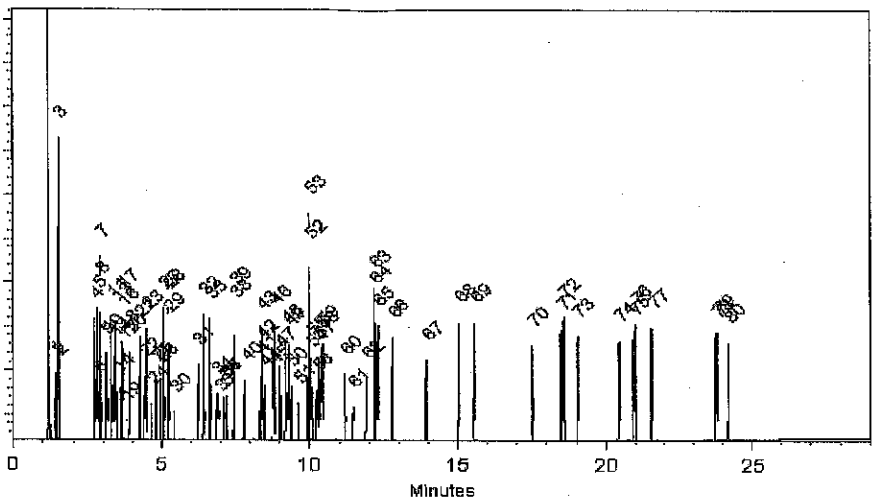
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 30-Jul-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Aug-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,007.3	µg/mL	+/-	5.8565	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	12.0413	µg/mL	Unstressed
	Purity 99%				+/-	19.1636	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.0	µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 7170200)			+/-	12.0377	µg/mL	Unstressed
	Purity 99%				+/-	19.1579	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.7	µg/mL	+/-	5.8356	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9983	µg/mL	Unstressed
	Purity 99%				+/-	19.0951	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,005.7	µg/mL	+/-	5.8472	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	12.0222	µg/mL	Unstressed
	Purity 99%				+/-	19.1332	µg/mL	Stressed
77	Benzo(a)pyrene		1,008.8	µg/mL	+/-	5.8653	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0593	µg/mL	Unstressed
	Purity 99%				+/-	19.1921	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

40	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,007.5	µg/mL	+/- 5.8577 +/- 12.0437 +/- 19.1674	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	Acenaphthylene **CAS #** 208-96-8 **Purity** 97%	(Lot O03R)	1,007.2	µg/mL	+/- 5.8557 +/- 12.0395 +/- 19.1608	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,3-Dinitrobenzene **CAS #** 99-65-0 **Purity** 99%	(Lot BCBN4329V)	1,008.9	µg/mL	+/- 5.8658 +/- 12.0605 +/- 19.1940	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,009.2	µg/mL	+/- 5.8676 +/- 12.0640 +/- 19.1997	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot 1437483V)	1,009.1	µg/mL	+/- 5.8670 +/- 12.0628 +/- 19.1978	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	3-Nitroaniline **CAS #** 99-09-2 **Purity** 99%	(Lot MKBX1283V)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKCC8329)	1,008.1	µg/mL	+/- 5.8612 +/- 12.0509 +/- 19.1788	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot STBG3580V)	2,013.2	µg/mL	+/- 11.7049 +/- 24.0659 +/- 38.3005	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKCD9952)	1,007.0	µg/mL	+/- 5.8548 +/- 12.0377 +/- 19.1579	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBK1842V)	2,015.4	µg/mL	+/- 11.7177 +/- 24.0922 +/- 38.3424	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,009.5	µg/mL	+/- 5.8693 +/- 12.0676 +/- 19.2054	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot PR-30126)	1,005.3	µg/mL	+/- 5.8449 +/- 12.0174 +/- 19.1255	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	Fluorene **CAS #** 86-73-7 **Purity** 98%	(Lot 10174662)	1,007.7	µg/mL	+/- 5.8591 +/- 12.0465 +/- 19.1718	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	n-Hexadecane (C16) **CAS #** 544-76-3 **Purity** 99%	(Lot SHBJ3997)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Diethylphthalate **CAS #** 84-66-2 **Purity** 99%	(Lot MKCB0810V)	1,007.4	µg/mL	+/- 5.8571 +/- 12.0425 +/- 19.1655	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	4-Chlorophenyl phenyl ether **CAS #** 7005-72-3 **Purity** 99%	(Lot MKBX5225V)	1,006.7	µg/mL	+/- 5.8530 +/- 12.0342 +/- 19.1522	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,009.7	µg/mL	+/-	5.8705	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	12.0700	µg/mL	Unstressed
	Purity 99%				+/-	19.2092	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
11	Benzyl alcohol		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBJ0534)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,007.7	µg/mL	+/-	5.8589	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	12.0461	µg/mL	Unstressed
	Purity 99%				+/-	19.1712	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 7577400)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
15	Acetophenone		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		504.9	µg/mL	+/-	2.9423	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0389	µg/mL	Unstressed
	Purity 99%				+/-	9.6077	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.8	µg/mL	+/-	2.9242	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0018	µg/mL	Unstressed
	Purity 99%				+/-	9.5487	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
19	Hexachloroethane		1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9708	µg/mL	Unstressed
	Purity 99%				+/-	19.0513	µg/mL	Stressed
20	Nitrobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
21	Isophorone		1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0629	µg/mL	Unstressed
	Purity 98%				+/-	19.1979	µg/mL	Stressed
22	2-Nitrophenol		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
23	2,4-Dimethylphenol		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed

Reagent

571995_00055

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0140111

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 **Purity** 99%	(Lot SHBJ5124)	1,006.6 µg/mL	+/- 5.8525 µg/mL +/- 12.0330 µg/mL +/- 19.1503 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine **CAS #** 62-75-9 **Purity** 99%	(Lot 180322JLM)	1,005.1 µg/mL	+/- 5.8437 µg/mL +/- 12.0150 µg/mL +/- 19.1217 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine **CAS #** 110-86-1 **Purity** 99%	(Lot SHBC7174V)	2,012.7 µg/mL	+/- 11.7020 µg/mL +/- 24.0599 µg/mL +/- 38.2910 µg/mL	Gravimetric Unstressed Stressed
4	Phenol **CAS #** 108-95-2 **Purity** 99%	(Lot SHBF9719V)	1,008.6 µg/mL	+/- 5.8641 µg/mL +/- 12.0569 µg/mL +/- 19.1883 µg/mL	Gravimetric Unstressed Stressed
5	Aniline **CAS #** 62-53-3 **Purity** 99%	(Lot K22Z462)	1,006.2 µg/mL	+/- 5.8501 µg/mL +/- 12.0282 µg/mL +/- 19.1427 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether **CAS #** 111-44-4 **Purity** 99%	(Lot SHBD4430V)	1,009.5 µg/mL	+/- 5.8693 µg/mL +/- 12.0676 µg/mL +/- 19.2054 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) **CAS #** 124-18-5 **Purity** 99%	(Lot SHBJ8526)	1,010.0 µg/mL	+/- 5.8722 µg/mL +/- 12.0736 µg/mL +/- 19.2150 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 5670100)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
25	2,4-Dichlorophenol		1,009.0	µg/mL	+/-	5.8664	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0616	µg/mL	Unstressed
	Purity 99%				+/-	19.1959	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
27	Naphthalene		1,008.3	µg/mL	+/-	5.8623	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	12.0533	µg/mL	Unstressed
	Purity 99%				+/-	19.1826	µg/mL	Stressed
28	2,6-Dichlorophenol		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
29	4-Chloroaniline		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
30	Hexachlorobutadiene		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8461	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	12.0199	µg/mL	Unstressed
	Purity 96%				+/-	19.1294	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.4	µg/mL	+/-	5.8283	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 523400-9)			+/-	11.9833	µg/mL	Unstressed
	Purity 98%				+/-	19.0712	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,007.2	µg/mL	+/-	5.8559	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0401	µg/mL	Unstressed
	Purity 99%				+/-	19.1617	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0640	µg/mL	Unstressed
	Purity 99%				+/-	19.1997	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
39	Biphenyl		1,006.3	µg/mL	+/-	5.8507	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0294	µg/mL	Unstressed
	Purity 99%				+/-	19.1446	µg/mL	Stressed

56	4-Nitroaniline		1,007.5	µg/mL	+/-	5.8579	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	12.0442	µg/mL	Unstressed
	Purity 98%				+/-	19.1681	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,012.4	µg/mL	+/-	11.7003	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot B180716L)			+/-	24.0564	µg/mL	Unstressed
	Purity 99%				+/-	38.2853	µg/mL	Stressed
58	Diphenylamine		856.1	µg/mL	+/-	4.9889	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.2395	µg/mL	Unstressed
	Purity 99%				+/-	16.2906	µg/mL	Stressed
59	Azobenzene		1,009.8	µg/mL	+/-	5.8709	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBS6535V)			+/-	12.0709	µg/mL	Unstressed
	Purity 97%				+/-	19.2106	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
61	Hexachlorobenzene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LRAB8468)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
62	Pentachlorophenol		2,005.9	µg/mL	+/-	11.6625	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170717KJA)			+/-	23.9787	µg/mL	Unstressed
	Purity 99%				+/-	38.1617	µg/mL	Stressed
63	n-Octadecane (C18)		1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot T7N4E)			+/-	12.0114	µg/mL	Unstressed
	Purity 99%				+/-	19.1160	µg/mL	Stressed
64	Phenanthrene		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
65	Anthracene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
66	Carbazole		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 7528800)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
68	Fluoranthene		1,002.6	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9856	µg/mL	Unstressed
	Purity 98%				+/-	19.0749	µg/mL	Stressed
69	Pyrene		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
70	Benzyl butyl phthalate		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKCF0058)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
71	Benz(a)anthracene		1,004.8	µg/mL	+/-	5.8422	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012018)			+/-	12.0118	µg/mL	Unstressed
	Purity 96%				+/-	19.1166	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

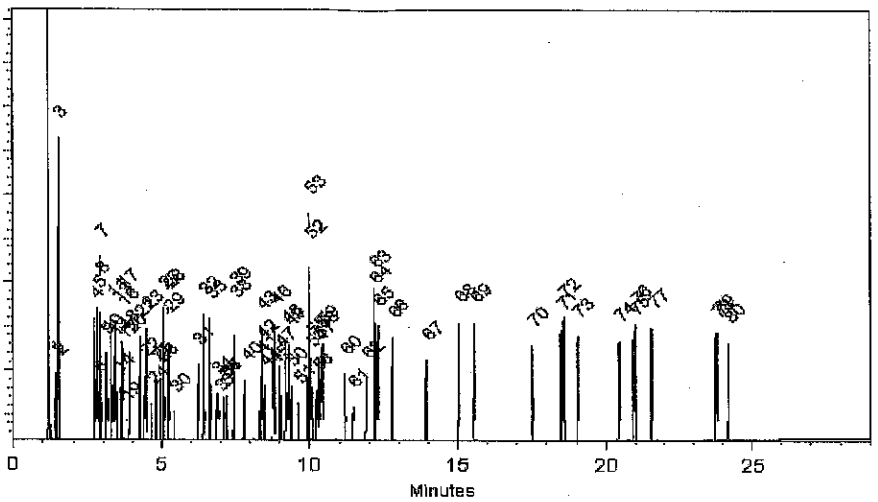
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 30-Jul-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Aug-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,007.3	µg/mL	+/-	5.8565	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	12.0413	µg/mL	Unstressed
	Purity 99%				+/-	19.1636	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.0	µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 7170200)			+/-	12.0377	µg/mL	Unstressed
	Purity 99%				+/-	19.1579	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.7	µg/mL	+/-	5.8356	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9983	µg/mL	Unstressed
	Purity 99%				+/-	19.0951	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,005.7	µg/mL	+/-	5.8472	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	12.0222	µg/mL	Unstressed
	Purity 99%				+/-	19.1332	µg/mL	Stressed
77	Benzo(a)pyrene		1,008.8	µg/mL	+/-	5.8653	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0593	µg/mL	Unstressed
	Purity 99%				+/-	19.1921	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

40	2-Nitroaniline		1,007.5 µg/mL	+/- 5.8577	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)		+/- 12.0437	µg/mL	Unstressed
	Purity 99%			+/- 19.1674	µg/mL	Stressed
41	Acenaphthylene		1,007.2 µg/mL	+/- 5.8557	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot O03R)		+/- 12.0395	µg/mL	Unstressed
	Purity 97%			+/- 19.1608	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,008.9 µg/mL	+/- 5.8658	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBN4329V)		+/- 12.0605	µg/mL	Unstressed
	Purity 99%			+/- 19.1940	µg/mL	Stressed
43	Dimethylphthalate		1,009.2 µg/mL	+/- 5.8676	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)		+/- 12.0640	µg/mL	Unstressed
	Purity 99%			+/- 19.1997	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,009.1 µg/mL	+/- 5.8670	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)		+/- 12.0628	µg/mL	Unstressed
	Purity 99%			+/- 19.1978	µg/mL	Stressed
45	3-Nitroaniline		1,009.8 µg/mL	+/- 5.8711	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBX1283V)		+/- 12.0712	µg/mL	Unstressed
	Purity 99%			+/- 19.2112	µg/mL	Stressed
46	Acenaphthene		1,008.1 µg/mL	+/- 5.8612	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKCC8329)		+/- 12.0509	µg/mL	Unstressed
	Purity 99%			+/- 19.1788	µg/mL	Stressed
47	2,4-Dinitrophenol		2,013.2 µg/mL	+/- 11.7049	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBG3580V)		+/- 24.0659	µg/mL	Unstressed
	Purity 99%			+/- 38.3005	µg/mL	Stressed
48	Dibenzofuran		1,007.0 µg/mL	+/- 5.8548	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKCD9952)		+/- 12.0377	µg/mL	Unstressed
	Purity 99%			+/- 19.1579	µg/mL	Stressed
49	4-Nitrophenol		2,015.4 µg/mL	+/- 11.7177	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBK1842V)		+/- 24.0922	µg/mL	Unstressed
	Purity 99%			+/- 38.3424	µg/mL	Stressed
50	2,4-Dinitrotoluene		1,009.5 µg/mL	+/- 5.8693	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)		+/- 12.0676	µg/mL	Unstressed
	Purity 99%			+/- 19.2054	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,005.3 µg/mL	+/- 5.8449	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot PR-30126)		+/- 12.0174	µg/mL	Unstressed
	Purity 99%			+/- 19.1255	µg/mL	Stressed
52	Fluorene		1,007.7 µg/mL	+/- 5.8591	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)		+/- 12.0465	µg/mL	Unstressed
	Purity 98%			+/- 19.1718	µg/mL	Stressed
53	n-Hexadecane (C16)		1,009.8 µg/mL	+/- 5.8711	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBJ3997)		+/- 12.0712	µg/mL	Unstressed
	Purity 99%			+/- 19.2112	µg/mL	Stressed
54	Diethylphthalate		1,007.4 µg/mL	+/- 5.8571	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKCB0810V)		+/- 12.0425	µg/mL	Unstressed
	Purity 99%			+/- 19.1655	µg/mL	Stressed
55	4-Chlorophenyl phenyl ether		1,006.7 µg/mL	+/- 5.8530	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBX5225V)		+/- 12.0342	µg/mL	Unstressed
	Purity 99%			+/- 19.1522	µg/mL	Stressed

8	2-Chlorophenol		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,009.7	µg/mL	+/-	5.8705	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	12.0700	µg/mL	Unstressed
	Purity 99%				+/-	19.2092	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
11	Benzyl alcohol		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBJ0534)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,007.7	µg/mL	+/-	5.8589	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	12.0461	µg/mL	Unstressed
	Purity 99%				+/-	19.1712	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 7577400)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
15	Acetophenone		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		504.9	µg/mL	+/-	2.9423	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0389	µg/mL	Unstressed
	Purity 99%				+/-	9.6077	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.8	µg/mL	+/-	2.9242	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0018	µg/mL	Unstressed
	Purity 99%				+/-	9.5487	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
19	Hexachloroethane		1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9708	µg/mL	Unstressed
	Purity 99%				+/-	19.0513	µg/mL	Stressed
20	Nitrobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
21	Isophorone		1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0629	µg/mL	Unstressed
	Purity 98%				+/-	19.1979	µg/mL	Stressed
22	2-Nitrophenol		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
23	2,4-Dimethylphenol		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed

Reagent

571995_00056

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0140111

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane		1,006.6	µg/mL	+/- 5.8525	µg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBJ5124)			+/- 12.0330	µg/mL	Unstressed
	Purity 99%				+/- 19.1503	µg/mL	Stressed
2	N-Nitrosodimethylamine		1,005.1	µg/mL	+/- 5.8437	µg/mL	Gravimetric
	CAS # 62-75-9	(Lot 180322JLM)			+/- 12.0150	µg/mL	Unstressed
	Purity 99%				+/- 19.1217	µg/mL	Stressed
3	Pyridine		2,012.7	µg/mL	+/- 11.7020	µg/mL	Gravimetric
	CAS # 110-86-1	(Lot SHBC7174V)			+/- 24.0599	µg/mL	Unstressed
	Purity 99%				+/- 38.2910	µg/mL	Stressed
4	Phenol		1,008.6	µg/mL	+/- 5.8641	µg/mL	Gravimetric
	CAS # 108-95-2	(Lot SHBF9719V)			+/- 12.0569	µg/mL	Unstressed
	Purity 99%				+/- 19.1883	µg/mL	Stressed
5	Aniline		1,006.2	µg/mL	+/- 5.8501	µg/mL	Gravimetric
	CAS # 62-53-3	(Lot K22Z462)			+/- 12.0282	µg/mL	Unstressed
	Purity 99%				+/- 19.1427	µg/mL	Stressed
6	Bis(2-chloroethyl)ether		1,009.5	µg/mL	+/- 5.8693	µg/mL	Gravimetric
	CAS # 111-44-4	(Lot SHBD4430V)			+/- 12.0676	µg/mL	Unstressed
	Purity 99%				+/- 19.2054	µg/mL	Stressed
7	n-Decane (C10)		1,010.0	µg/mL	+/- 5.8722	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBJ8526)			+/- 12.0736	µg/mL	Unstressed
	Purity 99%				+/- 19.2150	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 5670100)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
25	2,4-Dichlorophenol		1,009.0	µg/mL	+/-	5.8664	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0616	µg/mL	Unstressed
	Purity 99%				+/-	19.1959	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
27	Naphthalene		1,008.3	µg/mL	+/-	5.8623	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	12.0533	µg/mL	Unstressed
	Purity 99%				+/-	19.1826	µg/mL	Stressed
28	2,6-Dichlorophenol		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
29	4-Chloroaniline		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
30	Hexachlorobutadiene		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8461	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	12.0199	µg/mL	Unstressed
	Purity 96%				+/-	19.1294	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.4	µg/mL	+/-	5.8283	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 523400-9)			+/-	11.9833	µg/mL	Unstressed
	Purity 98%				+/-	19.0712	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,007.2	µg/mL	+/-	5.8559	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0401	µg/mL	Unstressed
	Purity 99%				+/-	19.1617	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0640	µg/mL	Unstressed
	Purity 99%				+/-	19.1997	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
39	Biphenyl		1,006.3	µg/mL	+/-	5.8507	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0294	µg/mL	Unstressed
	Purity 99%				+/-	19.1446	µg/mL	Stressed

56	4-Nitroaniline		1,007.5	µg/mL	+/-	5.8579	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	12.0442	µg/mL	Unstressed
	Purity 98%				+/-	19.1681	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,012.4	µg/mL	+/-	11.7003	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot B180716L)			+/-	24.0564	µg/mL	Unstressed
	Purity 99%				+/-	38.2853	µg/mL	Stressed
58	Diphenylamine		856.1	µg/mL	+/-	4.9889	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.2395	µg/mL	Unstressed
	Purity 99%				+/-	16.2906	µg/mL	Stressed
59	Azobenzene		1,009.8	µg/mL	+/-	5.8709	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBS6535V)			+/-	12.0709	µg/mL	Unstressed
	Purity 97%				+/-	19.2106	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
61	Hexachlorobenzene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LRAB8468)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
62	Pentachlorophenol		2,005.9	µg/mL	+/-	11.6625	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170717KJA)			+/-	23.9787	µg/mL	Unstressed
	Purity 99%				+/-	38.1617	µg/mL	Stressed
63	n-Octadecane (C18)		1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot T7N4E)			+/-	12.0114	µg/mL	Unstressed
	Purity 99%				+/-	19.1160	µg/mL	Stressed
64	Phenanthrene		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
65	Anthracene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
66	Carbazole		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 7528800)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
68	Fluoranthene		1,002.6	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9856	µg/mL	Unstressed
	Purity 98%				+/-	19.0749	µg/mL	Stressed
69	Pyrene		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
70	Benzyl butyl phthalate		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKCF0058)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
71	Benz(a)anthracene		1,004.8	µg/mL	+/-	5.8422	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012018)			+/-	12.0118	µg/mL	Unstressed
	Purity 96%				+/-	19.1166	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

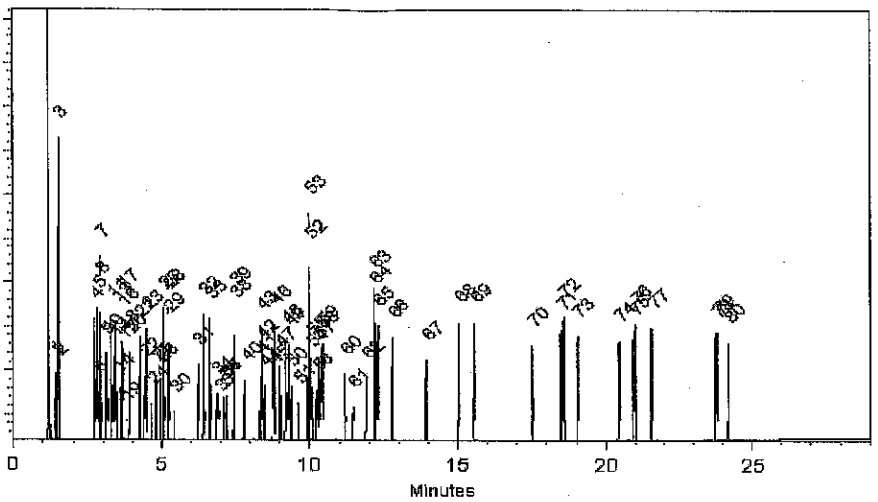
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 30-Jul-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Aug-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,007.3	µg/mL	+/-	5.8565	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	12.0413	µg/mL	Unstressed
	Purity 99%				+/-	19.1636	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.0	µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 7170200)			+/-	12.0377	µg/mL	Unstressed
	Purity 99%				+/-	19.1579	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.7	µg/mL	+/-	5.8356	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9983	µg/mL	Unstressed
	Purity 99%				+/-	19.0951	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,005.7	µg/mL	+/-	5.8472	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	12.0222	µg/mL	Unstressed
	Purity 99%				+/-	19.1332	µg/mL	Stressed
77	Benzo(a)pyrene		1,008.8	µg/mL	+/-	5.8653	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0593	µg/mL	Unstressed
	Purity 99%				+/-	19.1921	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

40	2-Nitroaniline		1,007.5 µg/mL	+/- 5.8577	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)		+/- 12.0437	µg/mL	Unstressed
	Purity 99%			+/- 19.1674	µg/mL	Stressed
41	Acenaphthylene		1,007.2 µg/mL	+/- 5.8557	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot O03R)		+/- 12.0395	µg/mL	Unstressed
	Purity 97%			+/- 19.1608	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,008.9 µg/mL	+/- 5.8658	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBN4329V)		+/- 12.0605	µg/mL	Unstressed
	Purity 99%			+/- 19.1940	µg/mL	Stressed
43	Dimethylphthalate		1,009.2 µg/mL	+/- 5.8676	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)		+/- 12.0640	µg/mL	Unstressed
	Purity 99%			+/- 19.1997	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,009.1 µg/mL	+/- 5.8670	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)		+/- 12.0628	µg/mL	Unstressed
	Purity 99%			+/- 19.1978	µg/mL	Stressed
45	3-Nitroaniline		1,009.8 µg/mL	+/- 5.8711	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBX1283V)		+/- 12.0712	µg/mL	Unstressed
	Purity 99%			+/- 19.2112	µg/mL	Stressed
46	Acenaphthene		1,008.1 µg/mL	+/- 5.8612	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKCC8329)		+/- 12.0509	µg/mL	Unstressed
	Purity 99%			+/- 19.1788	µg/mL	Stressed
47	2,4-Dinitrophenol		2,013.2 µg/mL	+/- 11.7049	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBG3580V)		+/- 24.0659	µg/mL	Unstressed
	Purity 99%			+/- 38.3005	µg/mL	Stressed
48	Dibenzofuran		1,007.0 µg/mL	+/- 5.8548	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKCD9952)		+/- 12.0377	µg/mL	Unstressed
	Purity 99%			+/- 19.1579	µg/mL	Stressed
49	4-Nitrophenol		2,015.4 µg/mL	+/- 11.7177	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBK1842V)		+/- 24.0922	µg/mL	Unstressed
	Purity 99%			+/- 38.3424	µg/mL	Stressed
50	2,4-Dinitrotoluene		1,009.5 µg/mL	+/- 5.8693	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)		+/- 12.0676	µg/mL	Unstressed
	Purity 99%			+/- 19.2054	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,005.3 µg/mL	+/- 5.8449	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot PR-30126)		+/- 12.0174	µg/mL	Unstressed
	Purity 99%			+/- 19.1255	µg/mL	Stressed
52	Fluorene		1,007.7 µg/mL	+/- 5.8591	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)		+/- 12.0465	µg/mL	Unstressed
	Purity 98%			+/- 19.1718	µg/mL	Stressed
53	n-Hexadecane (C16)		1,009.8 µg/mL	+/- 5.8711	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBJ3997)		+/- 12.0712	µg/mL	Unstressed
	Purity 99%			+/- 19.2112	µg/mL	Stressed
54	Diethylphthalate		1,007.4 µg/mL	+/- 5.8571	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKCB0810V)		+/- 12.0425	µg/mL	Unstressed
	Purity 99%			+/- 19.1655	µg/mL	Stressed
55	4-Chlorophenyl phenyl ether		1,006.7 µg/mL	+/- 5.8530	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBX5225V)		+/- 12.0342	µg/mL	Unstressed
	Purity 99%			+/- 19.1522	µg/mL	Stressed

8	2-Chlorophenol		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,009.7	µg/mL	+/-	5.8705	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	12.0700	µg/mL	Unstressed
	Purity 99%				+/-	19.2092	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
11	Benzyl alcohol		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBJ0534)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,007.7	µg/mL	+/-	5.8589	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	12.0461	µg/mL	Unstressed
	Purity 99%				+/-	19.1712	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 7577400)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
15	Acetophenone		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		504.9	µg/mL	+/-	2.9423	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0389	µg/mL	Unstressed
	Purity 99%				+/-	9.6077	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.8	µg/mL	+/-	2.9242	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0018	µg/mL	Unstressed
	Purity 99%				+/-	9.5487	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
19	Hexachloroethane		1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9708	µg/mL	Unstressed
	Purity 99%				+/-	19.0513	µg/mL	Stressed
20	Nitrobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
21	Isophorone		1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0629	µg/mL	Unstressed
	Purity 98%				+/-	19.1979	µg/mL	Stressed
22	2-Nitrophenol		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
23	2,4-Dimethylphenol		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed

Reagent

8081 ToxStock_00018

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: P-093S-H-10X
Description: Toxaphene Standard
Lot: 215011420
Solvent: Hexane
Hazards: **HIGHLY FLAMMABLE** - *Refer to SDS for safety info*



Danger 2

Date Certified: Jan 30, 2015
Expiration: Jan 30, 2025
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Toxaphene	8001-35-2	Tech Mix	1001	1001

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values:
A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: _____
Larry Decker, Organic QC Manager

Page 1 of 1

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 5/16

Reagent

8081/82 Surr_00105

Preliminary Report

TestAmerica Denver

Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_P3\20180928-74499.b\09281804.D				
Lims ID:	8082 Surr 105				
Client ID:					
Sample Type:	Client				
Inject. Date:	28-Sep-2018 11:22:28	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	8082 Surr 105				
Misc. Info.:	280-0074499-004				
Operator ID:	JAX/MED	Instrument ID:	SGC_P3		
Method:	\\ChromNA\Denver\ChromData\SGC_P3\20180928-74499.b\PCB_P3.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	01-Oct-2018 09:58:25	Calib Date:	20-Sep-2018 22:52:41		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P3\20180920-74190.b\09201835.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0302				

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	20.3	101.59
$ 15 DCB Decachlorobiphenyl	20.0	15.6	78.08

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	16.1	80.29
$ 15 DCB Decachlorobiphenyl	20.0	17.4	86.89

Reagent

8081ABResPS_00026

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #2222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32415 **Lot No.:** A0129369

Description : Organochlorine Pesticide Mix AB #3

Organochlorine Pesticide Mix AB #3 2,000 µg/mL, Hexane/Toluene (50:50), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2021 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	alpha-BHC		2,012.0	µg/mL	+/- 11.8075	µg/mL	Gravimetric
	CAS # 319-84-6	(Lot 0911942)			+/- 91.6450	µg/mL	Unstressed
	Purity 99%				+/- 132.3230	µg/mL	Stressed
2	gamma-BHC (Lindane)		2,010.5	µg/mL	+/- 11.7987	µg/mL	Gravimetric
	CAS # 58-89-9	(Lot 6357300)			+/- 91.5767	µg/mL	Unstressed
	Purity 99%				+/- 132.2244	µg/mL	Stressed
3	beta-BHC		2,011.9	µg/mL	+/- 11.8072	µg/mL	Gravimetric
	CAS # 319-85-7	(Lot SZBD116XV)			+/- 91.6423	µg/mL	Unstressed
	Purity 98%				+/- 132.3191	µg/mL	Stressed
4	delta-BHC		2,017.0	µg/mL	+/- 11.8369	µg/mL	Gravimetric
	CAS # 319-86-8	(Lot ER02101401)			+/- 91.8728	µg/mL	Unstressed
	Purity 99%				+/- 132.6518	µg/mL	Stressed
5	Heptachlor		2,011.5	µg/mL	+/- 11.8046	µg/mL	Gravimetric
	CAS # 76-44-8	(Lot NT056422)			+/- 91.6223	µg/mL	Unstressed
	Purity 99%				+/- 132.2901	µg/mL	Stressed
6	Aldrin		2,009.0	µg/mL	+/- 11.7899	µg/mL	Gravimetric
	CAS # 309-00-2	(Lot 5923100)			+/- 91.5084	µg/mL	Unstressed
	Purity 98%				+/- 132.1257	µg/mL	Stressed
7	Heptachlor epoxide (isomer B)		2,007.0	µg/mL	+/- 11.7782	µg/mL	Gravimetric
	CAS # 1024-57-3	(Lot ER121511-01)			+/- 91.4173	µg/mL	Unstressed
	Purity 99%				+/- 131.9942	µg/mL	Stressed

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

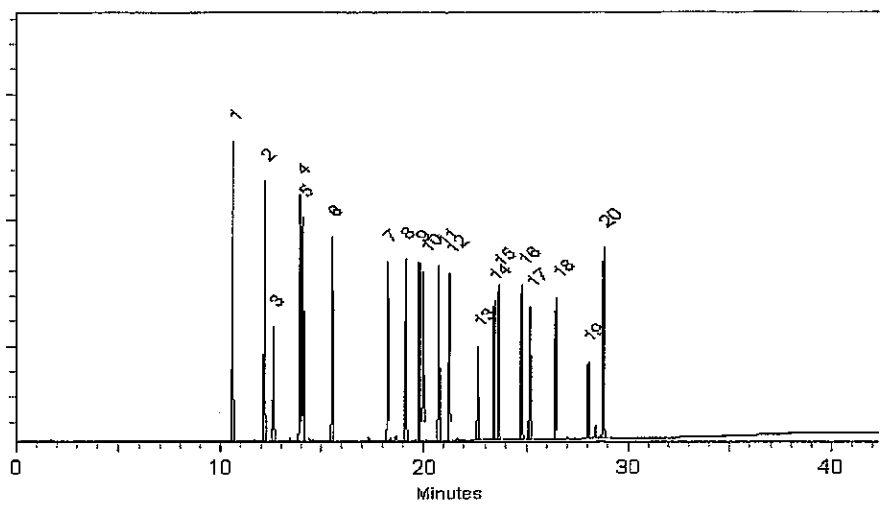
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 24-Jul-2017 **Balance:** B442140311

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 25-Jul-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

8	trans-Chlordane		2,007.0	µg/mL	+/-	11.7782	µg/mL	Gravimetric
	CAS # 5103-74-2	(Lot ER061906-04)			+/-	91.4173	µg/mL	Unstressed
	Purity 99%				+/-	131.9942	µg/mL	Stressed
9	cis-Chlordane		2,006.0	µg/mL	+/-	11.7723	µg/mL	Gravimetric
	CAS # 5103-71-9	(Lot ER062410-01)			+/-	91.3717	µg/mL	Unstressed
	Purity 99%				+/-	131.9284	µg/mL	Stressed
10	Endosulfan I		2,013.0	µg/mL	+/-	11.8134	µg/mL	Gravimetric
	CAS # 959-98-8	(Lot ER012105-02)			+/-	91.6906	µg/mL	Unstressed
	Purity 99%				+/-	132.3888	µg/mL	Stressed
11	4,4'-DDE		2,008.5	µg/mL	+/-	11.7870	µg/mL	Gravimetric
	CAS # 72-55-9	(Lot GHYQG)			+/-	91.4856	µg/mL	Unstressed
	Purity 99%				+/-	132.0928	µg/mL	Stressed
12	Dieldrin		2,006.0	µg/mL	+/-	11.7723	µg/mL	Gravimetric
	CAS # 60-57-1	(Lot ER030105-03)			+/-	91.3717	µg/mL	Unstressed
	Purity 99%				+/-	131.9284	µg/mL	Stressed
13	Endrin		2,019.3	µg/mL	+/-	11.8503	µg/mL	Gravimetric
	CAS # 72-20-8	(Lot 6429800)			+/-	91.9771	µg/mL	Unstressed
	Purity 98%				+/-	132.8025	µg/mL	Stressed
14	4,4'-DDD		2,014.9	µg/mL	+/-	11.8244	µg/mL	Gravimetric
	CAS # 72-54-8	(Lot ER061207-01)			+/-	91.7762	µg/mL	Unstressed
	Purity 98%				+/-	132.5124	µg/mL	Stressed
15	Endosulfan II		2,007.5	µg/mL	+/-	11.7811	µg/mL	Gravimetric
	CAS # 33213-65-9	(Lot ER102407-02)			+/-	91.4401	µg/mL	Unstressed
	Purity 99%				+/-	132.0271	µg/mL	Stressed
16	Endrin aldehyde		2,008.5	µg/mL	+/-	11.7870	µg/mL	Gravimetric
	CAS # 7421-93-4	(Lot ER082306-01)			+/-	91.4856	µg/mL	Unstressed
	Purity 99%				+/-	132.0928	µg/mL	Stressed
17	4,4'-DDT		2,009.0	µg/mL	+/-	11.7899	µg/mL	Gravimetric
	CAS # 50-29-3	(Lot S37912V)			+/-	91.5084	µg/mL	Unstressed
	Purity 99%				+/-	132.1257	µg/mL	Stressed
18	Endosulfan sulfate		2,009.3	µg/mL	+/-	11.7916	µg/mL	Gravimetric
	CAS # 1031-07-8	(Lot SZBC213XV)			+/-	91.5211	µg/mL	Unstressed
	Purity 96%				+/-	132.1441	µg/mL	Stressed
19	Methoxychlor		2,015.4	µg/mL	+/-	11.8273	µg/mL	Gravimetric
	CAS # 72-43-5	(Lot 6429900)			+/-	91.7985	µg/mL	Unstressed
	Purity 98%				+/-	132.5446	µg/mL	Stressed
20	Endrin ketone		2,007.5	µg/mL	+/-	11.7811	µg/mL	Gravimetric
	CAS # 53494-70-5	(Lot 160405JLM)			+/-	91.4401	µg/mL	Unstressed
	Purity 99%				+/-	132.0271	µg/mL	Stressed

Solvent: Hexane/Toluene (50:50)
CAS # 110-54-3/108-88-3
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8081ABResPS_00028

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32415 **Lot No.:** A0133751

Description : Organochlorine Pesticide Mix AB #3

Organochlorine Pesticide Mix AB #3 2,000 µg/mL, Hexane/Toluene (50:50), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	alpha-BHC **CAS #** 319-84-6 (Lot 0911942) **Purity** 99%	2,017.5 µg/mL	+/- 11.8398 µg/mL +/- 91.8956 µg/mL +/- 132.6847 µg/mL	Gravimetric Unstressed Stressed
2	gamma-BHC (Lindane) **CAS #** 58-89-9 (Lot 6815700) **Purity** 99%	2,010.5 µg/mL	+/- 11.7987 µg/mL +/- 91.5767 µg/mL +/- 132.2244 µg/mL	Gravimetric Unstressed Stressed
3	beta-BHC **CAS #** 319-85-7 (Lot BCBS8692V) **Purity** 98%	2,014.9 µg/mL	+/- 11.8244 µg/mL +/- 91.7762 µg/mL +/- 132.5124 µg/mL	Gravimetric Unstressed Stressed
4	delta-BHC **CAS #** 319-86-8 (Lot ER02101401) **Purity** 99%	2,010.0 µg/mL	+/- 11.7958 µg/mL +/- 91.5539 µg/mL +/- 132.1915 µg/mL	Gravimetric Unstressed Stressed
5	Heptachlor **CAS #** 76-44-8 (Lot NT057754) **Purity** 99%	2,016.5 µg/mL	+/- 11.8340 µg/mL +/- 91.8500 µg/mL +/- 132.6190 µg/mL	Gravimetric Unstressed Stressed
6	Aldrin **CAS #** 309-00-2 (Lot 6869200) **Purity** 97%	2,010.8 µg/mL	+/- 11.8006 µg/mL +/- 91.5908 µg/mL +/- 132.2447 µg/mL	Gravimetric Unstressed Stressed
7	Heptachlor epoxide (isomer B) **CAS #** 1024-57-3 (Lot ER121511-01) **Purity** 99%	2,017.5 µg/mL	+/- 11.8398 µg/mL +/- 91.8956 µg/mL +/- 132.6847 µg/mL	Gravimetric Unstressed Stressed

8	trans-Chlordane		2,012.5	µg/mL	+/-	11.8105	µg/mL	Gravimetric
	CAS # 5103-74-2	(Lot ER061906-04)			+/-	91.6678	µg/mL	Unstressed
	Purity 99%				+/-	132.3559	µg/mL	Stressed
9	cis-Chlordane		2,014.0	µg/mL	+/-	11.8193	µg/mL	Gravimetric
	CAS # 5103-71-9	(Lot ER062410-01)			+/-	91.7361	µg/mL	Unstressed
	Purity 99%				+/-	132.4545	µg/mL	Stressed
10	Endosulfan I		2,010.0	µg/mL	+/-	11.7958	µg/mL	Gravimetric
	CAS # 959-98-8	(Lot ER012105-02)			+/-	91.5539	µg/mL	Unstressed
	Purity 99%				+/-	132.1915	µg/mL	Stressed
11	4,4'-DDE		2,011.0	µg/mL	+/-	11.8017	µg/mL	Gravimetric
	CAS # 72-55-9	(Lot ER011106-01)			+/-	91.5995	µg/mL	Unstressed
	Purity 99%				+/-	132.2572	µg/mL	Stressed
12	Dieldrin		2,011.0	µg/mL	+/-	11.8017	µg/mL	Gravimetric
	CAS # 60-57-1	(Lot 5416800)			+/-	91.5995	µg/mL	Unstressed
	Purity 99%				+/-	132.2572	µg/mL	Stressed
13	Endrin		2,016.4	µg/mL	+/-	11.8331	µg/mL	Gravimetric
	CAS # 72-20-8	(Lot 6898800)			+/-	91.8432	µg/mL	Unstressed
	Purity 98%				+/-	132.6091	µg/mL	Stressed
14	4,4'-DDD		2,010.5	µg/mL	+/-	11.7987	µg/mL	Gravimetric
	CAS # 72-54-8	(Lot HAN02-KNCK)			+/-	91.5767	µg/mL	Unstressed
	Purity 99%				+/-	132.2244	µg/mL	Stressed
15	Endosulfan II		2,009.5	µg/mL	+/-	11.7929	µg/mL	Gravimetric
	CAS # 33213-65-9	(Lot 6815600)			+/-	91.5312	µg/mL	Unstressed
	Purity 99%				+/-	132.1586	µg/mL	Stressed
16	Endrin aldehyde		2,007.5	µg/mL	+/-	11.7811	µg/mL	Gravimetric
	CAS # 7421-93-4	(Lot ER082306-01)			+/-	91.4401	µg/mL	Unstressed
	Purity 99%				+/-	132.0271	µg/mL	Stressed
17	4,4'-DDT		2,012.5	µg/mL	+/-	11.8105	µg/mL	Gravimetric
	CAS # 50-29-3	(Lot S37912V)			+/-	91.6678	µg/mL	Unstressed
	Purity 99%				+/-	132.3559	µg/mL	Stressed
18	Endosulfan sulfate		2,020.0	µg/mL	+/-	11.8545	µg/mL	Gravimetric
	CAS # 1031-07-8	(Lot BCBR9875V)			+/-	92.0094	µg/mL	Unstressed
	Purity 99%				+/-	132.8491	µg/mL	Stressed
19	Methoxychlor		2,018.5	µg/mL	+/-	11.8457	µg/mL	Gravimetric
	CAS # 72-43-5	(Lot 6736800)			+/-	91.9411	µg/mL	Unstressed
	Purity 99%				+/-	132.7505	µg/mL	Stressed
20	Endrin ketone		2,015.5	µg/mL	+/-	11.8281	µg/mL	Gravimetric
	CAS # 53494-70-5	(Lot 160405JLM)			+/-	91.8045	µg/mL	Unstressed
	Purity 99%				+/-	132.5532	µg/mL	Stressed

Solvent: Hexane/Toluene (50:50)
CAS # 110-54-3/108-88-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

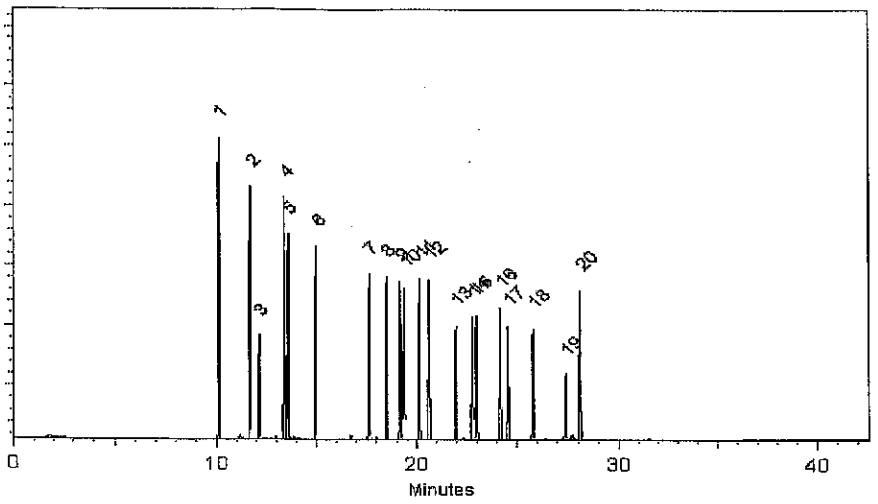
Carrier Gas:
hellum-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 27-Dec-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Jan-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

8081ABResSS_00012

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110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32415.sec **Lot No.:** A0108854

Description : Organochlorine Pesticide Mix AB #3

Organochlorine Pesticide Mix AB #3 2,000 µg/mL, Hexane/Toluene (50:50), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	alpha-BHC **CAS #** 319-84-6.SEC (Lot 1623900) **Purity** 99%	2,009.5 µg/mL	+/- 11.7929 µg/mL +/- 78.6071 µg/mL +/- 124.7419 µg/mL	Gravimetric Unstressed Stressed
2	gamma-BHC (Lindane) **CAS #** 58-89-9.SEC (Lot LC00563V) **Purity** 99%	2,010.0 µg/mL	+/- 11.7958 µg/mL +/- 78.6267 µg/mL +/- 124.7729 µg/mL	Gravimetric Unstressed Stressed
3	beta-BHC **CAS #** 319-85-7.SEC (Lot 1808700) **Purity** 98%	2,003.1 µg/mL	+/- 11.7554 µg/mL +/- 78.3575 µg/mL +/- 124.3458 µg/mL	Gravimetric Unstressed Stressed
4	delta-BHC **CAS #** 319-86-8.SEC (Lot 1912200) **Purity** 99%	2,003.5 µg/mL	+/- 11.7577 µg/mL +/- 78.3724 µg/mL +/- 124.3694 µg/mL	Gravimetric Unstressed Stressed
5	Heptachlor **CAS #** 76-44-8.SEC (Lot 1745400) **Purity** 99%	2,000.5 µg/mL	+/- 11.7401 µg/mL +/- 78.2551 µg/mL +/- 124.1832 µg/mL	Gravimetric Unstressed Stressed
6	Aldrin **CAS #** 309-00-2.SEC (Lot ER062311-01) **Purity** 98%	2,004.1 µg/mL	+/- 11.7612 µg/mL +/- 78.3959 µg/mL +/- 124.4067 µg/mL	Gravimetric Unstressed Stressed

8	trans-Chlordane		2,006.0	µg/mL	+/-	11.7723	µg/mL	Gravimetric
	CAS # 5103-74-2.SEC	(Lot LC06193V)			+/-	78.4702	µg/mL	Unstressed
	Purity 99%				+/-	124.5246	µg/mL	Stressed
9	cis-Chlordane		2,009.0	µg/mL	+/-	11.7899	µg/mL	Gravimetric
	CAS # 5103-71-9.SEC	(Lot 24407)			+/-	78.5876	µg/mL	Unstressed
	Purity 99%				+/-	124.7108	µg/mL	Stressed
10	Endosulfan I		2,002.1	µg/mL	+/-	11.7497	µg/mL	Gravimetric
	CAS # 959-98-8.SEC	(Lot 1710200)			+/-	78.3192	µg/mL	Unstressed
	Purity 98%				+/-	124.2850	µg/mL	Stressed
11	4,4'-DDE		2,001.5	µg/mL	+/-	11.7459	µg/mL	Gravimetric
	CAS # 72-55-9.SEC	(Lot 1833500)			+/-	78.2942	µg/mL	Unstressed
	Purity 99%				+/-	124.2453	µg/mL	Stressed
12	Dieldrin		1,995.3	µg/mL	+/-	11.7094	µg/mL	Gravimetric
	CAS # 60-57-1.SEC	(Lot 1274700)			+/-	78.0509	µg/mL	Unstressed
	Purity 98%				+/-	123.8591	µg/mL	Stressed
13	Endrin		2,000.0	µg/mL	+/-	11.7371	µg/mL	Gravimetric
	CAS # 72-20-8 *	(Lot LC06045V)			+/-	78.2355	µg/mL	Unstressed
	Purity 99%				+/-	124.1521	µg/mL	Stressed
14	4,4'-DDD		2,009.0	µg/mL	+/-	11.7899	µg/mL	Gravimetric
	CAS # 72-54-8.SEC	(Lot 1141700)			+/-	78.5876	µg/mL	Unstressed
	Purity 98%				+/-	124.7108	µg/mL	Stressed
15	Endosulfan II		2,010.0	µg/mL	+/-	11.7958	µg/mL	Gravimetric
	CAS # 33213-65-9.SEC	(Lot 3437500)			+/-	78.6267	µg/mL	Unstressed
	Purity 99%				+/-	124.7729	µg/mL	Stressed
16	Endrin aldehyde		2,016.4	µg/mL	+/-	11.8331	µg/mL	Gravimetric
	CAS # 7421-93-4.SEC	(Lot 21752)			+/-	78.8751	µg/mL	Unstressed
	Purity 98%				+/-	125.1671	µg/mL	Stressed
17	4,4'-DDT		2,016.5	µg/mL	+/-	11.8340	µg/mL	Gravimetric
	CAS # 50-29-3.SEC	(Lot 3478000)			+/-	78.8809	µg/mL	Unstressed
	Purity 99%				+/-	125.1764	µg/mL	Stressed
18	Endosulfan sulfate		2,007.5	µg/mL	+/-	11.7813	µg/mL	Gravimetric
	CAS # 1031-07-8.SEC	(Lot 1888900)			+/-	78.5301	µg/mL	Unstressed
	Purity 98%				+/-	124.6196	µg/mL	Stressed
19	Methoxychlor		2,007.0	µg/mL	+/-	11.7782	µg/mL	Gravimetric
	CAS # 72-43-5.SEC	(Lot LC09014V)			+/-	78.5093	µg/mL	Unstressed
	Purity 99%				+/-	124.5867	µg/mL	Stressed
20	Endrin ketone		2,007.5	µg/mL	+/-	11.7813	µg/mL	Gravimetric
	CAS # 53494-70-5.SEC	(Lot 091307RD)			+/-	78.5301	µg/mL	Unstressed
	Purity 98%				+/-	124.6196	µg/mL	Stressed
Solvent:	Hexane/Toluene (50:50)							
	CAS # 110-54-3/108-88-3							
	Purity 99%							

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

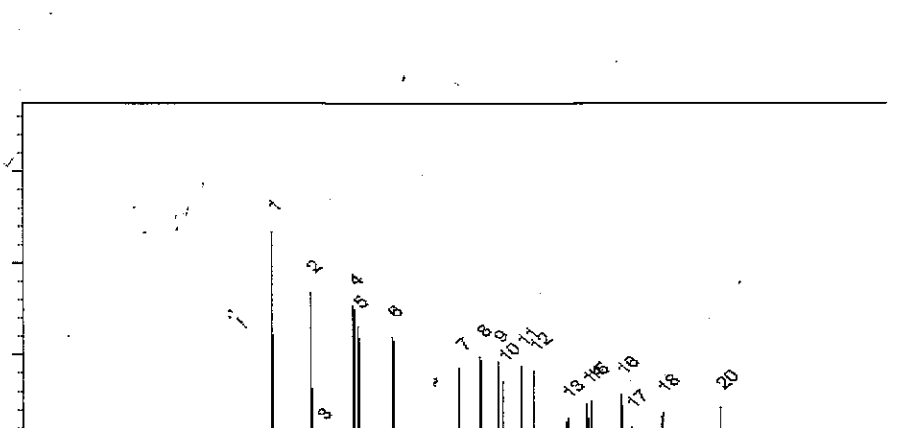
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Kibe - Mix Technician

Date Mixed: 04-Feb-2015 **Balance:** B345965662

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 12-Feb-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

This certificated has been updated on 31January2017 for the following reasons and supersedes any pre-existing certificate: Elution order corrected to have Endosulfan 1 as peak 10 (was listed as peak 11), 4,4'-DDE as peak 11 (was listed as peak 10), 4,4'-DDT as peak 17 (was listed as 16), Endrin aldehyde as peak 16 (was listed as 17).

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8081EvalBStk2_00020

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: M-8081-DS
Description: 4,4'-DDT & Endrin
Lot: 217101288
Solvent: Hexane
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Oct 30, 2017
Expiration: Nov 30, 2018
Sample Size: 1 mL
Components: 2
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
4,4'-DDT	50-29-3	98.2	200.6	197.0
Endrin	72-20-8	98.1	200.8	197.0

Received 03.28.18 KDK

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 4/17

Reagent

8081HCBStkPS_00021

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: APP-9-112
Description: Hexachlorobenzene
Lot: 216101286
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Oct 26, 2016
Expiration: Oct 26, 2026
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Hexachlorobenzene	118-74-1	99.2	100.4	99.6

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. This value is the expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 7/11

CERTIFICATION REPORT

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

2. **Quality Standards:**

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

   AR-1463

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

   AT-1339

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

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

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

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

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

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

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

9. **Uncertainty Statistics and Confidence Limits:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_m = \sqrt{(u(P))^2 + (u(m))^2 + (u(V))^2}$. The expanded uncertainty, U_{CRM} assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level. The U_{CRM} for organic products is ±5%, the U_{CRM} for inorganic products is ±2%.

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

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

Reagent

8081HCBStkSS_00036

Certificate of Analysis

Hexachlorobenzene Solution

Product Number: EPA-1125 **Page:** 1 of 1

Lot Number: CR-5129 **Lot Issue Date:** 08-Nov-2017 **Expiration Date:** 31-Dec-2021

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
hexachlorobenzene	000118-74-1	RM03125	1003 ± 5 µg/mL

Matrix: acetone

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ISO 9001
Registered
TUV USA, Inc.

250 SMITH STREET ▪ NORTH KINGSTOWN, RHODE ISLAND 02852 ▪ WWW.ULTRASCI.COM

Reagent

8081ToxPS_00034

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32071 **Lot No.:** A0123422

Description : Toxaphene Standard

Toxaphene Standard 5,000 µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Toxaphene	5,018.0 µg/mL	+/- 29.4484	µg/mL	Gravimetric
	CAS # 8001-35-2 (Lot NT054507)		+/- 159.0403	µg/mL	Unstressed
	Purity ---%		+/- 207.7596	µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

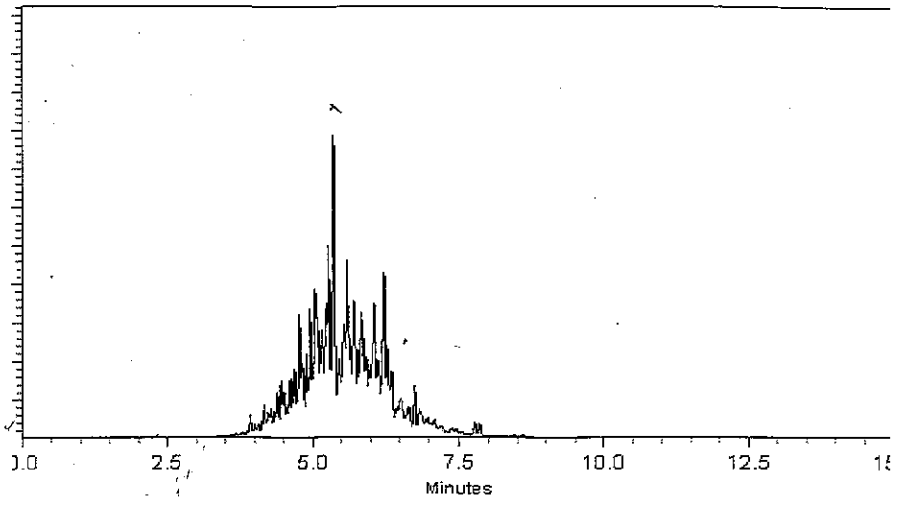
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

Date Mixed: 12-Dec-2016 **Balance:** B442140311

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 13-Dec-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\,stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\,stability} + U^2_{shipping\,stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8081ToxPS_00039

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110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32071 **Lot No.:** A0128388

Description : Toxaphene Standard

Toxaphene Standard 5,000 µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2021 **Storage:** 10°C or colder

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Toxaphene	5,034.0 µg/mL	+/- 29.5423 µg/mL	Gravimetric
	CAS # 8001-35-2 (Lot NT057448)		+/- 159.5474 µg/mL	Unstressed
	Purity ----%		+/- 208.4220 µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

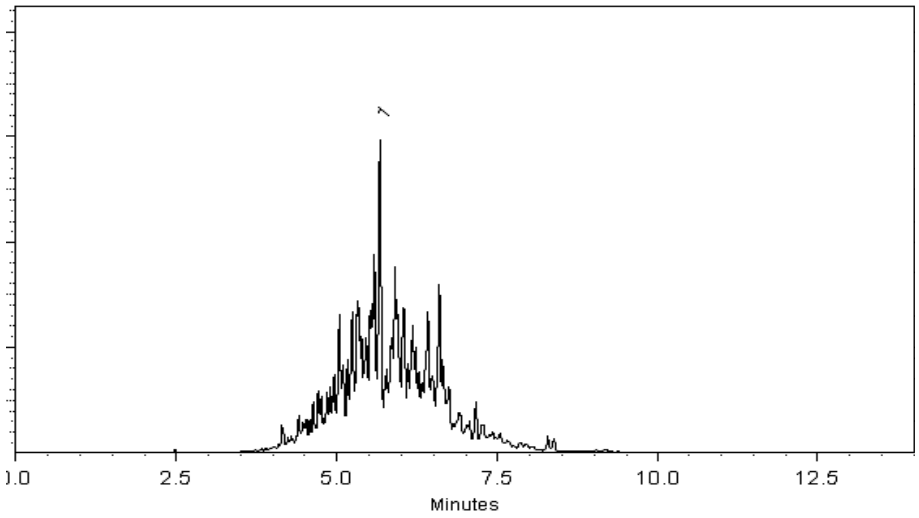
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Joseph Jaglowski - Mix Technician

Date Mixed: 12-Jun-2017 **Balance:** B707717271

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 03-Jul-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8081ToxSS_00020

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: P-093S-H-10X
Description: Toxaphene
Lot: 217071319
Solvent: Hexane
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Jul 20, 2017
Expiration: Jul 20, 2027
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Toxaphene	8001-35-2	Tech Mix	1002	1002

Received
03·28·18
KDK

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 4/17

Reagent

8082 LCS_00049

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8082 LCS _ 00049

Reagent ID: 8082 LCS_00049

		Expiration Date:	08/05/2018
Description:	2 ug/mL	Lab [illegible]:	TestAmerica Denver
No. of Bottles:	2	Prep [illegible]:	Sriphuthorn, Kittiyada
Storage Location:	North Prep	Solvent:	ACETONE
Reagent Volume:	500.000 mL	Solvent Lot:	Acetone_00221
Creation Date:	07/11/2018		
Open Date:			
Container(s):	5210229, 5210230		
Comment:	Take 1mL 8082LCSStock and dilute to 500mL in Ac[illegible]ne. 6 Month expiration date. Divide into 2 bottles.		

PASS 13-July 2018

Reagent Analyte Information

Analyte	%R	%D	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
PCB-1016	95	5.0	8082LCSSTOCK_[illegible]	04/[illegible]/2022	[illegible]	[illegible]	2.00000	ug/mL
PCB-1260	92	8.3	8082LCSSTOCK_00034	04/30/2022	1000.[illegible]	ug/mL	2.00000	ug/mL

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
8082LCSSTOCK_00034	Aroclor 1016/1260 1000UG/ML	ASTD	04/30/22	RESTEK	A011[illegible]2	3[illegible]39	1.00000	mL

Preliminary Report

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20180713-71939.b\07131804.D
Lims ID: 8082 LCS_00049
Client ID:
Sample Type: Client
Inject. Date: 13-Jul-2018 09:32:10 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 10.0000
Sample Info: 8082 LCS_00049
Misc. Info.: 280-0071939-004
Operator ID: JAX Instrument ID: SGC_P3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20180713-71939.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 13-Jul-2018 12:44:25 Calib Date: 20-May-2018 23:47:28
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20180520-70135.b\05201835.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene						
1	1.832	1.834	-0.002	3364580530	1000.0	
2	1.755	1.754	0.001	914663468	1000.0	
					RPD = 0.00	
$ 14 Tetrachloro-m-xylene						U
1		2.750			ND	
2		2.781				
3 PCB-1221						U
1		2.967			ND	
1		3.110				
1		3.147				
2		3.097				
2		3.227				
2		3.280				
7 PCB-1232						U
1		3.145			ND	
1		3.492				
1		3.959				
1		4.099				
1		4.549				
2		3.279				
2		3.669				
2		4.126				
2		4.269				
2		4.796				

Preliminary Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20180713-71939.b\07131804.D

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
1 PCB-1016						
1	3.485	3.487	-0.002	203488343	184.8	
1	3.952	3.954	-0.002	484409114	193.2	
1	4.092	4.090	0.002	193370944	179.9	
1	4.302	4.304	-0.002	219686919	206.3	
1	4.538	4.537	0.001	208592567	186.9	
		Average of Peak Amounts =			190.2	
2	3.665	3.664	0.001	56306865	180.9	
2	4.122	4.121	0.001	130662122	182.6	
2	4.262	4.264	-0.002	49916935	174.4	
2	4.495	4.494	0.001	34467906	218.9	
2	4.785	4.787	-0.002	41291800	177.2	
		Average of Peak Amounts =			186.8	
					RPD = 1.79	
10 PCB-1242						U
1		3.492			ND	
1		3.962				
1		4.548				
1		5.038				
1		5.062				
2		3.669				
2		4.125				
2		4.269				
2		4.795				
2		4.932				
4 PCB-1248						U
1		3.952			ND	
1		4.308				
1		4.545				
1		5.295				
1		5.778				
2		4.125				
2		4.502				
2		4.792				
2		4.932				
2		6.105				

Preliminary Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20180713-71939.b\07131804.D

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
9 PCB-1254						U
1		5.300			ND	
1		5.630				
1		5.783				
1		6.383				
1		6.750				
2		5.537				
2		5.960				
2		6.107				
2		6.657				
2		7.127				
12 PCB-1260						
1	6.005	6.007	-0.002	298207506	186.3	
1	6.732	6.730	0.002	587506377	189.6	
1	7.222	7.220	0.002	275021459	181.4	
1	7.652	7.654	-0.002	611908583	179.7	
1	8.035	8.037	-0.002	347624059	183.1	
		Average of Peak Amounts =			184.0	
2	6.645	6.647	-0.002	100659872	185.2	
2	7.115	7.114	0.001	156955927	189.0	
2	7.642	7.641	0.001	69492806	181.1	
2	8.009	8.011	-0.002	162573903	176.9	
2	8.512	8.514	-0.002	120717439	180.0	
		Average of Peak Amounts =			182.4	
					RPD = 0.87	
5 PCB-1262						U
1		6.385			ND	
1		6.909				
1		7.235				
1		7.669				
1		8.052				
2		6.656				
2		7.259				
2		7.652				
2		8.022				
2		8.526				

Reagent

8082LCSSTOCK_00034

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
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Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039 **Lot No.:** A0116282

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1016 **CAS #** 12674-11-2 **Purity** ----%	(Lot W-125-01)	1,009.0 µg/mL	+/- 5.8800 µg/mL +/- 31.9716 µg/mL +/- 41.7696 µg/mL		Gravimetric Unstressed Stressed
2	Aroclor 1260 **CAS #** 11096-82-5 **Purity** ----%	(Lot W-129-06)	1,004.6 µg/mL	+/- 5.8543 µg/mL +/- 31.8322 µg/mL +/- 41.5875 µg/mL		Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

34-35

Reagent

8270_LCS_Main_00055

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



Reagent ID: 8270_LCS_Main_00055

Description:	USE IN CONJUCTION WITH 8270_LCS_S	Expiration Date:	05/31/2019
No. of Bottles:	4	Laboratory:	TestAmerica Denver
Storage Location:	North Prep	Prepared By:	Matsumoto, Jordan T
Reagent Volume:	500.000 mL	Solvent:	P&T Methanol
Creation Date:	10/01/2018	Solvent Lot:	MethanolP&T_00214
Open Date:			
Container(s):	5335109, 5335110, 5335111, 5335112, 5335262, 5335263		
Comment:	Make full volume.Place all stocks in a sonication bath for 5 minutes before use. Dilute to 500mL in P&T MeOH 40mL of MS-570666 or 571995 "8270 List 1 Std 1 MegaMix" 20mL of MS-569731 "Benzoic Acid" 10mL of "OP-572556" HCP 1 year expiration Exchange /MeCl2 verification All Standards in fridge.		

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
1,1'-Biphenyl	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1,2,4,5-Tetrachlorobenzene	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1,2,4-Trichlorobenzene	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1,2-Dichlorobenzene	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1,2-Diphenylhydrazine	571995_00044	09/30/2019	1010.97500	ug/mL	80.87796	ug/mL
1,3-Dichlorobenzene	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1,3-Dinitrobenzene	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1,4-Dichlorobenzene	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1,4-Dioxane	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1-Methylnaphthalene	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
2,2'-oxybis[1-chloropropane]	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
2,3,4,6-Tetrachlorophenol	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
2,4,5-Trichlorophenol	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
2,4,6-Trichlorophenol	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
2,4-Dichlorophenol	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
2,4-Dimethylphenol	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\SMS_D\20181003-74684.b\D29466.D
Lims ID: 8270_LCS_Main_00055 Inj. Date: 03-Oct-2018 16:53:30
Worklist ID: 280-0074684-028 Instrument: SMS_D
Method: SMSD_8270C

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3520C
16 1,4-Dioxane	80.0	61.0	76.3	40-110
17 N-Nitrosodimethylamine	80.0	61.8	77.2	48-121
18 Pyridine	160.0	117.7	73.6	34-112
28 Phenol	80.0	65.8	82.2	50-127
30 Aniline	80.0	64.3	80.4	34-106
32 Bis(2-chloroethyl)ether	80.0	62.8	78.5	53-132
35 n-Decane	80.0	60.1	75.2	14-120
36 2-Chlorophenol	80.0	64.3	80.4	54-124
37 1,3-Dichlorobenzene	80.0	62.6	78.2	31-124
38 1,4-Dichlorobenzene	80.0	61.9	77.4	34-123
39 Benzyl alcohol	80.0	66.1	82.6	54-124
40 1,2-Dichlorobenzene	80.0	62.2	77.8	36-123
41 2-Methylphenol	80.0	66.0	82.4	55-123
43 2,2'-oxybis[1-chloropro	80.0	63.4	79.2	44-132
44 Indene	80.0	66.2	82.7	49-111
45 3-Methylphenol	80.0	66.3	82.9	51-124
46 3 & 4 Methylphenol	80.0	66.3	82.9	51-124
47 4-Methylphenol	80.0	66.3	82.9	51-124
48 N-Nitrosodi-n-propylami	80.0	65.8	82.2	57-117
50 Acetophenone	80.0	66.3	82.9	46-127
53 Hexachloroethane	80.0	60.5	75.6	27-123
54 Nitrobenzene	80.0	64.6	80.8	59-117
57 Isophorone	80.0	70.7	88.4	58-111
59 2-Nitrophenol	80.0	67.6	84.5	61-121
60 2,4-Dimethylphenol	80.0	67.1	83.9	33-117
63 Bis(2-chloroethoxy)meth	80.0	67.2	84.0	62-114
64 Benzoic acid	80.0	69.1	86.4	41-111
68 2,4-Dichlorophenol	80.0	68.9	86.1	62-119
70 1,2,4-Trichlorobenzene	80.0	65.4	81.7	44-117
72 Naphthalene	80.0	65.9	82.4	50-119
73 4-Chloroaniline	80.0	67.4	84.3	30-99
74 2,6-Dichlorophenol	80.0	69.0	86.3	63-118
76 Hexachlorobutadiene	80.0	66.6	83.2	36-118
83 4-Chloro-3-methylphenol	80.0	69.7	87.2	65-121
87 2-Methylnaphthalene	80.0	68.9	86.1	53-119
89 1-Methylnaphthalene	80.0	68.8	86.0	54-116
90 Hexachlorocyclopentadie	160.0	148.3	92.7	10-106
91 1,2,4,5-Tetrachlorobenz	80.0	68.6	85.8	57-117
94 2,4,6-Trichlorophenol	80.0	72.8	91.1	60-137
96 2,4,5-Trichlorophenol	80.0	70.4	88.0	60-129
100 1,1'-Biphenyl	80.0	67.7	84.6	52-130

Preliminary Report

Sample Path: \\ChromNA\Denver\ChromData\SMS_D\20181003-74684.b\D29466.D

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3520C
102 2-Chloronaphthalene	80.0	67.4	84.2	51-128
105 2-Nitroaniline	80.0	69.2	86.4	57-133
111 Dimethyl phthalate	80.0	71.3	89.1	59-131
112 1,3-Dinitrobenzene	80.0	72.7	90.8	65-135
113 2,6-Dinitrotoluene	80.0	72.1	90.2	65-135
115 Acenaphthylene	80.0	72.5	90.6	55-123
117 3-Nitroaniline	80.0	68.1	85.1	27-111
119 Acenaphthene	80.0	69.0	86.2	54-129
120 2,4-Dinitrophenol	160.0	127.4	79.6	56-121
121 4-Nitrophenol	160.0	135.0	84.4	50-140
124 2,4-Dinitrotoluene	80.0	72.1	90.1	65-135
125 Dibenzofuran	80.0	70.4	88.1	56-128
129 2,3,4,6-Tetrachlorophen	80.0	71.8	89.8	64-128
131 Hexadecane	80.0	68.1	85.2	47-129
132 Diethyl phthalate	80.0	72.2	90.2	60-133
134 4-Chlorophenyl phenyl e	80.0	70.7	88.3	56-130
135 Fluorene	80.0	71.1	88.9	51-133
138 4-Nitroaniline	80.0	69.9	87.4	54-128
139 4,6-Dinitro-2-methylphe	160.0	147.8	92.4	63-122
140 Diphenylamine	68.0	60.1	88.4	60-124
141 N-Nitrosodiphenylamine	80.0	69.1	86.4	63-116
142 1,2-Diphenylhydrazine	80.9	72.1	89.2	55-128
143 Azobenzene	80.0	71.4	89.2	55-128
152 4-Bromophenyl phenyl et	80.0	69.4	86.8	65-115
153 Hexachlorobenzene	80.0	71.2	89.0	65-114
156 n-Octadecane	80.0	68.5	85.6	
157 Pentachlorophenol	160.0	127.2	79.5	56-115
163 Phenanthrene	80.0	68.7	85.9	63-119
164 Anthracene	80.0	69.5	86.9	65-116
165 Carbazole	80.0	68.7	85.9	68-116
169 Di-n-butyl phthalate	80.0	70.5	88.1	65-118
176 Fluoranthene	80.0	70.7	88.3	65-118
180 Pyrene	80.0	68.7	85.8	59-124
187 Butyl benzyl phthalate	80.0	66.1	82.6	64-121
192 Benzo[a]anthracene	80.0	63.9	79.9	63-120
193 Bis(2-ethylhexyl) phtha	80.0	68.0	85.0	61-123
194 Chrysene	80.0	69.0	86.3	65-122
197 Di-n-octyl phthalate	80.0	66.7	83.4	56-119
198 Benzo[b]fluoranthene	80.0	68.7	85.9	64-122
200 Benzo[k]fluoranthene	80.0	71.3	89.1	69-125
202 Benzo[a]pyrene	80.0	68.7	85.9	62-114
208 Indeno[1,2,3-cd]pyrene	80.0	67.7	84.6	53-116
209 Dibenz(a,h)anthracene	80.0	68.7	85.8	60-120
210 Benzo[g,h,i]perylene	80.0	68.4	85.5	60-122

Preliminary Report

Sample Path: \\ChromNA\Denver\ChromData\SMS_D\20181003-74684.b\D29466.D

Samples for Limit Group: 1, Lims Prep Method: 3520C
280-114613-C-3-A

Reagent

8270BO-SIMLCS_00031

Report Date: 17-Oct-2018 14:44:10 Chrom Revision: 2.3 12-Oct-2018 08:24:38

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\SMS_F\20181012-75020.b\F4024.D

Lims ID: 8270boSimlcs_00031 Inj. Date: 13-Oct-2018 03:44:30

Worklist ID: 280-0075020-025 Instrument: SMS_F

Method: SMSF_8270SIMX

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3546
8 1,4-Dioxane	900.0	*ND	0.0	
9 N-Nitrosodimethylamine	900.0	849.8	94.4	
10 Naphthalene	900.0	856.8	95.2	38-111
11 2-Methylnaphthalene	900.0	860.2	95.6	39-114
12 1-Methylnaphthalene	900.0	869.4	96.6	43-111
13 Dimethyl phthalate	900.0	*ND	0.0	
14 Acenaphthylene	900.0	768.8	85.4	39-116
15 Acenaphthene	900.0	806.4	89.6	44-111
16 Dibenzofuran	900.0	831.6	92.4	
17 Diethyl phthalate	900.0	*ND	0.0	
18 Fluorene	900.0	790.5	87.8	47-114
19 N-Nitrosodiphenylamine	900.0	772.8	85.9	
20 Phenanthrene	900.0	773.2	85.9	49-113
21 Anthracene	900.0	772.0	85.8	50-114
22 Di-n-butyl phthalate	900.0	756.7	84.1	
23 Fluoranthene	900.0	747.6	83.1	55-119
24 Pyrene	900.0	760.5	84.5	55-117
25 Butyl benzyl phthalate	900.0	760.1	84.5	
26 Benzo[a]anthracene	900.0	753.0	83.7	54-122
27 Chrysene	900.0	771.0	85.7	57-118
28 Bis(2-ethylhexyl) phtha	900.0	*ND	0.0	
29 Di-n-octyl phthalate	900.0	*ND	0.0	
30 Benzo[b]fluoranthene	900.0	798.5	88.7	53-128
31 Benzo[k]fluoranthene	900.0	804.9	89.4	56-123
32 Benzo[a]pyrene	900.0	789.2	87.7	50-125
33 Indeno[1,2,3-cd]pyrene	900.0	818.0	90.9	49-130
34 Dibenz(a,h)anthracene	900.0	812.6	90.3	50-129
35 Benzo[g,h,i]perylene	900.0	814.3	90.5	49-127

Samples for Limit Group: 1, Lims Prep Method: 3546

280-114910-A-16-P 280-114910-A-21-E 280-114910-A-22-E

280-114910-A-23-E 280-114859-A-2-A 280-114859-B-3-A

280-114859-B-4-A

Reagent

8270SIMSurStk_00001

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Date Received: _____

Certificate of Analysis

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
112220-01 -5PAK	334025	≤ -10 °C	Methylene Chloride	11-Feb-2019	Custom Surrogate Mix, 8-2220, 1000 mg/L, 5 x 1 ml

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration	
fluoranthene-d_{10}	93951-69-0	98.9	1458.12.2P	1002 +/- 4.54	mg/l
2-fluorobiphenyl	321-60-8	99.7	8.7.1P	1015 +/- 10.59	mg/l
2-fluorophenol	367-12-4	99.9	10.9.2P	1000 +/- 14.42	mg/L
2-methylnaphthalene-d_{10}	7297-45-2	98	1457.18.1P	1007 +/- 50.54	mg/l
nitrobenzene-d_5	4165-60-0	99.9	7.120.1P	1014 +/- 10.58	mg/l
phenol-d5	4165-62-2	99.6	11.12.3.2P	1004 +/- 10.48	mg/L
p-terphenyl-d_{14}	1718-51-0	100	9.12.8.1P	1008 +/- 10.52	mg/l
2,4,6-tribromophenol	118-79-6	99.8	12.1.5P	1001 +/- 14.43	mg/L

Certified By: Jarrett Howard

Jarrett Howard

Manufacture Date 22-Jan-2018

Follow all storage requirements, keep tightly closed when not in use, and use good laboratory practices when handling.
This Reference Material was manufactured, produced, and/or certified under a quality management system that is accredited to ISO 17034 and ISO/IEC 17025.

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.
The stated uncertainty is the expanded uncertainty with a coverage factor of two to give a 95% confidence level.

Reagent

8270Surrogate_00128

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8270Surrogate_00128

Reagent ID: 8270Surrogate_00128

Description:	8270 Surrogate 100ug/ml	Expiration Date:	07/09/2019
No. of Bottles:	4	Laboratory:	TestAmerica Denver
Storage Location:	North Prep	Prepared By:	McAleese, Maura A
Reagent Volume:	1000.000 mL	Solvent:	ACETONE
Creation Date:	10/17/2018	Solvent Lot:	Acetone_00232
Open Date:			
Container(s):	5367833, 5367834, 5367835, 5367836		
Comment:	Sonicate 8270SurrStkHL 5 mins before use. Take 20mL of 8270SurstkHL and dilute to 1000mL in acetone. One year expiration date. Split into 4x250mL bottles. Requires solvent exchange to MeCl2 prior to submission for verification.		

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
2,4,6 - Tribromophenol	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6-Tribromophenol	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorobiphenyl	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorophenol	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Nitrobenzene-d5	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d5	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d6	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Terphenyl-d14	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6 - Tribromophenol	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6-Tribromophenol	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorobiphenyl	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorophenol	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Nitrobenzene-d5	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d5	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d6	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Terphenyl-d14	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6 - Tribromophenol	8270SurStkHL_00289	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL

Preliminary Report

TestAmerica Denver

Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SMS_G6\20181023-75392.b\G6_35963.D				
Lims ID:	8270Surrogate_00128				
Client ID:					
Sample Type:	Client				
Inject. Date:	23-Oct-2018 16:04:30	ALS Bottle#:	7	Worklist Smp#:	8
Injection Vol:	0.5 ul	Dil. Factor:	1.0000		
Sample Info:	8270Surrogate_00128				
Operator ID:	HOEFLERA	Instrument ID:	SMS_G6		
Method:	\\ChromNA\Denver\ChromData\SMS_G6\20181023-75392.b\SMSG6_8270C.m				
Limit Group:	MSSV - 8270C_625				
Method Label:	8270C / 625				
Last Update:	23-Oct-2018 16:59:20	Calib Date:	27-Sep-2018 16:16:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SMS_G6\20180927-74477.b\G6_35533.D				
Column 1 :	VF-5ms (0.50 mm)		Det: MS SCAN		
Process Host:	CTX0305				

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	98.7	98.69
$ 8 Phenol-d5	100.0	96.3	96.28
$ 9 Nitrobenzene-d5	100.0	92.0	92.00
$ 11 2-Fluorobiphenyl	100.0	87.8	87.81
$ 12 2,4,6-Tribromophenol	100.0	81.9	81.91
$ 13 Terphenyl-d14	100.0	92.3	92.34

Reagent

8270SurStkHL_00282

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0133251

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol		5,038.1 µg/mL	+/- 29.2918 µg/mL		Gravimetric
	CAS # 367-12-4	(Lot STBD7945V)		+/- 147.0277 µg/mL		Unstressed
	Purity 99%			+/- 178.4124 µg/mL		Stressed
2	Phenol-d5		5,031.4 µg/mL	+/- 29.2530 µg/mL		Gravimetric
	CAS # 4165-62-2	(Lot X-479)		+/- 146.8331 µg/mL		Unstressed
	Purity 99%			+/- 178.1763 µg/mL		Stressed
3	Nitrobenzene-d5		5,017.5 µg/mL	+/- 29.1720 µg/mL		Gravimetric
	CAS # 4165-60-0	(Lot PR-25462)		+/- 146.4265 µg/mL		Unstressed
	Purity 99%			+/- 177.6829 µg/mL		Stressed
4	2-Fluorobiphenyl		5,017.5 µg/mL	+/- 29.1720 µg/mL		Gravimetric
	CAS # 321-60-8	(Lot Z20C043)		+/- 146.4265 µg/mL		Unstressed
	Purity 99%			+/- 177.6829 µg/mL		Stressed
5	2,4,6-Tribromophenol		5,043.2 µg/mL	+/- 29.3216 µg/mL		Gravimetric
	CAS # 118-79-6	(Lot 29699MJV)		+/- 147.1775 µg/mL		Unstressed
	Purity 99%			+/- 178.5942 µg/mL		Stressed
6	p-Terphenyl-d14		5,030.3 µg/mL	+/- 29.2464 µg/mL		Gravimetric
	CAS # 1718-51-0	(Lot PR-27278)		+/- 146.8000 µg/mL		Unstressed
	Purity 99%			+/- 178.1362 µg/mL		Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

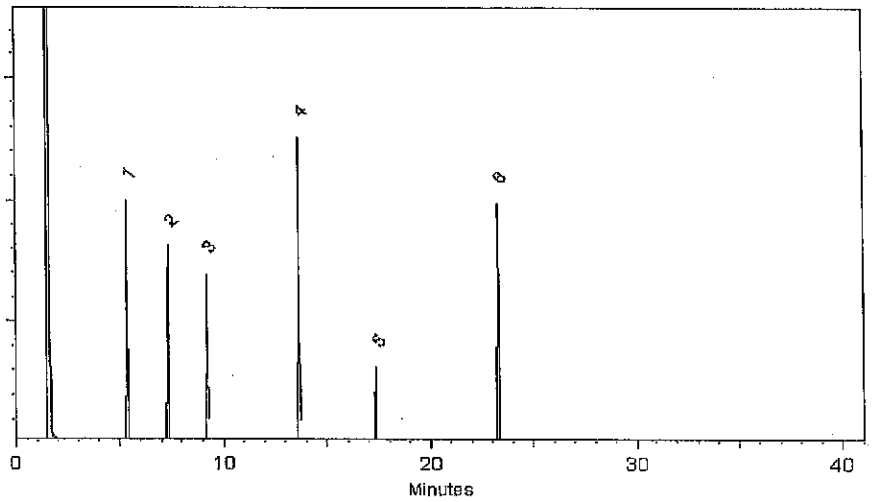
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 12-Dec-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 14-Dec-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8270SurStkHL_00283

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0133251

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Fluorophenol **CAS #** 367-12-4 (Lot STBD7945V) **Purity** 99%	5,038.1 µg/mL	+/- 29.2918 µg/mL +/- 147.0277 µg/mL +/- 178.4124 µg/mL	Gravimetric Unstressed Stressed
2	Phenol-d5 **CAS #** 4165-62-2 (Lot X-479) **Purity** 99%	5,031.4 µg/mL	+/- 29.2530 µg/mL +/- 146.8331 µg/mL +/- 178.1763 µg/mL	Gravimetric Unstressed Stressed
3	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-25462) **Purity** 99%	5,017.5 µg/mL	+/- 29.1720 µg/mL +/- 146.4265 µg/mL +/- 177.6829 µg/mL	Gravimetric Unstressed Stressed
4	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot Z20C043) **Purity** 99%	5,017.5 µg/mL	+/- 29.1720 µg/mL +/- 146.4265 µg/mL +/- 177.6829 µg/mL	Gravimetric Unstressed Stressed
5	2,4,6-Tribromophenol **CAS #** 118-79-6 (Lot 29699MJV) **Purity** 99%	5,043.2 µg/mL	+/- 29.3216 µg/mL +/- 147.1775 µg/mL +/- 178.5942 µg/mL	Gravimetric Unstressed Stressed
6	p-Terphenyl-d14 **CAS #** 1718-51-0 (Lot PR-27278) **Purity** 99%	5,030.3 µg/mL	+/- 29.2464 µg/mL +/- 146.8000 µg/mL +/- 178.1362 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

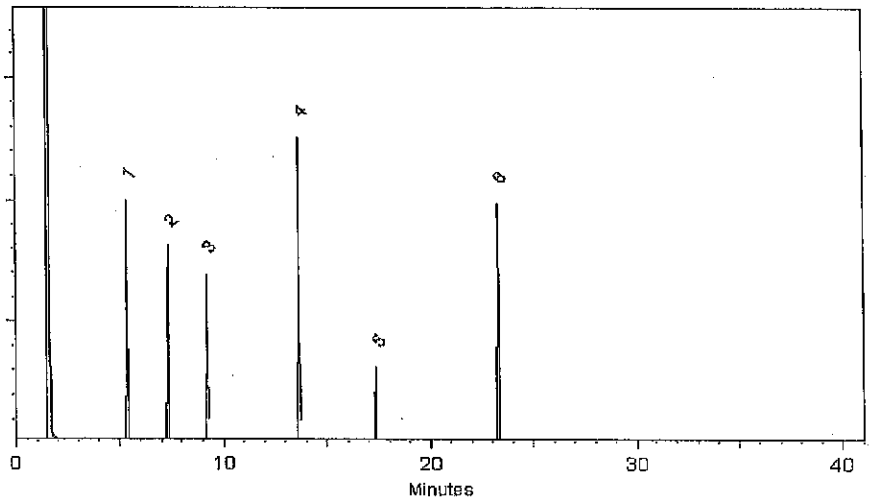
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 12-Dec-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 14-Dec-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8270SurStkHL_00289

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

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Certificate of Analysis

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Certificate #3222.01

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0133251

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol		5,038.1 µg/mL	+/- 29.2918 µg/mL		Gravimetric
	CAS # 367-12-4	(Lot STBD7945V)		+/- 147.0277 µg/mL		Unstressed
	Purity 99%			+/- 178.4124 µg/mL		Stressed
2	Phenol-d5		5,031.4 µg/mL	+/- 29.2530 µg/mL		Gravimetric
	CAS # 4165-62-2	(Lot X-479)		+/- 146.8331 µg/mL		Unstressed
	Purity 99%			+/- 178.1763 µg/mL		Stressed
3	Nitrobenzene-d5		5,017.5 µg/mL	+/- 29.1720 µg/mL		Gravimetric
	CAS # 4165-60-0	(Lot PR-25462)		+/- 146.4265 µg/mL		Unstressed
	Purity 99%			+/- 177.6829 µg/mL		Stressed
4	2-Fluorobiphenyl		5,017.5 µg/mL	+/- 29.1720 µg/mL		Gravimetric
	CAS # 321-60-8	(Lot Z20C043)		+/- 146.4265 µg/mL		Unstressed
	Purity 99%			+/- 177.6829 µg/mL		Stressed
5	2,4,6-Tribromophenol		5,043.2 µg/mL	+/- 29.3216 µg/mL		Gravimetric
	CAS # 118-79-6	(Lot 29699MJV)		+/- 147.1775 µg/mL		Unstressed
	Purity 99%			+/- 178.5942 µg/mL		Stressed
6	p-Terphenyl-d14		5,030.3 µg/mL	+/- 29.2464 µg/mL		Gravimetric
	CAS # 1718-51-0	(Lot PR-27278)		+/- 146.8000 µg/mL		Unstressed
	Purity 99%			+/- 178.1362 µg/mL		Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

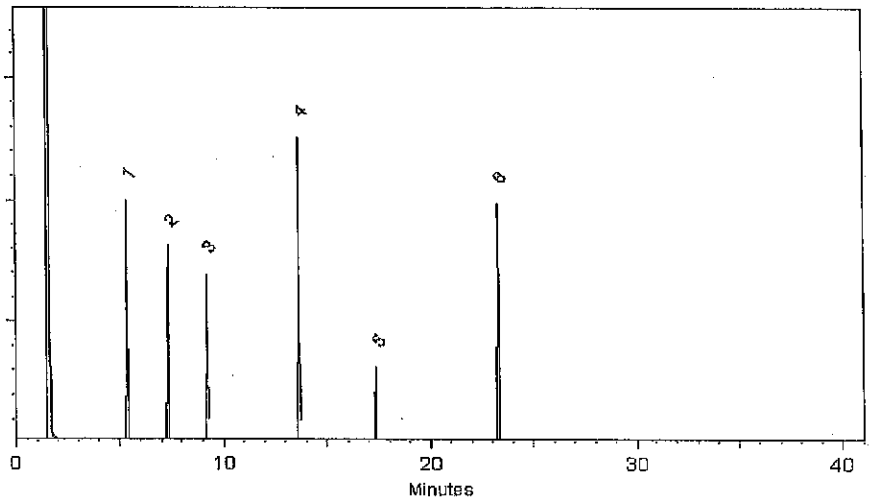
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 12-Dec-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 14-Dec-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
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- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8270SurStkHL_00290

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Reference Material Producer
Certificate #3222.01

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Catalog No. : 567685 **Lot No.:** A0133251

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Fluorophenol **CAS #** 367-12-4 (Lot STBD7945V) **Purity** 99%	5,038.1 µg/mL	+/- 29.2918 µg/mL +/- 147.0277 µg/mL +/- 178.4124 µg/mL	Gravimetric Unstressed Stressed
2	Phenol-d5 **CAS #** 4165-62-2 (Lot X-479) **Purity** 99%	5,031.4 µg/mL	+/- 29.2530 µg/mL +/- 146.8331 µg/mL +/- 178.1763 µg/mL	Gravimetric Unstressed Stressed
3	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-25462) **Purity** 99%	5,017.5 µg/mL	+/- 29.1720 µg/mL +/- 146.4265 µg/mL +/- 177.6829 µg/mL	Gravimetric Unstressed Stressed
4	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot Z20C043) **Purity** 99%	5,017.5 µg/mL	+/- 29.1720 µg/mL +/- 146.4265 µg/mL +/- 177.6829 µg/mL	Gravimetric Unstressed Stressed
5	2,4,6-Tribromophenol **CAS #** 118-79-6 (Lot 29699MJV) **Purity** 99%	5,043.2 µg/mL	+/- 29.3216 µg/mL +/- 147.1775 µg/mL +/- 178.5942 µg/mL	Gravimetric Unstressed Stressed
6	p-Terphenyl-d14 **CAS #** 1718-51-0 (Lot PR-27278) **Purity** 99%	5,030.3 µg/mL	+/- 29.2464 µg/mL +/- 146.8000 µg/mL +/- 178.1362 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

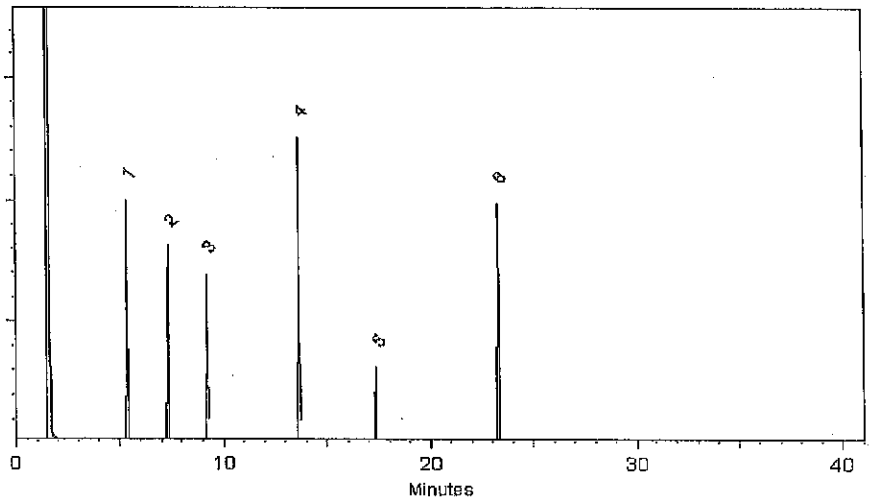
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 12-Dec-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 14-Dec-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330 LCS_00078

*Standard is in the Explosives Room fridge *

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



Reagent ID: 8330 LCS_00078

		Expiration Date:	04/30/2018
Description:	10+100 ug/mL KEEP IN FREEZER	Laboratory:	TestAmerica Denver
No. of Bottles:	2	Prepared By:	Cokley, Cheyana D
Storage Location:	Explosives Prep	Solvent:	Acetonitrile
Reagent Volume:	100.000 mL	Solvent Lot:	ACN_00209
Creation Date:	02/08/2018		
Open Date:			
Container(s):	4957477, 4957478		
Comment:	MNX has been added back 10.22.17; new expiration is 1 year after its creation date		

OK HKF 2.15.18

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
2,6-Dinitrotoluene	8330 LCSMix2_00102	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
2-Amino-4,6-dinitrotoluene	8330 LCSMix2_00102	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
4-Amino-2,6-dinitrotoluene	8330 LCSMix2_00102	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
m-Nitrotoluene	8330 LCSMix2_00102	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
o-Nitrotoluene	8330 LCSMix2_00102	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
p-Nitrotoluene	8330 LCSMix2_00102	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
Tetryl	8330 LCSMix2_00102	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
Nitroglycerin	8330_NG_Stk_00061	02/08/2019	5000.00000	ug/mL	100.00000	ug/mL
Nitroglycerin	8330_NG_Stk_00062	02/08/2019	5000.00000	ug/mL	100.00000	ug/mL
PETN	8330_PETN_Stk_00069	02/08/2019	5000.00000	ug/mL	100.00000	ug/mL
PETN	8330_PETN_Stk_00070	02/08/2019	5000.00000	ug/mL	100.00000	ug/mL
1,3,5-Trinitrobenzene	8330LCSMix1_00097	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
1,3-Dinitrobenzene	8330LCSMix1_00097	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
2,4,6-Trinitrotoluene	8330LCSMix1_00097	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
2,4-Dinitrotoluene	8330LCSMix1_00097	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
HMX	8330LCSMix1_00097	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
Nitrobenzene	8330LCSMix1_00097	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
RDX	8330LCSMix1_00097	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
MNX	8330MNX_00002	04/30/2018	1000.00000	ug/mL	10.00000	ug/mL

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8330 LCS _ 00078

Reagent ID: 8330 LCS_00078

		Expiration Date:	04/30/2018
Description:	10+100 ug/mL KEEP IN FREEZER	Laboratory:	TestAmerica Denver
No. of Bottles:	2	Prepared By:	Cokley, Cheyana D
Storage Location:	Explosives Prep	Solvent:	Acetonitrile
Reagent Volume:	100.000 mL	Solvent Lot:	ACN_00209
Creation Date:	02/08/2018		
Open Date:			
Container(s):	4957477, 4957478		
Comment:	MNX has been added back 10.22.17; new expiration is 1 year after its creation date		

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
2,4,6-Trinitrophenol	PicricARestek_00056	06/30/2018	1000.00000	ug/mL	10.00000	ug/mL

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
8330 LCSMix2_00102	31451 1000ug/mL 8330 Calibration Mix#2	ASTD	02/08/19	Restek	A0122699	31451	1.00000	mL
8330_NG_Stk_00061	Cat#568871 5,000ug/mL	ASTD	02/08/19	Restek	A0128695	568871	1.00000	mL
8330_NG_Stk_00062	Cat#568871 5,000ug/mL	ASTD	02/08/19	Restek	A0128695	568871	1.00000	mL
8330_PETN_Stk_00069	Cat#568872 5,000ug/mL	ASTD	02/08/19	Restek	A0127970	568872	1.00000	mL
8330_PETN_Stk_00070	Cat#568872 5,000ug/mL	ASTD	02/08/19	Restek	A0127970	568872	1.00000	mL
8330LCSMix1_00097	Cat#31450, 1000ug/mL Restek	ASTD	02/08/19	Restek	A0122924	31450	1.00000	mL
8330MNX_00002	8330 MNX	ASTD	04/30/18	Ultra Scientific	CR-1036	CUS-23986	1.00000	mL
PicricARestek_00056	Cat# 31499	ASTD	06/30/18	Restek	A096192	31499	1.00000	mL

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\CHHPLC_X\20180214-67233.b\001-1801.D

Lims ID: lcs0078 Inj. Date: 14-Feb-2018 18:29:33

Worklist ID: 280-0067233-022 Instrument: CHHPLC_X3

Method: 8330_X3

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3535
2 HMX	0.2000	0.1621	81.0	76-120
4 MNX	0.2000	*ND	0.0	* 60-136
5 RDX	0.2000	0.1745	87.2	80-120
6 2,4,6-Trinitrophenol	0.2000	0.1657	82.9	80-120
8 1,3,5-Trinitrobenzene	0.2000	0.1754	87.7	73-120
9 1,3-Dinitrobenzene	0.2000	0.1825	91.3	75-120
11 Nitrobenzene	0.2000	0.1956	97.8	64-120
12 Tetryl	0.2000	0.1897	94.9	10-120
13 Nitroglycerin	2.00	1.83	91.3	77-120
14 2,4,6-Trinitrotoluene	0.2000	0.1636	81.8	73-120
15 4-Amino-2,6-dinitrotolu	0.2000	0.1816	90.8	63-123
16 2-Amino-4,6-dinitrotolu	0.2000	0.1734	86.7	56-120
17 2,6-Dinitrotoluene	0.2000	0.1825	91.2	69-120
18 2,4-Dinitrotoluene	0.2000	0.1829	91.4	71-120
19 o-Nitrotoluene	0.2000	0.1976	98.8	52-120
20 p-Nitrotoluene	0.2000	0.1986	99.3	56-120
21 m-Nitrotoluene	0.2000	0.1924	96.2	61-124
22 PETN	2.00	1.80	90.2	77-123

Samples for Limit Group: 1, Lims Prep Method: 3535

600-160894-C-1-A 550-97259-C-14-A 550-97315-A-6-A

550-97324-A-12-A

Reagent

8330 LCS_00081

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\CHHPLC_X\20180614-71018.b\06140009.D

Lims ID: 8330 LCS%O00081 Inj. Date: 14-Jun-2018 18:11:46

Worklist ID: 280-0071018-009 Instrument: CHHPLC_X3

Method: 8330_X3

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 0B_Sonc
1 2,6-diamino-4-nitrotolu	0	*ND	0.0	
2 HMX	0.2000	0.1930	96.5	66-115
3 2,4-diamino-6-nitrotolu	0	*ND	0.0	
4 MNX	0	*ND	0.0	50-150
5 RDX	0.2000	0.1983	99.1	69-122
6 2,4,6-Trinitrophenol	0	0.1765	0.0	* 63-135
$ 7 1,2-Dinitrobenzene	0	*ND	0.0	78-119
8 1,3,5-Trinitrobenzene	0.2000	0.2075	103.7	62-127
9 1,3-Dinitrobenzene	0.2000	0.1986	99.3	59-131
11 Nitrobenzene	0.2000	0.1962	98.1	46-144
10 3,5-Dinitroaniline	0	*ND	0.0	86-118
12 Tetryl	0.2000	0.2027	101.3	56-131
13 Nitroglycerin	2.00	2.03	101.3	70-125
14 2,4,6-Trinitrotoluene	0.2000	0.1803	90.1	46-139
15 4-Amino-2,6-dinitrotolu	0.2000	0.1881	94.1	43-120
16 2-Amino-4,6-dinitrotolu	0.2000	0.1906	95.3	46-124
17 2,6-Dinitrotoluene	0.2000	0.1825	91.2	51-130
18 2,4-Dinitrotoluene	0.2000	0.1910	95.5	53-127
19 o-Nitrotoluene	0.2000	0.1874	93.7	37-138
20 p-Nitrotoluene	0.2000	0.1955	97.7	41-137
21 m-Nitrotoluene	0.2000	0.1858	92.9	31-140
22 PETN	2.00	1.91	95.4	67-127

OK (LH) 6/15/18

Samples for Limit Group: 1, Lims Prep Method: 8330B_Sonc_10g

280-110156-A-1-A 280-110156-A-2-A 280-110156-A-3-A

280-110156-A-5-A 280-110156-A-4-A

Reagent

8330 LCS_00082

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8330 LCS_00082

OK HKF 9/12/18

Reagent ID: 8330 LCS_00082

Description:	10+100 ug/mL KEEP IN FREEZER	Expiration Date:	06/28/2019
No. of Bottles:	2	Laboratory:	TestAmerica Denver
Storage Location:	Explosives Prep	Prepared By:	Carroll, Randall P
Reagent Volume:	100.000 mL	Solvent:	Acetonitrile
Creation Date:	09/07/2018	Solvent Lot:	ACN_00204
Open Date:			
Container(s):	5297539, 5297540		
Comment:			

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
2,6-Dinitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
2-Amino-4,6-dinitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
4-Amino-2,6-dinitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
m-Nitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
o-Nitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
p-Nitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
Tetryl	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
Nitroglycerin	8330_NG_Stk_00057	07/31/2019	5000.00000	ug/mL	100.00000	ug/mL
Nitroglycerin	8330_NG_Stk_00063	07/31/2019	5000.00000	ug/mL	100.00000	ug/mL
PETN	8330_PETN_Stk_00049	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
PETN	8330_PETN_Stk_00066	05/31/2020	5000.00000	ug/mL	100.00000	ug/mL
1,3,5-Trinitrobenzene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
1,3-Dinitrobenzene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
2,4,6-Trinitrotoluene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
2,4-Dinitrotoluene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
HMX	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
Nitrobenzene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
RDX	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
2,4,6-Trinitrophenol	PicricARestek_00078	09/30/2020	1000.00000	ug/mL	10.00000	ug/mL

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\CHHPLC_X\20180911-73899.b\09110010.D

Lims ID: 8330 LCS%O00082 Inj. Date: 11-Sep-2018 20:36:26

Worklist ID: 280-0073899-010 Instrument: CHHPLC_X3

Method: 8330_X3

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3535	Limits 2 3535
1 2,6-diamino-4-nitrotolu	0	*ND	0.0	80-150	
25 TNX	0	*ND	0.0	50-150	
2 HMX	0.4000	0.3899	97.5	66-115	65-135
3 2,4-diamino-6-nitrotolu	0	*ND	0.0	70-150	
24 DNX	0	*ND	0.0	50-150	
4 MNX	0	*ND	0.0	68-123	50-150
5 RDX	0.4000	0.3916	97.9	69-122	68-130
6 2,4,6-Trinitrophenol	0.4000	0.3998	100.0	63-135	80-120
$ 7 1,2-Dinitrobenzene	0	*ND	0.0	63-127	83-119
8 1,3,5-Trinitrobenzene	0.4000	0.4096	102.4	62-127	73-125
9 1,3-Dinitrobenzene	0.4000	0.4033	100.8	59-131	78-120
11 Nitrobenzene	0.4000	0.4045	101.1	46-144	65-134
10 3,5-Dinitroaniline	0	*ND	0.0	55-119	71-117
12 Tetryl	0.4000	0.4274	106.9	56-131	64-128
13 Nitroglycerin	4.00	3.97	99.4	70-125	74-127
14 2,4,6-Trinitrotoluene	0.4000	0.3842	96.1	46-139	71-123
15 4-Amino-2,6-dinitrotolu	0.4000	0.3737	93.4	43-120	76-125
16 2-Amino-4,6-dinitrotolu	0.4000	0.3998	100.0	46-124	79-120
17 2,6-Dinitrotoluene	0.4000	0.3828	95.7	51-130	77-127
18 2,4-Dinitrotoluene	0.4000	0.3881	97.0	53-127	78-120
19 o-Nitrotoluene	0.4000	0.3903	97.6	37-138	70-127
20 p-Nitrotoluene	0.4000	0.4065	101.6	41-137	71-127
21 m-Nitrotoluene	0.4000	0.3886	97.1	31-140	73-125
22 PETN	4.00	3.95	98.7	67-127	73-127

Samples for Limit Group: 1, Lims Prep Method: 3535

680-157496-D-1-B	680-157496-D-2-B	680-157496-D-3-B
680-157496-D-4-B	680-157496-D-5-B	680-157496-D-6-B
680-157496-D-7-B	680-157496-D-8-B	680-157496-D-9-B
490-158536-D-1-B	490-158590-A-1-B	490-158590-A-2-B
600-171866-C-1-B	280-113921-A-1-B	

Samples for Limit Group: 2, Lims Prep Method: 3535

160-30545-A-1-B	160-30545-A-6-B	160-30545-A-7-B

Reagent

8330 LCS_00083

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8330 LCS _ 00082

OK HKF 9/12/18

Reagent ID: 8330 LCS_00082

Description:	10+100 ug/mL KEEP IN FREEZER	Expiration Date:	06/28/2019
No. of Bottles:	2	Laboratory:	TestAmerica Denver
Storage Location:	Explosives Prep	Prepared By:	Carroll, Randall P
Reagent Volume:	100.000 mL	Solvent:	Acetonitrile
Creation Date:	09/07/2018	Solvent Lot:	ACN_00204
Open Date:			
Container(s):	5297539, 5297540		
Comment:			

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
2,6-Dinitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
2-Amino-4,6-dinitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
4-Amino-2,6-dinitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
m-Nitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
o-Nitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
p-Nitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
Tetryl	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
Nitroglycerin	8330_NG_Stk_00057	07/31/2019	5000.00000	ug/mL	100.00000	ug/mL
Nitroglycerin	8330_NG_Stk_00063	07/31/2019	5000.00000	ug/mL	100.00000	ug/mL
PETN	8330_PETN_Stk_00049	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
PETN	8330_PETN_Stk_00066	05/31/2020	5000.00000	ug/mL	100.00000	ug/mL
1,3,5-Trinitrobenzene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
1,3-Dinitrobenzene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
2,4,6-Trinitrotoluene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
2,4-Dinitrotoluene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
HMX	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
Nitrobenzene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
RDX	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
2,4,6-Trinitrophenol	PicricARestek_00078	09/30/2020	1000.00000	ug/mL	10.00000	ug/mL

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\CHHPLC_X\20180911-73899.b\09110010.D

Lims ID: 8330 LCS%O00082 Inj. Date: 11-Sep-2018 20:36:26

Worklist ID: 280-0073899-010 Instrument: CHHPLC_X3

Method: 8330_X3

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3535	Limits 2 3535
1 2,6-diamino-4-nitrotolu	0	*ND	0.0	80-150	
25 TNX	0	*ND	0.0	50-150	
2 HMX	0.4000	0.3899	97.5	66-115	65-135
3 2,4-diamino-6-nitrotolu	0	*ND	0.0	70-150	
24 DNX	0	*ND	0.0	50-150	
4 MNX	0	*ND	0.0	68-123	50-150
5 RDX	0.4000	0.3916	97.9	69-122	68-130
6 2,4,6-Trinitrophenol	0.4000	0.3998	100.0	63-135	80-120
$ 7 1,2-Dinitrobenzene	0	*ND	0.0	63-127	83-119
8 1,3,5-Trinitrobenzene	0.4000	0.4096	102.4	62-127	73-125
9 1,3-Dinitrobenzene	0.4000	0.4033	100.8	59-131	78-120
11 Nitrobenzene	0.4000	0.4045	101.1	46-144	65-134
10 3,5-Dinitroaniline	0	*ND	0.0	55-119	71-117
12 Tetryl	0.4000	0.4274	106.9	56-131	64-128
13 Nitroglycerin	4.00	3.97	99.4	70-125	74-127
14 2,4,6-Trinitrotoluene	0.4000	0.3842	96.1	46-139	71-123
15 4-Amino-2,6-dinitrotolu	0.4000	0.3737	93.4	43-120	76-125
16 2-Amino-4,6-dinitrotolu	0.4000	0.3998	100.0	46-124	79-120
17 2,6-Dinitrotoluene	0.4000	0.3828	95.7	51-130	77-127
18 2,4-Dinitrotoluene	0.4000	0.3881	97.0	53-127	78-120
19 o-Nitrotoluene	0.4000	0.3903	97.6	37-138	70-127
20 p-Nitrotoluene	0.4000	0.4065	101.6	41-137	71-127
21 m-Nitrotoluene	0.4000	0.3886	97.1	31-140	73-125
22 PETN	4.00	3.95	98.7	67-127	73-127

Samples for Limit Group: 1, Lims Prep Method: 3535

680-157496-D-1-B	680-157496-D-2-B	680-157496-D-3-B
680-157496-D-4-B	680-157496-D-5-B	680-157496-D-6-B
680-157496-D-7-B	680-157496-D-8-B	680-157496-D-9-B
490-158536-D-1-B	490-158590-A-1-B	490-158590-A-2-B
600-171866-C-1-B	280-113921-A-1-B	

Samples for Limit Group: 2, Lims Prep Method: 3535

160-30545-A-1-B	160-30545-A-6-B	160-30545-A-7-B

Reagent

8330 LCSMix2_00102

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31451 **Lot No.:** A0122699

Description : 8330 Calibration Mix #2

8330 Calibration Std #2 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Tetryl		1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 479-45-8	(Lot 091120JLM)		+/- 54.7830	µg/mL	Unstressed
	Purity 99%			+/- 63.8824	µg/mL	Stressed
2	4-Amino-2,6-dinitrotoluene		1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 19406-51-0	(Lot ER070908-01)		+/- 54.8926	µg/mL	Unstressed
	Purity 99%			+/- 64.0101	µg/mL	Stressed
3	2-Amino-4,6-dinitrotoluene		1,001.0 µg/mL	+/- 5.9456	µg/mL	Gravimetric
	CAS # 35572-78-2	(Lot 29550-55)		+/- 54.8378	µg/mL	Unstressed
	Purity 99%			+/- 63.9463	µg/mL	Stressed
4	2,6-Dinitrotoluene		1,001.0 µg/mL	+/- 5.9456	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)		+/- 54.8378	µg/mL	Unstressed
	Purity 99%			+/- 63.9463	µg/mL	Stressed
5	2-Nitrotoluene		1,001.0 µg/mL	+/- 5.9456	µg/mL	Gravimetric
	CAS # 88-72-2	(Lot GA01)		+/- 54.8378	µg/mL	Unstressed
	Purity 99%			+/- 63.9463	µg/mL	Stressed
6	4-Nitrotoluene		1,001.0 µg/mL	+/- 5.9459	µg/mL	Gravimetric
	CAS # 99-99-0	(Lot FAU01)		+/- 54.8400	µg/mL	Unstressed
	Purity 97%			+/- 63.9488	µg/mL	Stressed
7	3-Nitrotoluene		1,001.0 µg/mL	+/- 5.9456	µg/mL	Gravimetric
	CAS # 99-08-1	(Lot 07329LG)		+/- 54.8378	µg/mL	Unstressed
	Purity 99%			+/- 63.9463	µg/mL	Stressed

Reagent

8330 LCSMix2_00103

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31451 **Lot No.:** A0122699

Description : 8330 Calibration Mix #2

8330 Calibration Std #2 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Tetryl **CAS #** 479-45-8 (Lot 091120JLM) **Purity** 99%	1,000.0 µg/mL	+/- 5.9397 µg/mL +/- 54.7830 µg/mL +/- 63.8824 µg/mL	Gravimetric Unstressed Stressed
2	4-Amino-2,6-dinitrotoluene **CAS #** 19406-51-0 (Lot ER070908-01) **Purity** 99%	1,002.0 µg/mL	+/- 5.9516 µg/mL +/- 54.8926 µg/mL +/- 64.0101 µg/mL	Gravimetric Unstressed Stressed
3	2-Amino-4,6-dinitrotoluene **CAS #** 35572-78-2 (Lot 29550-55) **Purity** 99%	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL	Gravimetric Unstressed Stressed
4	2,6-Dinitrotoluene **CAS #** 606-20-2 (Lot 1437483V) **Purity** 99%	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL	Gravimetric Unstressed Stressed
5	2-Nitrotoluene **CAS #** 88-72-2 (Lot GA01) **Purity** 99%	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL	Gravimetric Unstressed Stressed
6	4-Nitrotoluene **CAS #** 99-99-0 (Lot FAU01) **Purity** 97%	1,001.0 µg/mL	+/- 5.9459 µg/mL +/- 54.8400 µg/mL +/- 63.9488 µg/mL	Gravimetric Unstressed Stressed
7	3-Nitrotoluene **CAS #** 99-08-1 (Lot 07329LG) **Purity** 99%	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL	Gravimetric Unstressed Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

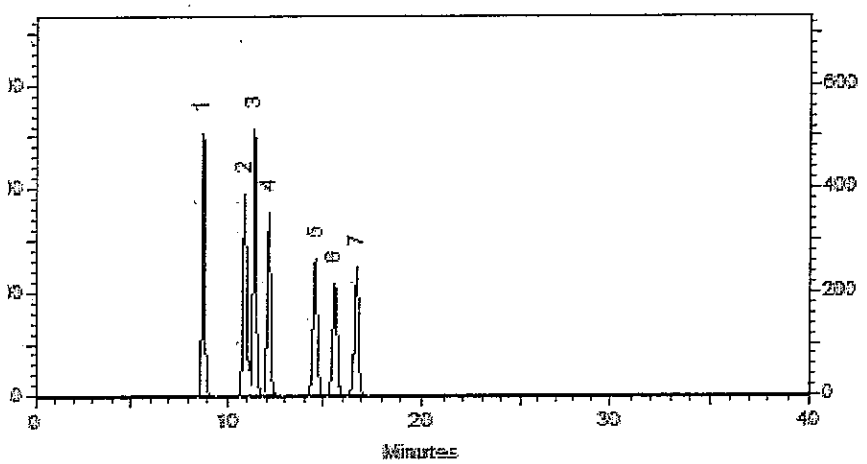
Flow Rate:
1.0 ml/min.

Mobile Phase A:
-

Mobile Phase B:
water:methanol (44:56 V/V)

Mobile Phase Composition:
100%B

Det. Type:
Wavelength: 210 nm



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

Date Mixed: 06-Nov-2016 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 15-Nov-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

8330 LCSMix2_00104

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31451 **Lot No.:** A0122699

Description : 8330 Calibration Mix #2

8330 Calibration Std #2 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Tetryl **CAS #** 479-45-8 (Lot 091120JLM) **Purity** 99%	1,000.0 µg/mL	+/- 5.9397 µg/mL +/- 54.7830 µg/mL +/- 63.8824 µg/mL	Gravimetric Unstressed Stressed
2	4-Amino-2,6-dinitrotoluene **CAS #** 19406-51-0 (Lot ER070908-01) **Purity** 99%	1,002.0 µg/mL	+/- 5.9516 µg/mL +/- 54.8926 µg/mL +/- 64.0101 µg/mL	Gravimetric Unstressed Stressed
3	2-Amino-4,6-dinitrotoluene **CAS #** 35572-78-2 (Lot 29550-55) **Purity** 99%	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL	Gravimetric Unstressed Stressed
4	2,6-Dinitrotoluene **CAS #** 606-20-2 (Lot 1437483V) **Purity** 99%	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL	Gravimetric Unstressed Stressed
5	2-Nitrotoluene **CAS #** 88-72-2 (Lot GA01) **Purity** 99%	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL	Gravimetric Unstressed Stressed
6	4-Nitrotoluene **CAS #** 99-99-0 (Lot FAU01) **Purity** 97%	1,001.0 µg/mL	+/- 5.9459 µg/mL +/- 54.8400 µg/mL +/- 63.9488 µg/mL	Gravimetric Unstressed Stressed
7	3-Nitrotoluene **CAS #** 99-08-1 (Lot 07329LG) **Purity** 99%	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL	Gravimetric Unstressed Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

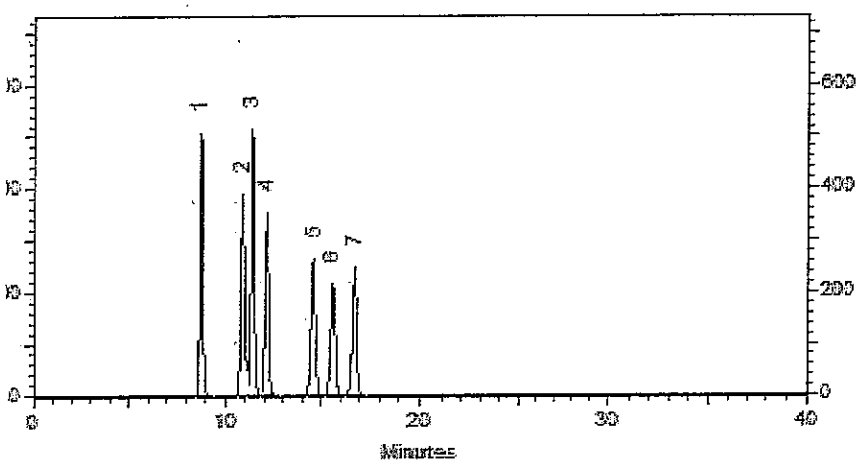
Flow Rate:
1.0 ml/min.

Mobile Phase A:
-

Mobile Phase B:
water:methanol (44:56 V/V)

Mobile Phase Composition:
100%B

Det. Type:
Wavelength: 210 nm



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

Date Mixed: 06-Nov-2016 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 15-Nov-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

8330 Stock_TS_00009

Certificate of Analysis

Combined Stock Solution

Product Number: NAIM-833E **Page:** 1 of 1

Lot Number: CR-1002 **Lot Issue Date:** 10-Mar-2017 **Expiration Date:** 30-Apr-2020

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
HMX	002691-41-0	RM06237	1000 ± 5 µg/mL
RDX	000121-82-4	RM10915	1000 ± 5 µg/mL
1,3,5-trinitrobenzene	000099-35-4	RM06608	1000 ± 5 µg/mL
m-dinitrobenzene	000099-65-0	RM04448	1001 ± 5 µg/mL
nitrobenzene	000098-95-3	RM11472	1002 ± 5 µg/mL
2,4,6-trinitrotoluene (TNT)	000118-96-7	RM11972	1004 ± 5 µg/mL
2,4-dinitrotoluene	000121-14-2	RM01209	1002 ± 5 µg/mL
tetryl	000479-45-8	RM12295	1000 ± 5 µg/mL
2,6-dinitrotoluene	000606-20-2	RM10763	1003 ± 5 µg/mL
2-nitrotoluene	000088-72-2	NT01996	1003 ± 5 µg/mL
3-nitrotoluene	000099-08-1	NT02212	1004 ± 5 µg/mL
4-nitrotoluene	000099-99-0	NT02096	1004 ± 5 µg/mL
2-amino-4,6-dinitrotoluene	035572-78-2	RM04229	1003 ± 5 µg/mL
4-amino-2,6-dinitrotoluene	019406-51-0	RM04226	1003 ± 5 µg/mL

Matrix: acetonitrile

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

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Registered
TUV USA, Inc.

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Reagent

8330_NG_Stk_00057

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0128695

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitroglycerin	5,012.0 µg/mL	+/- 46.6089	µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 170616JLM)		+/- 276.9046	µg/mL	Unstressed
	Purity 99%		+/- 322.1807	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_NG_Stk_00061

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0128695

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitroglycerin	5,012.0 µg/mL	+/- 46.6089	µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 170616JLM)		+/- 276.9046	µg/mL	Unstressed
	Purity 99%		+/- 322.1807	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_NG_Stk_00062

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0128695

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitroglycerin	5,012.0 µg/mL	+/- 46.6089	µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 170616JLM)		+/- 276.9046	µg/mL	Unstressed
	Purity 99%		+/- 322.1807	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_NG_Stk_00063

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0128695

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitroglycerin	5,012.0 µg/mL	+/- 46.6089	µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 170616JLM)		+/- 276.9046	µg/mL	Unstressed
	Purity 99%		+/- 322.1807	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_NG_Stk_00067

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0129124

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitroglycerin	5,008.0 µg/mL	+/- 46.5717	µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 170616JLM)		+/- 276.6836	µg/mL	Unstressed
	Purity 99%		+/- 321.9236	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_NG_Stk_00068

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0129124

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitroglycerin	5,008.0 µg/mL	+/- 46.5717	µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 170616JLM)		+/- 276.6836	µg/mL	Unstressed
	Purity 99%		+/- 321.9236	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_PETN_Stk_00049

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0120082

Description : Custom PETN Standard

Custom PETN Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2019 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	PETN		5,044.0	µg/mL	+/- 46.9065	µg/mL	Gravimetric
	CAS # 78-11-5	(Lot 051108JLM)			+/- 278.6726	µg/mL	Unstressed
	Purity 99%				+/- 324.2377	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

7-6-16
YJC

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_PETN_Stk_00066

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Certificate of Composition

ACCREDITED
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Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0127970

Description : Custom PETN Standard

Custom PETN Standard 5000 µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	PETN	5,028.0 µg/mL	+/- 46.7577	µg/mL	Gravimetric
	CAS # 78-11-5 (Lot 051108JLM)		+/- 277.7886	µg/mL	Unstressed
	Purity 99%		+/- 323.2092	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_PETN_Stk_00067

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CERTIFIED REFERENCE MATERIAL

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0127970

Description : Custom PETN Standard

Custom PETN Standard 5000 µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	PETN	5,028.0 µg/mL	+/- 46.7577	µg/mL	Gravimetric
	CAS # 78-11-5 (Lot 051108JLM)		+/- 277.7886	µg/mL	Unstressed
	Purity 99%		+/- 323.2092	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_PETN_Stk_00068

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Certificate of Composition

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0127970

Description : Custom PETN Standard

Custom PETN Standard 5000 µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	PETN	5,028.0 µg/mL	+/- 46.7577	µg/mL	Gravimetric
	CAS # 78-11-5 (Lot 051108JLM)		+/- 277.7886	µg/mL	Unstressed
	Purity 99%		+/- 323.2092	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_PETN_Stk_00069

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0127970

Description : Custom PETN Standard

Custom PETN Standard 5000 µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	PETN	5,028.0 µg/mL	+/- 46.7577	µg/mL	Gravimetric
	CAS # 78-11-5 (Lot 051108JLM)		+/- 277.7886	µg/mL	Unstressed
	Purity 99%		+/- 323.2092	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_PETN_Stk_00070

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0127970

Description : Custom PETN Standard

Custom PETN Standard 5000 µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	PETN	5,028.0 µg/mL	+/- 46.7577	µg/mL	Gravimetric
	CAS # 78-11-5 (Lot 051108JLM)		+/- 277.7886	µg/mL	Unstressed
	Purity 99%		+/- 323.2092	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330LCSMix1_00097

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31450 **Lot No.:** A0122924

Description : 8330 Calibration Mix #1

8330 Calibration Std #1 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 10°C or colder

5

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	HMX **CAS #** 2691-41-0 **Purity** 98%	(Lot 111005JLM)	999.6 µg/mL	+/- 5.9373 µg/mL +/- 54.7611 µg/mL +/- 63.8568 µg/mL		Gravimetric Unstressed Stressed
2	RDX **CAS #** 121-82-4 **Purity** 99%	(Lot 080220JLM)	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL		Gravimetric Unstressed Stressed
3	1,3,5-Trinitrobenzene **CAS #** 99-35-4 **Purity** 99%	(Lot UNVVB)	1,000.0 µg/mL	+/- 5.9397 µg/mL +/- 54.7830 µg/mL +/- 63.8824 µg/mL		Gravimetric Unstressed Stressed
4	1,3-Dinitrobenzene **CAS #** 99-65-0 **Purity** 99%	(Lot BCBB1436V)	1,000.0 µg/mL	+/- 5.9397 µg/mL +/- 54.7830 µg/mL +/- 63.8824 µg/mL		Gravimetric Unstressed Stressed
5	Nitrobenzene **CAS #** 98-95-3 **Purity** 99%	(Lot SHBF2348V)	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL		Gravimetric Unstressed Stressed
6	2,4,6-Trinitrotoluene **CAS #** 118-96-7 **Purity** 99%	(Lot 2554100)	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL		Gravimetric Unstressed Stressed
7	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,000.0 µg/mL	+/- 5.9397 µg/mL +/- 54.7830 µg/mL +/- 63.8824 µg/mL		Gravimetric Unstressed Stressed

Reagent

8330LCSMix1_00102

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31450 **Lot No.:** A0128688

Description : 8330 Calibration Mix #1

8330 Calibration Std #1 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	HMX		1,002.5	µg/mL	+/- 5.9548	µg/mL	Gravimetric
	CAS # 2691-41-0	(Lot 111005JLM)			+/- 54.9222	µg/mL	Unstressed
	Purity 98%				+/- 64.0446	µg/mL	Stressed
2	RDX		1,008.0	µg/mL	+/- 5.9872	µg/mL	Gravimetric
	CAS # 121-82-4	(Lot 080220JLM)			+/- 55.2213	µg/mL	Unstressed
	Purity 99%				+/- 64.3934	µg/mL	Stressed
3	1,3,5-Trinitrobenzene		1,004.9	µg/mL	+/- 5.9689	µg/mL	Gravimetric
	CAS # 99-35-4	(Lot DJ5QO)			+/- 55.0525	µg/mL	Unstressed
	Purity 97%				+/- 64.1967	µg/mL	Stressed
4	1,3-Dinitrobenzene		1,007.0	µg/mL	+/- 5.9813	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBN4329V)			+/- 55.1665	µg/mL	Unstressed
	Purity 99%				+/- 64.3295	µg/mL	Stressed
5	Nitrobenzene		1,007.0	µg/mL	+/- 5.9813	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/- 55.1665	µg/mL	Unstressed
	Purity 99%				+/- 64.3295	µg/mL	Stressed
6	2,4,6-Trinitrotoluene		1,004.0	µg/mL	+/- 5.9635	µg/mL	Gravimetric
	CAS # 118-96-7	(Lot 2554100)			+/- 55.0021	µg/mL	Unstressed
	Purity 99%				+/- 64.1379	µg/mL	Stressed
7	2,4-Dinitrotoluene		1,007.0	µg/mL	+/- 5.9813	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/- 55.1665	µg/mL	Unstressed
	Purity 99%				+/- 64.3295	µg/mL	Stressed

Reagent

8330LCSMix1_00105

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31450 **Lot No.:** A0128688

Description : 8330 Calibration Mix #1

8330 Calibration Std #1 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	HMX		1,002.5	µg/mL	+/- 5.9548	µg/mL	Gravimetric
	CAS # 2691-41-0	(Lot 111005JLM)			+/- 54.9222	µg/mL	Unstressed
	Purity 98%				+/- 64.0446	µg/mL	Stressed
2	RDX		1,008.0	µg/mL	+/- 5.9872	µg/mL	Gravimetric
	CAS # 121-82-4	(Lot 080220JLM)			+/- 55.2213	µg/mL	Unstressed
	Purity 99%				+/- 64.3934	µg/mL	Stressed
3	1,3,5-Trinitrobenzene		1,004.9	µg/mL	+/- 5.9689	µg/mL	Gravimetric
	CAS # 99-35-4	(Lot DJ5QO)			+/- 55.0525	µg/mL	Unstressed
	Purity 97%				+/- 64.1967	µg/mL	Stressed
4	1,3-Dinitrobenzene		1,007.0	µg/mL	+/- 5.9813	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBN4329V)			+/- 55.1665	µg/mL	Unstressed
	Purity 99%				+/- 64.3295	µg/mL	Stressed
5	Nitrobenzene		1,007.0	µg/mL	+/- 5.9813	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/- 55.1665	µg/mL	Unstressed
	Purity 99%				+/- 64.3295	µg/mL	Stressed
6	2,4,6-Trinitrotoluene		1,004.0	µg/mL	+/- 5.9635	µg/mL	Gravimetric
	CAS # 118-96-7	(Lot 2554100)			+/- 55.0021	µg/mL	Unstressed
	Purity 99%				+/- 64.1379	µg/mL	Stressed
7	2,4-Dinitrotoluene		1,007.0	µg/mL	+/- 5.9813	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/- 55.1665	µg/mL	Unstressed
	Purity 99%				+/- 64.3295	µg/mL	Stressed

Reagent

8330PAStkPS_00054

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: M-8330-ADD-3
Description: Picric acid
Lot: 216061376-01
Solvent: Acetonitrile (50%)
Methanol (50%)
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Jun 19, 2017
Expiration: Jul 19, 2019
Sample Size: 1 mL
Components: 1

Storage Condition: Ambient (>5 °C)
Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (HPLC)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Picric acid	88-89-1	99.1	100.1	99.2

Superseded

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. This value is the expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 4/17

Reagent

8330PAStkPS_00056

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: M-8330-ADD-3
Description: Picric acid
Lot: 218031154
Solvent: Acetonitrile (50%)
Methanol (50%)
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Mar 12, 2018
Expiration: Apr 12, 2020
Sample Size: 1 mL
Components: 1

Storage Condition: Ambient (>5 °C)
Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Gulde 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (HPLC)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Picric acid	88-89-1	99.1	100.1	99.2

CUSTOMER COPY

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Certified By: _____
Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 4/17

Reagent

8330Surrogate_00098

IN Explosives (Prep) Fridge ☺ Thx

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8330Surrogate_00098

Reagent ID: 8330Surrogate_00098

Description:	10ug/mL 1,2-Dinitrobenzene	Expiration Date:	03/01/2019
No. of Bottles:	4	Laboratory:	TestAmerica Denver
Storage Location:	Explosives Prep	Prepared By:	Cokley, Cheyana D
Reagent Volume:	500.000 mL	Solvent:	Acetonitrile
Creation Date:	03/01/2018	Solvent Lot:	ACN_00210
Open Date:			
Container(s):	4983902, 4983903, 4983904, 4983905		
Comment:	Stored Frozen. 6 month expiration date. Take 1mL of 1,2 Dinitrobenzene (8330SurrStock) and Dilute to 100 mL in ACN. Mulitply recipe as needed.		

HKF
DC 3/7/18

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
1,2-Dinitrobenzene (Surr)	8330SurrStkSS_00123	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene (Surr)	8330SurrStkSS_00124	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene (Surr)	8330SurrStkSS_00125	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene (Surr)	8330SurrStkSS_00126	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene (Surr)	8330SurrStkSS_00127	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
8330SurrStkSS_0013	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_0014	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_0015	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_0016	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_0017	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL

Preliminary Report

TestAmerica Denver
ICV, ICal Verification Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180306-67760.b\03060015.D
Lims ID: ICV MAIN
Client ID:
Sample Type: ICV
Inject. Date: 06-Mar-2018 13:40:54 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: ICV MAIN
Misc. Info.: 280-0067760-015
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist:

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180306-67760.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 07-Mar-2018 14:58:37 Calib Date: 06-Mar-2018 13:17:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180306-67760.b\03060014.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK013

Start Cal Date: 06-Mar-2018 10:37:17
End Cal Date: 06-Mar-2018 13:17:57

Compound	Amount Added	Amount Detected	%Drift	Max. %Drift	%Rec	%Rec Limits	
2 HMX	0.4000	0.3593	-10.2	20.0	89.8		
4 MNX	0.4000	4.09	*923.6	20.0	1023.6		
5 RDX	0.4000	0.3939	-1.5	20.0	98.5		
6 2,4,6-Trinitrophen	0.4000	0.3960	-1.0	20.0	99.0		
$ 7 1,2-Dinitrobenzene	0.4000	0.3986	-0.4	20.0	99.6	———	8330 Surr_009 used
8 1,3,5-Trinitrobenz	0.4000	0.4025	0.6	20.0	100.6		
9 1,3-Dinitrobenzene	0.4000	0.4001	0.0	20.0	100.0		
11 Nitrobenzene	0.4000	0.3982	-0.5	20.0	99.5		
12 Tetryl	0.4000	0.3934	-1.7	20.0	98.3		
14 2,4,6-Trinitrotolu	0.4000	0.3669	-8.3	20.0	91.7		
15 4-Amino-2,6-dinitr	0.4000	0.3788	-5.3	20.0	94.7		
16 2-Amino-4,6-dinitr	0.4000	0.3896	-2.6	20.0	97.4		
17 2,6-Dinitrotoluene	0.4000	0.3828	-4.3	20.0	95.7		
18 2,4-Dinitrotoluene	0.4000	0.3932	-1.7	20.0	98.3		
19 o-Nitrotoluene	0.4000	0.3947	-1.3	20.0	98.7		
20 p-Nitrotoluene	0.4000	0.4066	1.6	20.0	101.6		
21 m-Nitrotoluene	0.4000	0.3880	-3.0	20.0	97.0		

Reagent

8330Surrogate_00100

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8330Surrogate_00100

Reagent ID: 8330Surrogate_00100

		Expiration Date:	03/01/2019
Description:	10ug/mL 1,2-Dinitrobenzene	Laboratory:	TestAmerica Denver
No. of Bottles:	4	Prepared By:	Carroll, Randall P
Storage Location:	Explosives Prep	Solvent:	Acetonitrile
Reagent Volume:	500.000 mL	Solvent Lot:	ACN_00210
Creation Date:	09/07/2018		
Open Date:			
Container(s):	5297535, 5297536, 5297537, 5297538		
Comment:	Stored Frozen. 6 month expiration date. Take 1mL of 1,2 Dinitrobenzene (8330SurrStock) and Dilute to 10(mL in ACN. Mulitply recipe as needed.		

OK HKF 9/12/18

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
1,2-Dinitrobenzene	8330SurrStkSS_00123	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene	8330SurrStkSS_00124	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene	8330SurrStkSS_00125	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene	8330SurrStkSS_00126	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene	8330SurrStkSS_00127	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
8330SurrStkSS_00123	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_00124	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_00125	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_00126	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_00127	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL

In EXP freezer

in O prep

Preliminary Report

TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180911-73899.b\09110009.D				
Lims ID:	8330S+U+R+R+O+G+A+T+E%O00100				
Client ID:					
Sample Type:	Client				
Inject. Date:	11-Sep-2018 20:13:27	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	8330S+U+R+R+O+G+				
Misc. Info.:	280-0073899-009				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180911-73899.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	12-Sep-2018 10:03:24	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	XAWRK011				

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.4000	0.4053	101.33

Reagent

8330SurrStkSS_00123

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00124

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Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00125

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00126

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00127

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Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00130

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00131

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00132

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00133

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00141

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0131413

Description : 8330 Surrogate Mix

8330 Surrogate Mix 1000 µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)		
1	1,2-Dinitrobenzene	1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.1943	µg/mL	Unstressed
	Purity 99%		+/- 57.5086	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStock_00161

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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Fax (203)786-5287
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CERTIFICATE OF ANALYSIS

Catalog No: M-8330-SS
Description: 1,2-Dinitrobenzene Standard
Lot: 214081391
Solvent: Methanol
Hazards: HIGHLY FLAMMABLE - *Refer to SDS for safety info*



Danger 2

Date Certified: Aug 15, 2014
Expiration: Aug 15, 2024
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
1,2-Dinitrobenzene	528-29-0	100.0	1002	1002

3971066
ID: 8330SurrStock_00162
Exp: 08/15/24 Prpd: ACF
M-8330-SS 1000ug/ml AccuS

3971065
ID: 8330SurrStock_00161
Exp: 08/15/24 Prpd: ACF
M-8330-SS 1000ug/ml AccuS

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values:
A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: _____
Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 7/11

Reagent

8330SurrStock_00162

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: M-8330-SS
Description: 1,2-Dinitrobenzene Standard
Lot: 214081391
Solvent: Methanol
Hazards: HIGHLY FLAMMABLE - *Refer to SDS for safety info*



Danger 2

Date Certified: Aug 15, 2014
Expiration: Aug 15, 2024
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
1,2-Dinitrobenzene	528-29-0	100.0	1002	1002

3971066
ID: 8330SurrStock_00162
Exp: 08/15/24 Prpd: ACF
M-8330-SS 1000ug/ml AccuS

3971065
ID: 8330SurrStock_00161
Exp: 08/15/24 Prpd: ACF
M-8330-SS 1000ug/ml AccuS

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values:
A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: _____
Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 7/11

Reagent

ANALYTES B_00014

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: INT-B1 **Lot No.** 5-177MKBY

Description: Analytes B

Matrix: 5% HNO_3

This **ASSURANCE®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for analytical instrumentation such as ICP-OES, DCP, AA, ICP-MS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentrations. See side 2 for details of certification.

Instrumental Analysis by ICP Spectrometer:

Analyte	Labeled	Certified	Uncertainty	SRM	Analyte	Labeled	Certified	Uncertainty	SRM
Ag	100 µg/mL	99.1 µg/mL	±0.5 µg/mL	3151*	Be	50 µg/mL	49.6 µg/mL	±0.3 µg/mL	3105a*
Cd	100 µg/mL	98.9 µg/mL	±0.5 µg/mL	3108*	Co	50 µg/mL	49.4 µg/mL	±0.3 µg/mL	3113*
Ni	100 µg/mL	98.9 µg/mL	±0.5 µg/mL	3136*	Cr	50 µg/mL	49.6 µg/mL	±0.3 µg/mL	3112a*
Pb	100 µg/mL	99.1 µg/mL	±0.5 µg/mL	3128*	Cu	50 µg/mL	49.8 µg/mL	±0.3 µg/mL	3114*
Zn	100 µg/mL	98.9 µg/mL	±0.5 µg/mL	3168a*	Mn	50 µg/mL	49.3 µg/mL	±0.3 µg/mL	3132*
Ba	50 µg/mL	49.3 µg/mL	±0.3 µg/mL	3104a*	V	50 µg/mL	49.8 µg/mL	±0.3 µg/mL	3165*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available)

SPEX CertiPrep Reference Multi: Lot# 9-164YP, 12-03YP

5078581
ID: ANALYTES B_00014
Exp: 04/01/18 Prpd: SJS
ICP ANALYTES B SPEX

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to ±0.5% of the certified (measured) value. This includes uncertainty components due to preparation, measurement, homogeneity, and short-term and long-term stability. No measured concentration of any individual component exceeds ±2% of the labeled value. This guarantee is valid for a period of one year from the date of certification only when the material is unopened and stored under ambient laboratory conditions.

Date of Certification: APR · 2018 Certifying Officer: Kathleen Cullen

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Report of Certification

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 quality system consistent with the following guides:

- ISO 9001: Quality management systems – Requirements – certified by UL-DQS
- ISO 17025: General requirements for the competence of testing and calibration laboratories – accredited by A2LA
- ISO Guide 34: General requirements for the competence of reference material producers – accredited by A2LA
- ISO Guide 31: Reference Materials – Contents of certificates and labels
- ISO Guide 35: Reference Materials – General & Statistical Principals for Certification
- Guide To The Expression Of Uncertainty In Measurement 1997
- EURACHEM/CITAC Guide: Quantifying Uncertainty in Analytical Measurement – Second Edition
- ASTM Guide D6362-98
- NIST Technical Note 1297
- ILAC-G12-2000: Guidelines for the requirements for the competence of reference materials producers
- ISO/REMCO N280

Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For further assistance, please contact the Sales Support Department at crmsales@spexcsp.com.

Instructions for Use:

Primary usage of this CRM is in neat form or diluted serially with matrix of a purity at or greater than the purity of the original matrix solution. If dilution is required the diluent must be compatible with all certified analytes and contain stabilizers appropriate for the period of intended use. The CRM can also be used as a spike or with a spike, again with appropriate compatibility considerations. All solutions should be thoroughly mixed, by shaking, prior to use and never pipetted directly from the bottle. All surfaces that come in contact with the solution must be thoroughly cleaned and leached prior to use. Dilutions should be performed only with Class A volumetric glassware.

Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, analytical instrumentation and personnel have been qualified prior to use. The highest purity acids applicable, 18 megohm, double deionized water, acid-leached triple-rinsed bottles (where appropriate), and Class A/calibrated volumetrics have been used in all preparations.

Homogeneity:

The homogeneity of the CRM has been confirmed by procedures consistent with ISO 17025:2005, ISO Guide 34:2009, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4600-HOMOGEN-1A. Since the product is highly homogeneous, any sample size taken for analysis would be within the uncertainty budget. This is consistent with the intended use of the CRM.

Statistical Estimator and Confidence Limits:

The certified value 'X' listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X = certified value, U = expanded uncertainty, x = property value
- $U = ku_c$ where $k = 2$ is the coverage factor at the 95% confidence level
- u_c is obtained by combining the individual element standard uncertainty components u_i, and $u_c = \sqrt{\sum u_i^2}$

Certification Traveler Report:

All certified values reported were derived from the Traveler Report (SPEX CertiPrep's traceability documentation) identified by the lot number of this CRM. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further assistance, please contact the Sales Support Department at crmsales@spexcsp.com.

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Reagent

AR_1221_RESss_00010

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32007.sec **Lot No.:** A0117382

Description : Aroclor® 1221 Standard

Aroclor® 1221 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1221	1,000.0 µg/mL	+/- 10.0737	µg/mL	Gravimetric
	CAS # 11104-28-2.SEC (Lot W-126-07)		+/- 32.7345	µg/mL	Unstressed
	Purity ----%		+/- 42.2047	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1232_RESss_00010

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32008.sec **Lot No.:** A095877

Description : Aroclor® 1232 Standard

Aroclor® 1232 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2019 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Aroclor 1232	1,000.0 µg/mL	+/- 5.9397 µg/mL	Gravimetric
	CAS # 11141-16-5.SEC (Lot 130604JLM)		+/- 20.8959 µg/mL	Unstressed
	Purity ----%		+/- 34.3792 µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1242_RESss_00010

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32009.SEC **Lot No.:** A0105175

Description : Aroclor® 1242 Standard

Aroclor® 1242 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2020 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1242	1,000.0 µg/mL	+/- 10.0737	µg/mL	Gravimetric
	CAS # 53469-21-9.SEC (Lot NTO1020)		+/- 32.1814	µg/mL	Unstressed
	Purity ----%		+/- 42.2011	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1248_RES_00012

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32010 **Lot No.:** A0130978

Description : Aroclor® 1248 Standard

Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2023 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1248	1,001.6 µg/mL	+/- 5.8779	µg/mL	Gravimetric
	CAS # 12672-29-6 (Lot W-108-07)		+/- 31.7447	µg/mL	Unstressed
	Purity ----%		+/- 41.4691	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1248_RESss_00010

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32010.SEC **Lot No.:** A0124143

Description : Aroclor® 1248 Standard

Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2023 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1248	1,008.0 µg/mL	+/- 5.9872	µg/mL	Gravimetric
	CAS # 12672-29-6.SEC (Lot 106-248)		+/- 31.9609	µg/mL	Unstressed
	Purity ----%		+/- 41.7443	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1254_RESss_00010

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32011.SEC **Lot No.:** A0105373

Description : Aroclor® 1254 Standard

Aroclor® 1254 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2020 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1254	1,004.0 µg/mL	+/- 10.1140	µg/mL	Gravimetric
	CAS # 11097-69-1.SEC (Lot RM00922)		+/- 32.3101	µg/mL	Unstressed
	Purity ----%		+/- 42.3699	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1660_RES_00001

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039 **Lot No.:** A0134815

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2024 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1016		1,001.3 µg/mL	+/- 5.8348	µg/mL	Gravimetric
	CAS # 12674-11-2	(Lot 164887)		+/- 31.7260	µg/mL	Unstressed
	Purity ----%			+/- 41.4488	µg/mL	Stressed
2	Aroclor 1260		1,000.0 µg/mL	+/- 5.8275	µg/mL	Gravimetric
	CAS # 11096-82-5	(Lot 155463)		+/- 31.6864	µg/mL	Unstressed
	Purity ----%			+/- 41.3971	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1660_RESss_00010

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039.SEC **Lot No.:** A0114674

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2022 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1016		1,000.7 µg/mL	+/- 5.9437	µg/mL	Gravimetric
	CAS # 12674-11-2.SEC	(Lot 129)		+/- 31.7284	µg/mL	Unstressed
	Purity ----%			+/- 41.4406	µg/mL	Stressed
2	Aroclor 1260		1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 11096-82-5.SEC	(Lot NTO1023)		+/- 31.7072	µg/mL	Unstressed
	Purity ----%			+/- 41.4130	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_2154_RES_00001

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569745 **Lot No.:** A0131802

Description : PCB-1221/1254 Standard

PCB-1221/1254 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2024 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1221	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 11104-28-2 (Lot 2781200)		+/- 31.8975	µg/mL	Unstressed
	Purity ----%		+/- 41.6615	µg/mL	Stressed
2	Aroclor 1254	1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 11097-69-1 (Lot 124-191-B)		+/- 31.7706	µg/mL	Unstressed
	Purity ----%		+/- 41.4958	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_3262_RES_00001

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569746 **Lot No.:** A0132023

Description : PCB-1232/1262 Standard

PCB-1232/1262 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** >1 mL

Expiration Date : January 31, 2024 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1232	1,004.0 µg/mL	+/- 5.9635	µg/mL	Gravimetric
	CAS # 11141-16-5 (Lot W-107-05)		+/- 31.8340	µg/mL	Unstressed
	Purity ----%		+/- 41.5787	µg/mL	Stressed
2	Aroclor 1262	1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 37324-23-5 (Lot 3067100)		+/- 31.7706	µg/mL	Unstressed
	Purity ----%		+/- 41.4958	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_4268_RES_00001

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569747 **Lot No.:** A0133093

Description : PCB-1242/1268 Standard

PCB-1242/1268 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2024 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1242	1,008.0 µg/mL	+/- 5.9872	µg/mL	Gravimetric
	CAS # 53469-21-9 (Lot 01141-A)		+/- 31.9609	µg/mL	Unstressed
	Purity ----%		+/- 41.7443	µg/mL	Stressed
2	Aroclor 1268	1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 11100-14-4 (Lot 2743900)		+/- 31.7072	µg/mL	Unstressed
	Purity ----%		+/- 41.4130	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_SURR_RES_00073

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0121594

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2022 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5,6-Tetrachloro-m-xylene **CAS #** 877-09-8 (Lot 0052481) **Purity** 98%	200.0 µg/mL	+/- 1.1656 +/- 6.3378 +/- 8.2802	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Decachlorobiphenyl (BZ# 209) **CAS #** 2051-24-3 (Lot ER071509-01) **Purity** 99%	201.2 µg/mL	+/- 1.1725 +/- 6.3753 +/- 8.3291	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Reagent

AR_SURR_RES_00084

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0130424

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2023 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5,6-Tetrachloro-m-xylene		201.2 µg/mL	+/- 1.1725	µg/mL	Gravimetric
	CAS # 877-09-8	(Lot 0052481)		+/- 6.3751	µg/mL	Unstressed
	Purity 98%			+/- 8.3288	µg/mL	Stressed
2	Decachlorobiphenyl (BZ# 209)		201.5 µg/mL	+/- 1.1742	µg/mL	Gravimetric
	CAS # 2051-24-3	(Lot ER071509-01)		+/- 6.3848	µg/mL	Unstressed
	Purity 99%			+/- 8.3415	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

1-19-18

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0130424

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2023 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,4,5,6-Tetrachloro-m-xylene	201.2 µg/mL	+/- 1.1725 µg/mL	Gravimetric
	CAS # 877-09-8 (Lot 0052481)		+/- 6.3751 µg/mL	Unstressed
	Purity 98%		+/- 8.3288 µg/mL	Stressed
2	Decachlorobiphenyl (BZ# 209)	201.5 µg/mL	+/- 1.1742 µg/mL	Gravimetric
	CAS # 2051-24-3 (Lot ER071509-01)		+/- 6.3848 µg/mL	Unstressed
	Purity 99%		+/- 8.3415 µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

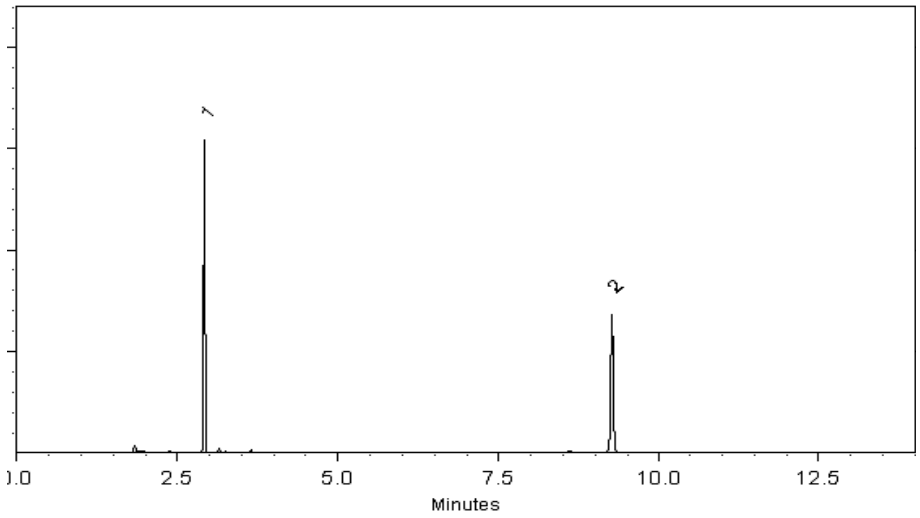
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 31-Aug-2017 **Balance:** B345965662

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 07-Sep-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0136320

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2024 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,4,5,6-Tetrachloro-m-xylene	200.3 µg/mL	+/- 1.1673 µg/mL	Gravimetric
	CAS # 877-09-8 (Lot 0052481)		+/- 6.3472 µg/mL	Unstressed
	Purity 98%		+/- 8.2923 µg/mL	Stressed
2	Decachlorobiphenyl (BZ# 209)	200.2 µg/mL	+/- 1.1667 µg/mL	Gravimetric
	CAS # 2051-24-3 (Lot ER071509-01)		+/- 6.3436 µg/mL	Unstressed
	Purity 99%		+/- 8.2877 µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

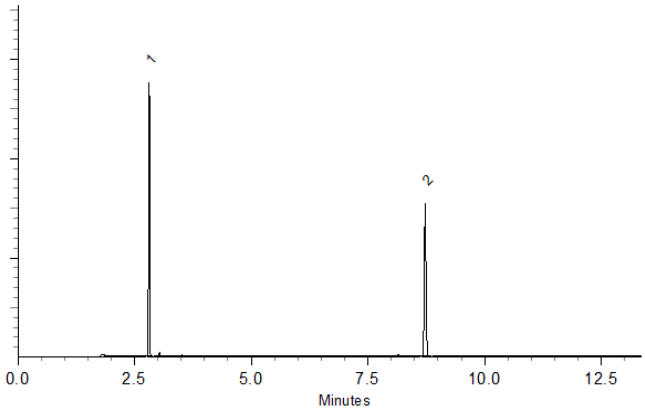
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett
Dustin Lidgett - Mix Technician

Date Mixed: 20-Mar-2018 **Balance:** B345965662

Justine Albertson - Operations Tech-ARM QC

Date Passed: 23-Mar-2018

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0136320

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2024 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,4,5,6-Tetrachloro-m-xylene	200.3 µg/mL	+/- 1.1673 µg/mL	Gravimetric
	CAS # 877-09-8 (Lot 0052481)		+/- 6.3472 µg/mL	Unstressed
	Purity 98%		+/- 8.2923 µg/mL	Stressed
2	Decachlorobiphenyl (BZ# 209)	200.2 µg/mL	+/- 1.1667 µg/mL	Gravimetric
	CAS # 2051-24-3 (Lot ER071509-01)		+/- 6.3436 µg/mL	Unstressed
	Purity 99%		+/- 8.2877 µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

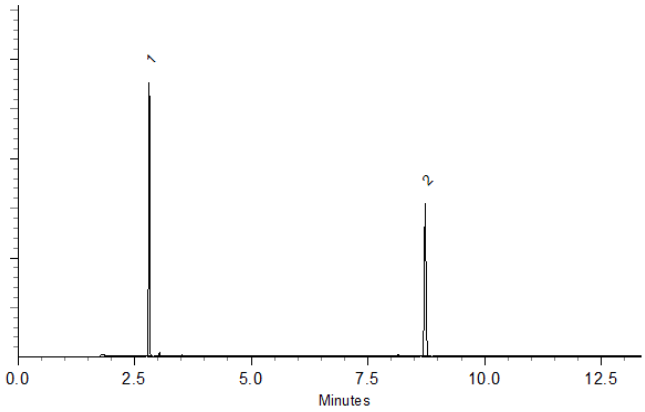
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett
Dustin Lidgett - Mix Technician

Date Mixed: 20-Mar-2018 **Balance:** B345965662

Justine Albertson - Operations Tech-ARM QC

Date Passed: 23-Mar-2018

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32279 **Lot No.:** A0127264

Description : 1-Bromo-2-nitrobenzene Standard

1-Bromo-2-nitrobenzene Standard 1000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-2-nitrobenzene	1,004.0 µg/mL	+/- 5.9635	µg/mL	Gravimetric
	CAS # 577-19-5 (Lot 643872/1)		+/- 56.3065	µg/mL	Unstressed
	Purity 99%		+/- 57.6234	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

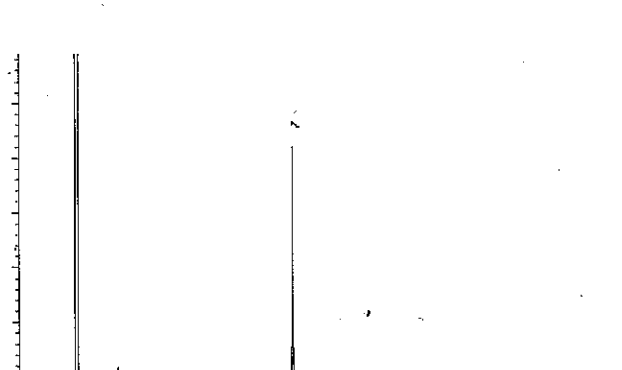
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 03-May-2017 **Balance:** B345965662

Justine Albertson - Operations Tech-ARM QC

Date Passed: 05-May-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
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- Purity values are rounded to the nearest whole number.

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- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32279 **Lot No.:** A0127264

Description : 1-Bromo-2-nitrobenzene Standard

1-Bromo-2-nitrobenzene Standard 1000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-2-nitrobenzene	1,004.0 µg/mL	+/- 5.9635	µg/mL	Gravimetric
	CAS # 577-19-5 (Lot 643872/1)		+/- 56.3065	µg/mL	Unstressed
	Purity 99%		+/- 57.6234	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

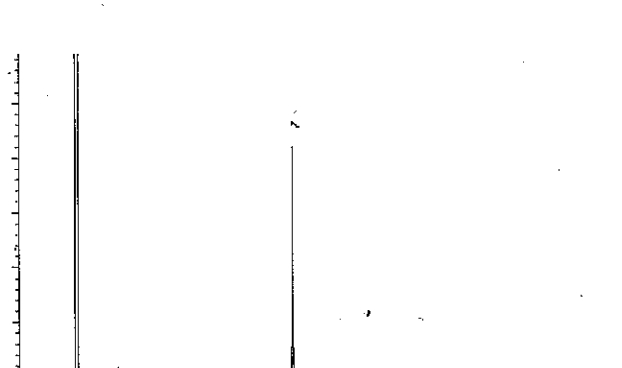
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 03-May-2017 **Balance:** B345965662

Justine Albertson - Operations Tech-ARM QC

Date Passed: 05-May-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

BNB stock_00016

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32279 **Lot No.:** A0127264

Description : 1-Bromo-2-nitrobenzene Standard

1-Bromo-2-nitrobenzene Standard 1000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-2-nitrobenzene	1,004.0 µg/mL	+/- 5.9635	µg/mL	Gravimetric
	CAS # 577-19-5 (Lot 643872/1)		+/- 56.3065	µg/mL	Unstressed
	Purity 99%		+/- 57.6234	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

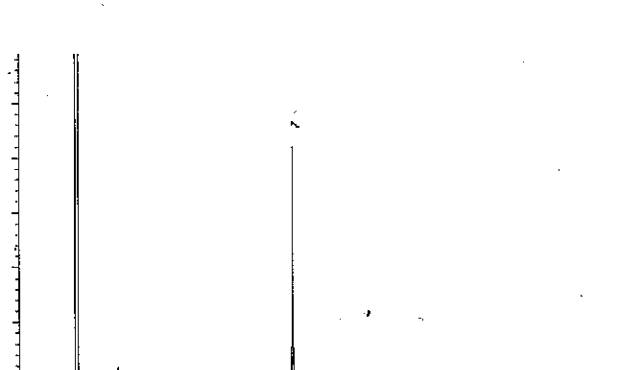
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 03-May-2017 **Balance:** B345965662

Justine Albertson - Operations Tech-ARM QC

Date Passed: 05-May-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

CN ICV Std_00052

Standard Verification Form

Standard Information			
Vendor Standard Name	5 ANION STANDARD 1000 ug/mL SIMPLE CYANIDE		
Vendor	SPEX		
Lot number	13-66YPX		
Initial Verification	☑ RK/11/11/18	Re-Verification	☑

TALS "Reagent" Information	
TALS Standard ID	CN ICV std-00052
COA Reviewed against what is in TALS	☑

Verification Information and Data			
Verified by	RK	Instrument ID	Alp-1
Verification Date	11/05/18	Method Reference	Total Cyanide
ID of Standard Used for Verification	CN ICV std-00052	Batch # / Chrom Work List #	

Attach to this form: formulary report , COA and data used for verification
Attach to standard in TALS: this form and all supporting documentation including the original CoA

See Acceptance Criteria Below:			
Approved for Use	☑	Not Approved for Use	☐

New expiration date can be no greater than ½ the designated standards shelf life from the date of re-verification. Standards can only be re-verified one time.

New Expiration Date:	11/30/18

1st Level Review RK Date: 11/05/18

2nd Level Review _____ Date: _____

QA Review (Re-verification only)		Date:

Acceptance Criteria		
Department	**Standard Analytes**	**Poor Performers* and Esterified Analytes**
GC/HPLC	≤ 15 %D	≤ 35 %D or ≤ 50 %D for dinoseb
GCMS/LCMS	≤ 35 %D	≤ 55 %D
MSVOA	≤ 25 %D	≤ 55 %D
Metals	≤ 8 %D	NA
Wet Chemistry	≤ 5 %D	NA

*See analytical SOP for details on poor performing analytes.

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: RSCN9-2X **Lot No.** 13-66YPX

Description: 1000 µg/mL Simple Cyanide

Matrix: 2% KOH

This Cyanide Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for titrimetric method. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1000 µg/mL ±50 µg/mL

The CRM is prepared gravimetrically using high purity Potassium Cyanide, Lot# K48260367702. See side 2 for details of certification.

Certified By:

Titration with $AgNO_3$ using Rhodanine as indicator. $AgNO_3$ standardized against NaCl NIST SRM #919b.

Uncertified Properties:

Trace Impurities in the Solution (derived from starting material):

Ion	µg/mL	Ion	µg/mL
Cl^-	<0.5	SCN^-	<0.3
$PO4^{-3}$	<0.1	$SO4^{-2}$	<0.3
S^{-2}	<0.01		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to ±5% of certified concentration for a period of three months from the date of certification. This includes uncertainty components associated with measurements, homogeneity by the most precise method, and short-term and long-term stability. For these solutions, we use high purity reagents, 18 megohm double deionized water, and triple rinsed bottles. All glassware used is Class A. This guarantee is valid only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: JUL - - 2018

Certifying Officer: Katherine Cullinan

Katherine Cullinan, QC Manager

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Reagent

DOD_ADD_SURR_00002

o2si
smart solutions®

Quality System Audited & Registered
by NSF-ISR to ISO 9001:2008

2030 Savage Road
Charleston, South Carolina 29407
Phone: 866.272.0932
Fax: 866.509.5146
www.o2si.com

ACCREDITED

ISO 17025 Accredited Chemical Testing Lab
Cert. No. 3031.01

Date Received: _____

Certificate of Analysis

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
116210-03	334026	≤ -10 °C	Methylene Chloride	22-Jan-2020	2-Methylnaphthalene-d10 and Fluoranthene-d10 Solution, 1,000 mg/L, 1 mL

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration	
fluoranthene-d_{10}	93951-69-0	98	1458.12.1P	994.7 +/- 11.26	mg/L
2-methylnaphthalene-d_{10}	7297-45-2	98	1457.18.1P	994.7 +/- 50.01	mg/L

Certified By: Jarrett Howard

Jarrett Howard

Manufacture Date 22-Jan-2018

Follow all storage requirements, keep tightly closed when not in use, and use good laboratory practices when handling.
This Reference Material was manufactured, produced, and/or certified under a quality management system that is accredited to ISO 17034 and ISO/IEC 17025.

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.
The stated uncertainty is the expanded uncertainty with a coverage factor of two to give a 95% confidence level.

Reagent

Hg ICV Stock_00010

INORGANIC VENTURES
CERTIFICATE OF ANALYSIS
Christiansburg, VA 24073 - USA
tel: 800.669.6779 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	MSHG-100PPM
Lot Number:	M2-HG659091
Matrix:	10% (v/v) HCl
Value / Analyte(s):	100 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	05214TX, R307HGA1, 1780
Starting Material Purity:	99.9994%

4964959
ID: Hg ICV Stock_00010
Exp: 06/19/21 Prpd: CDH
Hg ICV Stock Inorganic Ve

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 100.10 ± 0.43 µg/mL

Density: 1.021 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	061204
Hg	EDTA	928	928

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	0.000171	M	Eu	< 0.000203	O	Na	0.000076	M	Se	< 0.013813	O	Zn	0.000012			
O	Al	0.000016	O	Fe	0.000014	M	Nb	< 0.000203	O	Si	0.000044	M	Zr	< 0.001218			
M	As	< 0.002844	M	Ga	< 0.000203	M	Nd	< 0.000203	M	Sm	< 0.000203						
O	Au	< 0.003219	M	Gd	< 0.000203	O	Ni	< 0.001812	M	Sn	< 0.000203						
O	B	< 0.002478	M	Ge	< 0.000609	M	Os	< 0.000201	O	Sr	< 0.000152						
M	Ba	< 0.000203	M	Hf	< 0.000203	O	P	< 0.010730	M	Ta	< 0.000203						
O	Be	< 0.000321	s	Hg	<	M	Pb	< 0.000203	M	Tb	< 0.000203						
M	Bi	< 0.013001	M	Ho	< 0.000203	M	Pd	< 0.000403	M	Te	< 0.001422						
O	Ca	0.000177	M	In	< 0.004062	M	Pr	< 0.000203	M	Th	< 0.000203						
M	Cd	0.000007	M	Ir	< 0.000201	M	Pt	< 0.000203	O	Ti	< 0.000530						
M	Ce	< 0.000203	M	K	0.000043	M	Rb	< 0.001218	O	Tl	< 0.002787						
M	Co	< 0.000406	M	La	< 0.000203	M	Re	< 0.001015	M	Tm	< 0.000203						
O	Cr	0.000016	O	Li	< 0.000180	M	Rh	< 0.000203	M	U	< 0.000812						
M	Cs	< 0.000203	M	Lu	< 0.000203	M	Ru	< 0.000201	M	V	< 0.000406						
M	Cu	< 0.000406	O	Mg	0.000037	O	S	< 0.023508	M	W	< 0.000609						
M	Dy	< 0.000203	M	Mn	< 0.000203	O	Sb	< 0.009657	M	Y	< 0.000203						
M	Er	< 0.000203	O	Mo	< 0.002152	M	Sc	< 0.000406	M	Yb	< 0.000203						

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.
Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.
Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

INORGANIC VENTURES
CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	MSHG-100PPM
Lot Number:	M2-HG659091
Matrix:	10% (v/v) HCl
Value / Analyte(s):	100 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	05214TX, R307HGA1, 1780
Starting Material Purity:	99.9994%

4964959
ID: Hg ICV Stock_00010
Exp: 06/19/21 Prpd: CDH
Hg ICV Stock Inorganic Ve

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 100.10 ± 0.43 µg/mL

Density: 1.021 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	061204
Hg	EDTA	928	928

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

Reagent

Hg Ultra Prim_00012

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION — ISO 17025 • ISO GUIDE 34 • ISO 9001

ISO Guide 34 Reference Material

Product Number: ICP-080
Lot Number: CR-3231

Lot Issue Date: 14-Jul 2017
Expiration Date: 31-Aug 2024

Product Name: Mercury ICP Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	StartingMaterial	Lot Number	Purity (%)	Calculated Value	Traceability & Method
mercury	*mercuric nitrate	RM11214	99.999%	1002 ± 2 µg/mL	NIST SRM 3133; ICP-OES

*light sensitive

Solvent: 2% nitric acid in low TOC water (< 50 ppb)

Non-Certified Values:

Density: 1.0101 g/mL @ 20.00 ± 0.05°C

Trace Metallic Impurities in Solution Standard in µg/mL

*___	Al	<0.005 ND	*___	Ga	<0.005 ND	n___	Nb		n___	S	
*___	Sb	<0.005 ND	n___	Ge		n___	Os		n___	Ta	
*___	As	<0.005 ND	n___	Au		*___	Pd	<0.005 ND	n___	Te	
*___	Ba	<0.005 ND	n___	Hf		*___	P	<0.005 ND	n___	Tb	
*___	Be	<0.005 ND	n___	Ho		*___	Pt	<0.005 ND	n___	Tl	
*___	Bi	<0.005 ND	*___	In	<0.005 ND	*__	K	<0.005 ND	*___	Th	<0.005 ND
*___	B	<0.005 ND	n___	Ir		n___	Pr		n___	Tm	
*___	Cd	<0.005 ND	*___	Fe	<0.005 ND	n___	Re		*___	Sn	<0.005 ND
*___	Cs	<0.005 ND	*___	La	<0.005 ND	n___	Rh		*___	Ti	<0.005 ND
*___	Ca	<0.005 ND	*___	Pb	<0.005 ND	n___	Rb		n___	W	
n___	Ce		*___	Li	<0.005 ND	n___	Ru		n___	U	
*___	Cr	<0.005 ND	n___	Lu		n___	Sm		*___	V	<0.005 ND
*___	Co	<0.005 ND	*___	Mg	<0.005 ND	n___	Sc		n___	Yb	
*___	Cu	<0.005 ND	*___	Mn	<0.005 ND	*___	Se	<0.005 ND	n___	Y	
n___	Dy		s___	Hg		*___	Si	<0.005 ND	*___	Zn	<0.005 ND
*___	Er	<0.005 ND	*___	Mo	<0.005 ND	*___	Ag	<0.005 ND	n___	Zr	
*___	Eu	<0.005 ND	n___	Nd		*___	Na	<0.005 ND			
*___	Gd	<0.005 ND	*___	Ni	<0.005 ND	*___	Sr	<0.005 ND			

* - element checked; i - spectral interference; n – element not checked; D – element detected; ND – element not detected; s - standard element

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ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 9001 Registered Quality System – TUV USA

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ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICP-080
Lot Number: CR-3231

Lot Issue Date: 14-Jul 2017
Expiration Date: 31-Aug 2024

Storage: Store at Room Temperature (15° to 30°C).

Traceability:
Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.

Estimation of Uncertainties:
The true value is reported, with its uncertainty value calculated at the 95% confidence level.

Homogeneity:
This RM was formulated and unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the true value to be valid within the stated uncertainties. Do not pipet from the bottle. Do not return any material removed for pipetting to the bottle. Tightly cap the bottle after removing any material and store according to the instructions noted above.

Hazards:
Refer to the Safety Data Sheet for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid, within the measurement uncertainty specified, until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
The real-time, long term stability of the RM may be monitored over the lifetime of the certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.

John Russo
President

Monica Bourgeois
Director of QA/RA

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ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

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Reagent

IC Br cal_00015

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Certificate of Analysis

Bromide Standard, 1000 ppm Br^-

Lot Number: 4707D55 **Product Number:** 1180

Manufacture Date: JUL 20, 2017
Expiration Date: JAN 2019

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Bromide	7647-15-6	High Purity

Test	Specification	Result
Appearance	Colorless liquid	Passed
Bromide (Br)	995-1005 ppm	1000 ppm

Specification	Reference
Bromide Solution, Standard (1 mL = 1 mg Br^-)	ASTM (D 3869 D)
Standard Bromide Solution, 1000 mg/L	APHA (4110 B)
Bromide Stock Solution (1.00 mL = 1.00 mg Br^-)	EPA (SW-846) (9056)
Sodium Bromide Standard Solution, 1000 mg/L	ASTM (D 1246)
Bromide Stock Solution (1.00 mL = 1.00 mg Br?)	ASTM (D 4327)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1180-16	500 mL natural poly	18 months
1180-4	120 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Jim Gibbs (07/20/2017)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

IC CL cal_00054

ACCREDITED
Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: AS-CL9-2X **Lot No.** 4-101CL-2X

Description: 1000 µg/mL Chloride

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 998 µg/mL ±5 µg/mL

Certified Value is Traceable to: 3182*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Sodium Chloride, Lot# 07131A. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 998 µg/mL

Method: Precipitation using Silver Nitrate. Filter, dry and weigh as AgCl.

Instrumental Analysis by Ion Chromatography: 997 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.05	NO_3^-	<0.04
F^-	<0.006	$PO4^{-3}$	<0.06
NO_2^-	<0.03	$SO4^{-2}$	<0.05

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is unopened and stored under ambient laboratory conditions.

Date of Certification: AUG - - 2018

Certifying Officer: Kathleen Cullen

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Reagent

IC FL cal_00012

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Certificate of Analysis

Fluoride Standard, 1000 ppm F^-

Lot Number: 4704K15 **Product Number:** 3173

Manufacture Date: APR 26, 2017
Expiration Date: OCT 2018

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.
The concentration is confirmed by Fluoride ISE and is certified traceable to NIST SRM 2203.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Fluoride	7681-49-4	High Purity

Test	Specification	Result
Appearance	Colorless liquid	Passed
Fluoride (F)	995-1005 ppm	1000 ppm

Specification	Reference
Fluoride Solution, Stock (1.00 mL = 1.00 mg F)	ASTM (D 5542)
Fluoride Stock Solution (1.00 mL = 1.00 mg F^-)	EPA (SW-846) (9056)
Fluoride Calibration Stock Solution (1,000 mg/L F^-)	EPA (SW-846) (9214)
Stock Solution, 1.0 mL = 1.0 mg F	EPA (340.3)
Fluoride Solution, Stock (1.00 mL = 1.00 mg F)	ASTM (D 5996)
Fluoride Stock Solution (1.00 mL = 1.00 mg F?)	ASTM (D 4327)
Fluoride Stock Standard Solution (1 mg of F in 1 mL)	ACS (N/A)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
3173-16	500 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Jim Gibbs (04/26/2017)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

IC MS/MSD N02_00002

Fisher Scientific

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

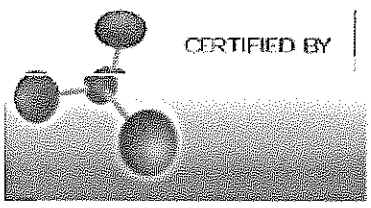
Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0090918

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	**S347**	**Quality Test / Release Date**	**9/9/2016**
Lot Number	**164254**		
Description	**SODIUM NITRITE, A.C.S.**		
Country of Origin	**India**	*** Suggested Retest Date**	**Sep-2021**
Chemical Origin	**Inorganic-non animal**		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	yELLOW-WHITE CRYSTALS
ASSAY	%	>= 97	98.6
CALCIUM	%	<= 0.01	<0.010
CHLORIDE	%	<= 0.005	<0.005
HEAVY METALS (as Pb)	%	<= 0.001	<0.0010
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.01	<0.010
IRON (Fe)	%	<= 0.001	<0.0010
POTASSIUM (K)	%	<= 0.005	<0.0010
SULFATE (SO4)	%	<= 0.01	<0.010



Teresa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.
*Based on suggested storage condition.

Reagent

IC MS/MSD N03_00005

Scientific

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)1.796.7100 tel
)1.796.1329 fax

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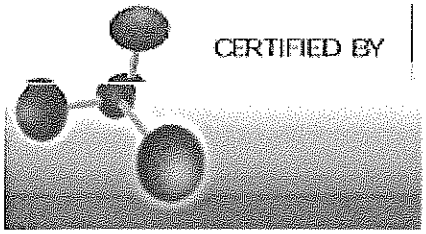
ıtalog Number	**S343**	**Quality Test / Release Date**	**8/23/2017**
)t Number	**176192**		
ɜscription	**SODIUM NITRATE, A.C.S.**		
)untry of Origin	**Mexico**	*** Suggested Retest Date**	**Aug-2022**
ıemical Origin	**Inorganic-non animal**		
ɜE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

sult name	Units	Specifications	Test Value
PEARANCE		REPORT	Clear to white crystals.
SAY	%	>= 99	99.7
LCIUM	%	<= 0.005	0.001
LORIDE	%	<= 0.001	<0.0010
AVY METALS (as Pb)	ppm	<= 5	<5.0
ENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
SOLUBLE MATTER	%	<= 0.005	<0.005
)ATE	ppm	<= 5	<5.0
)N (Fe)	ppm	<= 3	<3.0
.GNESIUM	%	<= 0.002	0.0002
TRITE (NO2)	%	<= 0.001	<0.0010
5% SOLUTION @ 25 DEG C		Inclusive Between 5.5 - 8.3	6.7
OSPHATE (PO4)	ppm	<= 5	<5.0
LFATE (SO4)	%	<= 0.003	<0.0030



Teresa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

Reagent

IC MS/MSD S04_00005

Fisher Scientific

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0064970

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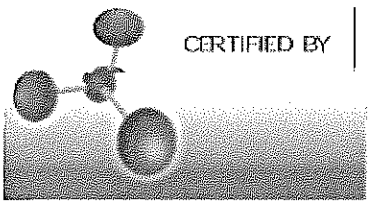
Catalog Number	**P304**	**Quality Test / Release Date**	**3/2/2015**
Lot Number	**147276**		
Description	**POTASSIUM SULFATE, CRYSTAL, CERTIFIED, A.C.S.**		
Country of Origin	**India**	*** Suggested Retest Date**	**Feb-2020**
Chemical Origin	**Inorganic-non animal**		
BSE/TSE Comment	This product is not manufactured from, or with, any type of animal product, nor any derivative of an animal product. As such, this product should not be considered a vector for BSE or TSE.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	FINE WHITE CRYSTALS
ASSAY	%	>= 99	99.4
CALCIUM	%	<= 0.01	<0.010
CHLORIDE	%	<= 0.001	<0.0010
HEAVY METALS (as Pb)	ppm	<= 5	<5.0
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.01	<0.010
IRON (Fe)	ppm	<= 5	<5.0
MAGNESIUM	%	<= 0.005	<0.0050
NITROGEN COMPOUNDS	ppm	<= 5	<5
PH 5% SOLUTION @ 25 DEG C		Inclusive Between 5.5 - 8.5	5.5
SODIUM (Na)	%	<= 0.02	<0.020



Lab Manager Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.
*Based on suggested storage condition.

Reagent

IC N02 CAL_00043

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Certificate of Analysis

Nitrite Nitrogen Standard, 1000 ppm N (3285 ppm NO_2^-)

Lot Number: 4808990 **Product Number:** R5444900

Manufacture Date: AUG 02, 2018
Expiration Date: JAN 2019

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Nitrite	7758-09-0	ACS

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	Passed	
Assay (vs. Potassium Permanganate)	995-1005 ppm N	1005 ppm N	40

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
R5444900-120C	120 mL amber glass	6 months
R5444900-500C	500 mL amber glass	6 months

Recommended Storage: 2°C - 8°C (36°F - 46°F)

Jim Gibbs (08/02/2018)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

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Reagent

IC N03 cal_00019

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Certificate of Analysis

Nitrate Nitrogen Standard, 1000 ppm N (4427 ppm NO_3)

Lot Number: 2807E96 **Product Number:** 5459

Manufacture Date: JUL 24, 2018
Expiration Date: JAN 2020

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Nitrate	7757-79-1	High Purity
Chloroform	67-66-3	

Test	Specification	Result
Appearance	Colorless liquid	Passed
Nitrogen (N)	995-1005 ppm	1000 ppm

Specification	Reference
Nitrate Solution, Stock (1.0 mL = 1.0 mg NO3-N)	ASTM (D 3867 A)
Nitrate Solution, Stock (1.0 mL = 1.0 mg NO3-N)	ASTM (D 3867 B)
Stock Nitrate Solution: 1 mL = 1.0 mg NO3-N	EPA (353.2)
Stock Nitrate Solution: 1.0 mL = 1.00 mg NO3-N	EPA (353.3)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
5459-16	500 mL natural poly	18 months
5459-4	120 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Andy Baumgartner (07/24/2018)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

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Reagent

IC NO2 ICV_00016

ERA

A Waters Company

Certificate of Analysis

PRODUCT:	1000 mg/L Nitrite as N (NO_2-N)
CATALOG NUMBER:	053 -125 mL; 990 - 500 mL
LOT NUMBER:	020518
ISSUE DATE:	May 16, 2018
REVISION DATE:	Original
STARTING MATERIAL:	Sodium Nitrite ($NaNO_2$)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	4.7%
MATRIX:	18 megohm deionized water
DENSITY:	1.0004 ± 0.0008 g/mL at 19.2°C and 752 mm Hg
TRACEABILITY[3]:	See Footnote 3
NIST/SRM:	-
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation of the product and includes uncertainty related to the starting material used and the volumetric and gravimetric measurements made. The method of calculating uncertainty is taken from the ISO Guide to the Expression of Uncertainty in Measurement (current version). The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability ((% Recovery Certified Standard)/(% Recovery NIST SRM))* 100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs. Where a NIST SRM is not available, the product is metrologically traceable through an unbroken chain of calibrations to NIST weights, each having stated uncertainties and utilizing measurement standards that are appropriate for the physical and/or chemical property being measured.

This standard **expires 5/2020**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Brian Miller - Product Line Manager

ISO/IEC GUIDE 34:2009

ACCREDITED

REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005

ACCREDITED

CHEMICAL TESTING LABORATORY
CERTIFICATE NO. 1539.02

16341 Table Mtn Pkwy, Golden, CO 80403 800-372-0122 fax: 303-421-0159 www.eraqc.com

Reagent

IC NO3 ICV_00012

Certificate of Analysis

PRODUCT:	1000 mg/L Nitrate as N (NO_3-N)
CATALOG NUMBER:	052 -125 mL; 991 - 500 mL
LOT NUMBER:	140616
ISSUE DATE:	June 30, 2016
REVISION DATE:	June 26, 2017
STARTING MATERIAL:	Potassium Nitrate (KNO_3)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	1.0020 ± 0.0008 g/mL at 21.5°C and 762 mm Hg
TRACEABILITY[3]:	102%
NIST/SRM:	3185 Nitrate
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor which is equal to the student t factor at a 95% confidence interval at n-1 degrees of freedom. The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 12/2018**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Brian Miller

ISO/IEC GUIDE 34:2009
ACCREDITED
REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005
ACCREDITED
CHEMICAL TESTING LABORATORY
CERTIFICATE NO. 1539.02

Reagent

IC P04 cal_00018

RICCA CHEMICAL COMPANY®

Arlington, TX 76012
Pocomoke City, MD 21851
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Phosphorus AA Standard, 1000 ppm P in H_2O

Lot Number: 4711L59 **Product Number:** AP1KW

Manufacture Date: NOV 30, 2017
Expiration Date: NOV 2019

This is a single element solution that was prepared volumetrically to contain the certified value reported. The uncertainty associated with the certifiec value is the sum of the estimated errors due to the purity of the raw material, the volumetric preparation of the solution, and transpiration of the solution through the container wall.
The final solution concentration is confirmed by AA, ICP, or ICP-MS, and is traceable to NIST Standard Reference Material 3139.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Ammonium Dihydrogen Phosphate	7722-76-1	High Purity

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	Passed	
Phosphorus (P)	995-1005 ppm	1000 ppm	3139

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
AP1KW-500	500 mL natural poly	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Jim Gibbs (11/30/2017)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

IC PO4 ICV_00015

ERA

A Waters Company

Certificate of Analysis

PRODUCT:	1000 mg/L Phosphate as P (PO_4-P)
CATALOG NUMBER:	061 -125 mL; 993 - 500 mL
LOT NUMBER:	060617
ISSUE DATE:	June 20, 2017
REVISION DATE:	Original
STARTING MATERIAL:	Potassium Dihydrogen Phosphate (KH_2PO_4)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	0.9996 ± 0.0008 g/mL at 23.5°C and 622 mm Hg
TRACEABILITY[3]:	103%
NIST/SRM:	3186 Phosphate
VERIFICATION METHOD:	Ion Chromatography
STORAGE: THIS	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation of the product and includes uncertainty related to the starting material used and the volumetric and gravimetric measurements made. The method of calculating uncertainty is taken from the ISO Guide to the Expression of Uncertainty in Measurement (current version). The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability ((% Recovery Certified Standard)/(% Recovery NIST SRM))* 100.

The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs. Where a NIST SRM is not available, the product is metrologically traceable through an unbroken chain of calibrations to NIST weights, each having stated uncertainties and utilizing measurement standards that are appropriate for the physical and/or chemical property being measured.

This standard **expires 6/2019**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Brian Miller - Product Line Manager

ISO/IEC GUIDE 34:2009
ACCREDITED
REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005
ACCREDITED
CHEMICAL TESTING LABORATORY
CERTIFICATE NO. 1539.02

16341 Table Mtn Pkwy, Golden, CO 80403 800-372-0122 fax: 303-421-0159 www.eraqc.com

Reagent

IC SO4 ICV_00017

ERA

A Waters Company

Certificate of Analysis

PRODUCT:	1000 mg/L Sulfate (SO_4)
CATALOG NUMBER:	062 -125 mL; 995 - 500 mL
LOT NUMBER:	210617
ISSUE DATE:	June 27, 2017
REVISION DATE:	Original
STARTING MATERIAL:	Potassium Sulfate (K_2SO_4)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	0.9987 ± 0.0008 g/mL at 22.5°C and 757 mm Hg
TRACEABILITY[3]:	99.5%
NIST/SRM:	3181 Sulfate
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation of the product and includes uncertainty related to the starting material used and the volumetric and gravimetric measurements made. The method of calculating uncertainty is taken from the ISO Guide to the Expression of Uncertainty in Measurement (current version). The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability ((% Recovery Certified Standard)/(% Recovery NIST SRM))* 100.

The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs. Where a NIST SRM is not available, the product is metrologically traceable through an unbroken chain of calibrations to NIST weights, each having stated uncertainties and utilizing measurement standards that are appropriate for the physical and/or chemical property being measured.

This standard **expires 6/2019**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Brian Miller - Product Line Manager

ISO/IEC GUIDE 34:2009 ACCREDITED
REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005 ACCREDITED
CHEMICAL TESTING LABORATORY
CERTIFICATE NO. 1539.02

16341 Table Mtn Pkwy, Golden, CO 80403 800-372-0122 fax: 303-421-0159 www.eraqc.com

Reagent

IC sulfatecal_00053

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: AS-SO49-2X **Lot No.** 4-131SO4-2X

Description: 1000 µg/mL Sulfate

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1003 µg/mL ±5 µg/mL

Certified Value is Traceable to: 3181*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Potassium Sulfate, Lot# 0713D. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1002 µg/mL

Method: Precipitation using Barium Chloride. Filter, ignite, and weigh as $BaSO_4$.

Instrumental Analysis by Ion Chromatography: 1004 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.04	NO_2^-	<0.03
Cl^-	<0.5	NO_3^-	<0.03
F^-	<0.006	$PO4^{-3}$	<0.06

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: AUG - - 2018

Certifying Officer: Katherine Cullinan

Katherine Cullinan, QC Manager

© 2018 SPEX CertiPrep, LLC

Reagent

Icp cal std 3_00018

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	STLDEN-STD-3B
Lot Number:	M2-MEB663620
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Potassium, 4 000 µg/mL ea: Magnesium, 1 000 µg/mL ea: Calcium, Sodium, 500 µg/mL ea: Iron, 200 µg/mL ea: Lithium, Phosphorus, 100 µg/mL ea: Strontium, Vanadium, Zinc, Manganese, Cadmium, Cobalt, Chromium, Copper, Silver, Aluminum, Boron, Barium, Beryllium, Nickel

4888666
ID: icp cal std 3_00016
Exp: 12/05/20 Prpd: SJS
ICP CAL STD 3B IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	100.0 ± 0.5 µg/mL	Barium, Ba	100.0 ± 0.5 µg/mL
Beryllium, Be	100.0 ± 0.7 µg/mL	Boron, B	100.0 ± 0.6 µg/mL
Cadmium, Cd	100.0 ± 0.5 µg/mL	Calcium, Ca	1 000 ± 4 µg/mL
Chromium, Cr	100.0 ± 0.6 µg/mL	Cobalt, Co	100.0 ± 0.5 µg/mL
Copper, Cu	100.0 ± 0.4 µg/mL	Iron, Fe	500.0 ± 2.0 µg/mL
Lithium, Li	200.0 ± 0.7 µg/mL	Magnesium, Mg	4 000 ± 16 µg/mL
Manganese, Mn	100.0 ± 0.4 µg/mL	Nickel, Ni	100.0 ± 0.4 µg/mL
Phosphorus, P	200.0 ± 0.9 µg/mL	Potassium, K	10 000.0 ± 40.0 µg/mL
Silver, Ag	100.0 ± 0.4 µg/mL	Sodium, Na	1 000 ± 4 µg/mL
Strontium, Sr	100.0 ± 0.4 µg/mL	Vanadium, V	100.0 ± 0.4 µg/mL
Zinc, Zn	100.0 ± 0.4 µg/mL		

Density: 1.074 g/mL (measured at 20 ± 4 °C)

Assay Information:

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\ (u_{char\ a})^2 + (w_b)^2\ (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 05, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 05, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
B	ICP Assay	3107	110830
Ba	ICP Assay	3104a	070222
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Reagent

Icp ICVH_00746

HIGH-PURITY STANDARDS
www.high-purity-standards.com
P.O. Box 41727
Charleston, SC 29423
Phone: (843) 767-7900
Fax: (843) 767-7906

5300282
ID: Icp ICVH_00746
Exp: 09/30/19 Prpd: SJS
ICP ICVH HP

Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation
Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Product Description:

Name:	ICVH
Part Number:	**SM-606-125**
Lot Number:	**1824227**
Matrix:	5% HNO_3
Purity:	99.96% - 99.9995%

Certified Values:

Element	(µg/mL)	SRM ID	SRM Lot#	Element	(µg/mL)	SRM ID	SRM Lot#
Al	4000 ± 24	3101a	140903	Th	300 ± 3	*	
Fe	8000 ± 48	3126a	140812	U	500 ± 3	3164	080521
Na	4000 ± 24	3152a	120715				

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **September 2018**
Certificate Issue Date: August 31, 2018

Moven Mututuvari
Moven Mututuvari PhD., Laboratory Manager

Preparation Information:

The Certified Reference Material (CRM) is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods. The standard is confirmed homogeneous; therefore, the minimum sample size should be consistent with the end user's measurement capabilities.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibrations of volumetric vessels are verified using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not available, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

Icp ICVL A_00014

HIGH PURITY STANDARDS
www.highpuritystandards.com
P.O. Box 41727
Charleston, SC 29423
Phone (843) 767-7900
Fax (843) 767-7906

Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Product Description:

Name:	Intrepid ICVL
Part Number:	**SM-606-062 Solution A**
Lot Number:	**1810602**
Matrix:	5% HNO_3
Purity:	99.5% - 99.9999%

5078624
ID: Icp ICVL A_00014
Exp: 04/17/18 Prpd: SJS
ICP ICVL SOLUTION A H

Certified Values:

Element	(mg/L)	SRM ID	SRM Lot#	Element	(mg/L)	SRM ID	SRM Lot#
Al	25.0 ± 0.1	3101a	140903	Li	25.0 ± 0.2	3129a	100714
As	25.0 ± 0.3	3103a	100818	Mg	1000 ± 5	3131a	140110
Ba	25.0 ± 0.2	3104a	140909	Mn	25.0 ± 0.3	3132	050429
Be	25.0 ± 0.3	3105a	090514	Ni	25.0 ± 0.1	3136	120619
B	25.0 ± 0.1	3107	110830	K	2000 ± 10	3141a	140813
Cd	25.0 ± 0.1	3108	130116	Se	50.0 ± 0.5	3149	100901
Ca	200 ± 1	3109a	130213	Na	200 ± 1	3152a	120715
Cr	25.0 ± 0.1	3112a	030730	Sr	25.0 ± 0.1	*	
Co	25.0 ± 0.1	3113	000630	Tl	50.0 ± 0.3	*	
Cu	25.0 ± 0.1	3114	121207	V	25.0 ± 0.2	3165	160906
Fe	25.0 ± 0.1	3126a	140812	Zn	25.0 ± 0.1	3168a	120629
Pb	25.0 ± 0.2	3128	101026				

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **April 2018**

Certificate Issue Date: April 17, 2018

Moven Mutuvari

Moven Mutuvari PhD., Laboratory Manager

Preparation Information:

The Certified Reference Material (CRM) is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods. The standard is confirmed homogeneous; therefore, the minimum sample size should be consistent with the end user's measurement capabilities.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibrations of volumetric vessels are verified using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not available, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

ICP ISAB 1B_00011

HIGH-PURITY STANDARDS
www.highpuritystandards.com

P.O. Box 41727
Charleston, SC 29423
Phone (843) 767-7900
Fax (843) 767-7906

Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation
Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Product Description:

Name:	ICS-AB STD #1
Part Number:	**SM-606-037** Solution B
Lot Number:	**1734922**
Matrix:	2% HNO_3
Purity:	99.99%

4902379
ID: ICP ISAB 1B_00011
Exp: 12/01/18 Prpd: SJS
ICP ICSAB STD 1 SOL B H

Certified Values:

Element	(mg/L)	SRM ID	SRM Lot#
Tl	1000 ± 6	*	

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date:	**December 2017**
Expiration Date:	**December 2018**
Certificate Issue Date:	December 15, 2017

Moven Mutuvari

Moven Mutuvari PhD., Laboratory Manager

Preparation Information:

The standard is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not available, a second source standard or independent lot is used.

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Reagent

ICP ISAB STD1_00010

HIGH-PURITY STANDARDS
www.highpuritystandards.com
P.O. Box 41727
Charleston, SC 29423
Phone (843) 767-7900
Fax (843) 767-7906

Certificate of Analysis

Certified Reference Material

Product Description:

Name:	ICS-AB STD#1
Part Number:	**SM-606-037**
	Solution A
Lot Number:	**1734921**
Matrix:	20% HCl
Purity:	99.999% - 99.9999%

4902371
ID: ICP ISAB STD1_00010
Exp: 12/01/18 Prpd: SJS
ICAP ICSAB STD 1 SOL A

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ide 34:2009 (RMP) Accreditation
ertificate Number AR-1436

ilac-MRA

ANAB ACCREDITED TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Certified Values:

Element	(mg/L)	SRM ID	SRM Lot#	Element	(mg/L)	SRM ID	SRM Lot#
Sb	100.0 ± 0.6	3102a	140911	P	200.0 ± 1.2	3139a	060717
As	200 ± 2	3103a	100818	K	5000 ± 25	3141a	140813
B	200.0 ± 1.2	3107	110830	Se	500 ± 5	3149	100901
Li	100.0 ± 0.6	3129a	100714	Na	5000 ± 25	3152a	120715
Mo	100.0 ± 0.6	3134	130418	Sr	100.0 ± 0.5	*	

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.

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Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date:	**December 2017**
Expiration Date:	**December 2018**
Certificate Issue Date:	December 15, 2017

Moven Mutuvari

Moven Mutuvari PhD., Laboratory Manager

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Homogeneity:

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The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
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Reagent

ICP ISAB STD2_00013

Sample Name: ICP ISAB STD2_00011 Acquired: 7/3/2018 7:25:22 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: Standard recertification (8%) 20x

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00006**	**-.00690**	**-.00583**	**-.00005**	**.00046**	**-.00003**	**.00889**	**.04235**	**.00044**
Stddev	.00020	.00053	.00126	.00130	.00003	.00012	.00399	.00007	.00003
%RSD	321.04	7.6209	21.545	2405.4	6.1016	392.14	44.929	.16754	6.0746
#1	.00008	-.00727	-.00494	.00086	.00048	.00005	.01172	.04230	.00042
#2	-.00021	-.00653	-.00672	-.00097	.00044	-.00011	.00607	.04240	.00046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00044**	**.00034**	**.00216**	**.01862**	**-.04392**	**-.00198**	**.00334**	**.00042**	**.00066**
Stddev	.00037	.00042	.00041	.00103	.03980	.00234	.00617	.00010	.00004
%RSD	85.544	124.10	19.108	5.5287	90.616	117.88	184.52	23.313	6.6074
#1	.00017	.00064	.00187	.01935	-.01578	-.00363	.00770	.00049	.00063
#2	.00070	.00004	.00245	.01789	-.07206	-.00033	-.00102	.00035	.00070
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.02159**	**.00057**	**-.00434**	F **-.00317**	**-.04238**	**-.00080**	**-.00166**	**.00671**	**.01436**
Stddev	.00014	.00044	.00114	.00110	.00159	.00456	.00058	.02387	.05109
%RSD	.64346	76.481	26.343	34.690	3.7552	568.46	34.810	355.63	355.63
#1	-.02149	.00026	-.00514	-.00239	-.04125	-.00403	-.00207	.02359	.05049
#2	-.02169	.00088	-.00353	-.00395	-.04351	.00242	-.00126	-.01017	-.02176
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit				.00900					
Low Limit				-.00300					

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **49.229**	**.00004**	**-.00191**	F **4.9283**	**-.00214**	**.00870**	**-.00054**	**.00342**	**-.00298**
Stddev	.046	.00006	.00139	.0140	.00067	.04390	.00027	.00029	.00057
%RSD	.09407	174.51	73.200	.28319	31.237	504.79	50.451	8.6155	19.050
#1	49.197	-.00001	-.00289	4.9382	-.00166	.03974	-.00074	.00321	-.00258
#2	49.262	.00008	-.00092	4.9185	-.00261	-.02235	-.00035	.00362	-.00338
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	.10000			.01000					
Low Limit	-.10000			-.01000					

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**2971.1**	**55500.**	**4143.0**
Stddev	4.3	184.	14.9
%RSD	.14605	.33103	.36040
#1	2968.0	55630.	4132.5
#2	2974.2	55370.	4153.6

Sample Name: ICP ISAB STD2_00011 Acquired: 7/2/2018 19:23:25 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: Standard recertification (8%)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00061**	**-.01595**	**-.02613**	**.00451**	**.00011**	**-.00048**	**.21371**	**.01037**	**.00138**
Stddev	.00113	.00143	.00031	.00000	.00001	.00002	.00145	.00962	.00042
%RSD	186.17	8.9974	1.1694	.04020	11.626	3.3907	.67814	92.772	30.675
#1	-.00141	-.01493	-.02592	.00451	.00011	-.00046	.21269	.00357	.00108
#2	.00019	-.01696	-.02635	.00451	.00010	-.00049	.21474	.01717	.00168
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00296**	**.00228**	**.05492**	**.01936**	**.08715**	F **-.02178**	**.00687**	**.00106**	**.00035**
Stddev	.00111	.00004	.00101	.00051	.00382	.00388	.00211	.00012	.00007
%RSD	37.565	1.6037	1.8430	2.6171	4.3864	17.824	30.758	11.120	19.271
#1	-.00217	.00225	.05564	.01900	.08986	-.01904	.00538	.00098	.00040
#2	-.00375	.00230	.05421	.01972	.08445	-.02453	.00836	.00114	.00031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						25.000			
Low Limit						-.02000			

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02917**	**-.00052**	**-.01876**	**.00406**	**-.10075**	**.07719**	**.00456**	**.02709**	**.05798**
Stddev	.00696	.00044	.00243	.00121	.00935	.00444	.00209	.00419	.00897
%RSD	23.859	83.080	12.962	29.867	9.2760	5.7520	45.870	15.478	15.478
#1	.03409	-.00022	-.01704	.00320	-.09414	.08033	.00308	.02413	.05163
#2	.02425	-.00083	-.02048	.00491	-.10735	.07405	.00604	.03006	.06433
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **619.55**	**.00010**	**.00732**	F **96.343**	**-.01120**	**-.10281**	**-.01118**	**.00211**	**-.00184**
Stddev	4.12	.00010	.00115	.638	.00088	.02135	.00080	.00006	.00099
%RSD	.66567	101.87	15.727	.66246	7.8719	20.768	7.1813	2.6625	53.824
#1	622.47	.00017	.00651	96.794	-.01182	-.08772	-.01175	.00207	-.00114
#2	616.64	.00003	.00814	95.892	-.01057	-.11791	-.01061	.00215	-.00254
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	50.000			10.000					
Low Limit	-.20000			-.02000					

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**2883.4**	**51409.**	**4166.8**
Stddev	1.2	118.	2.3
%RSD	.04117	.22890	.05610
#1	2882.6	51326.	4168.5
#2	2884.3	51492.	4165.2

HIGH-PURITY STANDARDS
www.highpuritystandards.com

P.O. Box 41727
Charleston, SC 29423
Phone: (843) 767-7900
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Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation
Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Product Description:

Name:	ICS-AB STD #2
Part Number:	**SM-606-038**
Lot Number:	**1721944**
Matrix:	20% HCl
Purity:	99.98% - 99.999%

Certified Values:

Element	(mg/L)	SRM ID	SRM Lot#		Element	(mg/L)	SRM ID	SRM Lot#
Sn	1000 ± 10	3161a	140917		Ti	100 ± 1	3162a	130925

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **August 2017**
Expiration Date: **August 2018**
Certificate Issue Date: August 8, 2017

Moven Mutuvari

Moven Mutuvari PhD., Laboratory Manager

P.O. Box 41727
Charleston, SC 29423
Phone: (843) 767-7900
Fax: (843) 767-7906

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Homogeneity:

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Intended Use:

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The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not available, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

ICP LLCCV-4_00008

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.7 ± 0.1
Uranium 235U	0.28 ± 0.05

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 14, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- August 14, 2022

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Ba	Calculated		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Bi	ICP Assay	3106	991212
Bi	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	Calculated		See Sec. 4.2
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	000505
Li	Calculated		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	Calculated		See Sec. 4.2
S	Potentiometric	84L	84L
S	ICP Assay	3154	892205
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICP-LLCCV-4
Lot Number:	N2-MEB670719
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	300 mg/L ea: Potassium, 100 mg/L ea: Sodium, 20 mg/L ea: Magnesium, Calcium, 10 mg/L ea: Bismuth, Aluminum, Iron, Sulfur, 6 mg/L ea: Uranium, 4 mg/L ea: Nickel, 2 mg/L ea: Selenium, Zinc, Lithium, 1.5 mg/L ea: Copper, Arsenic, Thorium, Thallium, 1 mg/L ea: Vanadium, Strontium, Barium, Silver, Cobalt, Chromium, Manganese, 0.9 mg/L ea: Lead, 0.5 mg/L ea: Cadmium, 0.1 mg/L ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	10.00 ± 0.05 mg/L	Arsenic, As	1.500 ± 0.011 mg/L
Barium, Ba	1.000 ± 0.006 mg/L	Beryllium, Be	0.1000 ± 0.0006 mg/L
Bismuth, Bi	10.00 ± 0.07 mg/L	Cadmium, Cd	0.5000 ± 0.0037 mg/L
Calcium, Ca	20.00 ± 0.08 mg/L	Chromium, Cr	1.000 ± 0.007 mg/L
Cobalt, Co	1.000 ± 0.006 mg/L	Copper, Cu	1.500 ± 0.007 mg/L
Iron, Fe	10.00 ± 0.05 mg/L	Lead, Pb	0.900 ± 0.004 mg/L
Lithium, Li	2.001 ± 0.012 mg/L	Magnesium, Mg	19.99 ± 0.12 mg/L
Manganese, Mn	1.000 ± 0.005 mg/L	Nickel, Ni	4.000 ± 0.024 mg/L
Potassium, K	300.1 ± 1.1 mg/L	Selenium, Se	2.000 ± 0.015 mg/L
Silver, Ag	1.000 ± 0.008 mg/L	Sodium, Na	100.0 ± 0.4 mg/L
Strontium, Sr	1.000 ± 0.006 mg/L	Sulfur, S	10.00 ± 0.05 mg/L
Thallium, Tl	1.500 ± 0.012 mg/L	Thorium, Th	1.500 ± 0.009 mg/L
Uranium, U	6.000 ± 0.031 mg/L	Vanadium, V	1.000 ± 0.006 mg/L
Zinc, Zn	2.000 ± 0.012 mg/L		

Density: 1.013 g/mL (measured at 20 ± 4 °C)

Assay Information:

Reagent

ICP SPK 2B_00080

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com
tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

5268406
ID: ICP SPK 2B_00080
Exp:08/16/19 Prpd:MRJ Opn:08/16/18
ICP PREP SPIKE 2B

Product Code:	Multi Analyte Custom Grade Solution		
Catalog Number:	TA-ICP-SPK-2B		
Lot Number:	N2-MEB665203		
Matrix:	5% (v/v) HNO3 0.5% (v/v) HF		
Value / Analyte(s):	1 000 µg/mL ea: Silicon, 200 µg/mL ea: Tin, 100 µg/mL ea: Boron, 50 µg/mL ea: Zirconium,	 Sulfur, Molybdenum, Antimony	 Titanium,

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	50.00 ± 0.30 µg/mL	Boron, B	100.0 ± 0.6 µg/mL
Molybdenum, Mo	100.0 ± 0.5 µg/mL	Silicon, Si	1 000 ± 6 µg/mL
Sulfur, S	200.0 ± 1.0 µg/mL	Tin, Sn	200.0 ± 0.8 µg/mL
Titanium, Ti	100.0 ± 0.6 µg/mL	Zirconium, Zr	50.00 ± 0.35 µg/mL

Density: 1.028 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
Mo	ICP Assay	3134	130418
S	ICP Assay	3154	892205
S	Acidimetric		traceable to 84L
Sb	ICP Assay	3102a	140911
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	070330
Sn	Calculated		See Sec. 4.2
Ti	ICP Assay	3162a	130925
Zr	ICP Assay	3169	130920

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 06, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 06, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Reagent

Icp stk ICSA_00024

11.1 Certification Issue Date

July 01, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 01, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

11.4 Revision Status

- Revision 1 - Wednesday, Apr 26, 2017. Added TMI data

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Joseph Burns
Technical Support Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

2808 Charleston Drive
Christiansburg, VA 24073 - USA
Toll-Free: 800.669.2698
Local: 540.585.3033
Email: techinfo@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

5108867
ID: icp stk ICSA_00024
Exp: 07/01/20 Prpd: SJS
ICP stock ICSA solution

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-ICS-A
Lot Number:	K2-MEB643109
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Aluminum, Calcium, Magnesium, 2 000 µg/mL ea: Iron

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**5 000 ± 22 µg/mL**	**Calcium, Ca**	**5 000 ± 20 µg/mL**
Iron, Fe	**2 000 ± 8 µg/mL**	**Magnesium, Mg**	**5 000 ± 20 µg/mL**

Certified Density: 1.085 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Fe	ICP Assay	3126a	051031
Fe	EDTA	928	928
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000400	M	Eu	<	0.000100	O	Na		0.027559	M	Se	<	0.002091	M	Zn		0.008219
s	Al	<		s	Fe	<		M	Nb	<	0.000100	O	Si		0.217000	M	Zr	<	0.001002
M	As	<	0.005613	M	Ga	<	0.000100	M	Nd	<	0.000601	M	Sm	<	0.000100				
M	Au	<	0.000199	M	Gd	<	0.000100	M	Ni	<	0.005613	M	Sn	<	0.000200				
M	B	<	0.008420	M	Ge	<	0.000400	M	Os	<	0.000099	M	Sr		0.043302				
M	Ba	<	0.001603	M	Hf	<	0.000100	O	P	<	0.108500	M	Ta	<	0.000100				
O	Be	<	0.000217	M	Hg	<	0.000597	M	Pb		0.003408	M	Tb	<	0.000100				
M	Bi	<	0.000400	M	Ho	<	0.000100	M	Pd	<	0.000100	M	Te	<	0.003107				
s	Ca	<		M	In	<	0.000400	M	Pr	<	0.000200	M	Th	<	0.000100				
M	Cd	<	0.000100	M	Ir	<	0.000099	M	Pt	<	0.000100	M	Ti	<	0.000801				
M	Ce	<	0.002004	O	K		0.011718	M	Rb	<	0.000100	M	Tl	<	0.000100				
M	Co	<	0.003207	M	La	<	0.000801	M	Re	<	0.000100	M	Tm	<	0.000100				
M	Cr		0.024658	O	Li		0.005425	M	Rh	<	0.000100	M	U	<	0.000100				
M	Cs	<	0.000601	M	Lu	<	0.000100	M	Ru	<	0.000099	M	V	<	0.000400				
M	Cu	<	0.004610	s	Mg	<		O	S		0.422173	M	W	<	0.000100				
M	Dy	<	0.000100	M	Mn		0.002606	M	Sb	<	0.000200	M	Y	<	0.000100				
M	Er	<	0.000100	M	Mo	<	0.000400	M	Sc	<	0.001403	M	Yb	<	0.000100				

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION, PERIOD OF VALIDITY AND REVISION HISTORY

Reagent

MS CALSTD-1_00125

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICPMS-CALSTD-1
Lot Number:	M2-MEB660182
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	20 µg/mL ea:

Silver, Arsenic, Barium,
Beryllium, Cadmium, Cobalt,
Chromium, Copper, Manganese,
Nickel, Lead, Selenium,
Thorium, Thallium, Uranium,
Vanadium, Zinc

4902218
ID: MS CALSTD-1_00125
Exp: 07/21/20 Prpd: LMT
ICP-MS Cal Std 1 IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

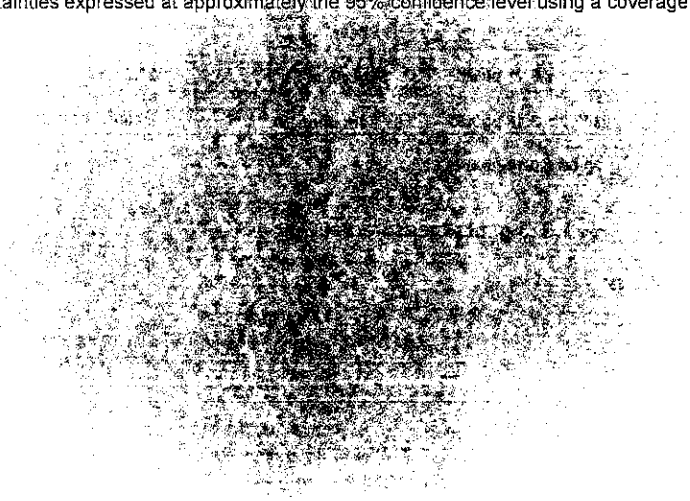
ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	20.00 ± 0.18 µg/mL	Barium, Ba	20.02 ± 0.09 µg/mL
Beryllium, Be	20.01 ± 0.09 µg/mL	Cadmium, Cd	20.01 ± 0.09 µg/mL
Chromium, Cr	20.00 ± 0.13 µg/mL	Cobalt, Co	20.00 ± 0.11 µg/mL
Copper, Cu	20.00 ± 0.10 µg/mL	Lead, Pb	20.00 ± 0.11 µg/mL
Manganese, Mn	20.00 ± 0.10 µg/mL	Nickel, Ni	20.00 ± 0.10 µg/mL
Selenium, Se	20.00 ± 0.13 µg/mL	Silver, Ag	20.01 ± 0.09 µg/mL
Thallium, Tl	20.01 ± 0.11 µg/mL	Thorium, Th	20.01 ± 0.10 µg/mL
Uranium, U	20.00 ± 0.10 µg/mL	Vanadium, V	20.00 ± 0.10 µg/mL
Zinc, Zn	20.00 ± 0.10 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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



Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 21, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 21, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: See TACS

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

MS CALSTD-1_00129

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

5216342

ID: MS CALSTD-1_00129

Exp:07/14/19 Prpd:MRJ Opn:07/14/18

ICP-MS Cal Std 1 IV prep

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICPMS-CALSTD-1
Lot Number:	M2-MEB660182
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	20 µg/mL ea:

Silver,	Arsenic,	Barium,
Beryllium,	Cadmium,	Cobalt,
Chromium,	Copper,	Manganese,
Nickel,	Lead,	Selenium,
Thorium,	Thallium,	Uranium,
Vanadium,	Zinc	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	20.00 ± 0.18 µg/mL	Barium, Ba	20.02 ± 0.09 µg/mL
Beryllium, Be	20.01 ± 0.09 µg/mL	Cadmium, Cd	20.01 ± 0.09 µg/mL
Chromium, Cr	20.00 ± 0.13 µg/mL	Cobalt, Co	20.00 ± 0.11 µg/mL
Copper, Cu	20.00 ± 0.10 µg/mL	Lead, Pb	20.00 ± 0.11 µg/mL
Manganese, Mn	20.00 ± 0.10 µg/mL	Nickel, Ni	20.00 ± 0.10 µg/mL
Selenium, Se	20.00 ± 0.13 µg/mL	Silver, Ag	20.01 ± 0.09 µg/mL
Thallium, Tl	20.01 ± 0.11 µg/mL	Thorium, Th	20.01 ± 0.10 µg/mL
Uranium, U	20.00 ± 0.10 µg/mL	Vanadium, V	20.00 ± 0.10 µg/mL
Zinc, Zn	20.00 ± 0.10 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 21, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 21, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

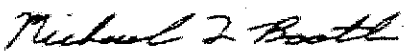
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

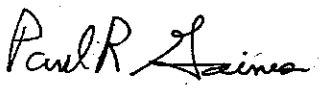
Certificate Approved By:

Michael Booth
Supervisor, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



Reagent

MS CALSTD-2_00094

INORGANIC VENTURES
CERTIFICATE OF ANALYSIS
[illegible]
Christiansburg, VA 24073 USA
[illegible]
tel: 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICPMS-CALSTD-2
Lot Number:	M2-MEB664004
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	20 µg/mL ea: Molybdenum, Antimony, Tin

5106413
ID: MS CALSTD-2_00094
Exp: 12/14/20 Prpd: LMT
ICP-MS Cal Std 2 IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	**20.00 ± 0.14 µg/mL**	**Molybdenum, Mo**	**20.00 ± 0.12 µg/mL**
Tin, Sn	**20.00 ± 0.15 µg/mL**		

Density: 1.027 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Sb	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	140917

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 14, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- December 14, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: See TAGS

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MS ICSA STOCK_00030

INORGANIC VENTURES
[illegible]
[illegible]
[illegible]

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	6020ICS-0A
Lot Number:	M2-MEB662772
Matrix:	1% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Chloride, 2 000 µg/mL ea: Carbon, 1 000 µg/mL ea: Calcium, Aluminum, Iron, Potassium, Magnesium, Sodium, Phosphorus, Sulfur, 20 µg/mL ea: Titanium, Molybdenum

5103134
ID: MS ICSA STOCK_00030
Exp: 11/01/21 Prpd: LMT
ICP-MS ICS-0A STOCK SOLUT

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	1 001 ± 3 µg/mL	Calcium, Ca	1 001 ± 4 µg/mL
Carbon, C	2 002 ± 4 µg/mL	Chloride, Cl	10 010.0 ± 60.0 µg/mL
Iron, Fe	1 001 ± 4 µg/mL	Magnesium, Mg	1 001 ± 4 µg/mL
Molybdenum, Mo	20.02 ± 0.10 µg/mL	Phosphorus, P	1 001 ± 4 µg/mL
Potassium, K	1 001 ± 4 µg/mL	Sodium, Na	1 001 ± 4 µg/mL
Sulfur, S	1 001 ± 4 µg/mL	Titanium, Ti	20.03 ± 0.12 µg/mL

Density: 1.034 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
C	Acidimetric	84L	84L
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Cl	Calculated		See Sec. 4.2
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mo	ICP Assay	3134	130418
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric		traceable to 84L
S	Acidimetric	84L	84L
S	ICP Assay	3154	892205
Ti	ICP Assay	3162a	130925

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000400	M	Eu	<	0.000100	s	Na	<		M	Se	<	0.003000	M	Zn	0.004001
s	Al	<		s	Fe	<		M	Nb	<	0.000100	n	Si	<		M	Zr	< 0.000800
M	As	<	0.030009	M	Ga	<	0.000100	M	Nd	<	0.000100	M	Sm	<	0.000100			
M	Au	<	0.000100	M	Gd	<	0.000100	M	Ni	<	0.006402	M	Sn	<	0.000600			
M	B	<	0.005901	M	Ge	<	0.003000	M	Os	<	0.001000	M	Sr		0.006802			
M	Ba		0.000800	M	Hf	<	0.000100	s	P	<		M	Ta	<	0.000200			
M	Be	<	0.000100	M	Hg	<	0.000100	M	Pb		0.001300	M	Tb	<	0.000100			
M	Bi	<	0.000100	M	Ho	<	0.000100	M	Pd	<	0.000100	M	Te	<	0.006402			
s	Ca	<		M	In	<	0.008802	M	Pr	<	0.000100	M	Th	<	0.000100			
O	Cd	<	0.003102	M	Ir	<	0.000100	M	Pt	<	0.000100	s	Ti	<				
M	Ce	<	0.000400	s	K	<		M	Rb		0.015304	M	Tl	<	0.000100			
O	Co	<	0.007238	M	La	<	0.000100	M	Re	<	0.000400	M	Tm	<	0.000100			
M	Cr		0.002200	O	Li		0.001137	M	Rh	<	0.000100	M	U	<	0.000100			
M	Cs	<	0.000100	M	Lu	<	0.000100	M	Ru	<	0.000100	M	V	<	0.003401			
M	Cu		0.004701	s	Mg	<		s	S	<		M	W		0.001800			
M	Dy	<	0.000100	O	Mn	<	0.010340	M	Sb	<	0.002400	M	Y	<	0.000100			
M	Er	<	0.000100	s	Mo	<		M	Sc	<	0.000800	M	Yb	<	0.000100			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 01, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- November 01, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

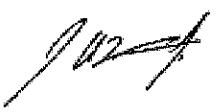
- Sealed TCT Bag Open Date: See TAGS

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

James King Jr
Chemist, Technical Manager



Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MS ICV StockA_00008

HIGH-PURITY STANDARDS
www.high-purity-standards.com
P.O. Box 41727
Charleston, SC 29423
Phone: (843) 767-7900
Fax: (843) 767-7906

Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation
Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

4851656
ID: MS ICV StockA_00007
Exp:11/30/18 Prpd:LMT Opn:11/20/17
ICP-MS ICV STOCK A HP

Product Description:

Name: MS ICV Stock
Part Number: **SM-606-134**
Solution A
Lot Number: **1731407**
Matrix: 2% HNO_3
Purity: 99.97% - 99.9999%

Certified Values:

Element	(µg/mL)	SRM ID	SRM Lot#	Element	(µg/mL)	SRM ID	SRM Lot#
Al	2000 ± 12	3101a	140903	Pb	20.0 ± 0.2	3128	101026
As	20.0 ± 0.2	3103a	100818	Mn	20.0 ± 0.3	3132	050429
Ba	20.00 ± 0.12	3104a	140909	Ni	20.00 ± 0.12	3136	120619
Be	20.0 ± 0.2	3105a	090514	Se	20.0 ± 0.2	3149	100901
Cd	20.00 ± 0.12	3108	130116	Tl	20.00 ± 0.12	*	
Cr	20.00 ± 0.12	3112a	030730	Th	20.0 ± 0.2	*	
Co	20.00 ± 0.12	3113	000630	U	20.00 ± 0.12	3164	080521
Cu	20.00 ± 0.12	3114	121207	V	20.0 ± 0.2	*	
Fe	2000 ± 12	3126a	140812	Zn	20.00 ± 0.12	3168a	120629

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **November 2017**
Expiration Date: **November 2018**
Certificate Issue Date: November 10, 2017

Moven Mutuvari
Moven Mutuvari PhD., Laboratory Manager

Preparation Information:

The Certified Reference Material (CRM) is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not available, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

MS ICV StockB_00008

HIGH-PURITY STANDARDS
www.high-purity-standards.com
P.O. Box 41727
Charleston, SC 29423
Phone: (843) 767-7900
Fax: (843) 767-7906

4851657
ID: MS ICV StockB_00008
Exp:11/30/18 Prpd:LMT Opn:11/20/17
ICP-MS ICV STOCK B HP

Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation
Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Product Description:

Name:	MS ICV Stock
Part Number:	**SM-606-134**
	Solution B
Lot Number:	**1731408**
Matrix:	2% HNO_3 + Tr HF
Purity:	99.95% - 99.999%

Certified Values:

Element	(µg/mL)	SRM ID	SRM Lot#	Element	(µg/mL)	SRM ID	SRM Lot#
Sb	20.0 ± 0.2	3102a	140911	Sn	20.0 ± 0.2	3161a	140917
Mo	20.0 ± 0.2	3134	130418	W	20.0 ± 0.3	3163	140606
Ag	20.00 ± 0.12	3151	160729				

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **November 2017**
Expiration Date: **November 2018**
Certificate Issue Date: November 10, 2017

Moven Mutuvari
Moven Mutuvari PhD., Laboratory Manager

Preparation Information:

The Certified Reference Material (CRM) is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not available, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

MS LLCCV 2A_00006

INORGANIC VENTURES
2300 Southview Drive, Unit C
Christiansburg, VA 24073 - USA
Investigator and Innovator
Tel: 800.669.6779 - 540.585.3030
Fax: 540.585.3012
Info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICPMS-LLCCV-2A
Lot Number:	M2-MEB664006
Matrix:	2% (v/v) HNO3 tr. HF
Value / Analyte(s):	1 µg/mL ea: Tin, 0.5 µg/mL ea: Tungsten, 0.2 µg/mL ea: Molybdenum, Antimony

5232242
ID: MS LLCCV 2A_00006
Exp: 12/14/20 Prpd: LMT
LOW LEVEL CCV 2A IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	0.2000 ± 0.0015 µg/mL	Molybdenum, Mo	0.2000 ± 0.0012 µg/mL
Tin, Sn	1.000 ± 0.006 µg/mL	Tungsten, W	0.5000 ± 0.0046 µg/mL

Density: 1.009 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	061229 Sb
Sb	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	070330
Sn	Calculated		See Sec. 4.2
W	ICP Assay	3163	080331
W	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 14, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 14, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: Sep TBD

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

MS LLCCV1_00020

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

[illegible]
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

5232240
ID: MS LLCCV1_00020
Exp: 12/15/20 Prpd: LMT
LOW LEVEL CCV1 IV

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution		
Catalog Number:	ICPMS-LLCCV-1		
Lot Number:	M2-MEB664005		
Matrix:	5% (v/v) HNO3		
Value / Analyte(s):	10 µg/mL ea: Potassium,		
	5 µg/mL ea: Magnesium, Sodium,	Iron,	Calcium,
	3 µg/mL ea: Aluminum,		
	1 µg/mL ea: Zinc,		
	0.5 µg/mL ea: Vanadium, Selenium,	Arsenic,	Silver,
	0.2 µg/mL ea: Thorium, Nickel,	Chromium,	Copper,
	0.1 µg/mL ea: Lead, Barium, Uranium,	Cadmium, Beryllium, Manganese	Cobalt, Thallium,

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	3.000 ± 0.015 µg/mL	Arsenic, As	0.5000 ± 0.0037 µg/mL
Barium, Ba	0.1000 ± 0.0006 µg/mL	Beryllium, Be	0.1000 ± 0.0007 µg/mL
Cadmium, Cd	0.1000 ± 0.0007 µg/mL	Calcium, Ca	4.999 ± 0.019 µg/mL
Chromium, Cr	0.1999 ± 0.0012 µg/mL	Cobalt, Co	0.1000 ± 0.0007 µg/mL
Copper, Cu	0.2000 ± 0.0012 µg/mL	Iron, Fe	5.000 ± 0.025 µg/mL
Lead, Pb	0.1000 ± 0.0007 µg/mL	Magnesium, Mg	4.999 ± 0.030 µg/mL
Manganese, Mn	0.1000 ± 0.0007 µg/mL	Nickel, Ni	0.2000 ± 0.0015 µg/mL
Potassium, K	10.00 ± 0.05 µg/mL	Selenium, Se	0.5000 ± 0.0037 µg/mL
Silver, Ag	0.5001 ± 0.0040 µg/mL	Sodium, Na	4.999 ± 0.025 µg/mL
Thallium, Tl	0.1000 ± 0.0008 µg/mL	Thorium, Th	0.2000 ± 0.0012 µg/mL
Uranium, U	0.1000 ± 0.0009 µg/mL	Vanadium, V	0.4999 ± 0.0028 µg/mL
Zinc, Zn	1.000 ± 0.006 µg/mL		

Density: 1.022 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Th	EDTA	928	928
Tl	ICP Assay	3158	993012
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.21 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 15, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 15, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: See TAG

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

MS-31010_00011

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31010 **Lot No.:** A0116027

Description : SV Calibration Mix #4

SV Calibration Mix #4 2000 µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Hexachloroethane	2,002.0 µg/mL	+/- 11.8913 µg/mL	Gravimetric
	CAS # 67-72-1 (Lot 4H3SF)		+/- 60.6057 µg/mL	Unstressed
	Purity 99%		+/- 60.6057 µg/mL	Stressed
2	Nitrobenzene	2,014.0 µg/mL	+/- 11.9625 µg/mL	Gravimetric
	CAS # 98-95-3 (Lot 65096APV)		+/- 60.9690 µg/mL	Unstressed
	Purity 99%		+/- 60.9690 µg/mL	Stressed
3	Isophorone	2,002.0 µg/mL	+/- 11.8913 µg/mL	Gravimetric
	CAS # 78-59-1 (Lot MKBG2442V)		+/- 60.6057 µg/mL	Unstressed
	Purity 99%		+/- 60.6057 µg/mL	Stressed
4	1,2,4-Trichlorobenzene	2,014.0 µg/mL	+/- 11.9625 µg/mL	Gravimetric
	CAS # 120-82-1 (Lot 26896BM)		+/- 60.9690 µg/mL	Unstressed
	Purity 99%		+/- 60.9690 µg/mL	Stressed
5	Hexachlorobutadiene	2,007.0 µg/mL	+/- 11.9212 µg/mL	Gravimetric
	CAS # 87-68-3 (Lot J31X013)		+/- 60.7583 µg/mL	Unstressed
	Purity 98%		+/- 60.7583 µg/mL	Stressed
6	2-Methylnaphthalene	2,000.0 µg/mL	+/- 11.8794 µg/mL	Gravimetric
	CAS # 91-57-6 (Lot 19399MJV)		+/- 60.5452 µg/mL	Unstressed
	Purity 99%		+/- 60.5452 µg/mL	Stressed
7	Hexachlorocyclopentadiene	2,007.9 µg/mL	+/- 11.9263 µg/mL	Gravimetric
	CAS # 77-47-4 (Lot 150909)		+/- 60.7843 µg/mL	Unstressed
	Purity 97%		+/- 60.7843 µg/mL	Stressed

8	2,6-Dinitrotoluene		2,010.0	µg/mL	+/-	11.9388	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/-	60.8479	µg/mL	Unstressed
	Purity 99%				+/-	60.8479	µg/mL	Stressed
9	Dibenzofuran		2,002.0	µg/mL	+/-	11.8913	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBH8392V)			+/-	60.6057	µg/mL	Unstressed
	Purity 99%				+/-	60.6057	µg/mL	Stressed
10	2,4-Dinitrotoluene		2,000.0	µg/mL	+/-	11.8794	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	60.5452	µg/mL	Unstressed
	Purity 99%				+/-	60.5452	µg/mL	Stressed
11	Diethylphthalate		2,016.0	µg/mL	+/-	11.9744	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBJ3578V)			+/-	61.0295	µg/mL	Unstressed
	Purity 99%				+/-	61.0295	µg/mL	Stressed
12	Hexachlorobenzene		2,018.0	µg/mL	+/-	11.9863	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LB98981V)			+/-	61.0901	µg/mL	Unstressed
	Purity 99%				+/-	61.0901	µg/mL	Stressed
13	Carbazole		1,999.2	µg/mL	+/-	11.8746	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 3715800)			+/-	60.5210	µg/mL	Unstressed
	Purity 98%				+/-	60.5210	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

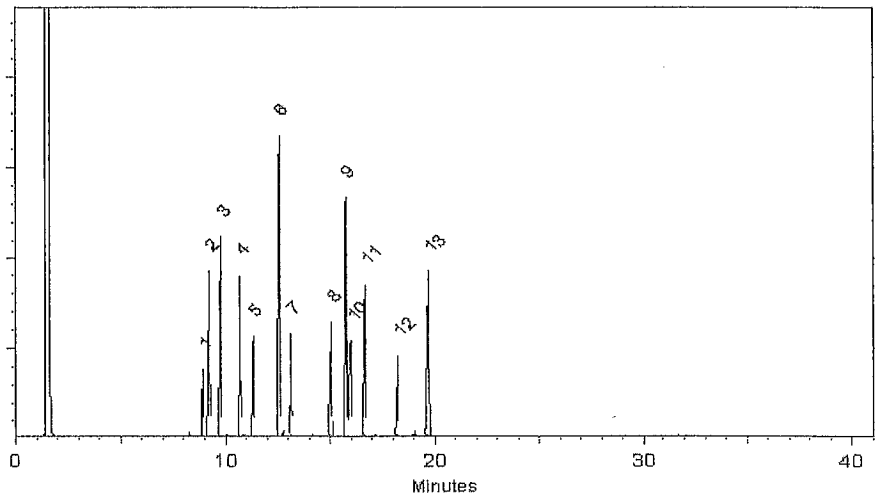
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician

Date Mixed: 17-Dec-2015 **Balance:** B345965662

Jennifer L. Pollino - QC Analyst

Date Passed: 21-Dec-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31995 **Lot No.:** A0108907

Description : 8270 Calibration Mix #5, Revised

8270 Calibration Mix #5, Revised 2,000µg/ml, Methylene Chloride, 1ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2021 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

C E R T I F I E D V A L U E S

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Naphthalene		2,000.5 µg/mL	+/- 11.7401	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBH4351V)		+/- 88.8976	µg/mL	Unstressed
	Purity 99%			+/- 97.6678	µg/mL	Stressed
2	2-Methylnaphthalene		2,000.6 µg/mL	+/- 11.7409	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot 19399MJV)		+/- 88.9038	µg/mL	Unstressed
	Purity 96%			+/- 97.6746	µg/mL	Stressed
3	1-Methylnaphthalene		2,000.0 µg/mL	+/- 11.7371	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-10)		+/- 88.8754	µg/mL	Unstressed
	Purity 99%			+/- 97.6434	µg/mL	Stressed
4	Acenaphthylene		2,000.0 µg/mL	+/- 11.7371	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot ER030707-01)		+/- 88.8754	µg/mL	Unstressed
	Purity 99%			+/- 97.6434	µg/mL	Stressed
5	Acenaphthene		2,000.5 µg/mL	+/- 11.7401	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBJ4871V)		+/- 88.8976	µg/mL	Unstressed
	Purity 99%			+/- 97.6678	µg/mL	Stressed
6	Fluorene		2,000.2 µg/mL	+/- 11.7382	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)		+/- 88.8834	µg/mL	Unstressed
	Purity 98%			+/- 97.6521	µg/mL	Stressed
7	Phenanthrene		2,000.7 µg/mL	+/- 11.7411	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBQ8219V)		+/- 88.9051	µg/mL	Unstressed
	Purity 98%			+/- 97.6761	µg/mL	Stressed

8	Anthracene		2,000.0	µg/mL	+/-	11.7371	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	88.8754	µg/mL	Unstressed
	Purity 99%				+/-	97.6434	µg/mL	Stressed
9	Fluoranthene		2,000.7	µg/mL	+/-	11.7411	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	88.9051	µg/mL	Unstressed
	Purity 98%				+/-	97.6761	µg/mL	Stressed
10	Pyrene		2,001.0	µg/mL	+/-	11.7430	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/-	88.9198	µg/mL	Unstressed
	Purity 99%				+/-	97.6922	µg/mL	Stressed
11	Benz(a)anthracene		2,000.5	µg/mL	+/-	11.7401	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	88.8976	µg/mL	Unstressed
	Purity 99%				+/-	97.6678	µg/mL	Stressed
12	Chrysene		2,000.5	µg/mL	+/-	11.7401	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot ER120810-02)			+/-	88.8976	µg/mL	Unstressed
	Purity 99%				+/-	97.6678	µg/mL	Stressed
13	Benzo(b)fluoranthene		2,001.0	µg/mL	+/-	11.7430	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	88.9198	µg/mL	Unstressed
	Purity 99%				+/-	97.6922	µg/mL	Stressed
14	Benzo(k)fluoranthene		2,000.5	µg/mL	+/-	11.7401	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot ER041513-01)			+/-	88.8976	µg/mL	Unstressed
	Purity 99%				+/-	97.6678	µg/mL	Stressed
15	Benzo(a)pyrene		2,001.0	µg/mL	+/-	11.7430	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	88.9198	µg/mL	Unstressed
	Purity 99%				+/-	97.6922	µg/mL	Stressed
16	Indeno(1,2,3-cd)pyrene		2,000.0	µg/mL	+/-	11.7371	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	88.8754	µg/mL	Unstressed
	Purity 99%				+/-	97.6434	µg/mL	Stressed
17	Dibenz(a,h)anthracene		2,001.0	µg/mL	+/-	11.7430	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	88.9198	µg/mL	Unstressed
	Purity 99%				+/-	97.6922	µg/mL	Stressed
18	Benzo(g,h,i)perylene		2,000.0	µg/mL	+/-	11.7371	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER020708-08)			+/-	88.8754	µg/mL	Unstressed
	Purity 99%				+/-	97.6434	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

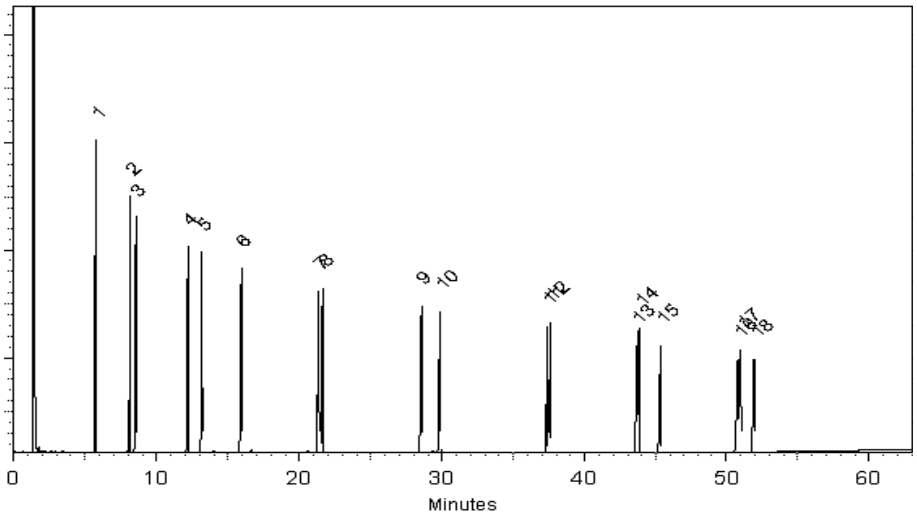
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Connor Flannery - Mix Technician

Date Mixed: 05-Feb-2015 **Balance:** 1128360905

Jennifer L. Pollino - QC Analyst

Date Passed: 09-Feb-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MS-47548-U_00015

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16823-0048 USA · Phone(814)359-3441

Certificate of Analysis

Description: EPA 8270 GC/MS Tuning Solution II, 1x1ml, 1000µg/ml in methylene chloride

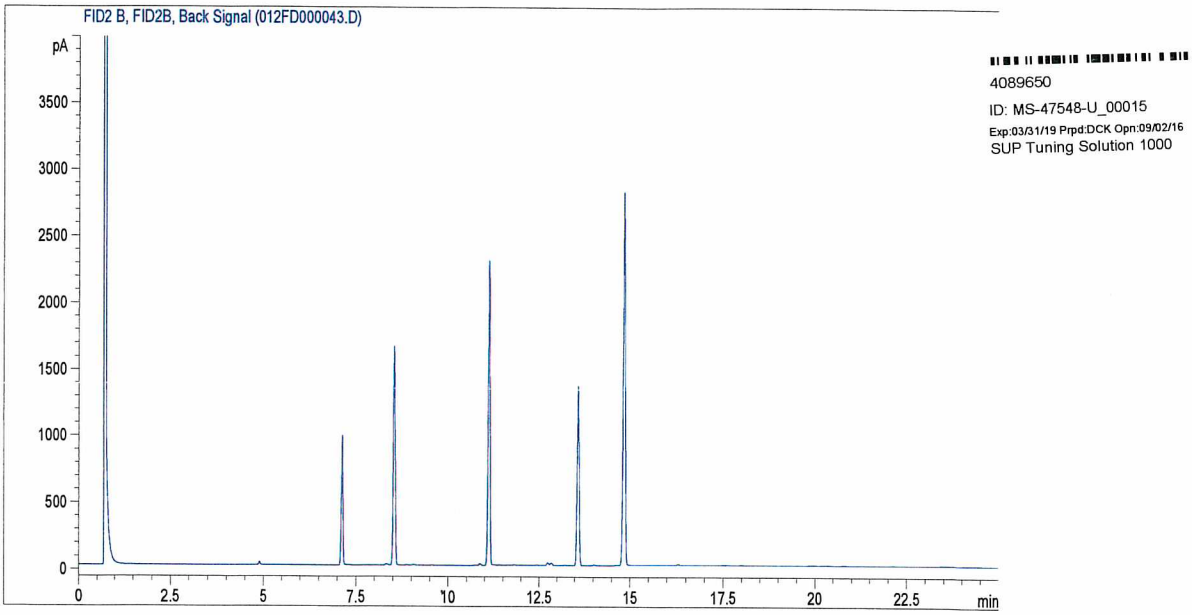
Part Number: 47548-U

Lot Number: XA19099V

Expiration Date: March 2019

Storage: Refrigerate

Analytical Method Parameters:
Column: Equity-5; 30 m x 0.53 mm, 1.5 µm df
150 °C to 280 °C (8.75 min) at 8 °C/min
Detector: FID; 310 °C
Injection Volume: 1µL



Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/mL	Expanded Uncertainty µg/mL	Analytical Conc. µg/mL
1.	Pentachlorophenol	LC17897	87-86-5	97.5	1000.0	±38	945.6
2.	Decafluorotriphenylphosphine	LC14010	5074-71-5	98.6	986.0	±44	961.5
3.	Benzidine	LB83682	92-87-5	99.9	999.0	±38	1009.6
4.	4,4'-DDT	LA83013	50-29-3	98.0	980.8	±36	961.0
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A

ANAB ACCREDITED TESTING LABORATORY Cert# AT-1607
ANAB ACCREDITED REFERENCE MATERIAL PRODUCER Cert# AR-1606
Produced in double accredited laboratory fulfulling ISO/IEC 17025 and ISO Guide 34

Reagent

MS-567684_00019

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

4101728
ID: MS-567684_00019
Exp: 07/31/20 Prpd: DCK
RES 8270 Internal Std Mix

Catalog No. : 567684 **Lot No.:** A0112833

Description : 8270 Internal Standard

8270 Internal Standard 2,000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : July 31, 2020 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 **Purity** 99%	(Lot PR-18488)	2,014.8 µg/mL	+/- 11.7142 µg/mL +/- 89.5186 µg/mL +/- 98.3528 µg/mL		Gravimetric Unstressed Stressed
2	Naphthalene-d8 **CAS #** 1146-65-2 **Purity** 99%	(Lot M-1452)	2,015.8 µg/mL	+/- 11.7202 µg/mL +/- 89.5645 µg/mL +/- 98.4032 µg/mL		Gravimetric Unstressed Stressed
3	Acenaphthene-d10 **CAS #** 15067-26-2 **Purity** 97%	(Lot PR-21070)	2,002.0 µg/mL	+/- 11.6397 µg/mL +/- 88.9491 µg/mL +/- 97.7271 µg/mL		Gravimetric Unstressed Stressed
4	Phenanthrene-d10 **CAS #** 1517-22-2 **Purity** 99%	(Lot PR-23065)	2,007.1 µg/mL	+/- 11.6693 µg/mL +/- 89.1750 µg/mL +/- 97.9753 µg/mL		Gravimetric Unstressed Stressed
5	Chrysene-d12 **CAS #** 1719-03-5 **Purity** 99%	(Lot PR-25081)	2,013.2 µg/mL	+/- 11.7047 µg/mL +/- 89.4460 µg/mL +/- 98.2730 µg/mL		Gravimetric Unstressed Stressed
6	Perylene-d12 **CAS #** 1520-96-3 **Purity** 99%	(Lot PR-24113)	2,005.4 µg/mL	+/- 11.6598 µg/mL +/- 89.1024 µg/mL +/- 97.8955 µg/mL		Gravimetric Unstressed Stressed

Reagent

MS-567684_00020

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

5035055
ID: MS-567684_00020
Exp: 08/31/22 Prpd: OCK
RES 8270 Internal Std Mix

Catalog No. : 567684 **Lot No.:** A0129635

Description : 8270 Internal Standard

8270 Internal Standard 2,000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2022 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	2,014.1 µg/mL	+/- 11.7102 µg/mL +/- 90.7163 µg/mL +/- 100.6609 µg/mL	Gravimetric Unstressed Stressed
2	Naphthalene-d8 **CAS #** 1146-65-2 (Lot M-1452) **Purity** 99%	2,004.1 µg/mL	+/- 11.6520 µg/mL +/- 90.2659 µg/mL +/- 100.1611 µg/mL	Gravimetric Unstressed Stressed
3	Acenaphthene-d10 **CAS #** 15067-26-2 (Lot PR-25444) **Purity** 99%	2,011.1 µg/mL	+/- 11.6927 µg/mL +/- 90.5811 µg/mL +/- 100.5110 µg/mL	Gravimetric Unstressed Stressed
4	Phenanthrene-d10 **CAS #** 1517-22-2 (Lot PR-27621) **Purity** 99%	2,014.5 µg/mL	+/- 11.7125 µg/mL +/- 90.7343 µg/mL +/- 100.6809 µg/mL	Gravimetric Unstressed Stressed
5	Chrysene-d12 **CAS #** 1719-03-5 (Lot PR-27952) **Purity** 99%	2,013.6 µg/mL	+/- 11.7072 µg/mL +/- 90.6938 µg/mL +/- 100.6359 µg/mL	Gravimetric Unstressed Stressed
6	Perylene-d12 **CAS #** 1520-96-3 (Lot PR-27342) **Purity** 99%	2,012.2 µg/mL	+/- 11.6991 µg/mL +/- 90.6307 µg/mL +/- 100.5659 µg/mL	Gravimetric Unstressed Stressed

Reagent

MS-567685_00004

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

4941881
ID: MS-567685_00004
Exp: 09/30/22 Prpd: DCK
8270 Surrogates 5000ug/mL

Catalog No. : 567685 **Lot No.:** A0130500

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBD7945V)	5,009.8 µg/mL	+/- 29.1274 µg/mL +/- 146.2028 µg/mL +/- 177.4114 µg/mL		Gravimetric Unstressed Stressed
2	Phenol-d5 **CAS #** 4165-62-2 **Purity** 99%	(Lot X-479)	5,013.6 µg/mL	+/- 29.1495 µg/mL +/- 146.3137 µg/mL +/- 177.5460 µg/mL		Gravimetric Unstressed Stressed
3	Nitrobenzene-d5 **CAS #** 4165-60-0 **Purity** 99%	(Lot PR-25462)	5,000.0 µg/mL	+/- 29.0704 µg/mL +/- 145.9168 µg/mL +/- 177.0644 µg/mL		Gravimetric Unstressed Stressed
4	2-Fluorobiphenyl **CAS #** 321-60-8 **Purity** 99%	(Lot B19Z016)	5,001.2 µg/mL	+/- 29.0774 µg/mL +/- 145.9518 µg/mL +/- 177.1069 µg/mL		Gravimetric Unstressed Stressed
5	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot 29699MJV)	5,002.6 µg/mL	+/- 29.0855 µg/mL +/- 145.9926 µg/mL +/- 177.1564 µg/mL		Gravimetric Unstressed Stressed
6	p-Terphenyl-d14 **CAS #** 1718-51-0 **Purity** 99%	(Lot PR-27278)	5,004.0 µg/mL	+/- 29.0937 µg/mL +/- 146.0335 µg/mL +/- 177.2060 µg/mL		Gravimetric Unstressed Stressed

Reagent

MS-568023_00042

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568023 **Lot No.:** A0127668

Description : 8270 Famphur Standard

8270 Famphur Standard 2,000µg/mL, Methylene Chloride, 1mL/ampul

4649426
ID: MS-568023_00042
Exp: 05/31/19 Prpd: DCK
RES HSLA Famphur 2000ug/m

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Component #	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Famphur	2,010.0 µg/mL	+/- 20.2482 µg/mL	Gravimetric
	CAS # 52-85-7 (Lot 5792500)		+/- 87.7744 µg/mL	Unstressed
	Purity 99%		+/- 87.8109 µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Michael J Maye

Date Mixed: 17-May-2017 **Balance:** 1128353505

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

MS-568033_00026

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568033 **Lot No.:** A0133057

4941894
ID: MS-568033_00026
Exp: 06/30/19 Prpd: DCK
RES HSLA CUSTOM MIX 4000u

Description : Denver 8270 Standard

Denver 8270 Standard 4,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use. This product is photosensitive.

CERTIFIED VALUES

Component #	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,3-Dichloroaniline	4,000.0 µg/mL	+/- 37.1978 µg/mL	Gravimetric
	CAS # 608-27-5 (Lot FBV01)		+/- 55.9394 µg/mL	Unstressed
	Purity 99%		+/- 81.4485 µg/mL	Stressed
2	3,5-Dimethylphenol	4,016.0 µg/mL	+/- 37.3466 µg/mL	Gravimetric
	CAS # 108-68-9 (Lot 02801LZ)		+/- 56.1632 µg/mL	Unstressed
	Purity 99%		+/- 81.7743 µg/mL	Stressed
3	Alachlor	4,008.0 µg/mL	+/- 37.2722 µg/mL	Gravimetric
	CAS # 15972-60-8 (Lot 6104400)		+/- 56.0513 µg/mL	Unstressed
	Purity 99%		+/- 81.6114 µg/mL	Stressed
4	alpha-Methylstyrene	4,016.0 µg/mL	+/- 37.3466 µg/mL	Gravimetric
	CAS # 98-83-9 (Lot MKBS2502V)		+/- 56.1632 µg/mL	Unstressed
	Purity 99%		+/- 81.7743 µg/mL	Stressed
5	Benzo(e)pyrene	4,004.0 µg/mL	+/- 37.2350 µg/mL	Gravimetric
	CAS # 192-97-2 (Lot NT058329)		+/- 55.9953 µg/mL	Unstressed
	Purity 99%		+/- 81.5299 µg/mL	Stressed

Reagent

MS-569730 HSL_00007

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569730 **Lot No.:** A0127472

Description : 8270 List 1 / Std #9

8270 List 1 / Std #9 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : November 30, 2018 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

4941882
ID: MS-569730 AFC_00006
Exp: 11/30/18 Prpd: DCK
HSLA Amine Mix (2015) 200

4941892
ID: MS-569730 HSL_00007
Exp: 11/30/18 Prpd: DCK
HSLA Amine Mix (2015) 200

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Benzidine	2,003.5 µg/mL	+/- 11.6483 µg/mL	Gravimetric
	CAS # 92-87-5 (Lot 170428KJA)		+/- 23.9496 µg/mL	Unstressed
	Purity 99%		+/- 38.1154 µg/mL	Stressed
2	3,3'-Dichlorobenzidine	2,002.1 µg/mL	+/- 11.6402 µg/mL	Gravimetric
	CAS # 91-94-1 (Lot 170123KJA)		+/- 23.9328 µg/mL	Unstressed
	Purity 99%		+/- 38.0887 µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-569731_00079

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

4944222
ID: MS-569731_00079
Exp: 03/31/19 Prpd: DCK
HSLA Benzoic Acid (2015)

Catalog No. : 569731 **Lot No.:** A0130477

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : March 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Indene	1,996.3 µg/mL	+/- 11.6064 µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBT8433V)		+/- 111.9283 µg/mL	Unstressed
	Purity 98%		+/- 114.5473 µg/mL	Stressed
2	Benzoic acid	2,000.8 µg/mL	+/- 11.6328 µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBV5544V)		+/- 112.1829 µg/mL	Unstressed
	Purity 99%		+/- 114.8078 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-569731_00095

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0132744

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Indene	2,013.6 µg/mL	+/- 11.7071 µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBT8433V)		+/- 112.8991 µg/mL	Unstressed
	Purity 98%		+/- 115.5408 µg/mL	Stressed
2	Benzoic acid	2,019.3 µg/mL	+/- 11.7406 µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBV5544V)		+/- 113.2220 µg/mL	Unstressed
	Purity 99%		+/- 115.8713 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MS-569731_00096

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0132744

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Indene	2,013.6 µg/mL	+/- 11.7071 µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBT8433V)		+/- 112.8991 µg/mL	Unstressed
	Purity 98%		+/- 115.5408 µg/mL	Stressed
2	Benzoic acid	2,019.3 µg/mL	+/- 11.7406 µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBV5544V)		+/- 113.2220 µg/mL	Unstressed
	Purity 99%		+/- 115.8713 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MS-569731_00097

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0132744

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Indene	2,013.6 µg/mL	+/- 11.7071 µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBT8433V)		+/- 112.8991 µg/mL	Unstressed
	Purity 98%		+/- 115.5408 µg/mL	Stressed
2	Benzoic acid	2,019.3 µg/mL	+/- 11.7406 µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBV5544V)		+/- 113.2220 µg/mL	Unstressed
	Purity 99%		+/- 115.8713 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MS-569731_00100

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0132744

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Indene	2,013.6 µg/mL	+/- 11.7071 µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBT8433V)		+/- 112.8991 µg/mL	Unstressed
	Purity 98%		+/- 115.5408 µg/mL	Stressed
2	Benzoic acid	2,019.3 µg/mL	+/- 11.7406 µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBV5544V)		+/- 113.2220 µg/mL	Unstressed
	Purity 99%		+/- 115.8713 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MS-569732 HSL_00005

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569732 **Lot No.:** A0127580

Description : 8270 List 1 / Std #11

8270 List 1 / Std #11 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : November 30, 2018 **Storage:** 10°C or colder

Handling: This product is photosensitive.

4941911
ID: MS-569732 HSL_00005
Exp: 11/30/18 Prpd: DCK
8270 List 1/ Std 11 (2015

4941908
ID: MS-569732 BZH_00007
Exp: 11/30/18 Prpd: DCK
8270 List 1/ Std 11 (2015

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	Benzaldehyde **CAS #** 100-52-7 **Purity** 99%	(Lot SHBG8690V)	2,019.2	µg/mL	+/- 11.7396 +/- 64.7257 +/- 75.2411	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	epsilon-Caprolactam **CAS #** 105-60-2 **Purity** 99%	(Lot I16X016)	2,014.2	µg/mL	+/- 11.7105 +/- 64.5654 +/- 75.0548	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Atrazine **CAS #** 1912-24-9 **Purity** 99%	(Lot P7XPN)	2,018.1	µg/mL	+/- 11.7333 +/- 64.6910 +/- 75.2008	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-571995.SEC_00002

RESTEK®
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Bellefonte, PA 16823-8812
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Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

4994417
ID: MS-571995.SEC_00002
Exp:03/31/19 Prpd:DCK Opn:03/09/18
RES HSLB Mega Mix (2017)

Catalog No. : 571995.SEC **Lot No.:** A0131190

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : March 31, 2019 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane CAS # 123-91-1.SEC (Lot MUFZH) Purity 99%	1,000.0 µg/mL	+/- 5.8275 µg/mL +/- 11.9606 µg/mL +/- 19.0288 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine CAS # 62-75-9.SEC (Lot 61H72) Purity 99%	1,000.0 µg/mL	+/- 5.8275 µg/mL +/- 11.9606 µg/mL +/- 19.0288 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine CAS # 110-86-1.SEC (Lot QN8DK) Purity 99%	2,000.0 µg/mL	+/- 11.6282 µg/mL +/- 23.9081 µg/mL +/- 38.0494 µg/mL	Gravimetric Unstressed Stressed
4	Phenol CAS # 108-95-2.SEC (Lot EDPYN) Purity 99%	1,000.6 µg/mL	+/- 5.8310 µg/mL +/- 11.9678 µg/mL +/- 19.0402 µg/mL	Gravimetric Unstressed Stressed
5	Aniline CAS # 62-53-3.SEC (Lot ZCD3N) Purity 99%	1,000.4 µg/mL	+/- 5.8299 µg/mL +/- 11.9654 µg/mL +/- 19.0364 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether CAS # 111-44-4.SEC (Lot FA010143) Purity 99%	1,000.6 µg/mL	+/- 5.8310 µg/mL +/- 11.9678 µg/mL +/- 19.0402 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) CAS # 124-18-5.SEC (Lot UCVNN) Purity 99%	1,000.0 µg/mL	+/- 5.8275 µg/mL +/- 11.9606 µg/mL +/- 19.0288 µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol CAS # 95-57-8.SEC Purity 99%	(Lot GJ01)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	1,3-Dichlorobenzene CAS # 541-73-1.SEC Purity 99%	(Lot FMDFD)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	1,4-Dichlorobenzene CAS # 106-46-7.SEC Purity 99%	(Lot 4Y5DC)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	Benzyl alcohol CAS # 100-51-6.SEC Purity 99%	(Lot QZBUO)	1,000.6	µg/mL	+/- 5.8310 +/- 11.9678 +/- 19.0402	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	1,2-Dichlorobenzene CAS # 95-50-1.SEC Purity 99%	(Lot R6QDM)	1,000.4	µg/mL	+/- 5.8299 +/- 11.9654 +/- 19.0364	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	2-Methylphenol (o-cresol) CAS # 95-48-7.SEC Purity 99%	(Lot NC7HL)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	2,2'-oxybis(1-chloropropane) CAS # 108-60-1.SEC Purity 99%	(Lot 2-KMW-57-8)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	Acetophenone CAS # 98-86-2.SEC Purity 99%	(Lot NSGTI)	1,000.6	µg/mL	+/- 5.8310 +/- 11.9678 +/- 19.0402	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	3-Methylphenol (m-cresol) CAS # 108-39-4.SEC Purity 99%	(Lot 6LHTM)	500.0	µg/mL	+/- 2.9138 +/- 5.9803 +/- 9.5144	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	4-Methylphenol (p-cresol) CAS # 106-44-5.SEC Purity 99%	(Lot 65S2E)	501.0	µg/mL	+/- 2.9196 +/- 5.9923 +/- 9.5334	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	N-Nitroso-di-n-propylamine CAS # 621-64-7.SEC Purity 99%	(Lot 4423200)	1,001.4	µg/mL	+/- 5.8357 +/- 11.9773 +/- 19.0555	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	Hexachloroethane CAS # 67-72-1.SEC Purity 99%	(Lot 10173016)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	Nitrobenzene CAS # 98-95-3.SEC Purity 99%	(Lot FLYIG)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
21	Isophorone CAS # 78-59-1.SEC Purity 99%	(Lot XHGJI)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
22	2-Nitrophenol CAS # 88-75-5.SEC Purity 99%	(Lot GXJ7J)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
23	2,4-Dimethylphenol CAS # 105-67-9.SEC Purity 99%	(Lot MKBL3650V)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 111-91-1 *	(Lot 5670100)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
25	2,4-Dichlorophenol		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 120-83-2.SEC	(Lot FHM01)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 120-82-1.SEC	(Lot OGO01)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
27	Naphthalene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 91-20-3.SEC	(Lot SKZ5N)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
28	2,6-Dichlorophenol		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 87-65-0.SEC	(Lot SIDBB)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
29	4-Chloroaniline		1,000.2	µg/mL	+/-	5.8287	µg/mL	Gravimetric
	CAS # 106-47-8.SEC	(Lot 10171860)			+/-	11.9630	µg/mL	Unstressed
	Purity 99%				+/-	19.0326	µg/mL	Stressed
30	Hexachlorobutadiene		1,000.5	µg/mL	+/-	5.8302	µg/mL	Gravimetric
	CAS # 87-68-3.SEC	(Lot 1068200)			+/-	11.9661	µg/mL	Unstressed
	Purity 97%				+/-	19.0375	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 59-50-7.SEC	(Lot FDO02)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
32	2-Methylnaphthalene		1,000.8	µg/mL	+/-	5.8320	µg/mL	Gravimetric
	CAS # 91-57-6.SEC	(Lot 76023-1)			+/-	11.9699	µg/mL	Unstressed
	Purity 98%				+/-	19.0436	µg/mL	Stressed
33	1-Methylnaphthalene		1,000.1	µg/mL	+/-	5.8279	µg/mL	Gravimetric
	CAS # 90-12-0.SEC	(Lot UATSA)			+/-	11.9614	µg/mL	Unstressed
	Purity 97%				+/-	19.0302	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 95-94-3.SEC	(Lot AF02)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 77-47-4.SEC	(Lot 5608400)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,000.6	µg/mL	+/-	5.8309	µg/mL	Gravimetric
	CAS # 88-06-2.SEC	(Lot UUMYM)			+/-	11.9675	µg/mL	Unstressed
	Purity 98%				+/-	19.0399	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,000.1	µg/mL	+/-	5.8279	µg/mL	Gravimetric
	CAS # 95-95-4.SEC	(Lot MKBQ9937V)			+/-	11.9614	µg/mL	Unstressed
	Purity 97%				+/-	19.0302	µg/mL	Stressed
38	2-Chloronaphthalene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 91-58-7.SEC	(Lot LC07783V)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
39	Biphenyl		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 92-52-4.SEC	(Lot 33OQE)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed

40	2-Nitroaniline CAS # 88-74-4.SEC Purity 99%	(Lot T6E7B)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	Acenaphthylene CAS # 208-96-8.SEC Purity 96%	(Lot 0012014)	999.9	µg/mL	+/- 5.8271 +/- 11.9598 +/- 19.0276	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,3-Dinitrobenzene CAS # 99-65-0.SEC Purity 99%	(Lot 3XXLB)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	Dimethylphthalate CAS # 131-11-3.SEC Purity 99%	(Lot 483WC)	1,002.0	µg/mL	+/- 5.8392 +/- 11.9845 +/- 19.0669	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	2,6-Dinitrotoluene CAS # 606-20-2.SEC Purity 99%	(Lot GE01)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	3-Nitroaniline CAS # 99-09-2.SEC Purity 99%	(Lot FGN03)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	Acenaphthene CAS # 83-32-9.SEC Purity 99%	(Lot BWZJE)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	2,4-Dinitrophenol CAS # 51-28-5.SEC Purity 99%	(Lot YTR6B)	2,000.0	µg/mL	+/- 11.6282 +/- 23.9081 +/- 38.0494	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Dibenzofuran CAS # 132-64-9.SEC Purity 99%	(Lot 27ZGC)	1,000.8	µg/mL	+/- 5.8322 +/- 11.9702 +/- 19.0440	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	4-Nitrophenol CAS # 100-02-7.SEC Purity 99%	(Lot 2J5LB)	2,000.0	µg/mL	+/- 11.6282 +/- 23.9081 +/- 38.0494	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	2,4-Dinitrotoluene CAS # 121-14-2.SEC Purity 99%	(Lot SHRSA)	1,000.4	µg/mL	+/- 5.8299 +/- 11.9654 +/- 19.0364	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	2,3,4,6-Tetrachlorophenol CAS # 58-90-2.SEC Purity 99%	(Lot LC19623V)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	Fluorene CAS # 86-73-7.SEC Purity 99%	(Lot 5027400)	1,000.6	µg/mL	+/- 5.8310 +/- 11.9678 +/- 19.0402	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	n-Hexadecane (C16) CAS # 544-76-3.SEC Purity 99%	(Lot A0328141)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Diethylphthalate CAS # 84-66-2.SEC Purity 99%	(Lot UMBJC)	1,000.4	µg/mL	+/- 5.8299 +/- 11.9654 +/- 19.0364	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	4-Chlorophenyl phenyl ether CAS # 7005-72-3.SEC Purity 99%	(Lot P31G)	1,000.4	µg/mL	+/- 5.8299 +/- 11.9654 +/- 19.0364	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	4-Nitroaniline		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 100-01-6.SEC	(Lot 5ITRC)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,000.0	µg/mL	+/-	11.6282	µg/mL	Gravimetric
	CAS # 534-52-1.SEC	(Lot 6333400)			+/-	23.9081	µg/mL	Unstressed
	Purity 99%				+/-	38.0494	µg/mL	Stressed
58	Diphenylamine		850.0	µg/mL	+/-	4.9534	µg/mL	Gravimetric
	CAS # 122-39-4.SEC	(Lot 10164691)			+/-	10.1665	µg/mL	Unstressed
	Purity 99%				+/-	16.1745	µg/mL	Stressed
59	Azobenzene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 103-33-3.SEC	(Lot JUWAG)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 101-55-3.SEC	(Lot 84C6D)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
61	Hexachlorobenzene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 118-74-1.SEC	(Lot G120431)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
62	Pentachlorophenol		2,000.4	µg/mL	+/-	11.6305	µg/mL	Gravimetric
	CAS # 87-86-5.SEC	(Lot 5784900)			+/-	23.9129	µg/mL	Unstressed
	Purity 99%				+/-	38.0570	µg/mL	Stressed
63	n-Octadecane (C18)		1,001.0	µg/mL	+/-	5.8333	µg/mL	Gravimetric
	CAS # 593-45-3.SEC	(Lot G14U045)			+/-	11.9726	µg/mL	Unstressed
	Purity 99%				+/-	19.0478	µg/mL	Stressed
64	Phenanthrene		1,002.0	µg/mL	+/-	5.8389	µg/mL	Gravimetric
	CAS # 85-01-8.SEC	(Lot 4708400)			+/-	11.9839	µg/mL	Unstressed
	Purity 98%				+/-	19.0660	µg/mL	Stressed
65	Anthracene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 120-12-7.SEC	(Lot WDFNJ)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
66	Carbazole		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 86-74-8.SEC	(Lot LMIZB)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
67	Di-n-butylphthalate		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 84-74-2.SEC	(Lot 42FSG)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
68	Fluoranthene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 206-44-0.SEC	(Lot FREGF)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
69	Pyrene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 129-00-0.SEC	(Lot ROVJC)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 85-68-7.SEC	(Lot GX3GL)			+/-	11.9605	µg/mL	Unstressed
	Purity 98%				+/-	19.0287	µg/mL	Stressed
71	Benz(a)anthracene		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 56-55-3.SEC	(Lot MTENF)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed

72	chrysene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 218-01-9.SEC	(Lot NICZC)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 117-81-7.SEC	(Lot MT8AG)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
74	Di-n-octyl phthalate		1,000.8	µg/mL	+/-	5.8322	µg/mL	Gravimetric
	CAS # 117-84-0.SEC	(Lot O8DLD)			+/-	11.9702	µg/mL	Unstressed
	Purity 99%				+/-	19.0440	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 205-99-2.SEC	(Lot 022011)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,000.6	µg/mL	+/-	5.8310	µg/mL	Gravimetric
	CAS # 207-08-9.SEC	(Lot ER041513-01)			+/-	11.9678	µg/mL	Unstressed
	Purity 99%				+/-	19.0402	µg/mL	Stressed
77	Benzo(a)pyrene		1,000.5	µg/mL	+/-	5.8302	µg/mL	Gravimetric
	CAS # 50-32-8.SEC	(Lot M8DFD)			+/-	11.9661	µg/mL	Unstressed
	Purity 97%				+/-	19.0375	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 193-39-5.SEC	(Lot 0012014)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 53-70-3.SEC	(Lot 0012011)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.1	µg/mL	+/-	5.8279	µg/mL	Gravimetric
	CAS # 191-24-2.SEC	(Lot 0022012)			+/-	11.9614	µg/mL	Unstressed
	Purity 97%				+/-	19.0302	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

Reagent

MS-571995_00002

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0136052

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

5163450
ID: MS-571995_00002
Exp: 09/30/19 Prpd: DCK
RES HSLB Mega Mix (2017)

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2019 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBH5677) **Purity** 99%	1,002.0 µg/mL	+/- 5.8257 µg/mL +/- 11.9780 µg/mL +/- 19.0628 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 161108JLM) **Purity** 99%	1,002.0 µg/mL	+/- 5.8257 µg/mL +/- 11.9780 µg/mL +/- 19.0628 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	2,011.2 µg/mL	+/- 11.6933 µg/mL +/- 24.0420 µg/mL +/- 38.2625 µg/mL	Gravimetric Unstressed Stressed
4	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,005.1 µg/mL	+/- 5.8439 µg/mL +/- 12.0154 µg/mL +/- 19.1224 µg/mL	Gravimetric Unstressed Stressed
5	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,002.6 µg/mL	+/- 5.8292 µg/mL +/- 11.9851 µg/mL +/- 19.0742 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,001.4 µg/mL	+/- 5.8222 µg/mL +/- 11.9708 µg/mL +/- 19.0513 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) **CAS #** 124-18-5 (Lot SHBH3926V) **Purity** 99%	1,000.7 µg/mL	+/- 5.8180 µg/mL +/- 11.9620 µg/mL +/- 19.0374 µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol CAS # 95-57-8 Purity 99%	(Lot STBF2690V)	1,007.1	µg/mL	+/- 5.8552 +/- 12.0385 +/- 19.1592	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	1,3-Dichlorobenzene CAS # 541-73-1 Purity 99%	(Lot BCBM5751V)	1,001.0	µg/mL	+/- 5.8199 +/- 11.9660 +/- 19.0437	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	1,4-Dichlorobenzene CAS # 106-46-7 Purity 99%	(Lot MKBS4401V)	1,004.4	µg/mL	+/- 5.8397 +/- 12.0067 +/- 19.1084	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	Benzyl alcohol CAS # 100-51-6 Purity 99%	(Lot SHBC1850V)	1,005.2	µg/mL	+/- 5.8443 +/- 12.0162 +/- 19.1236	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	1,2-Dichlorobenzene CAS # 95-50-1 Purity 99%	(Lot 68996CMV)	1,001.2	µg/mL	+/- 5.8211 +/- 11.9684 +/- 19.0475	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	2-Methylphenol (o-cresol) CAS # 95-48-7 Purity 99%	(Lot SHBH6379)	1,001.6	µg/mL	+/- 5.8234 +/- 11.9732 +/- 19.0551	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	2,2'-oxybis(1-chloropropane) CAS # 108-60-1 Purity 98%	(Lot 5510800)	1,006.7	µg/mL	+/- 5.8528 +/- 12.0336 +/- 19.1513	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	Acetophenone CAS # 98-86-2 Purity 99%	(Lot STBG7113)	1,005.5	µg/mL	+/- 5.8459 +/- 12.0194 +/- 19.1287	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	3-Methylphenol (m-cresol) CAS # 108-39-4 Purity 99%	(Lot SHBD0627V)	501.0	µg/mL	+/- 2.9196 +/- 5.9923 +/- 9.5334	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	4-Methylphenol (p-cresol) CAS # 106-44-5 Purity 99%	(Lot 49396APV)	501.7	µg/mL	+/- 2.9235 +/- 6.0002 +/- 9.5461	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	N-Nitroso-di-n-propylamine CAS # 621-64-7 Purity 99%	(Lot NOPCF)	1,003.1	µg/mL	+/- 5.8323 +/- 11.9915 +/- 19.0843	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	Hexachloroethane CAS # 67-72-1 Purity 99%	(Lot 4H3SF)	1,003.4	µg/mL	+/- 5.8339 +/- 11.9947 +/- 19.0894	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	Nitrobenzene CAS # 98-95-3 Purity 99%	(Lot SHBG5577V)	1,002.3	µg/mL	+/- 5.8273 +/- 11.9812 +/- 19.0678	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
21	Isophorone CAS # 78-59-1 Purity 98%	(Lot MKBG2442V)	1,003.3	µg/mL	+/- 5.8334 +/- 11.9938 +/- 19.0879	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
22	2-Nitrophenol CAS # 88-75-5 Purity 99%	(Lot BCBH7602V)	1,007.7	µg/mL	+/- 5.8587 +/- 12.0457 +/- 19.1706	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
23	2,4-Dimethylphenol CAS # 105-67-9 Purity 99%	(Lot 10165155)	1,000.9	µg/mL	+/- 5.8191 +/- 11.9644 +/- 19.0412	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,001.3 µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 4621000)		+/-	11.9692	µg/mL	Unstressed
	Purity 99%			+/-	19.0488	µg/mL	Stressed
25	2,4-Dichlorophenol		1,003.1 µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)		+/-	11.9915	µg/mL	Unstressed
	Purity 99%			+/-	19.0843	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,005.0 µg/mL	+/-	5.8432	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)		+/-	12.0138	µg/mL	Unstressed
	Purity 99%			+/-	19.1198	µg/mL	Stressed
27	Naphthalene		1,000.5 µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)		+/-	11.9596	µg/mL	Unstressed
	Purity 99%			+/-	19.0336	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.3 µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)		+/-	11.9692	µg/mL	Unstressed
	Purity 99%			+/-	19.0488	µg/mL	Stressed
29	4-Chloroaniline		1,001.3 µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)		+/-	11.9692	µg/mL	Unstressed
	Purity 99%			+/-	19.0488	µg/mL	Stressed
30	Hexachlorobutadiene		1,002.5 µg/mL	+/-	5.8284	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)		+/-	11.9835	µg/mL	Unstressed
	Purity 99%			+/-	19.0716	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2 µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)		+/-	12.0282	µg/mL	Unstressed
	Purity 99%			+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,007.7 µg/mL	+/-	5.8587	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBG8884)		+/-	12.0459	µg/mL	Unstressed
	Purity 96%			+/-	19.1708	µg/mL	Stressed
33	1-Methylnaphthalene		1,005.5 µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-9)		+/-	12.0202	µg/mL	Unstressed
	Purity 99%			+/-	19.1300	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,004.3 µg/mL	+/-	5.8389	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)		+/-	12.0051	µg/mL	Unstressed
	Purity 99%			+/-	19.1059	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,007.1 µg/mL	+/-	5.8552	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012017H)		+/-	12.0385	µg/mL	Unstressed
	Purity 99%			+/-	19.1592	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,003.5 µg/mL	+/-	5.8342	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)		+/-	11.9955	µg/mL	Unstressed
	Purity 99%			+/-	19.0907	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,006.4 µg/mL	+/-	5.8513	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)		+/-	12.0306	µg/mL	Unstressed
	Purity 99%			+/-	19.1465	µg/mL	Stressed
38	2-Chloronaphthalene		1,002.9 µg/mL	+/-	5.8308	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)		+/-	11.9883	µg/mL	Unstressed
	Purity 99%			+/-	19.0792	µg/mL	Stressed
39	Biphenyl		1,001.2 µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)		+/-	11.9684	µg/mL	Unstressed
	Purity 99%			+/-	19.0475	µg/mL	Stressed

40	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,004.5	µg/mL	+/- 5.8401 +/- 12.0075 +/- 19.1097	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	Acenaphthylene **CAS #** 208-96-8 **Purity** 97%	(Lot O03R)	1,006.0	µg/mL	+/- 5.8491 +/- 12.0260 +/- 19.1392	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,3-Dinitrobenzene **CAS #** 99-65-0 **Purity** 99%	(Lot BCBN4329V)	1,001.8	µg/mL	+/- 5.8246 +/- 11.9756 +/- 19.0590	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,003.7	µg/mL	+/- 5.8358 +/- 11.9987 +/- 19.0957	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot BCBB8606V)	1,000.7	µg/mL	+/- 5.8183 +/- 11.9628 +/- 19.0387	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	3-Nitroaniline **CAS #** 99-09-2 **Purity** 99%	(Lot MKBX1283V)	1,005.2	µg/mL	+/- 5.8443 +/- 12.0162 +/- 19.1236	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKCC8329)	1,005.9	µg/mL	+/- 5.8482 +/- 12.0242 +/- 19.1363	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot STBF9439V)	2,008.3	µg/mL	+/- 11.6766 +/- 24.0077 +/- 38.2080	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKBW2691V)	1,005.5	µg/mL	+/- 5.8463 +/- 12.0202 +/- 19.1300	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBV0501V)	2,009.3	µg/mL	+/- 11.6824 +/- 24.0197 +/- 38.2270	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,003.9	µg/mL	+/- 5.8366 +/- 12.0003 +/- 19.0983	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot B180305L)	1,001.9	µg/mL	+/- 5.8253 +/- 11.9772 +/- 19.0615	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	Fluorene **CAS #** 86-73-7 **Purity** 99%	(Lot 10193329)	1,002.0	µg/mL	+/- 5.8257 +/- 11.9780 +/- 19.0628	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	n-Hexadecane (C16) **CAS #** 544-76-3 **Purity** 99%	(Lot SHBG2582V)	1,001.6	µg/mL	+/- 5.8234 +/- 11.9732 +/- 19.0551	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Diethylphthalate **CAS #** 84-66-2 **Purity** 99%	(Lot MKBV9622V)	1,003.3	µg/mL	+/- 5.8335 +/- 11.9939 +/- 19.0881	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	4-Chlorophenyl phenyl ether **CAS #** 7005-72-3 **Purity** 99%	(Lot MKBX5225V)	1,001.1	µg/mL	+/- 5.8203 +/- 11.9668 +/- 19.0450	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	4-Nitroaniline		1,003.1	µg/mL	+/-	5.8319	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9907	µg/mL	Unstressed
	Purity 98%				+/-	19.0830	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,003.7	µg/mL	+/-	11.6495	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC25844V)			+/-	23.9520	µg/mL	Unstressed
	Purity 99%				+/-	38.1192	µg/mL	Stressed
58	Diphenylamine		852.3	µg/mL	+/-	4.9555	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1888	µg/mL	Unstressed
	Purity 99%				+/-	16.2154	µg/mL	Stressed
59	Azobenzene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBQ0927V)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,022.3	µg/mL	+/-	5.9439	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.2210	µg/mL	Unstressed
	Purity 99%				+/-	19.4496	µg/mL	Stressed
61	Hexachlorobenzene		1,002.5	µg/mL	+/-	5.8288	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot 7013600)			+/-	11.9843	µg/mL	Unstressed
	Purity 99%				+/-	19.0729	µg/mL	Stressed
62	Pentachlorophenol		2,002.1	µg/mL	+/-	11.6406	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170306KJA)			+/-	23.9336	µg/mL	Unstressed
	Purity 99%				+/-	38.0900	µg/mL	Stressed
63	n-Octadecane (C18)		1,002.9	µg/mL	+/-	5.8308	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot OGCDK)			+/-	11.9883	µg/mL	Unstressed
	Purity 99%				+/-	19.0792	µg/mL	Stressed
64	Phenanthrene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
65	Anthracene		1,000.3	µg/mL	+/-	5.8156	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBV7759V)			+/-	11.9573	µg/mL	Unstressed
	Purity 99%				+/-	19.0298	µg/mL	Stressed
66	Carbazole		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 6489700)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.7	µg/mL	+/-	5.8470	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0218	µg/mL	Unstressed
	Purity 99%				+/-	19.1325	µg/mL	Stressed
68	Fluoranthene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	12.0204	µg/mL	Unstressed
	Purity 98%				+/-	19.1302	µg/mL	Stressed
69	Pyrene		1,005.8	µg/mL	+/-	5.8478	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0234	µg/mL	Unstressed
	Purity 99%				+/-	19.1351	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8156	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKBZ4553V)			+/-	11.9571	µg/mL	Unstressed
	Purity 98%				+/-	19.0295	µg/mL	Stressed
71	Benz(a)anthracene		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012012)			+/-	11.9915	µg/mL	Unstressed
	Purity 98%				+/-	19.0842	µg/mL	Stressed

72	Chrysene **CAS #** 218-01-9 **Purity** 99%	(Lot 012015)	1,004.6 µg/mL	+/- 5.8408 +/- 12.0091 +/- 19.1122	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
73	Bis(2-ethylhexyl)phthalate **CAS #** 117-81-7 **Purity** 99%	(Lot MKBZ3868V)	1,002.7 µg/mL	+/- 5.8296 +/- 11.9859 +/- 19.0754	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
74	Di-n-octyl phthalate **CAS #** 117-84-0 **Purity** 99%	(Lot 6016000)	1,007.9 µg/mL	+/- 5.8602 +/- 12.0489 +/- 19.1756	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
75	Benzo(b)fluoranthene **CAS #** 205-99-2 **Purity** 99%	(Lot 012012B)	1,003.6 µg/mL	+/- 5.8350 +/- 11.9971 +/- 19.0932	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
76	Benzo(k)fluoranthene **CAS #** 207-08-9 **Purity** 99%	(Lot 012017K)	1,006.2 µg/mL	+/- 5.8501 +/- 12.0282 +/- 19.1427	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
77	Benzo(a)pyrene **CAS #** 50-32-8 **Purity** 99%	(Lot ER071309-02)	1,002.1 µg/mL	+/- 5.8261 +/- 11.9788 +/- 19.0640	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
78	Indeno(1,2,3-cd)pyrene **CAS #** 193-39-5 **Purity** 99%	(Lot ER082107-02)	1,004.0 µg/mL	+/- 5.8373 +/- 12.0019 +/- 19.1008	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
79	Dibenz(a,h)anthracene **CAS #** 53-70-3 **Purity** 99%	(Lot ER032211-01)	1,001.9 µg/mL	+/- 5.8249 +/- 11.9764 +/- 19.0602	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
80	Benzo(g,h,i)perylene **CAS #** 191-24-2 **Purity** 99%	(Lot ER05121401)	1,000.9 µg/mL	+/- 5.8195 +/- 11.9652 +/- 19.0425	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:
N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

Reagent

MV-567650_00027

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567650 **Lot No.:** A0124069

Description : 8260 Surrogate Standard

8260 Surrogate Standard 2,500 ug/ml, P&T Methanol, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2022 **Storage:** 0°C or colder

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dibromofluoromethane **CAS #** 1868-53-7 (Lot 0012016) **Purity** 99%	2,521.2 µg/mL	+/- 14.6582 µg/mL +/- 141.3584 µg/mL +/- 144.6660 µg/mL	Gravimetric Unstressed Stressed
2	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 (Lot PR-25433) **Purity** 98%	2,513.8 µg/mL	+/- 14.6157 µg/mL +/- 140.9489 µg/mL +/- 144.2469 µg/mL	Gravimetric Unstressed Stressed
3	Toluene-d8 **CAS #** 2037-26-5 (Lot PR-27311) **Purity** 99%	2,519.4 µg/mL	+/- 14.6480 µg/mL +/- 141.2603 µg/mL +/- 144.5656 µg/mL	Gravimetric Unstressed Stressed
4	1-Bromo-4-fluorobenzene (BFB) **CAS #** 460-00-4 (Lot 20401KOV) **Purity** 99%	2,520.8 µg/mL	+/- 14.6559 µg/mL +/- 141.3360 µg/mL +/- 144.6430 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

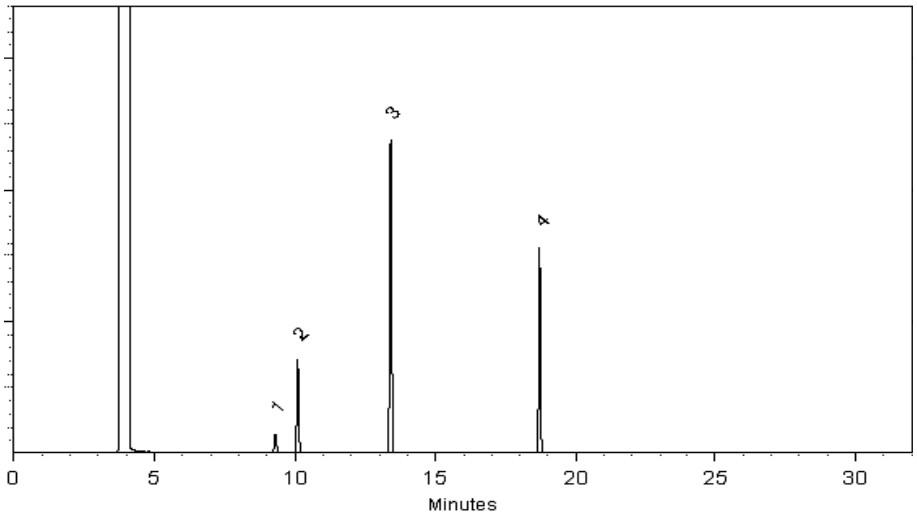
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Isaiah Harrison - Mix Technician

Date Mixed: 09-Jan-2017 **Balance:** 1128342314

Amanda Miller - Operations Tech-ARM QC

Date Passed: 11-Jan-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

rec'd 3/1/18

Catalog No. : 568718 **Lot No.:** A0127975

Description : 8260 Internal Standard 2014

8260 Internal Standard 2014 250-5,000 ug/ml, P&T Methanol, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	tert-Butyl-d9-alcohol **CAS #** 25725-11-5 (Lot I-201) **Purity** 99%	5,022.1 µg/mL	+/- 29.1976 µg/mL +/- 107.5241 µg/mL +/- 110.6500 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone-d5 **CAS #** 24313-50-6 (Lot M-276) **Purity** 99%	1,257.5 µg/mL	+/- 7.3114 µg/mL +/- 26.9239 µg/mL +/- 27.7067 µg/mL	Gravimetric Unstressed Stressed
3	Fluorobenzene **CAS #** 462-06-6 (Lot BCBK8171V) **Purity** 99%	250.8 µg/mL	+/- 1.4613 µg/mL +/- 5.3699 µg/mL +/- 5.5259 µg/mL	Gravimetric Unstressed Stressed
4	1,4-Dioxane-d8 **CAS #** 17647-74-4 (Lot I-19942) **Purity** 99%	5,009.4 µg/mL	+/- 29.1236 µg/mL +/- 107.2514 µg/mL +/- 110.3694 µg/mL	Gravimetric Unstressed Stressed
5	Chlorobenzene-d5 **CAS #** 3114-55-4 (Lot PR-21944) **Purity** 99%	251.7 µg/mL	+/- 1.4666 µg/mL +/- 5.3891 µg/mL +/- 5.5458 µg/mL	Gravimetric Unstressed Stressed
6	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	251.3 µg/mL	+/- 1.4645 µg/mL +/- 5.3813 µg/mL +/- 5.5377 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

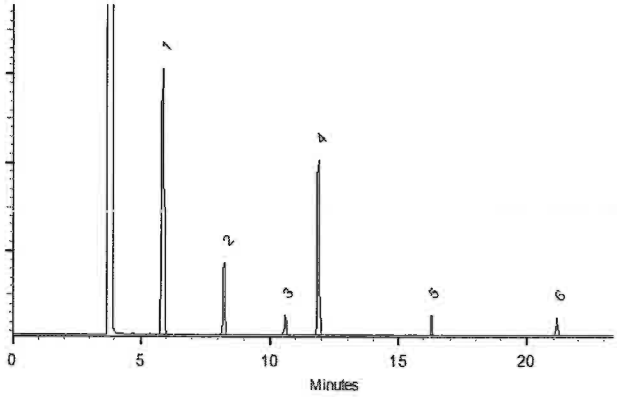
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 30-May-2017 **Balance:** 1128342314

Justine Albertson - Operations Tech-ARM QC

Date Passed: 06-Jun-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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MV-569721.sec_00005

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721.sec **Lot No.:** A0123880

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500 µg/ml, P&T Methanol/Water (90:10), 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetone	12,501.6 µg/mL	+/- 73.1996 µg/mL	Gravimetric
	CAS # 67-64-1.SEC (Lot P14A572)		+/- 754.3267 µg/mL	Unstressed
	Purity 99%		+/- 756.1173 µg/mL	Stressed
2	2-Butanone (MEK)	12,503.6 µg/mL	+/- 73.2113 µg/mL	Gravimetric
	CAS # 78-93-3.SEC (Lot RA58J)		+/- 754.4473 µg/mL	Unstressed
	Purity 99%		+/- 756.2383 µg/mL	Stressed
3	4-Methyl-2-pentanone (MIBK)	12,506.0 µg/mL	+/- 73.2254 µg/mL	Gravimetric
	CAS # 108-10-1.SEC (Lot E29T040)		+/- 754.5921 µg/mL	Unstressed
	Purity 99%		+/- 756.3834 µg/mL	Stressed
4	2-Hexanone	12,504.0 µg/mL	+/- 73.2137 µg/mL	Gravimetric
	CAS # 591-78-6.SEC (Lot V3NRA)		+/- 754.4715 µg/mL	Unstressed
	Purity 99%		+/- 756.2625 µg/mL	Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

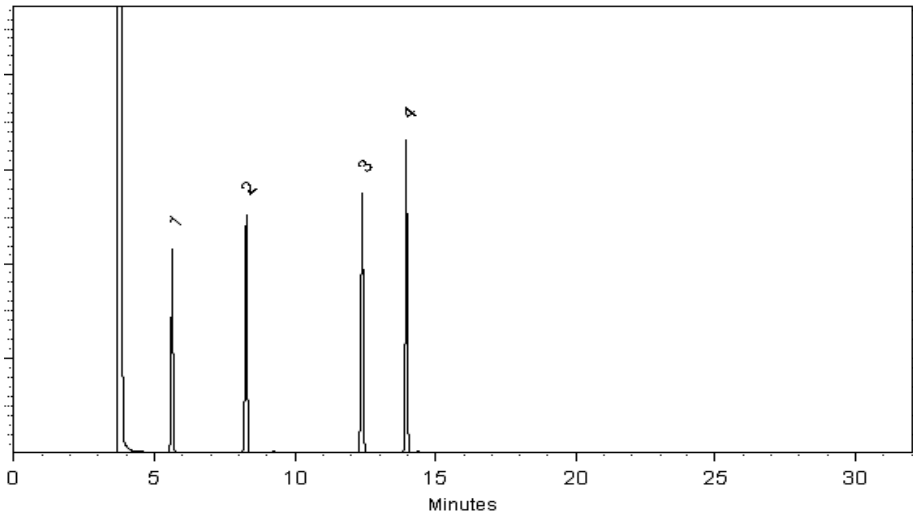
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael J Maye

Date Mixed: 03-Jan-2017 **Balance:** 1127510105

Jennifer L Pollino

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 05-Jan-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

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- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722.SEC **Lot No.:** A0128832

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500 ug/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12)	2,505.9 µg/mL	+/- 22.3986 µg/mL	Gravimetric
	CAS # 75-71-8.SEC (Lot 23586)		+/- 141.5312 µg/mL	Unstressed
	Purity 99%		+/- 144.7955 µg/mL	Stressed
2	Chloromethane (methyl chloride)	2,503.7 µg/mL	+/- 24.8413 µg/mL	Gravimetric
	CAS # 74-87-3.SEC (Lot 18343)		+/- 141.8153 µg/mL	Unstressed
	Purity 99%		+/- 145.0675 µg/mL	Stressed
3	Vinyl chloride	2,503.2 µg/mL	+/- 25.9197 µg/mL	Gravimetric
	CAS # 75-01-4.SEC (Lot MKBK6872V)		+/- 141.9813 µg/mL	Unstressed
	Purity 99%		+/- 145.2285 µg/mL	Stressed
4	1,3-Butadiene	2,508.9 µg/mL	+/- 20.6969 µg/mL	Gravimetric
	CAS # 106-99-0.SEC (Lot 24033)		+/- 141.4379 µg/mL	Unstressed
	Purity 99%		+/- 144.7121 µg/mL	Stressed
5	Bromomethane (methyl bromide)	2,502.6 µg/mL	+/- 26.2540 µg/mL	Gravimetric
	CAS # 74-83-9.SEC (Lot Q119-46)		+/- 142.0076 µg/mL	Unstressed
	Purity 99%		+/- 145.2526 µg/mL	Stressed
6	Chloroethane (ethyl chloride)	2,510.6 µg/mL	+/- 24.9094 µg/mL	Gravimetric
	CAS # 75-00-3.SEC (Lot 00004202)		+/- 142.2038 µg/mL	Unstressed
	Purity 99%		+/- 145.4650 µg/mL	Stressed
7	Dichlorofluoromethane (CFC-21)	2,510.9 µg/mL	+/- 25.6719 µg/mL	Gravimetric
	CAS # 75-43-4.SEC (Lot SHBC0858V)		+/- 142.3575 µg/mL	Unstressed
	Purity 99%		+/- 145.6160 µg/mL	Stressed

8	Trichlorofluoromethane (CFC-11)		2,504.9	µg/mL	+/-	18.9312	µg/mL	Gravimetric
	CAS # 75-69-4.SEC	(Lot 253600)			+/-	140.9660	µg/mL	Unstressed
	Purity 99%				+/-	144.2404	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

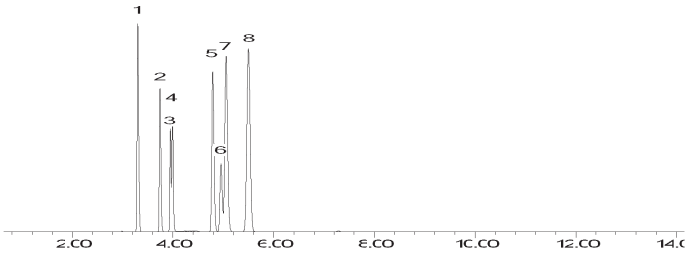
Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician

Date Mixed: 29-Jun-2017 **Balance:** 1127510105

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 24-Jul-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
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Certified Uncertainty Value Notes:

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  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
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- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

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25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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Manufacturing Notes:

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Handling Notes:

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569727 **Lot No.:** A0124672

Description : 8260 List 2/ Std #3 Cyclohexanone (2015)

8260 List 2/ Std #3 Cyclohexanone (2015) 25,000 µg/ml, Water, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 29, 2020 **Storage:** 10°C or colder

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Cyclohexanone	25,006.0 µg/mL	+/- 146.4156 µg/mL	Gravimetric
	CAS # 108-94-1 (Lot MKBN5282V)		+/- 1,508.8223 µg/mL	Unstressed
	Purity 99%		+/- 1,512.4040 µg/mL	Stressed

Solvent: Water
CAS # 7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

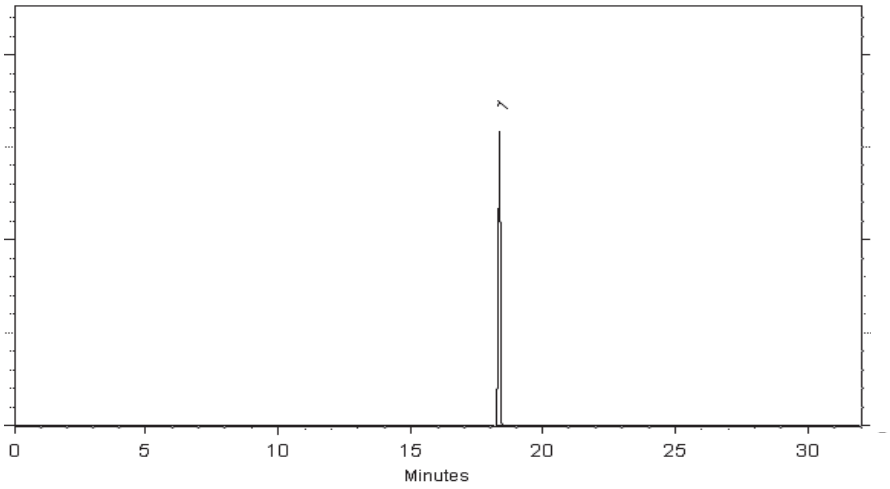
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 03-Feb-2017 **Balance:** 1125113331

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 07-Feb-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MV-571992.sec_00001

Reagent

MV-571992_00001

Reagent

MV-STS110N1_00066

Certificate of Analysis

4-Bromofluorobenzene Solution

Product Number: STS-110N **Page:** 1 of 1

Lot Number: CH-3248Z **Lot Issue Date:** 31-Aug-2016 **Expiration Date:** 31-Oct-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
4-bromofluorobenzene	000460-00-4	RM03365	2005 ± 10 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store Frozen (-25° to -10°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Vincent Wang, Ph.D.
Director of QA/RA

ISO 9001
Registered
TUV USA, Inc.

250 SMITH STREET • NORTH KINGSTOWN, RHODE ISLAND 02852 • WWW.ULTRASCI.COM

Reagent

OP-569732_00001

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Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569732 **Lot No.:** A0137125

Description : 8270 List 1 / Std #11

8270 List 1 / Std #11 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : October 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)		
1	Benzaldehyde		2,001.1 µg/mL	+/- 11.6345	µg/mL	Gravimetric
	CAS # 100-52-7	(Lot SHBG8690V)		+/- 64.1460	µg/mL	Unstressed
	Purity 99%			+/- 74.5673	µg/mL	Stressed
2	epsilon-Caprolactam		2,002.0 µg/mL	+/- 11.6398	µg/mL	Gravimetric
	CAS # 105-60-2	(Lot I16X016)		+/- 64.1754	µg/mL	Unstressed
	Purity 99%			+/- 74.6014	µg/mL	Stressed
3	Atrazine		2,002.6 µg/mL	+/- 11.6432	µg/mL	Gravimetric
	CAS # 1912-24-9	(Lot 77P7D)		+/- 64.1941	µg/mL	Unstressed
	Purity 99%			+/- 74.6232	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

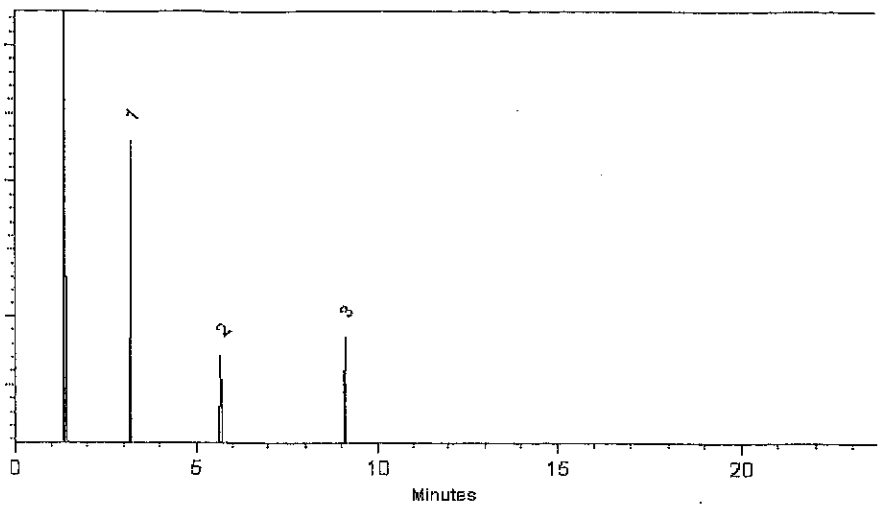
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician **Date Mixed:** 12-Apr-2018 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 16-Apr-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

OP-569732_00002

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CERTIFIED REFERENCE MATERIAL

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569732 **Lot No.:** A0137125

Description : 8270 List 1 / Std #11

8270 List 1 / Std #11 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : October 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)		
1	Benzaldehyde **CAS #** 100-52-7 **Purity** 99%	(Lot SHBG8690V)	2,001.1 µg/mL	+/- 11.6345 µg/mL +/- 64.1460 µg/mL +/- 74.5673 µg/mL		Gravimetric Unstressed Stressed
2	epsilon-Caprolactam **CAS #** 105-60-2 **Purity** 99%	(Lot I16X016)	2,002.0 µg/mL	+/- 11.6398 µg/mL +/- 64.1754 µg/mL +/- 74.6014 µg/mL		Gravimetric Unstressed Stressed
3	Atrazine **CAS #** 1912-24-9 **Purity** 99%	(Lot 77P7D)	2,002.6 µg/mL	+/- 11.6432 µg/mL +/- 64.1941 µg/mL +/- 74.6232 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

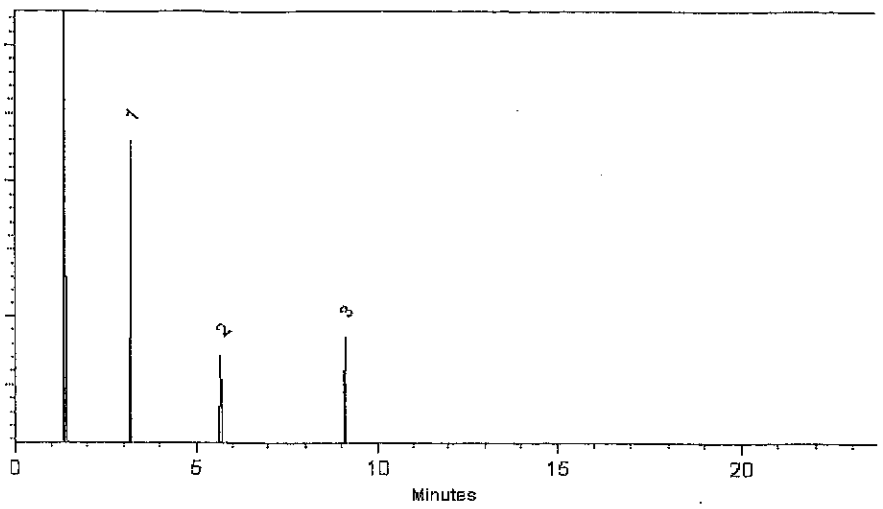
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician **Date Mixed:** 12-Apr-2018 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 16-Apr-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

OP-572556_00003

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Gravimetric Certificate

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Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572556 **Lot No.:** A0127376

Description : Custom Hexachlorocyclopentadiene Standard

Custom Hexachlorocyclopentadiene Standard 4,000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Component #	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Hexachlorocyclopentadiene **CAS #** 77-47-4 (Lot 0012015) **Purity** 99%	4,019.0 µg/mL	+/- 23.585744 µg/mL +/- 225.364148 µg/mL +/- 230.636330 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Rebecca Sawver

Date Mixed: 08-May-2017 **Balance:** B345965662

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

OP-572556_00006

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572556 **Lot No.:** A0127376

Description : Custom Hexachlorocyclopentadiene Standard

Custom Hexachlorocyclopentadiene Standard 4,000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Component #	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Hexachlorocyclopentadiene **CAS #** 77-47-4 (Lot 0012015) **Purity** 99%	4,019.0 µg/mL	+/- 23.585744 µg/mL +/- 225.364148 µg/mL +/- 230.636330 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Rebecca Sawver

Date Mixed: 08-May-2017 **Balance:** B345965662

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

OP-CustBenz_00026

RESTEK
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CERTIFIED REFERENCE MATERIAL

Gravimetric Certificate

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

10x 5mL
Received 7/31/18
AMB

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572555 **Lot No.:** A0139914

Description : Custom Benzidines Standard

Custom Benzidines Standard 4,000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : July 31, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Component #	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	3,3'-Dichlorobenzidine		4,016.0 µg/mL	+/- 23.568138 µg/mL	Gravimetric
	CAS # 91-94-1	(Lot 170112KJA)		+/- 121.518984 µg/mL	Unstressed
	Purity 99%			+/- 121.518984 µg/mL	Stressed
2	Benzidine		4,033.0 µg/mL	+/- 23.667904 µg/mL	Gravimetric
	CAS # 92-87-5	(Lot 180406JNA)		+/- 122.033382 µg/mL	Unstressed
	Purity 99%			+/- 122.033382 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Lane Kibe - Mix Technician **Date Mixed:** 24-Jul-2018 **Balance:** 1122030677

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

PicricARestek_00080

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31499 **Lot No.:** A0114009

Description : Picric Acid Standard

1000µg/mL, Methanol, 1mL/ampul *PGI BOX REQUIRED* SHIP FED EX GROUND ONLY

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Picric Acid **CAS #** 88-89-1 **Purity** 99% (Lot 06130CU)	1,004.0 µg/mL	+/- 5.9635 µg/mL +/- 53.9873 µg/mL +/- 58.7028 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Specific Reference Material Notes:
This is a derivatized analysis.

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SFD CAL STK_00006

ACROS ORGANICS

Version	02
Molecular weight	240.18
Quality Test / Release Date	09/06/2018
Molecular Formula	Na2 S . 9 H2 O
CAS No	1313-84-4
Linear Formula	Na2S.9H2O
Flash Point (°C)	

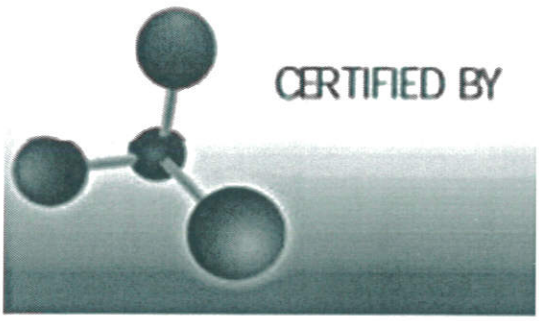
Certificate of Analysis

This is to certify that units of the above mentioned lot number were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Acros Organics expressly disclaims all warranties,expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Unless otherwise stated, these products are not intended for dialysis, parenteral, or injectable use without further processing. The following are the actual analytical results obtained:

Catalog Number	38706	**Quality Test / Release Date** 09/06/2018
Lot Number	A0390872	
Description	Sodium sulfide nonahydrate,98+%,extra pure	
Country of Origin	INDIA	
Declaration of Origin	synthetic	

BSE/TSE comment	
Chemical Comment	

Result name	Units	Specifications	Test Value
Appearance (Color)		Colorless to light yellow	Light yellow
Appearance (Form)		Adhering crystals and/or chunks	Adhering crystals and chunks
Titration Iodimetric		32.0 to 38.0 % (Na2S)	35.9 % (Na2S)
Total nitrogen (as N)		=<0.005 %	=<0.005 %
Sulfite (as SO2)		=<2000 ppm	=<2000 ppm
Thiosulphate (S2O3)		=<5000 ppm	=<5000 ppm



L. Van den Broek, QA Manager

Issued: 09-06-2018

Acros Organics
ENA23, zone1, nr 1350, Janssen Pharmaceuticalaan 3a, B-2440 Geel, Belgium
Tel +32 14/57.52.11 - Fax +32 14/59.34.34 Internet: http://www.acros.com
1 Regent Lane, Fair Lawn, NJ 07410, USA Fax 201-796-1329

Reagent

SIM_LVI_SURR_00006

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\SMS_F\20181003-74690.b\F3780.D

Lims ID: SIM_LVI_SURR_00006 Inj. Date: 03-Oct-2018 18:34:30

Worklist ID: 280-0074690-004 Instrument: SMS_F

Method: SMSF_8270SIMX

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3510C_LVI
$ 4 Nitrobenzene-d5	2000.0	1816.9	90.8	43-120
$ 5 2-Fluorobiphenyl	2000.0	1789.6	89.5	42-120
$ 6 Terphenyl-d14	2000.0	1805.0	90.3	47-120
$ 53 2-methylnaphthalene-d10	2000.0	1964.1	98.2	
$ 54 Fluoranthene-d10	2000.0	1814.7	90.7	

Samples for Limit Group: 1, Lims Prep Method: 3510C_LVI

280-114217-H-1-A

Method 8260B

Volatile Organic Compounds (GC/MS) by Method 8260B

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-624 v1 ID: 32 (um)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
DET-003-181001-GW	280-116020-1	104	104	101	104
DET-003-181002-GW	280-116020-2	100	101	99	102
FWGTB-181002-TB	280-116020-3	89	97	99	101
DET-004-181001-GW	280-116020-12	102	104	100	101
	MB 280-437463/4	89	95	102	95
	LCS 280-437463/5	99	102	103	95
DET-003-181001-GW MS	280-116020-1 MS	99	104	103	98
DET-003-181001-GW MSD	280-116020-1 MSD	95	101	102	98

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	80-119
DCA = 1,2-Dichloroethane-d4 (Surr)	81-118
TOL = Toluene-d8 (Surr)	89-112
BFB = 4-Bromofluorobenzene (Surr)	85-114

Column to be used to flag recovery values

FORM II 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: G1690.D

Lab ID: LCS 280-437463/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	5.13	103	74-131	
1,1,2,2-Tetrachloroethane	5.00	5.15	103	71-121	
1,1,2-Trichloroethane	5.00	5.42	108	80-119	
1,1-Dichloroethane	5.00	5.30	106	77-125	
1,1-Dichloroethene	5.00	5.26	105	71-131	
1,2-Dibromoethane	5.00	5.48	110	77-121	
1,2-Dichloroethane	5.00	5.72	114	73-128	
1,2-Dichloropropane	5.00	5.58	112	78-122	
2-Butanone (MEK)	20.0	22.1	110	56-143	
2-Hexanone	20.0	20.5	103	57-139	
4-Methyl-2-pentanone (MIBK)	20.0	20.9	104	67-130	
Acetone	20.0	20.1	100	39-160	
Benzene	5.00	5.19	104	79-120	
Bromobenzene	5.00	5.15	103	80-120	
Bromochloromethane	5.00	5.31	106	78-123	
Bromodichloromethane	5.00	5.42	108	79-125	
Bromoform	5.00	5.50	110	66-130	
Bromomethane	5.00	4.95	99	53-141	
Carbon disulfide	5.00	5.10	102	64-133	
Carbon tetrachloride	5.00	5.03	101	72-136	
Chlorobenzene	5.00	5.43	109	82-118	
Chloroethane	5.00	5.06	101	60-138	
Chloroform	5.00	5.34	107	79-124	
Chloromethane	5.00	4.58	92	50-139	
cis-1,3-Dichloropropene	5.00	5.71	114	75-124	
Dibromochloromethane	5.00	5.68	114	74-126	
Ethylbenzene	5.00	5.23	105	79-121	
Methylene Chloride	5.00	4.93 J	99	74-124	
Styrene	5.00	5.66	113	78-123	
Tetrachloroethene	5.00	5.03	101	74-129	
Toluene	5.00	5.17	103	80-121	
trans-1,3-Dichloropropene	5.00	5.37	107	73-127	
Trichloroethene	5.00	5.33	107	79-123	
Vinyl chloride	5.00	4.68	94	58-137	
Xylenes, Total	10.0	11.0	110	79-121	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: G1694.D

Lab ID: 280-116020-1 MS Client ID: DET-003-181001-GW MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	0.40 U	5.19	104	74-131	H
1,1,2,2-Tetrachloroethane	5.00	0.80 U	5.50	110	71-121	H
1,1,2-Trichloroethane	5.00	0.80 U	5.36	107	80-119	H
1,1-Dichloroethane	5.00	0.80 U	5.32	106	77-125	H
1,1-Dichloroethene	5.00	0.80 U	4.79	96	71-131	H
1,2-Dibromoethane	5.00	0.40 U	5.53	111	77-121	H
1,2-Dichloroethane	5.00	0.40 U	5.52	110	73-128	H
1,2-Dichloropropane	5.00	0.40 U	5.43	109	78-122	H
2-Butanone (MEK)	20.0	4.0 U	19.4	97	56-143	H
2-Hexanone	20.0	4.0 U	20.8	104	57-139	H
4-Methyl-2-pentanone (MIBK)	20.0	3.2 U	21.4	107	67-130	H
Acetone	20.0	6.4 U	20.3	101	39-160	H
Benzene	5.00	0.40 U	5.11	102	79-120	H
Bromobenzene	5.00	0.40 U	5.33	107	80-120	H
Bromochloromethane	5.00	0.20 U	5.25	105	78-123	H
Bromodichloromethane	5.00	0.40 U	5.30	106	79-125	H
Bromoform	5.00	0.40 U	5.48	110	66-130	H
Bromomethane	5.00	0.80 U	4.83	97	53-141	H
Carbon disulfide	5.00	1.6 U	5.19	104	64-133	H
Carbon tetrachloride	5.00	0.40 U	5.12	102	72-136	H
Chlorobenzene	5.00	0.40 U	5.26	105	82-118	H
Chloroethane	5.00	1.6 U	5.03	101	60-138	H
Chloroform	5.00	0.40 U	5.35	107	79-124	H
Chloromethane	5.00	0.80 U	4.64	93	50-139	H
cis-1,3-Dichloropropene	5.00	0.40 U	5.47	109	75-124	H
Dibromochloromethane	5.00	0.40 U	5.60	112	74-126	H
Ethylbenzene	5.00	0.40 U	5.18	104	79-121	H
Methylene Chloride	5.00	0.80 U	4.94 J	99	74-124	H
Styrene	5.00	0.40 U	5.54	111	78-123	H
Tetrachloroethene	5.00	0.40 U	5.08	102	74-129	H
Toluene	5.00	0.40 U	5.20	104	80-121	H
trans-1,3-Dichloropropene	5.00	0.40 U	5.30	106	73-127	H
Trichloroethene	5.00	0.40 U	5.08	102	79-123	H
Vinyl chloride	5.00	0.20 U	4.90	98	58-137	H
Xylenes, Total	10.0	0.80 U	10.7	107	79-121	H

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: G1695.D

Lab ID: 280-116020-1 MSD Client ID: DET-003-181001-GW MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	5.29	106	2	20	74-131	H
1,1,2,2-Tetrachloroethane	5.00	5.68	114	3	20	71-121	H
1,1,2-Trichloroethane	5.00	5.71	114	6	20	80-119	H
1,1-Dichloroethane	5.00	4.92	98	8	20	77-125	H
1,1-Dichloroethene	5.00	4.65	93	3	20	71-131	H
1,2-Dibromoethane	5.00	5.79	116	5	20	77-121	H
1,2-Dichloroethane	5.00	5.81	116	5	20	73-128	H
1,2-Dichloropropane	5.00	5.55	111	2	20	78-122	H
2-Butanone (MEK)	20.0	18.2	91	6	20	56-143	H
2-Hexanone	20.0	21.2	106	2	20	57-139	H
4-Methyl-2-pentanone (MIBK)	20.0	21.9	110	3	20	67-130	H
Acetone	20.0	19.8	99	2	20	39-160	H
Benzene	5.00	5.34	107	4	20	79-120	H
Bromobenzene	5.00	5.50	110	3	20	80-120	H
Bromochloromethane	5.00	4.92	98	7	20	78-123	H
Bromodichloromethane	5.00	5.51	110	4	20	79-125	H
Bromoform	5.00	5.53	111	1	20	66-130	H
Bromomethane	5.00	4.90	98	1	20	53-141	H
Carbon disulfide	5.00	4.64	93	11	20	64-133	H
Carbon tetrachloride	5.00	5.24	105	2	20	72-136	H
Chlorobenzene	5.00	5.55	111	5	20	82-118	H
Chloroethane	5.00	5.15	103	2	20	60-138	H
Chloroform	5.00	5.33	107	0	20	79-124	H
Chloromethane	5.00	4.77	95	3	20	50-139	H
cis-1,3-Dichloropropene	5.00	5.73	115	5	20	75-124	H
Dibromochloromethane	5.00	5.45	109	3	20	74-126	H
Ethylbenzene	5.00	5.43	109	5	20	79-121	H
Methylene Chloride	5.00	4.48 J	90	10	20	74-124	H
Styrene	5.00	5.90	118	6	20	78-123	H
Tetrachloroethene	5.00	5.21	104	3	20	74-129	H
Toluene	5.00	5.34	107	3	20	80-121	H
trans-1,3-Dichloropropene	5.00	5.46	109	3	20	73-127	H
Trichloroethene	5.00	5.11	102	1	20	79-123	H
Vinyl chloride	5.00	4.89	98	0	20	58-137	H
Xylenes, Total	10.0	11.5	115	7	20	79-121	H

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab File ID: G1679.D Lab Sample ID: MB 280-437463/4

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: VMS_G Date Analyzed: 11/13/2018 20:48

GC Column: DB-624 v1 ID: 32(um)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-437463/5	G1690.D	11/14/2018 00:30
DET-003-181001-GW	280-116020-1	G1693.D	11/14/2018 01:31
DET-003-181001-GW MS	280-116020-1 MS	G1694.D	11/14/2018 01:51
DET-003-181001-GW MSD	280-116020-1 MSD	G1695.D	11/14/2018 02:12
DET-003-181002-GW	280-116020-2	G1696.D	11/14/2018 02:32
FWGTB-181002-TB	280-116020-3	G1697.D	11/14/2018 02:52
DET-004-181001-GW	280-116020-12	G1698.D	11/14/2018 03:12

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab File ID: G9554.D BFB Injection Date: 09/28/2018

Instrument ID: VMS_G BFB Injection Time: 10:25

Analysis Batch No.: 431341

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	25.8	
75	30.0 - 60.0 % of mass 95	48.9	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.6	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	67.7	
175	5.0 - 9.0 % of mass 174	4.0	(5.9) 1
176	95.0 - 101.0 % of mass 174	64.5	(95.3) 1
177	5.0 - 9.0 % of mass 176	4.4	(6.8) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICV 280-431341/24	G9573.D	09/28/2018	17:00

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab File ID: G0940.D BFB Injection Date: 10/29/2018

Instrument ID: VMS_G BFB Injection Time: 19:13

Analysis Batch No.: 435406

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	24.4	
75	30.0 - 60.0 % of mass 95	47.1	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.6	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	76.9	
175	5.0 - 9.0 % of mass 174	5.6	(7.3) 1
176	95.0 - 101.0 % of mass 174	74.8	(97.3) 1
177	5.0 - 9.0 % of mass 176	4.9	(6.6) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD005 280-435406/10	G0942.D	10/29/2018	20:00
	STD01 280-435406/11	G0943.D	10/29/2018	20:20
	STD02 280-435406/12	G0944.D	10/29/2018	20:40
	STD05 280-435406/13	G0945.D	10/29/2018	21:01
	ICIS 280-435406/14	G0946.D	10/29/2018	21:21
	STD25 280-435406/15	G0947.D	10/29/2018	21:42
	STD60 280-435406/16	G0948.D	10/29/2018	22:02
	ICV 280-435406/17	G0950.D	10/29/2018	22:43

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab File ID: G1675.D BFB Injection Date: 11/13/2018

Instrument ID: VMS_G BFB Injection Time: 19:24

Analysis Batch No.: 437463

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	24.1	
75	30.0 - 60.0 % of mass 95	47.3	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	5.9	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	75.5	
175	5.0 - 9.0 % of mass 174	5.9	(7.8) 1
176	95.0 - 101.0 % of mass 174	73.6	(97.6) 1
177	5.0 - 9.0 % of mass 176	4.2	(5.6) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-437463/2	G1677.D	11/13/2018	20:08
	MB 280-437463/4	G1679.D	11/13/2018	20:48
	LCS 280-437463/5	G1690.D	11/14/2018	00:30
DET-003-181001-GW	280-116020-1	G1693.D	11/14/2018	01:31
DET-003-181001-GW MS	280-116020-1 MS	G1694.D	11/14/2018	01:51
DET-003-181001-GW MSD	280-116020-1 MSD	G1695.D	11/14/2018	02:12
DET-003-181002-GW	280-116020-2	G1696.D	11/14/2018	02:32
FWGTB-181002-TB	280-116020-3	G1697.D	11/14/2018	02:52
DET-004-181001-GW	280-116020-12	G1698.D	11/14/2018	03:12
	CCVC 280-437463/36	G1707.D	11/14/2018	06:14
	CCVC 280-437463/37	G1708.D	11/14/2018	06:34

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: ICIS 280-435406/14 Date Analyzed: 10/29/2018 21:21

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um)

Lab File ID (Standard): G0946.D Heated Purge: (Y/N) N

Calibration ID: 34172

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		98670	4.47	795389	6.47	150141	9.16
UPPER LIMIT		197340	4.97	1590778	6.97	300282	9.66
LOWER LIMIT		49335	3.97	397695	5.97	75071	8.66
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-435406/17		105013	4.46	867672	6.46	162862	9.15
CCV 280-437463/2		73988	4.44	603770	6.44	113550	9.13
MB 280-437463/4		63106	4.43	571573	6.43	101767	9.13
LCS 280-437463/5		74767	4.43	581353	6.44	105434	9.14
280-116020-1	DET-003-181001-GW	72285	4.43	557339	6.44	103977	9.14
280-116020-1 MS	DET-003-181001-GW MS	74784	4.44	580477	6.44	104651	9.13
280-116020-1 MSD	DET-003-181001-GW MSD	68961	4.44	621908	6.44	111059	9.13
280-116020-2	DET-003-181002-GW	72575	4.44	579114	6.44	107508	9.13
280-116020-3	FWGTB-181002-TB	63450	4.44	581715	6.44	106749	9.14
280-116020-12	DET-004-181001-GW	74242	4.44	564760	6.44	104945	9.14
CCVC 280-437463/36		65013	4.44	583772	6.44	108599	9.14
CCVC 280-437463/37		73185	4.44	604434	6.44	112348	9.13

TBAd9 = TBA-d9 (IS)
FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260B

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: ICIS 280-435406/14 Date Analyzed: 10/29/2018 21:21

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um)

Lab File ID (Standard): G0946.D Heated Purge: (Y/N) N

Calibration ID: 34172

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		211577	11.29				
UPPER LIMIT		423154	11.79				
LOWER LIMIT		105789	10.79				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-435406/17		222059	11.28				
CCV 280-437463/2		158502	11.26				
MB 280-437463/4		139245	11.27				
LCS 280-437463/5		151078	11.27				
280-116020-1	DET-003-181001-GW	135670	11.27				
280-116020-1 MS	DET-003-181001-GW MS	149099	11.26				
280-116020-1 MSD	DET-003-181001-GW MSD	156518	11.27				
280-116020-2	DET-003-181002-GW	137602	11.26				
280-116020-3	FWGTB-181002-TB	140536	11.27				
280-116020-12	DET-004-181001-GW	135576	11.26				
CCVC 280-437463/36		153398	11.26				
CCVC 280-437463/37		144666	11.27				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW | Lab Sample ID: 280-116020-1

Matrix: Water | Lab File ID: G1693.D

Analysis Method: 8260B | Date Collected: 10/24/2018 10:05

Sample wt/vol: 20(mL) | Date Analyzed: 11/14/2018 01:31

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 437463 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.40	U H	1.0	0.40	0.16
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U H	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U H	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U H	1.0	0.80	0.22
75-35-4	1,1-Dichloroethene	0.80	U H	1.0	0.80	0.23
106-93-4	1,2-Dibromoethane	0.40	U H	1.0	0.40	0.18
107-06-2	1,2-Dichloroethane	0.40	U H	1.0	0.40	0.13
540-59-0	1,2-Dichloroethene, Total	0.20	U H	1.0	0.20	0.24
78-87-5	1,2-Dichloropropane	0.40	U H	1.0	0.40	0.18
78-93-3	2-Butanone (MEK)	4.0	U H	6.0	4.0	2.0
591-78-6	2-Hexanone	4.0	U H	5.0	4.0	1.7
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U H	5.0	3.2	0.98
67-64-1	Acetone	6.4	U H	10	6.4	1.9
71-43-2	Benzene	0.40	U H	1.0	0.40	0.16
108-86-1	Bromobenzene	0.40	U H	1.0	0.40	0.17
74-97-5	Bromochloromethane	0.20	U H	1.0	0.20	0.10
75-27-4	Bromodichloromethane	0.40	U H	1.0	0.40	0.17
75-25-2	Bromoform	0.40	U H	1.0	0.40	0.19
74-83-9	Bromomethane	0.80	U H	2.0	0.80	0.21
75-15-0	Carbon disulfide	1.6	U H	2.0	1.6	0.45
56-23-5	Carbon tetrachloride	0.40	U H	2.0	0.40	0.19
108-90-7	Chlorobenzene	0.40	U H	1.0	0.40	0.17
75-00-3	Chloroethane	1.6	U H	2.0	1.6	0.41
67-66-3	Chloroform	0.40	U H	1.0	0.40	0.16
74-87-3	Chloromethane	0.80	U H	2.0	0.80	0.30
10061-01-5	cis-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.16
124-48-1	Dibromochloromethane	0.40	U H	1.0	0.40	0.17
100-41-4	Ethylbenzene	0.40	U H	1.0	0.40	0.16
75-09-2	Methylene Chloride	0.80	U H	5.0	0.80	0.32
100-42-5	Styrene	0.40	U H	1.0	0.40	0.17
127-18-4	Tetrachloroethene	0.40	U H	1.0	0.40	0.20
108-88-3	Toluene	0.40	U H	1.0	0.40	0.17
10061-02-6	trans-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.19
79-01-6	Trichloroethene	0.40	U H	1.0	0.40	0.16
75-01-4	Vinyl chloride	0.20	U H	1.5	0.20	0.10
1330-20-7	Xylenes, Total	0.80	U H	1.0	0.80	0.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW | Lab Sample ID: 280-116020-1

Matrix: Water | Lab File ID: G1693.D

Analysis Method: 8260B | Date Collected: 10/24/2018 10:05

Sample wt/vol: 20(mL) | Date Analyzed: 11/14/2018 01:31

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 437463 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		81-118
460-00-4	4-Bromofluorobenzene (Surr)	104		85-114
1868-53-7	Dibromofluoromethane (Surr)	104		80-119
2037-26-5	Toluene-d8 (Surr)	101		89-112

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1693.D
Lims ID: 280-116020-K-1
Client ID: DET-003-181001-GW
Sample Type: Client
Inject. Date: 14-Nov-2018 01:31:30 ALS Bottle#: 27 Worklist Smp#: 22
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: 280-116020-K-1 pH<2 HS
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:44:19 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 14-Nov-2018 18:26:26

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.434	4.437	-0.003	0	72285	250.0	
* 149 1,4-Dioxane-d8	96		4.687				ND	
* 1 Fluorobenzene	96	6.443	6.436	0.007	97	557339	12.5	
* 2 Chlorobenzene-d5	119	9.141	9.134	0.007	91	103977	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.268	11.261	0.007	97	135670	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.852	5.855	-0.003	91	163638	10.4	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.157	6.151	0.006	0	121721	10.4	
$ 7 Toluene-d8 (Surr)	98	7.792	7.785	0.007	96	477797	10.1	
$ 8 4-Bromofluorobenzene (Surr	95	10.244	10.247	-0.003	85	150073	10.4	
$ 151 Trifluorotoluene (Surr)	1		0.000				ND	
$ 4 BFB	95		3.608				ND	
25 Dichlorodifluoromethane	85		2.872				ND	
27 Chloromethane	50		3.079				ND	
28 Vinyl chloride	62		3.187				ND	
30 Ethylene oxide	43		3.443				ND	
31 Bromomethane	94		3.502				ND	
32 Chloroethane	64		3.551				ND	
33 Dichlorofluoromethane	67		3.699				ND	
35 Trichlorofluoromethane	101		3.797				ND	
34 Ethanol	45		3.807				ND	
38 Ethyl ether	59		3.925				ND	
24 Chlorotrifluoroethene	116		3.956				ND	
39 Propene oxide	58		4.004				ND	
41 Acrolein	56		4.053				ND	
42 Acetone	43		4.142				ND	
44 1,1,2-Trichloro-1,2,2-trif	151		4.171				ND	
26 1,2-Dichloro-1,1,2,2-tetra	85		4.173				ND	
45 1,1-Dichloroethene	96		4.181				ND	
43 Isopropyl alcohol	45		4.182				ND	U
47 Iodomethane	142		4.339				ND	
46 Acetonitrile	41		4.369				ND	
48 Methyl acetate	43		4.388				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
50 Carbon disulfide	76		4.428				ND	
49 3-Chloro-1-propene	41		4.428				ND	
29 2-Chloro-1,1,1-Trifluoroet	118		4.429				ND	
51 2-Methyl-2-propanol	59		4.496				ND	
52 Methylene Chloride	84		4.516				ND	
53 Acrylonitrile	53		4.664				ND	
54 Methyl tert-butyl ether	73		4.713				ND	
55 trans-1,2-Dichloroethene	96		4.743				ND	
56 Hexane	57		4.930				ND	
57 Vinyl acetate	43		5.018				ND	
58 Isopropyl ether	87		5.048				ND	
59 1,1-Dichloroethane	63		5.058				ND	
60 2-Chloro-1,3-butadiene	53		5.137				ND	
36 1,2-Dichloro-1,1,2-trifluo	117		5.267				ND	
37 1,1,1-Trifluoro-2,2-dichlo	83		5.297				ND	
61 Tert-butyl ethyl ether	59		5.334				ND	
62 2-Butanone (MEK)	43		5.461				ND	
63 Ethyl acetate	43		5.471				ND	
66 cis-1,2-Dichloroethene	96		5.501				ND	
64 Propionitrile	54		5.501				ND	
67 2,2-Dichloropropane	77		5.530				ND	
65 sec-Butyl Alcohol	45		5.550				ND	
68 Methacrylonitrile	41		5.639				ND	
69 Chlorobromomethane	128		5.698				ND	
70 Chloroform	83		5.727				ND	
71 Tetrahydrofuran	42		5.737				ND	
73 1,1,1-Trichloroethane	97		5.944				ND	
72 Isobutyl alcohol	41		5.964				ND	
74 Cyclohexane	56		6.033				ND	
75 1,1-Dichloropropene	75		6.062				ND	
76 Carbon tetrachloride	117		6.092				ND	
77 1,2-Dichloroethane	62		6.220				ND	
79 Benzene	78		6.239				ND	
78 Tert-amyl methyl ether	73		6.269				ND	
13 n-Heptane	43		6.377				ND	
80 n-Butanol	56		6.505				ND	U
81 Trichloroethene	95		6.741				ND	
82 2-Pentanone	43		6.830				ND	
83 Methyl methacrylate	100		6.929				ND	
84 1,2-Dichloropropane	63		6.938				ND	
85 Methylcyclohexane	55		6.958				ND	
86 1,4-Dioxane	88		7.007				ND	
87 Dibromomethane	93		7.037				ND	
88 Dichlorobromomethane	83		7.135				ND	
89 2-Nitropropane	41		7.293				ND	
90 2-Chloroethyl vinyl ether	63		7.332				ND	
91 cis-1,3-Dichloropropene	75		7.519				ND	
92 4-Methyl-2-pentanone (MIBK	43		7.598				ND	
93 Toluene	91		7.854				ND	
95 trans-1,3-Dichloropropene	75		7.982				ND	
94 Ethyl methacrylate	69		8.002				ND	
96 1,1,2-Trichloroethane	97		8.169				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
98 1,3-Dichloropropane	76		8.337				ND	
97 2-Hexanone	43		8.346				ND	
99 Tetrachloroethene	164		8.376				ND	
100 Chlorodibromomethane	129		8.563				ND	
101 Tetrahydrothiophene	60		8.613				ND	
102 Ethylene Dibromide	107		8.711				ND	
103 1-Chlorohexane	91		9.094				ND	
104 Chlorobenzene	112		9.164				ND	
105 1,1,1,2-Tetrachloroethane	131		9.213				ND	
106 Ethylbenzene	106		9.233				ND	
107 m-Xylene & p-Xylene	106		9.341				ND	
109 Styrene	104		9.735				ND	
108 o-Xylene	106		9.735				ND	
110 Bromoform	173		9.952				ND	
111 Isopropylbenzene	105		10.080				ND	
112 cis-1,4-Dichloro-2-butene	53		10.109				ND	
113 Cyclohexanone	55		10.188				ND	
114 1,1,2,2-Tetrachloroethane	83		10.316				ND	
115 trans-1,4-Dichloro-2-buten	53		10.375				ND	
116 1,2,3-Trichloropropane	110		10.395				ND	
117 Bromobenzene	156		10.424				ND	
118 N-Propylbenzene	120		10.464				ND	
120 2-Chlorotoluene	126		10.572				ND	
119 1,3,5-Trimethylbenzene	105		10.611				ND	
121 4-Chlorotoluene	126		10.660				ND	
122 tert-Butylbenzene	119		10.907				ND	
123 1,2,4-Trimethylbenzene	105		10.936				ND	
124 sec-Butylbenzene	134		11.084				ND	
125 4-Isopropyltoluene	119		11.192				ND	
126 1,3-Dichlorobenzene	146		11.212				ND	
127 1,4-Dichlorobenzene	146		11.281				ND	
128 1,2,3-Trimethylbenzene	105		11.311				ND	
129 n-Butylbenzene	91		11.547				ND	
130 1,2-Dichlorobenzene	146		11.625				ND	
131 1,2-Dibromo-3-Chloropropan	157		12.315				ND	
11 1,3,5-Trichlorobenzene	180		12.522				ND	
132 1,2,4-Trichlorobenzene	180		13.162				ND	
133 Hexachlorobutadiene	225		13.319				ND	
134 Naphthalene	128		13.447				ND	
135 1,2,3-Trichlorobenzene	180		13.723				ND	
161 1-Chloro-1-fluoroethane TI	1		0.000				ND	
160 Cyclohexane TIC	1		0.000				ND	
15 3-Ethylpentane	1		0.000				ND	
16 3-Methylhexane	1		0.000				ND	
10 2,2-Dimethylpentane	1		0.000				ND	
21 2-Methylhexane	1		0.000				ND	
158 1-Chlorohexane TIC	1		0.000				ND	
9 2,2,3-Trimethylbutane	1		0.000				ND	
14 2,3-Dimethylpentane	1		0.000				ND	
18 3,3-Dimethylpentane	1		0.000				ND	
17 Dimethyl disulfide	1		0.000				ND	
143 Pentachloroethane	167		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
19 2,4-Dimethylpentane	1		0.000				ND	
12 n-Nonyl Aldehyde	1		0.000				ND	
159 Methyl cyclohexane TIC	1		0.000				ND	
S 142 1,2-Dichloroethene, Total	96		2.000				ND	
S 156 TAH	1				0		0	7
S 136 Trihalomethanes, Total	1		0.000				ND	
S 139 1,3-Dichloropropene, Total	1		0.000				ND	
S 140 1,2-Dichloroethene, Total	1		0.000				ND	
S 137 Xylenes, Total (URS)	1		0.000				ND	
S 141 Xylenes, Total	106		0.000				ND	
S 138 Total BTEX	1		0.000				ND	
T 154 4-Ethyltoluene TIC	105		0.000				ND	
T 40 Propene oxide TIC	58		0.000				ND	
T 23 2,3-dichloro-1-propene TIC	75		0.000				ND	
T 157 n-Nonane TIC	1		0.000				ND	
T 22 Dichloroacetonitrile TIC	74		0.000				ND	
T 155 1,3-Butadiene TIC	39		0.000				ND	
T 153 Dicyclopentadiene TIC	66		0.000				ND	
T 20 2-Butoxyethanol TIC	1		0.000				ND	
T 152 Propene TIC	41		0.000				ND	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

U - Marked Undetected

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

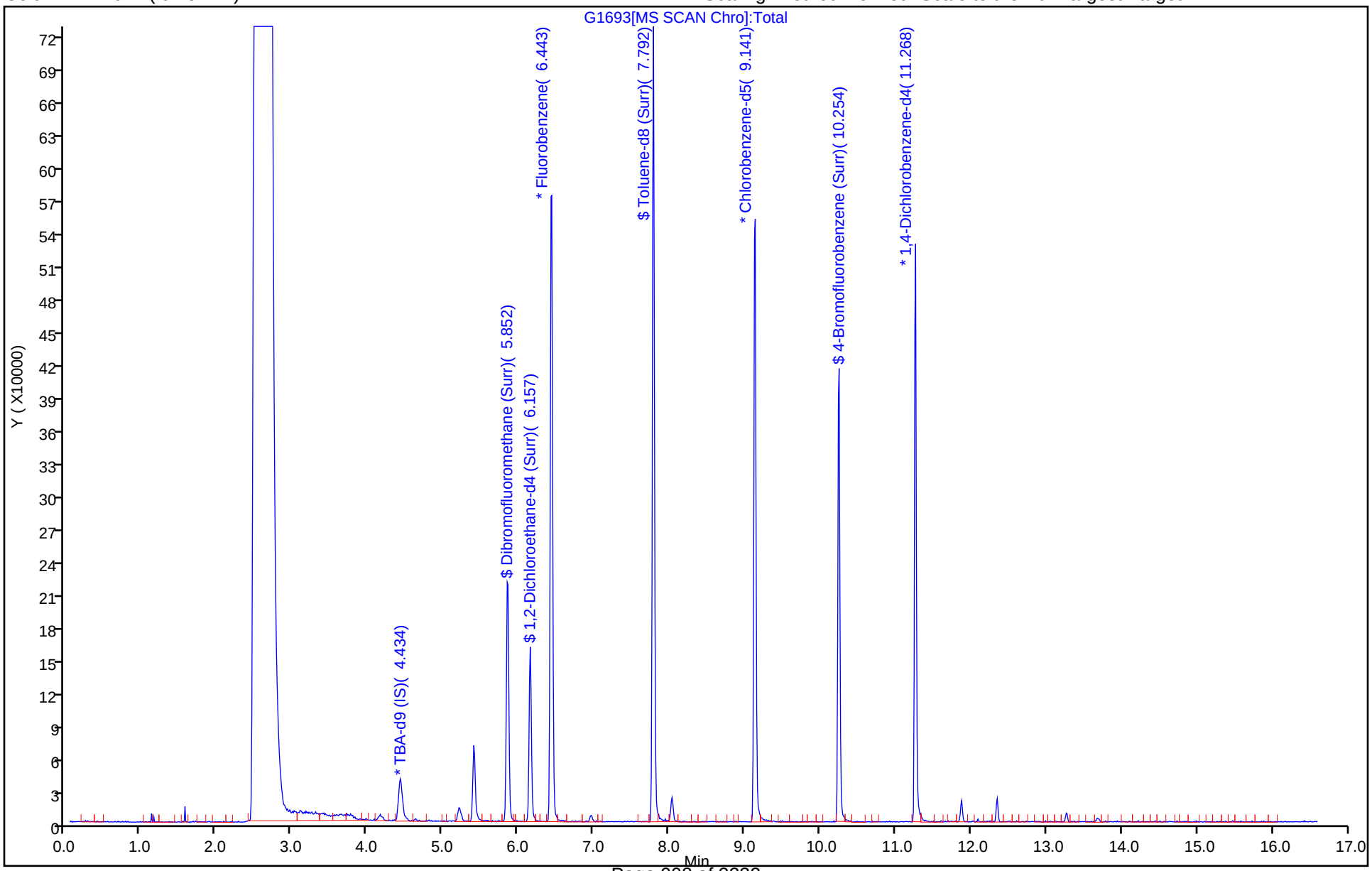
Report Date: 14-Nov-2018 23:44:43 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1693.D

Injection Date:	14-Nov-2018 01:31:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	280-116020-K-1	Lab Sample ID:	280-116020-1	Worklist Smp#:	22
Client ID:	DET-003-181001-GW				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1693.D				
Lims ID:	280-116020-K-1				
Client ID:	DET-003-181001-GW				
Sample Type:	Client				
Inject. Date:	14-Nov-2018 01:31:30	ALS Bottle#:	27	Worklist Smp#:	22
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-116020-K-1 pH<2 HS				
Operator ID:	newcomer	Instrument ID:	VMS_G		
Method:	\\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	14-Nov-2018 23:44:19	Calib Date:	29-Oct-2018 22:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D				
Column 1 :	DB-624 (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0332				

First Level Reviewer: newcomer Date: 14-Nov-2018 18:26:26

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	10.0	10.4	104.02
$ 6 1,2-Dichloroethane-d4 (Surr)	10.0	10.4	103.72
$ 7 Toluene-d8 (Surr)	10.0	10.1	101.40
$ 8 4-Bromofluorobenzene (Surr)	10.0	10.4	103.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181002-GW | Lab Sample ID: 280-116020-2

Matrix: Water | Lab File ID: G1696.D

Analysis Method: 8260B | Date Collected: 10/24/2018 10:05

Sample wt/vol: 20(mL) | Date Analyzed: 11/14/2018 02:32

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 437463 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.40	U H	1.0	0.40	0.16
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U H	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U H	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U H	1.0	0.80	0.22
75-35-4	1,1-Dichloroethene	0.80	U H	1.0	0.80	0.23
106-93-4	1,2-Dibromoethane	0.40	U H	1.0	0.40	0.18
107-06-2	1,2-Dichloroethane	0.40	U H	1.0	0.40	0.13
540-59-0	1,2-Dichloroethene, Total	0.20	U H	1.0	0.20	0.24
78-87-5	1,2-Dichloropropane	0.40	U H	1.0	0.40	0.18
78-93-3	2-Butanone (MEK)	4.0	U H	6.0	4.0	2.0
591-78-6	2-Hexanone	4.0	U H	5.0	4.0	1.7
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U H	5.0	3.2	0.98
67-64-1	Acetone	6.4	U H	10	6.4	1.9
71-43-2	Benzene	0.40	U H	1.0	0.40	0.16
108-86-1	Bromobenzene	0.40	U H	1.0	0.40	0.17
74-97-5	Bromochloromethane	0.20	U H	1.0	0.20	0.10
75-27-4	Bromodichloromethane	0.40	U H	1.0	0.40	0.17
75-25-2	Bromoform	0.40	U H	1.0	0.40	0.19
74-83-9	Bromomethane	0.80	U H	2.0	0.80	0.21
75-15-0	Carbon disulfide	1.6	U H	2.0	1.6	0.45
56-23-5	Carbon tetrachloride	0.40	U H	2.0	0.40	0.19
108-90-7	Chlorobenzene	0.40	U H	1.0	0.40	0.17
75-00-3	Chloroethane	1.6	U H	2.0	1.6	0.41
67-66-3	Chloroform	0.40	U H	1.0	0.40	0.16
74-87-3	Chloromethane	0.80	U H	2.0	0.80	0.30
10061-01-5	cis-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.16
124-48-1	Dibromochloromethane	0.40	U H	1.0	0.40	0.17
100-41-4	Ethylbenzene	0.40	U H	1.0	0.40	0.16
75-09-2	Methylene Chloride	0.80	U H	5.0	0.80	0.32
100-42-5	Styrene	0.40	U H	1.0	0.40	0.17
127-18-4	Tetrachloroethene	0.40	U H	1.0	0.40	0.20
108-88-3	Toluene	0.40	U H	1.0	0.40	0.17
10061-02-6	trans-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.19
79-01-6	Trichloroethene	0.40	U H	1.0	0.40	0.16
75-01-4	Vinyl chloride	0.20	U H	1.5	0.20	0.10
1330-20-7	Xylenes, Total	0.80	U H	1.0	0.80	0.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181002-GW | Lab Sample ID: 280-116020-2

Matrix: Water | Lab File ID: G1696.D

Analysis Method: 8260B | Date Collected: 10/24/2018 10:05

Sample wt/vol: 20(mL) | Date Analyzed: 11/14/2018 02:32

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 437463 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		81-118
460-00-4	4-Bromofluorobenzene (Surr)	102		85-114
1868-53-7	Dibromofluoromethane (Surr)	100		80-119
2037-26-5	Toluene-d8 (Surr)	99		89-112

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1696.D
Lims ID: 280-116020-G-2
Client ID: DET-003-181002-GW
Sample Type: Client
Inject. Date: 14-Nov-2018 02:32:30 ALS Bottle#: 30 Worklist Smp#: 25
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: 280-116020-G-2 pH<2 HS
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:44:19 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 14-Nov-2018 18:32:56

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.438	4.437	0.001	0	72575	250.0	
* 149 1,4-Dioxane-d8	96		4.687				ND	
* 1 Fluorobenzene	96	6.436	6.436	0.000	97	579114	12.5	
* 2 Chlorobenzene-d5	119	9.134	9.134	0.000	91	107508	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.261	11.261	0.000	97	137602	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.855	5.855	0.000	91	164070	10.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.161	6.151	0.010	0	123578	10.1	
$ 7 Toluene-d8 (Surr)	98	7.795	7.785	0.010	96	480147	9.86	
$ 8 4-Bromofluorobenzene (Surr	95	10.247	10.247	0.000	84	149633	10.2	
27 Chloromethane	50		3.079				ND	
28 Vinyl chloride	62		3.187				ND	
31 Bromomethane	94		3.502				ND	
32 Chloroethane	64		3.551				ND	
42 Acetone	43		4.142				ND	
45 1,1-Dichloroethene	96		4.181				ND	
50 Carbon disulfide	76		4.428				ND	
52 Methylene Chloride	84		4.516				ND	
55 trans-1,2-Dichloroethene	96		4.743				ND	
59 1,1-Dichloroethane	63		5.058				ND	
62 2-Butanone (MEK)	43		5.461				ND	
66 cis-1,2-Dichloroethene	96		5.501				ND	
69 Chlorobromomethane	128		5.698				ND	
70 Chloroform	83		5.727				ND	
73 1,1,1-Trichloroethane	97		5.944				ND	
76 Carbon tetrachloride	117		6.092				ND	
77 1,2-Dichloroethane	62		6.220				ND	
79 Benzene	78		6.239				ND	
81 Trichloroethene	95		6.741				ND	
84 1,2-Dichloropropane	63		6.938				ND	
88 Dichlorobromomethane	83		7.135				ND	
91 cis-1,3-Dichloropropene	75		7.519				ND	
92 4-Methyl-2-pentanone (MIBK	43		7.598				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
93 Toluene	91		7.854				ND	
95 trans-1,3-Dichloropropene	75		7.982				ND	
96 1,1,2-Trichloroethane	97		8.169				ND	
97 2-Hexanone	43		8.346				ND	
99 Tetrachloroethene	164		8.376				ND	
100 Chlorodibromomethane	129		8.563				ND	
102 Ethylene Dibromide	107		8.711				ND	
104 Chlorobenzene	112		9.164				ND	
106 Ethylbenzene	106		9.233				ND	
107 m-Xylene & p-Xylene	106		9.341				ND	
109 Styrene	104		9.735				ND	
108 o-Xylene	106		9.735				ND	
110 Bromoform	173		9.952				ND	
114 1,1,2,2-Tetrachloroethane	83		10.316				ND	
117 Bromobenzene	156		10.424				ND	
S 140 1,2-Dichloroethene, Total	1		0.000				ND	
S 141 Xylenes, Total	106		0.000				ND	

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

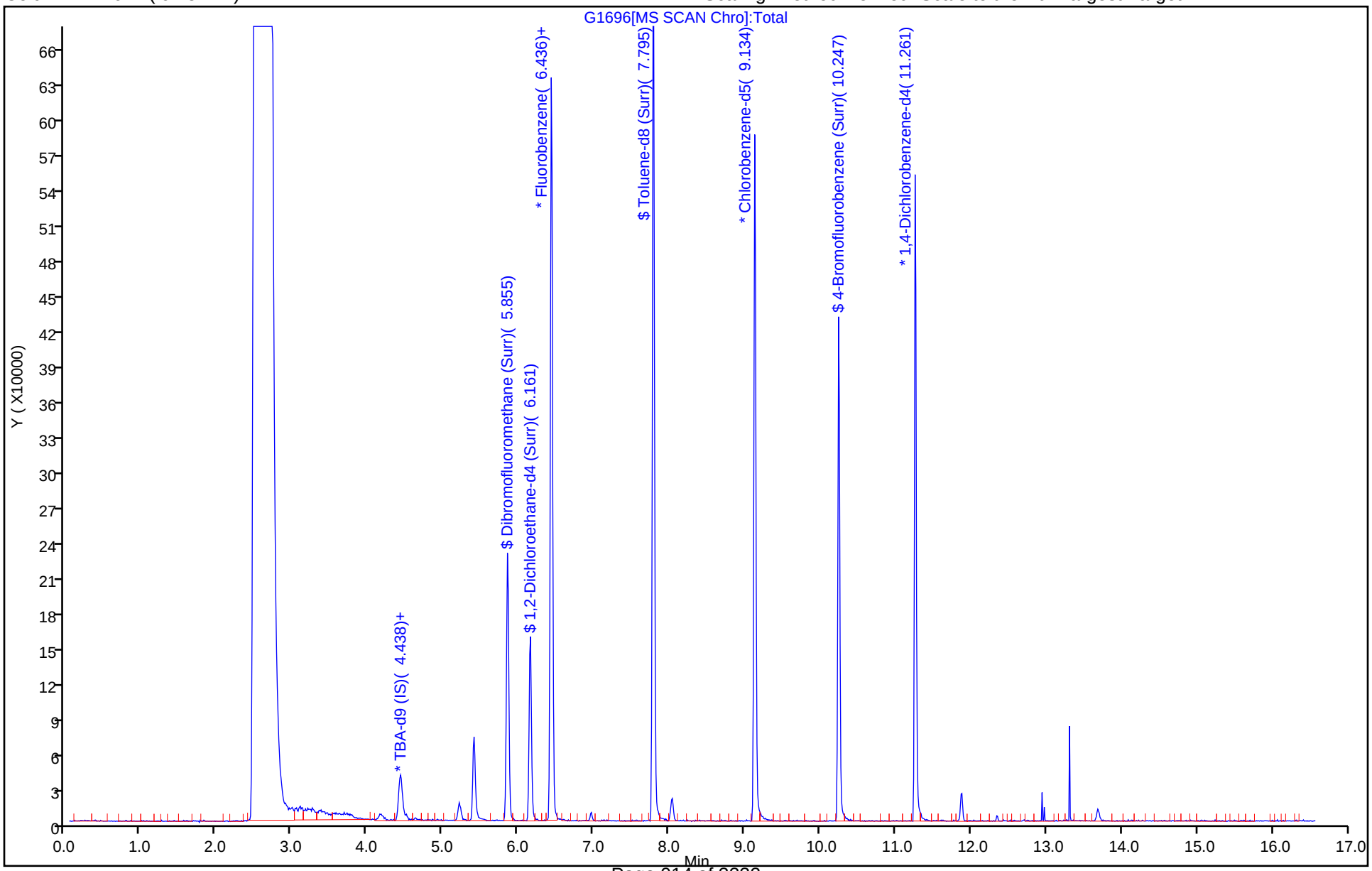
Report Date: 14-Nov-2018 23:44:49 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1696.D

Injection Date:	14-Nov-2018 02:32:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	280-116020-G-2	Lab Sample ID:	280-116020-2	Worklist Smp#:	25
Client ID:	DET-003-181002-GW				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1696.D				
Lims ID:	280-116020-G-2				
Client ID:	DET-003-181002-GW				
Sample Type:	Client				
Inject. Date:	14-Nov-2018 02:32:30	ALS Bottle#:	30	Worklist Smp#:	25
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-116020-G-2 pH<2 HS				
Operator ID:	newcomer	Instrument ID:	VMS_G		
Method:	\\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	14-Nov-2018 23:44:19	Calib Date:	29-Oct-2018 22:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D				
Column 1 :	DB-624 (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0332				

First Level Reviewer: newcomer Date: 14-Nov-2018 18:32:56

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	10.0	10.0	100.37
$ 6 1,2-Dichloroethane-d4 (Surr)	10.0	10.1	101.34
$ 7 Toluene-d8 (Surr)	10.0	9.86	98.55
$ 8 4-Bromofluorobenzene (Surr)	10.0	10.2	101.88

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: FWGTB-181002-TB | Lab Sample ID: 280-116020-3

Matrix: Water | Lab File ID: G1697.D

Analysis Method: 8260B | Date Collected: 10/24/2018 10:05

Sample wt/vol: 20(mL) | Date Analyzed: 11/14/2018 02:52

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 437463 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.40	U H	1.0	0.40	0.16
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U H	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U H	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U H	1.0	0.80	0.22
75-35-4	1,1-Dichloroethene	0.80	U H	1.0	0.80	0.23
106-93-4	1,2-Dibromoethane	0.40	U H	1.0	0.40	0.18
107-06-2	1,2-Dichloroethane	0.40	U H	1.0	0.40	0.13
540-59-0	1,2-Dichloroethene, Total	0.20	U H	1.0	0.20	0.24
78-87-5	1,2-Dichloropropane	0.40	U H	1.0	0.40	0.18
78-93-3	2-Butanone (MEK)	4.0	U H	6.0	4.0	2.0
591-78-6	2-Hexanone	4.0	U H	5.0	4.0	1.7
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U H	5.0	3.2	0.98
67-64-1	Acetone	6.4	U H	10	6.4	1.9
71-43-2	Benzene	0.40	U H	1.0	0.40	0.16
108-86-1	Bromobenzene	0.40	U H	1.0	0.40	0.17
74-97-5	Bromochloromethane	0.20	U H	1.0	0.20	0.10
75-27-4	Bromodichloromethane	0.40	U H	1.0	0.40	0.17
75-25-2	Bromoform	0.40	U H	1.0	0.40	0.19
74-83-9	Bromomethane	0.80	U H	2.0	0.80	0.21
75-15-0	Carbon disulfide	1.6	U H	2.0	1.6	0.45
56-23-5	Carbon tetrachloride	0.40	U H	2.0	0.40	0.19
108-90-7	Chlorobenzene	0.40	U H	1.0	0.40	0.17
75-00-3	Chloroethane	1.6	U H	2.0	1.6	0.41
67-66-3	Chloroform	0.40	U H	1.0	0.40	0.16
74-87-3	Chloromethane	0.80	U H	2.0	0.80	0.30
10061-01-5	cis-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.16
124-48-1	Dibromochloromethane	0.40	U H	1.0	0.40	0.17
100-41-4	Ethylbenzene	0.40	U H	1.0	0.40	0.16
75-09-2	Methylene Chloride	0.80	U H	5.0	0.80	0.32
100-42-5	Styrene	0.40	U H	1.0	0.40	0.17
127-18-4	Tetrachloroethene	0.40	U H	1.0	0.40	0.20
108-88-3	Toluene	0.40	U H	1.0	0.40	0.17
10061-02-6	trans-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.19
79-01-6	Trichloroethene	0.40	U H	1.0	0.40	0.16
75-01-4	Vinyl chloride	0.20	U H	1.5	0.20	0.10
1330-20-7	Xylenes, Total	0.80	U H	1.0	0.80	0.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: FWGTB-181002-TB | Lab Sample ID: 280-116020-3

Matrix: Water | Lab File ID: G1697.D

Analysis Method: 8260B | Date Collected: 10/24/2018 10:05

Sample wt/vol: 20(mL) | Date Analyzed: 11/14/2018 02:52

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 437463 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		81-118
460-00-4	4-Bromofluorobenzene (Surr)	101		85-114
1868-53-7	Dibromofluoromethane (Surr)	89		80-119
2037-26-5	Toluene-d8 (Surr)	99		89-112

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1697.D
Lims ID: 280-116020-A-3
Client ID: FWGTB-181002-TB
Sample Type: Client
Inject. Date: 14-Nov-2018 02:52:30 ALS Bottle#: 31 Worklist Smp#: 26
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: 280-116020-A-3 pH<2
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:44:19 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 14-Nov-2018 18:33:16

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.441	4.437	0.004	0	63450	250.0	
* 149 1,4-Dioxane-d8	96		4.687				ND	
* 1 Fluorobenzene	96	6.440	6.436	0.004	97	581715	12.5	
* 2 Chlorobenzene-d5	119	9.138	9.134	0.004	91	106749	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.265	11.261	0.004	97	140536	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.859	5.855	0.004	91	145743	8.88	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.154	6.151	0.003	0	119242	9.73	
$ 7 Toluene-d8 (Surr)	98	7.789	7.785	0.004	96	478225	9.89	
$ 8 4-Bromofluorobenzene (Surr	95	10.250	10.247	0.003	80	151431	10.1	
27 Chloromethane	50		3.079				ND	
28 Vinyl chloride	62		3.187				ND	
31 Bromomethane	94		3.502				ND	
32 Chloroethane	64		3.551				ND	
42 Acetone	43		4.142				ND	
45 1,1-Dichloroethene	96		4.181				ND	
50 Carbon disulfide	76		4.428				ND	
52 Methylene Chloride	84		4.516				ND	
55 trans-1,2-Dichloroethene	96		4.743				ND	
59 1,1-Dichloroethane	63		5.058				ND	
62 2-Butanone (MEK)	43		5.461				ND	
66 cis-1,2-Dichloroethene	96		5.501				ND	
69 Chlorobromomethane	128		5.698				ND	
70 Chloroform	83		5.727				ND	
73 1,1,1-Trichloroethane	97		5.944				ND	
76 Carbon tetrachloride	117		6.092				ND	
77 1,2-Dichloroethane	62		6.220				ND	
79 Benzene	78		6.239				ND	
81 Trichloroethene	95		6.741				ND	
84 1,2-Dichloropropane	63		6.938				ND	
88 Dichlorobromomethane	83		7.135				ND	
91 cis-1,3-Dichloropropene	75		7.519				ND	
92 4-Methyl-2-pentanone (MIBK	43		7.598				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
93 Toluene	91		7.854				ND	
95 trans-1,3-Dichloropropene	75		7.982				ND	
96 1,1,2-Trichloroethane	97		8.169				ND	
97 2-Hexanone	43		8.346				ND	
99 Tetrachloroethene	164		8.376				ND	
100 Chlorodibromomethane	129		8.563				ND	
102 Ethylene Dibromide	107		8.711				ND	
104 Chlorobenzene	112		9.164				ND	
106 Ethylbenzene	106		9.233				ND	
107 m-Xylene & p-Xylene	106		9.341				ND	
109 Styrene	104		9.735				ND	
108 o-Xylene	106		9.735				ND	
110 Bromoform	173		9.952				ND	
114 1,1,2,2-Tetrachloroethane	83		10.316				ND	
117 Bromobenzene	156		10.424				ND	
S 140 1,2-Dichloroethene, Total	1		0.000				ND	
S 141 Xylenes, Total	106		0.000				ND	

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

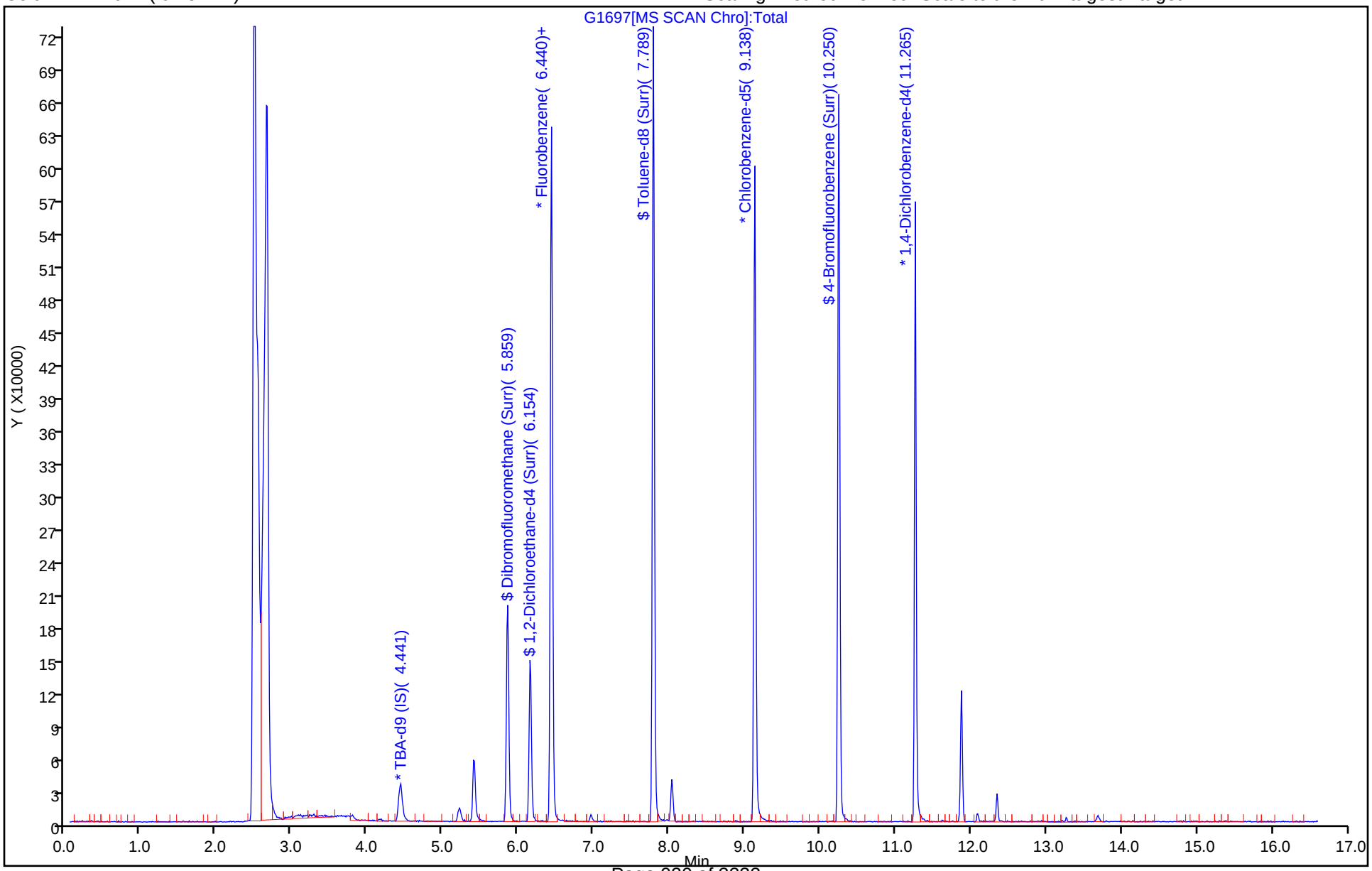
Report Date: 14-Nov-2018 23:44:51 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1697.D

Injection Date:	14-Nov-2018 02:52:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	280-116020-A-3	Lab Sample ID:	280-116020-3	Worklist Smp#:	26
Client ID:	FWGTB-181002-TB				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1697.D
Lims ID: 280-116020-A-3
Client ID: FWGTB-181002-TB
Sample Type: Client
Inject. Date: 14-Nov-2018 02:52:30 ALS Bottle#: 31 Worklist Smp#: 26
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: 280-116020-A-3 pH<2
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:44:19 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 14-Nov-2018 18:33:16

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	10.0	8.88	88.76
$ 6 1,2-Dichloroethane-d4 (Surr)	10.0	9.73	97.35
$ 7 Toluene-d8 (Surr)	10.0	9.89	98.85
$ 8 4-Bromofluorobenzene (Surr)	10.0	10.1	100.95

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-004-181001-GW | Lab Sample ID: 280-116020-12

Matrix: Water | Lab File ID: G1698.D

Analysis Method: 8260B | Date Collected: 10/24/2018 11:20

Sample wt/vol: 20(mL) | Date Analyzed: 11/14/2018 03:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 437463 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.40	U H	1.0	0.40	0.16
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U H	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U H	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U H	1.0	0.80	0.22
75-35-4	1,1-Dichloroethene	0.80	U H	1.0	0.80	0.23
106-93-4	1,2-Dibromoethane	0.40	U H	1.0	0.40	0.18
107-06-2	1,2-Dichloroethane	0.40	U H	1.0	0.40	0.13
540-59-0	1,2-Dichloroethene, Total	0.20	U H	1.0	0.20	0.24
78-87-5	1,2-Dichloropropane	0.40	U H	1.0	0.40	0.18
78-93-3	2-Butanone (MEK)	4.0	U H	6.0	4.0	2.0
591-78-6	2-Hexanone	4.0	U H	5.0	4.0	1.7
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U H	5.0	3.2	0.98
67-64-1	Acetone	6.4	U M H	10	6.4	1.9
71-43-2	Benzene	0.40	U H	1.0	0.40	0.16
108-86-1	Bromobenzene	0.40	U H	1.0	0.40	0.17
74-97-5	Bromochloromethane	0.20	U H	1.0	0.20	0.10
75-27-4	Bromodichloromethane	0.40	U H	1.0	0.40	0.17
75-25-2	Bromoform	0.40	U H	1.0	0.40	0.19
74-83-9	Bromomethane	0.80	U H	2.0	0.80	0.21
75-15-0	Carbon disulfide	1.6	U H	2.0	1.6	0.45
56-23-5	Carbon tetrachloride	0.40	U H	2.0	0.40	0.19
108-90-7	Chlorobenzene	0.40	U H	1.0	0.40	0.17
75-00-3	Chloroethane	1.6	U H	2.0	1.6	0.41
67-66-3	Chloroform	0.40	U H	1.0	0.40	0.16
74-87-3	Chloromethane	0.80	U H	2.0	0.80	0.30
10061-01-5	cis-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.16
124-48-1	Dibromochloromethane	0.40	U H	1.0	0.40	0.17
100-41-4	Ethylbenzene	0.40	U H	1.0	0.40	0.16
75-09-2	Methylene Chloride	0.80	U H	5.0	0.80	0.32
100-42-5	Styrene	0.40	U H	1.0	0.40	0.17
127-18-4	Tetrachloroethene	0.40	U H	1.0	0.40	0.20
108-88-3	Toluene	0.40	U H	1.0	0.40	0.17
10061-02-6	trans-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.19
79-01-6	Trichloroethene	0.40	U H	1.0	0.40	0.16
75-01-4	Vinyl chloride	0.20	U H	1.5	0.20	0.10
1330-20-7	Xylenes, Total	0.80	U H	1.0	0.80	0.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-004-181001-GW | Lab Sample ID: 280-116020-12

Matrix: Water | Lab File ID: G1698.D

Analysis Method: 8260B | Date Collected: 10/24/2018 11:20

Sample wt/vol: 20(mL) | Date Analyzed: 11/14/2018 03:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 437463 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		81-118
460-00-4	4-Bromofluorobenzene (Surr)	101		85-114
1868-53-7	Dibromofluoromethane (Surr)	102		80-119
2037-26-5	Toluene-d8 (Surr)	100		89-112

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1698.D
Lims ID: 280-116020-K-12
Client ID: DET-004-181001-GW
Sample Type: Client
Inject. Date: 14-Nov-2018 03:12:30 ALS Bottle#: 32 Worklist Smp#: 27
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: 280-116020-K-12 pH<2 HS
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:44:19 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 14-Nov-2018 18:33:43

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.438	4.437	0.001	0	74242	250.0	
* 149 1,4-Dioxane-d8	96		4.687				ND	
* 1 Fluorobenzene	96	6.437	6.436	0.001	97	564760	12.5	
* 2 Chlorobenzene-d5	119	9.135	9.134	0.001	91	104945	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.262	11.261	0.001	97	135576	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.856	5.855	0.001	91	163312	10.2	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.161	6.151	0.010	0	123498	10.4	
$ 7 Toluene-d8 (Surr)	98	7.796	7.785	0.011	96	473887	9.96	
$ 8 4-Bromofluorobenzene (Surr	95	10.248	10.247	0.001	84	146800	10.1	
27 Chloromethane	50		3.079				ND	
28 Vinyl chloride	62		3.187				ND	
31 Bromomethane	94		3.502				ND	
32 Chloroethane	64		3.551				ND	
42 Acetone	43		4.142				ND	U
45 1,1-Dichloroethene	96		4.181				ND	
50 Carbon disulfide	76		4.428				ND	
52 Methylene Chloride	84	4.527	4.516	0.011	88	2038	0.1194	
55 trans-1,2-Dichloroethene	96		4.743				ND	
59 1,1-Dichloroethane	63		5.058				ND	
62 2-Butanone (MEK)	43		5.461				ND	
66 cis-1,2-Dichloroethene	96		5.501				ND	
69 Chlorobromomethane	128		5.698				ND	
70 Chloroform	83		5.727				ND	
73 1,1,1-Trichloroethane	97		5.944				ND	
76 Carbon tetrachloride	117		6.092				ND	
77 1,2-Dichloroethane	62		6.220				ND	
79 Benzene	78		6.239				ND	
81 Trichloroethene	95		6.741				ND	
84 1,2-Dichloropropane	63		6.938				ND	
88 Dichlorobromomethane	83		7.135				ND	
91 cis-1,3-Dichloropropene	75		7.519				ND	
92 4-Methyl-2-pentanone (MIBK	43		7.598				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
93 Toluene	91		7.854				ND	
95 trans-1,3-Dichloropropene	75		7.982				ND	
96 1,1,2-Trichloroethane	97		8.169				ND	
97 2-Hexanone	43		8.346				ND	
99 Tetrachloroethene	164		8.376				ND	
100 Chlorodibromomethane	129		8.563				ND	
102 Ethylene Dibromide	107		8.711				ND	
104 Chlorobenzene	112		9.164				ND	
106 Ethylbenzene	106		9.233				ND	
107 m-Xylene & p-Xylene	106		9.341				ND	
109 Styrene	104		9.735				ND	
108 o-Xylene	106		9.735				ND	
110 Bromoform	173		9.952				ND	
114 1,1,2,2-Tetrachloroethane	83		10.316				ND	
117 Bromobenzene	156		10.424				ND	
S 140 1,2-Dichloroethene, Total	1		0.000				ND	
S 141 Xylenes, Total	106		0.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

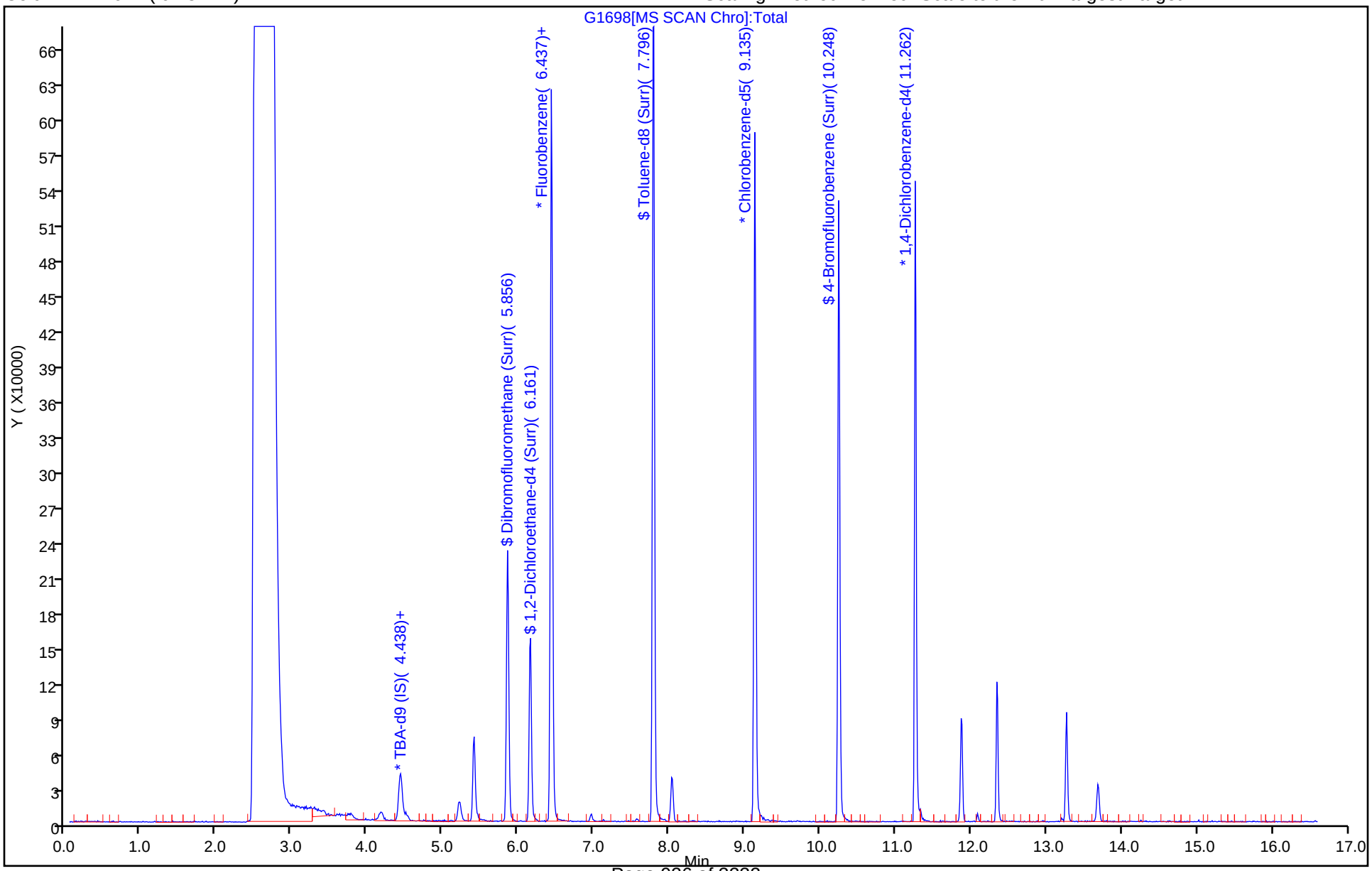
Report Date: 14-Nov-2018 23:44:52 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1698.D

Injection Date:	14-Nov-2018 03:12:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	280-116020-K-12	Lab Sample ID:	280-116020-12	Worklist Smp#:	27
Client ID:	DET-004-181001-GW				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	32
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1698.D				
Lims ID:	280-116020-K-12				
Client ID:	DET-004-181001-GW				
Sample Type:	Client				
Inject. Date:	14-Nov-2018 03:12:30	ALS Bottle#:	32	Worklist Smp#:	27
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-116020-K-12 pH<2 HS				
Operator ID:	newcomer	Instrument ID:	VMS_G		
Method:	\\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	14-Nov-2018 23:44:19	Calib Date:	29-Oct-2018 22:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D				
Column 1 :	DB-624 (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0332				

First Level Reviewer: newcomer Date: 14-Nov-2018 18:33:43

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	10.0	10.2	102.44
$ 6 1,2-Dichloroethane-d4 (Surr)	10.0	10.4	103.85
$ 7 Toluene-d8 (Surr)	10.0	9.96	99.64
$ 8 4-Bromofluorobenzene (Surr)	10.0	10.1	101.44

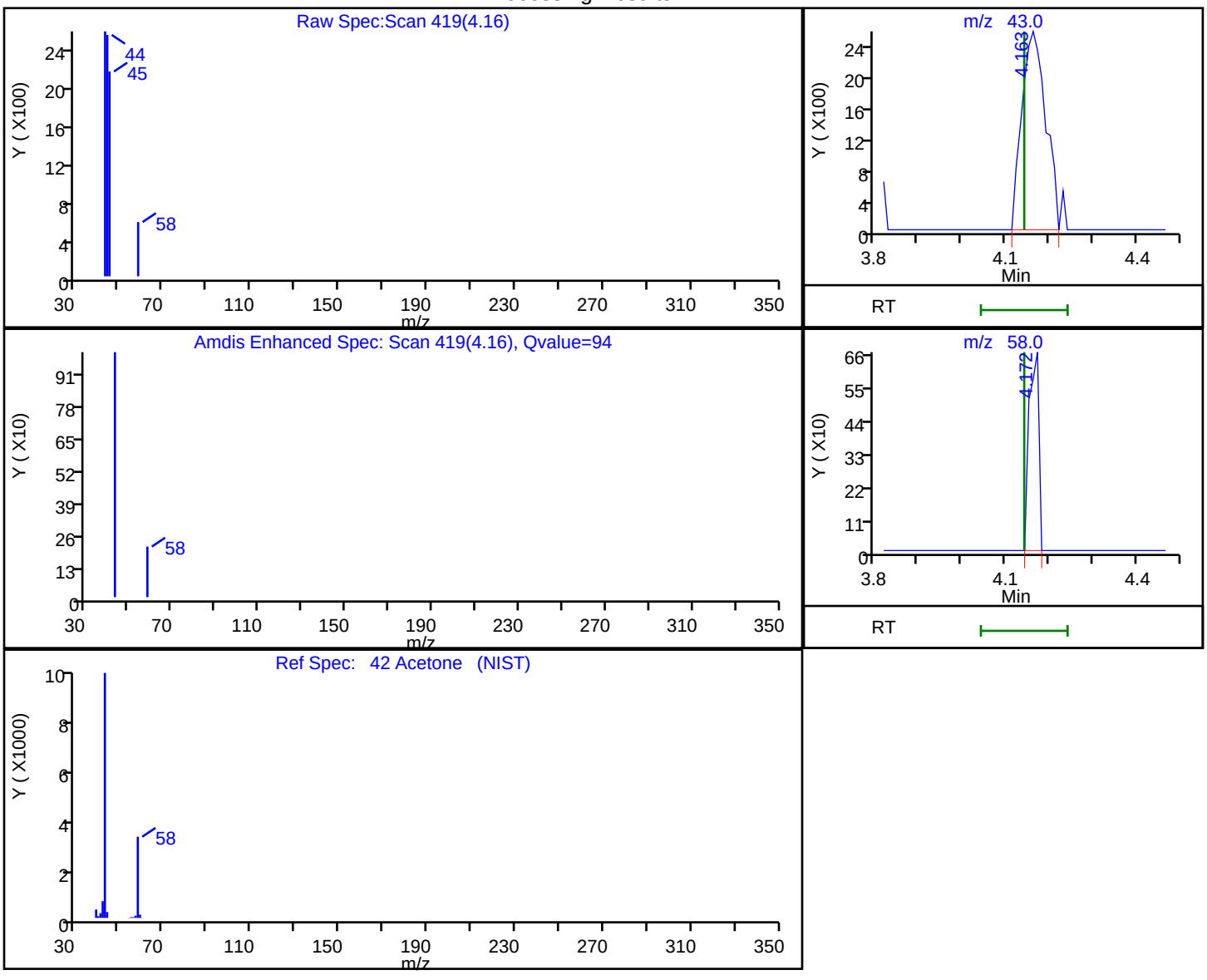
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1698.D				
Injection Date:	14-Nov-2018 03:12:30	Instrument ID:	VMS_G		
Lims ID:	280-116020-K-12	Lab Sample ID:	280-116020-12		
Client ID:	DET-004-181001-GW				
Operator ID:	newcomer	ALS Bottle#:	32	Worklist Smp#:	27
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	DB-624 (0.25 mm)	Detector	MS SCAN		

42 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
4.16	43.00	9866	3.076418
4.17	58.00	1027	

Reviewer: newcomer, 14-Nov-2018 18:33:34

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD005 280-435406/10	G0942.D
Level 2	STD01 280-435406/11	G0943.D
Level 3	STD02 280-435406/12	G0944.D
Level 4	STD05 280-435406/13	G0945.D
Level 5	ICIS 280-435406/14	G0946.D
Level 6	STD25 280-435406/15	G0947.D
Level 7	STD60 280-435406/16	G0948.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.5189 0.5625	0.5192 0.5472	0.4952	0.4596	0.5696	Ave		0.5246				7.4		15.0			
Chloromethane	0.5888 0.6094	0.6399 0.5838	0.5904	0.5747	0.6225	Ave		0.6014			0.1000	3.9		15.0			
Vinyl chloride	0.4750 0.4885	0.5013 0.4370	0.4768	0.4392	0.5053	Ave		0.4747				5.8		30.0			
Bromomethane	0.3729 0.3122	0.3563 0.2744	0.3236	0.2990	0.3253	Ave		0.3234				10.3		15.0			
Chloroethane	0.2305 0.2311	0.2431 0.2008	0.2290	0.2234	0.2376	Ave		0.2279				5.9		15.0			
Dichlorofluoromethane	0.6257 0.6600	0.6778 0.6050	0.5995	0.6360	0.6764	Ave		0.6401				5.0		15.0			
Trichlorofluoromethane	0.6367 0.6171	0.6476 0.5651	0.5953	0.5753	0.6286	Ave		0.6094				5.2		15.0			
Ethyl ether	0.1418 0.1750	0.1651 0.1603	0.1673	0.1533	0.1747	Ave		0.1625				7.3		15.0			
Acrolein	0.0186 0.0214	0.0211 0.0208	0.0195	0.0192	0.0199	Ave		0.0201				5.3		15.0			
Acetone	0.0842 0.0457	0.0664 0.0444	0.0560	0.0459	0.0486	Lin2	0.0806	0.0448							0.9980		0.9900
1,1,2-Trichloro-1,2,2-trifluoroethane	+++++ 0.2905	0.3023 0.2769	0.2823	0.2636	0.2957	Ave		0.2852				4.9		15.0			
1,1-Dichloroethene	0.3779 0.3918	0.3808 0.3734	0.3687	0.3509	0.3892	Ave		0.3761				3.7		30.0			
Iodomethane	0.7508 0.7539	0.7574 0.7380	0.7263	0.7241	0.7545	Ave		0.7436				1.9		15.0			
Methyl acetate	+++++ 0.1095	0.1496 0.1094	0.1253	0.1157	0.1137	Lin1	0.0769	0.1086							1.0000		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
3-Chloro-1-propene	0.9487 0.9719	1.0151 0.9400	0.9476	0.9354	0.9646	Ave		0.9605				2.8		15.0			
Carbon disulfide	1.9670 2.0290	2.0038 1.9601	1.9131	1.9000	2.0038	Ave		1.9681				2.5		15.0			
t-Butyl alcohol	+++++ 1.5451	1.6792 1.4999	1.5058	1.4900	1.5641	Ave		1.5473				4.6		15.0			
Methylene Chloride	0.4037 0.3674	0.4193 0.3519	0.3839	0.3581	0.3610	Ave		0.3779				6.7		15.0			
Acrylonitrile	0.0429 0.0480	0.0442 0.0472	0.0455	0.0449	0.0464	Ave		0.0456				3.9		15.0			
Methyl tert-butyl ether	0.3850 0.4352	0.4041 0.4239	0.3898	0.4070	0.4199	Ave		0.4093				4.5		15.0			
trans-1,2-Dichloroethene	0.3565 0.4106	0.4090 0.3978	0.4014	0.4010	0.4136	Ave		0.3985				4.9		15.0			
Hexane	4.0789 3.9976	3.6871 3.8895	3.9642	3.8993	4.0564	Ave		3.9390				3.4		15.0			
Vinyl acetate	+++++ 0.4795	0.4223 0.4570	0.4119	0.4300	0.4376	Ave		0.4397				5.6		15.0			
1,1-Dichloroethane	0.8127 0.8110	0.8048 0.7949	0.7907	0.7729	0.7997	Ave		0.7981			0.1000	1.7		15.0			
2-Butanone (MEK)	+++++ 0.0640	0.0651 0.0661	0.0648	0.0631	0.0612	Ave		0.0640				2.7		15.0			
cis-1,2-Dichloroethene	0.3613 0.3949	0.3931 0.3874	0.3890	0.3841	0.3957	Ave		0.3865				3.1		15.0			
sec-Butyl Alcohol	+++++ 1.5162	1.4273 1.5573	1.3963	1.4382	1.4982	Ave		1.4723				4.2		15.0			
2,2-Dichloropropane	0.5618 0.5552	0.6053 0.5382	0.5674	0.5404	0.5568	Ave		0.5607				4.0		15.0			
Bromochloromethane	0.1129 0.1377	0.1302 0.1342	0.1308	0.1312	0.1359	Ave		0.1304				6.3		15.0			
Chloroform	0.6580 0.6858	0.6807 0.6567	0.6568	0.6553	0.6726	Ave		0.6665				1.9		30.0			
Tetrahydrofuran	+++++ 0.0394	0.0270 0.0377	0.0329	0.0372	0.0365	Ave		0.0351				12.9		15.0			
1,1,1-Trichloroethane	0.5890 0.5959	0.5895 0.5773	0.5773	0.5690	0.5831	Ave		0.5830				1.6		15.0			
Isobutyl alcohol	+++++ 0.6838	0.5992 0.5988	0.5969	0.6091	0.6633	Ave		0.6252				6.1		15.0			
Cyclohexane	0.8621 0.9007	0.8733 0.8537	0.8756	0.8558	0.8993	Ave		0.8743				2.2		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.5834 0.6325	0.5923 0.5969	0.6097	0.6086	0.6312	Ave		0.6078				3.1		15.0			
Carbon tetrachloride	0.5151 0.5305	0.4840 0.5097	0.5123	0.5075	0.5273	Ave		0.5123				3.0		15.0			
1,2-Dichloroethane	0.2843 0.3317	0.3087 0.3187	0.3069	0.3135	0.3251	Ave		0.3127				4.9		15.0			
Benzene	1.4807 1.5009	1.4874 1.4490	1.4091	1.4512	1.5130	Ave		1.4702				2.4		15.0			
Trichloroethene	0.3979 0.4146	0.3886 0.4019	0.3883	0.3871	0.4141	Ave		0.3989				3.0		15.0			
2-Pentanone	+++++ 0.1027	0.0820 0.1044	0.0841	0.0891	0.0976	Lin1	-0.138	0.1040							0.9990		0.9900
1,2-Dichloropropane	0.3529 0.3844	0.3633 0.3651	0.3763	0.3702	0.3765	Ave		0.3698				2.8		30.0			
Methylcyclohexane	0.7241 0.7442	0.7188 0.7071	0.7073	0.7136	0.7333	Ave		0.7212				1.9		15.0			
1,4-Dioxane	+++++ 0.0010	0.0002 0.0009	0.0007	0.0008	0.0010	Lin2	-0.014	0.0010							0.9960		0.9900
Dibromomethane	0.1329 0.1508	0.1440 0.1493	0.1403	0.1482	0.1482	Ave		0.1448				4.4		15.0			
Bromodichloromethane	0.3738 0.4272	0.3773 0.4214	0.3812	0.3922	0.4208	Ave		0.3991				5.8		15.0			
2-Chloroethyl vinyl ether	+++++ 0.0367	+++++ 0.0438	0.0234	0.0267	0.0300	Lin1	-0.060	0.0424							0.9900		0.9900
cis-1,3-Dichloropropene	1.8622 2.3339	1.8839 2.3351	1.9593	2.1446	2.2649	Ave		2.1120				9.9		15.0			
4-Methyl-2-pentanone (MIBK)	0.1213 0.1495	0.1219 0.1472	0.1272	0.1332	0.1437	Ave		0.1349				8.9		15.0			
Toluene	1.2786 1.3779	1.2811 1.3189	1.3065	1.3487	1.3737	Ave		1.3265				3.1		30.0			
trans-1,3-Dichloropropene	0.2533 0.3220	0.2580 0.3183	0.2698	0.2755	0.3069	Ave		0.2863				10.1		15.0			
Ethyl methacrylate	0.4660 0.9185	0.5867 0.9490	0.7219	0.7797	0.8556	Lin2	-0.231	0.8812							0.9940		0.9900
1,1,2-Trichloroethane	0.1401 0.1599	0.1383 0.1540	0.1414	0.1578	0.1553	Ave		0.1495				6.2		15.0			
1,3-Dichloropropane	1.4192 1.5208	1.3715 1.4715	1.3911	1.4899	1.5239	Ave		1.4554				4.2		15.0			
2-Hexanone	0.3254 0.5031	0.3738 0.4935	0.3912	0.4342	0.4787	Lin2	-0.339	0.4753							0.9950		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrachloroethene	1.4976 1.5095	1.5202 1.4330	1.5056	1.4664	1.5494	Ave		1.4974				2.5		15.0			
Dibromochloromethane	0.9864 1.1681	0.9524 1.1721	1.0615	1.1027	1.1445	Ave		1.0840				8.1		15.0			
1,2-Dibromoethane	0.6891 0.8364	0.7473 0.8343	0.7752	0.7967	0.8293	Ave		0.7869				6.9		15.0			
1-Chlorohexane	2.3593 2.9504	2.7062 2.8419	2.6346	2.8252	2.9842	Ave		2.7574				7.8		15.0			
Chlorobenzene	3.9407 3.8647	4.0467 3.8066	3.9130	3.9543	3.9936	Ave		3.9314			0.3000	2.0		15.0			
1,1,1,2-Tetrachloroethane	1.2671 1.3181	1.2651 1.2598	1.2568	1.3243	1.3266	Ave		1.2882				2.5		15.0			
Ethylbenzene	2.0875 2.1677	2.1304 2.0365	2.1503	2.2333	2.2757	Ave		2.1545				3.8		30.0			
m-Xylene & p-Xylene	2.3726 2.6577	2.4547 2.5717	2.6025	2.6759	2.6831	Ave		2.5740				4.6		15.0			
o-Xylene	2.2164 2.3891	2.3824 2.2270	2.3043	2.4464	2.4786	Ave		2.3492				4.4		15.0			
Styrene	2.7094 3.7180	2.9364 3.5348	3.1880	3.5682	3.7747	Ave		3.3470				12.2		15.0			
Bromoform	+++++ 0.5482	0.4279 0.5720	0.4756	0.5188	0.5334	Ave		0.5127			0.1000	10.3		15.0			
Isopropylbenzene	4.6666 5.2903	4.6513 5.2202	4.9619	5.0422	5.1400	Ave		4.9961				5.1		15.0			
Cyclohexanone	0.0327 0.0422	0.0341 0.0422	0.0364	0.0372	0.0409	Ave		0.0380				10.2		15.0			
1,1,2,2-Tetrachloroethane	0.6462 0.6719	0.6564 0.6758	0.6508	0.6784	0.6552	Ave		0.6621			0.3000	2.0		15.0			
trans-1,4-Dichloro-2-butene	+++++ 0.1579	0.0953 0.1675	0.1114	0.1253	0.1400	Lin2	-0.065	0.1532							0.9910		0.9900
1,2,3-Trichloropropane	+++++ 0.1245	0.1201 0.1278	0.1018	0.1184	0.1212	Ave		0.1190				7.6		15.0			
Bromobenzene	0.9172 1.0661	0.9754 1.0618	0.9767	1.0064	1.0472	Ave		1.0073				5.5		15.0			
N-Propylbenzene	1.0345 1.3111	1.1363 1.2884	1.2573	1.2808	1.2997	Ave		1.2297				8.5		15.0			
2-Chlorotoluene	1.1233 1.1395	1.0608 1.0974	1.1147	1.1145	1.1508	Ave		1.1145				2.6		15.0			
1,3,5-Trimethylbenzene	3.8464 4.1479	3.9518 3.8947	4.0597	4.1351	4.2088	Ave		4.0349				3.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
4-Chlorotoluene	1.0407 1.1107	1.0366 1.0883	1.0971	1.1228	1.1243	Ave		1.0886				3.4		15.0			
tert-Butylbenzene	3.1405 3.8819	3.7070 3.8147	3.7318	3.8757	3.9060	Ave		3.7225				7.2		15.0			
1,2,4-Trimethylbenzene	3.6075 4.0728	3.8989 4.0072	3.8982	3.9746	4.0724	Ave		3.9331				4.1		15.0			
sec-Butylbenzene	0.8604 0.9757	0.9104 0.9448	0.9351	0.9408	0.9725	Ave		0.9342				4.2		15.0			
4-Isopropyltoluene	4.0900 4.4718	4.3049 4.2702	4.3609	4.4617	4.5942	Ave		4.3648				3.8		15.0			
1,3-Dichlorobenzene	2.1650 2.0782	2.1176 2.0042	2.0415	2.0932	2.1108	Ave		2.0872				2.5		15.0			
1,4-Dichlorobenzene	2.1605 2.1419	2.1783 2.0448	2.1821	2.1239	2.0740	Ave		2.1294				2.5		15.0			
n-Butylbenzene	4.9286 5.3336	4.9988 5.3236	5.2043	5.3594	5.3832	Ave		5.2188				3.5		15.0			
1,2-Dichlorobenzene	1.6782 1.7254	1.6298 1.6853	1.6221	1.6933	1.6941	Ave		1.6755				2.2		15.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.0791	0.0459 0.0873	0.0516	0.0630	0.0741	Lin1	-0.059	0.0852							0.9960		0.9900
1,2,4-Trichlorobenzene	0.9498 1.1588	0.9642 1.1873	1.0129	1.0936	1.1417	Ave		1.0726				9.0		15.0			
Hexachlorobutadiene	0.9129 0.9254	0.9332 0.9203	0.9315	0.8916	0.9223	Ave		0.9196				1.5		15.0			
Naphthalene	1.0442 1.3915	0.9844 1.4468	1.1304	1.2050	1.3158	Ave		1.2169				14.4		15.0			
1,2,3-Trichlorobenzene	0.9484 0.9106	0.8905 0.9164	0.8722	0.8869	0.8812	Ave		0.9009				2.9		15.0			
Dibromofluoromethane (Surr)	0.3774 0.3638	0.3354 0.3512	0.3468	0.3412	0.3541	Ave		0.3528				4.0		15.0			
1,2-Dichloroethane-d4 (Surr)	+++++ 0.2632	0.2564 0.2563	0.2534	0.2703	0.2797	Ave		0.2632				3.9		15.0			
Toluene-d8 (Surr)	5.6460 5.6977	5.6579 5.5776	5.6019	5.5568	5.9156	Ave		5.6648				2.1		15.0			
4-Bromofluorobenzene (Surr)	1.3508 1.3344	1.3231 1.3500	1.3220	1.3191	1.3403	Ave		1.3342				1.0		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD005 280-435406/10	G0942.D
Level 2	STD01 280-435406/11	G0943.D
Level 3	STD02 280-435406/12	G0944.D
Level 4	STD05 280-435406/13	G0945.D
Level 5	ICIS 280-435406/14	G0946.D
Level 6	STD25 280-435406/15	G0947.D
Level 7	STD60 280-435406/16	G0948.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	17294 944100	33055 2201431	63354	139187	362413	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Chloromethane	FB	Ave	19624 1022833	40738 2348854	75526	174028	396078	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	15830 819874	31913 1758215	60990	133003	321542	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Bromomethane	FB	Ave	12427 524053	22682 1103895	41400	90558	206962	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Chloroethane	FB	Ave	7683 387921	15475 807775	29301	67663	151203	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	20852 1107704	43148 2434070	76698	192583	430409	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Trichlorofluoromethane	FB	Ave	21218 1035659	41228 2273426	76155	174225	400011	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Ethyl ether	FB	Ave	4724 293713	10512 644914	21405	46427	111153	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Acrolein	FB	Ave	6198 359580	13433 837071	24982	58037	126350	5.00 250	10.0 600	20.0	50.0	100
Acetone	FB	Lin2	11230 306683	16919 714004	28654	55651	123625	2.00 100	4.00 240	8.00	20.0	40.0
1,1,2-Trichloro-1,2,2-trifluoroethane	FB	Ave	+++++ 487591	19246 1113937	36118	79815	188177	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloroethene	FB	Ave	12594 657521	24242 1502214	47165	106249	247671	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Iodomethane	FB	Ave	25020 1265293	48220 2969268	92918	219276	480128	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Methyl acetate	FB	Lin1	+++++ 367452	19046 880480	32047	70047	144708	+++++ 50.0	2.00 120	4.00	10.0	20.0
3-Chloro-1-propene	FB	Ave	31616 1631204	64625 3781854	121229	283250	613782	0.500 25.0	1.00 60.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Carbon disulfide	FB	Ave	65551 3405354	127567 7885623	244744	575368	1275023	0.500 25.0	1.00 60.0	2.00	5.00	10.0
t-Butyl alcohol	TBAd9	Ave	+++++ 166690	6594 389448	11747	28566	61733	+++++ 250	10.0 600	20.0	50.0	100
Methylene Chloride	FB	Ave	13454 616554	26696 1415583	49114	108438	229711	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Acrylonitrile	FB	Ave	14310 806080	28139 1900539	58190	135971	295451	5.00 250	10.0 600	20.0	50.0	100
Methyl tert-butyl ether	FB	Ave	12831 730417	25725 1705233	49863	123239	267198	0.500 25.0	1.00 60.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	11880 689108	26037 1600365	51347	121426	263182	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Hexane	CBNZ d5	Ave	24878 1310692	44540 2999386	94698	220907	487229	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Vinyl acetate	FB	Ave	+++++ 1609362	53771 3677378	105388	260435	556939	+++++ 50.0	2.00 120	4.00	10.0	20.0
1,1-Dichloroethane	FB	Ave	27083 1361105	51238 3197979	101149	234058	508858	0.500 25.0	1.00 60.0	2.00	5.00	10.0
2-Butanone (MEK)	FB	Ave	+++++ 429872	16567 1063889	33162	76420	155653	+++++ 100	4.00 240	8.00	20.0	40.0
cis-1,2-Dichloroethene	FB	Ave	12040 662740	25025 1558561	49758	116313	251772	0.500 25.0	1.00 60.0	2.00	5.00	10.0
sec-Butyl Alcohol	TBAd9	Ave	+++++ 490737	16814 1213043	32680	82723	177391	+++++ 750	30.0 1800	60.0	150	300
2,2-Dichloropropane	FB	Ave	18724 931857	38536 2165163	72588	163633	354297	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Bromochloromethane	FB	Ave	3762 231122	8288 540017	16732	39720	86484	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Chloroform	FB	Ave	21927 1150975	43332 2642141	84022	198447	427971	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Ave	+++++ 132248	3432 303191	8426	22524	46435	+++++ 50.0	2.00 120	4.00	10.0	20.0
1,1,1-Trichloroethane	FB	Ave	19630 1000044	37528 2322546	73856	172322	371046	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Isobutyl alcohol	TBAd9	Ave	+++++ 184437	5882 388705	11641	29194	65444	+++++ 625	25.0 1500	50.0	125	250
Cyclohexane	FB	Ave	28729 1511678	55593 3434488	112012	259166	572213	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloropropene	FB	Ave	19444 1061606	37708 2401475	78001	184304	401626	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	17166 890309	30811 2050744	65538	153675	335539	0.500 25.0	1.00 60.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	9475 556741	19655 1282258	39267	94931	206859	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Benzene	FB	Ave	49346 2518964	94692 5829470	180268	439450	962759	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Ave	13262 695795	24739 1616845	49671	117212	263490	0.500 25.0	1.00 60.0	2.00	5.00	10.0
2-Pentanone	FB	Lin1	+++++ 689606	20881 1680746	43051	107988	248379	+++++ 100	4.00 240	8.00	20.0	40.0
1,2-Dichloropropane	FB	Ave	11760 645210	23130 1468752	48144	112117	239556	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Methylcyclohexane	FB	Ave	24131 1249033	45761 2844803	90479	216098	466620	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Lin2	+++++ 32387	306 75909	1715	4579	12207	+++++ 500	20.0 1200	40.0	100	200
Dibromomethane	FB	Ave	4430 253125	9170 600668	17950	44866	94278	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Bromodichloromethane	FB	Ave	12457 717048	24019 1695227	48772	118765	267780	0.500 25.0	1.00 60.0	2.00	5.00	10.0
2-Chloroethyl vinyl ether	FB	Lin1	+++++ 61553	+++++ 176324	2994	8071	19062	+++++ 25.0	+++++ 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Ave	11358 765214	22758 1800721	46805	121494	272041	0.500 25.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	16167 1003529	31050 2368458	65098	161325	365729	2.00 100	4.00 240	8.00	20.0	40.0
Toluene	FB	Ave	42611 2312568	81555 5306072	167135	408414	874116	0.500 25.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Ave	8440 540508	16425 1280670	34511	83416	195305	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Lin2	2842 301142	7087 731813	17245	44174	102768	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Ave	4670 268342	8803 619437	18091	47776	98799	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichloropropane	CBNZ d5	Ave	8656 498626	16568 1134760	33231	84408	183045	0.500 25.0	1.00 60.0	2.00	5.00	10.0
2-Hexanone	CBNZ d5	Lin2	7938 659784	18064 1522296	37383	98383	229989	2.00 100	4.00 240	8.00	20.0	40.0
Tetrachloroethene	CBNZ d5	Ave	9134 494911	18364 1105058	35967	83074	186097	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Dibromochloromethane	CBNZ d5	Ave	6016 382971	11505 903891	25357	62472	137471	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromoethane	CBNZ d5	Ave	4203 274242	9027 643353	18519	45134	99612	0.500 25.0	1.00 60.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1-Chlorohexane	CBNZ d5	Ave	14390 967325	32691 2191537	62936	160054	358435	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	24035 1267094	48885 2935465	93476	224021	479677	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	7728 432148	15282 971474	30023	75026	159339	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	12732 710703	25736 1570437	51367	126521	273345	0.500 25.0	1.00 60.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	14471 871370	29653 1983179	62169	151594	322272	0.500 25.0	1.00 60.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Ave	13518 783298	28779 1717337	55046	138597	297710	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Styrene	CBNZ d5	Ave	16525 1218992	35472 2725854	76155	202146	453384	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Bromoform	CBNZ d5	Ave	+++++ 179732	5169 441121	11361	29394	64074	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Ave	39432 2375776	77682 5346881	163110	395568	870005	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Ave	7981 552931	16493 1302693	34747	84219	196637	20.0 1000	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	5460 301722	10962 692250	21394	53220	110892	0.500 25.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Lin2	+++++ 70921	1591 171577	3661	9832	23696	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	+++++ 55910	2005 130921	3346	9292	20508	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	7750 478762	16291 1087600	32105	78958	177254	0.500 25.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	8741 588769	18977 1319729	41330	100479	219996	0.500 25.0	1.00 60.0	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	9492 511732	17717 1124078	36642	87437	194794	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	32502 1862759	65999 3989293	133451	324410	712392	0.500 25.0	1.00 60.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	8794 498802	17312 1114689	36065	88086	190303	0.500 25.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Ave	26537 1743280	61912 3907330	122674	304055	661137	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	30483 1829002	65117 4104525	128144	311818	689309	0.500 25.0	1.00 60.0	2.00	5.00	10.0
sec-Butylbenzene	DCBd 4	Ave	7270 438151	15204 967706	30738	73805	164606	0.500 25.0	1.00 60.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
4-Isopropyltoluene	DCBd 4	Ave	34560 2008203	71897 4373881	143353	350030	777623	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	18294 933293	35367 2052839	67110	164219	357284	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	18256 961899	36381 2094459	71731	166626	351050	0.500 25.0	1.00 60.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Ave	41646 2395194	83486 5452789	171076	420454	911161	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	14181 774851	27219 1726193	53321	132845	286743	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Lin1	+++++ 35522	767 89433	1695	4946	12540	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	8026 520400	16103 1216076	33297	85792	193241	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	7714 415593	15586 942693	30619	69950	156112	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Ave	8823 624895	16440 1481945	37160	94538	222722	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	8014 408924	14873 938622	28672	69580	149149	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Dibromofluoromethane (Surr)	FB	Ave	12576 610553	21351 1413118	44360	103325	225337	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	+++++ 441724	16323 1030951	32413	81861	177998	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Ave	34436 1868080	68348 4301156	133819	314805	710539	0.500 25.0	1.00 60.0	2.00	5.00	10.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	11414 599233	22098 1382771	43456	103489	226859	0.500 25.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0942.D
Lims ID: STD005
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Oct-2018 20:00:30 ALS Bottle#: 11 Worklist Smp#: 10
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: STD005
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub83

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:32:48 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 21:22:08

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.466	4.466	0.000	0	99482	250.0	250.0	
* 1 Fluorobenzene	96	6.465	6.465	0.000	97	833155	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.163	9.163	0.000	91	152480	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.290	11.290	0.000	97	211247	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.884	5.884	0.000	88	12576	0.5000	0.5348	
$ 6 1,2-Dichloroethane-d4 (Sur	65		6.180				ND	ND	
$ 7 Toluene-d8 (Surr)	98	7.824	7.814	0.010	94	34436	0.5000	0.4983	
$ 8 4-Bromofluorobenzene (Surr	95	10.276	10.276	0.000	81	11414	0.5000	0.5062	
25 Dichlorodifluoromethane	85	2.891	2.891	0.000	97	17294	0.5000	0.4946	
27 Chloromethane	50	3.107	3.098	0.009	97	19624	0.5000	0.4896	
28 Vinyl chloride	62	3.216	3.216	0.000	83	15830	0.5000	0.5003	
31 Bromomethane	94	3.531	3.521	0.010	91	12427	0.5000	0.5765	
32 Chloroethane	64	3.580	3.570	0.010	94	7683	0.5000	0.5057	
33 Dichlorofluoromethane	67	3.718	3.718	0.000	96	20852	0.5000	0.4888	
35 Trichlorofluoromethane	101	3.836	3.826	0.010	95	21218	0.5000	0.5224	
38 Ethyl ether	59	3.954	3.954	0.000	85	4724	0.5000	0.4362	
41 Acrolein	56	4.082	4.072	0.010	42	6198	5.00	4.63	
42 Acetone	43	4.181	4.171	0.010	94	11230	2.00	1.96	
45 1,1-Dichloroethene	96	4.210	4.200	0.010	92	12594	0.5000	0.5024	
44 1,1,2-Trichloro-1,2,2-trif	151		4.200				ND	ND	
47 Iodomethane	142	4.368	4.358	0.010	96	25020	0.5000	0.5048	
48 Methyl acetate	43		4.417				ND	ND	
49 3-Chloro-1-propene	41	4.456	4.456	0.000	65	31616	0.5000	0.4939	
50 Carbon disulfide	76	4.456	4.456	0.000	99	65551	0.5000	0.4997	
51 2-Methyl-2-propanol	59		4.525				ND	ND	U
52 Methylene Chloride	84	4.555	4.545	0.010	95	13454	0.5000	0.5341	
53 Acrylonitrile	53	4.703	4.693	0.010	98	14310	5.00	4.71	
54 Methyl tert-butyl ether	73	4.742	4.742	0.000	95	12831	0.5000	0.4704	
55 trans-1,2-Dichloroethene	96	4.781	4.771	0.010	92	11880	0.5000	0.4472	
56 Hexane	57	4.959	4.959	0.000	94	24878	0.5000	0.5178	
57 Vinyl acetate	43	5.057	5.047	0.010	94	22112	1.00	0.7545	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.087	5.087	0.000	95	27083	0.5000	0.5091	
62 2-Butanone (MEK)	43		5.480				ND	ND	
66 cis-1,2-Dichloroethene	96	5.540	5.530	0.010	86	12040	0.5000	0.4674	
65 sec-Butyl Alcohol	45		5.549				ND	ND	U
67 2,2-Dichloropropane	77	5.569	5.559	0.010	85	18724	0.5000	0.5010	
69 Chlorobromomethane	128	5.727	5.727	0.000	64	3762	0.5000	0.4328	
70 Chloroform	83	5.756	5.756	0.000	97	21927	0.5000	0.4936	
71 Tetrahydrofuran	42		5.766				ND	ND	
73 1,1,1-Trichloroethane	97	5.973	5.973	0.000	95	19630	0.5000	0.5051	
72 Isobutyl alcohol	41		5.992				ND	ND	U
74 Cyclohexane	56	6.061	6.052	0.009	95	28729	0.5000	0.4930	
75 1,1-Dichloropropene	75	6.091	6.091	0.000	93	19444	0.5000	0.4800	
76 Carbon tetrachloride	117	6.130	6.120	0.010	95	17166	0.5000	0.5027	
77 1,2-Dichloroethane	62	6.248	6.248	0.000	46	9475	0.5000	0.4546	M
79 Benzene	78	6.268	6.268	0.000	99	49346	0.5000	0.5036	
13 n-Heptane	43	6.406	6.406	0.000	94	30301	0.5000	0.4582	
81 Trichloroethene	95	6.780	6.770	0.010	93	13262	0.5000	0.4988	
82 2-Pentanone	43		6.829				ND	ND	
84 1,2-Dichloropropane	63	6.967	6.957	0.010	87	11760	0.5000	0.4771	
85 Methylcyclohexane	55	6.987	6.987	0.000	97	24131	0.5000	0.5020	
86 1,4-Dioxane	88		7.036				ND	ND	
87 Dibromomethane	93	7.076	7.066	0.010	91	4430	0.5000	0.4589	
88 Dichlorobromomethane	83	7.174	7.164	0.010	95	12457	0.5000	0.4682	
90 2-Chloroethyl vinyl ether	63		7.361				ND	ND	
91 cis-1,3-Dichloropropene	75	7.548	7.538	0.010	87	11358	0.5000	0.4409	
92 4-Methyl-2-pentanone (MIBK	43	7.637	7.627	0.010	95	16167	2.00	1.80	
93 Toluene	91	7.883	7.873	0.010	96	42611	0.5000	0.4820	
95 trans-1,3-Dichloropropene	75	8.011	8.011	0.000	88	8440	0.5000	0.4424	
94 Ethyl methacrylate	69	8.041	8.031	0.010	15	2842	0.5000	0.5266	
96 1,1,2-Trichloroethane	97	8.198	8.198	0.000	81	4670	0.5000	0.4686	
98 1,3-Dichloropropane	76	8.366	8.366	0.000	89	8656	0.5000	0.4876	
97 2-Hexanone	43	8.375	8.375	0.000	43	7938	2.00	2.08	
99 Tetrachloroethene	164	8.405	8.405	0.000	88	9134	0.5000	0.5001	
100 Chlorodibromomethane	129	8.602	8.592	0.010	87	6016	0.5000	0.4550	
102 Ethylene Dibromide	107	8.750	8.740	0.010	98	4203	0.5000	0.4379	
103 1-Chlorohexane	91	9.104	9.094	0.010	80	14390	0.5000	0.4278	
104 Chlorobenzene	112	9.193	9.193	0.000	91	24035	0.5000	0.5012	
105 1,1,1,2-Tetrachloroethane	131	9.252	9.242	0.010	88	7728	0.5000	0.4918	
106 Ethylbenzene	106	9.271	9.262	0.009	99	12732	0.5000	0.4845	
107 m-Xylene & p-Xylene	106	9.370	9.370	0.000	0	14471	0.5000	0.4609	
109 Styrene	104	9.774	9.764	0.010	76	16525	0.5000	0.4047	
108 o-Xylene	106	9.764	9.764	0.000	87	13518	0.5000	0.4717	
110 Bromoform	173		9.980				ND	ND	
111 Isopropylbenzene	105	10.118	10.108	0.010	97	39432	0.5000	0.4670	
113 Cyclohexanone	55	10.227	10.217	0.010	92	7981	20.0	17.2	
114 1,1,2,2-Tetrachloroethane	83	10.355	10.345	0.010	85	5460	0.5000	0.4880	
115 trans-1,4-Dichloro-2-buten	53		10.404				ND	ND	
116 1,2,3-Trichloropropane	110		10.414				ND	ND	
117 Bromobenzene	156	10.453	10.453	0.000	93	7750	0.5000	0.4553	
118 N-Propylbenzene	120	10.502	10.492	0.010	99	8741	0.5000	0.4206	
120 2-Chlorotoluene	126	10.611	10.601	0.010	96	9492	0.5000	0.5040	
119 1,3,5-Trimethylbenzene	105	10.640	10.630	0.010	93	32502	0.5000	0.4766	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.699	10.689	0.010	97	8794	0.5000	0.4780	
122 tert-Butylbenzene	119	10.936	10.926	0.010	95	26537	0.5000	0.4218	
123 1,2,4-Trimethylbenzene	105	10.965	10.965	0.000	95	30483	0.5000	0.4586	
124 sec-Butylbenzene	134	11.113	11.113	0.000	96	7270	0.5000	0.4605	
125 4-Isopropyltoluene	119	11.221	11.221	0.000	96	34560	0.5000	0.4685	
126 1,3-Dichlorobenzene	146	11.241	11.241	0.000	96	18294	0.5000	0.5186	
127 1,4-Dichlorobenzene	146	11.310	11.310	0.000	93	18256	0.5000	0.5073	
129 n-Butylbenzene	91	11.576	11.576	0.000	99	41646	0.5000	0.4722	
130 1,2-Dichlorobenzene	146	11.654	11.644	0.010	94	14181	0.5000	0.5008	
131 1,2-Dibromo-3-Chloropropan	157		12.334				ND	ND	
132 1,2,4-Trichlorobenzene	180	13.200	13.190	0.010	89	8026	0.5000	0.4428	
133 Hexachlorobutadiene	225	13.358	13.348	0.010	91	7714	0.5000	0.4964	
134 Naphthalene	128	13.486	13.486	0.000	1	8823	0.5000	0.4290	M
135 1,2,3-Trichlorobenzene	180	13.762	13.752	0.010	90	8014	0.5000	0.5264	
S 142 1,2-Dichloroethene, Total	96				0		1.00	0.9146	
S 137 Xylenes, Total (URS)	1				0		1.00	0.9326	
S 141 Xylenes, Total	106				0		1.00	0.9326	
S 138 Total BTEX	1				0			2.40	
S 140 1,2-Dichloroethene, Total	1				0		1.00	0.9146	
S 136 Trihalomethanes, Total	1				0		2.00	1.42	
S 139 1,3-Dichloropropene, Total	1				0		1.00	0.8832	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	0.04	Units: uL
MV-MegaMainA_00002	Amount Added:	0.20	Units: uL

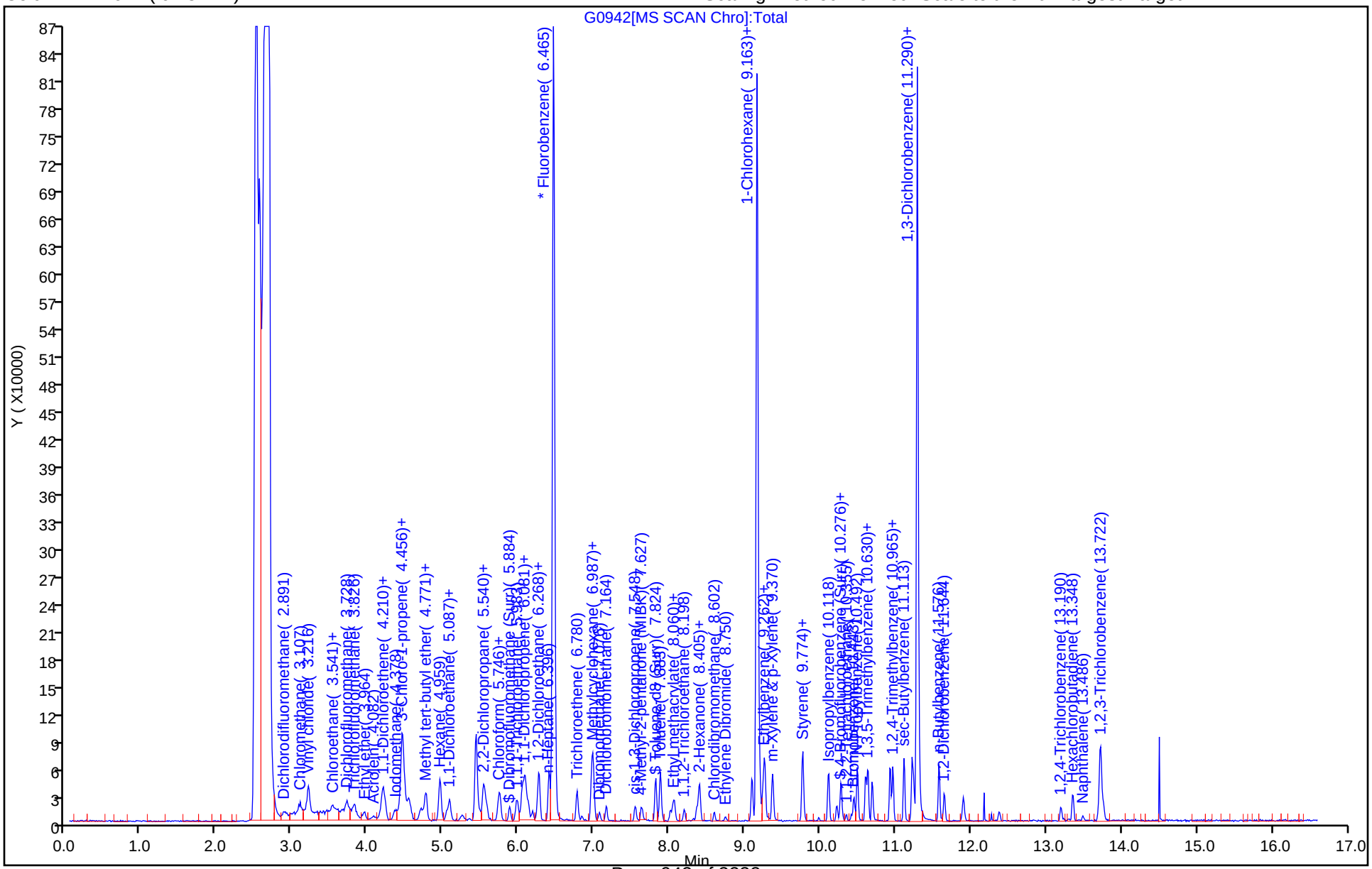
Report Date: 30-Oct-2018 01:32:49 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0942.D

Injection Date:	29-Oct-2018 20:00:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	STD005			Worklist Smp#:	10
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

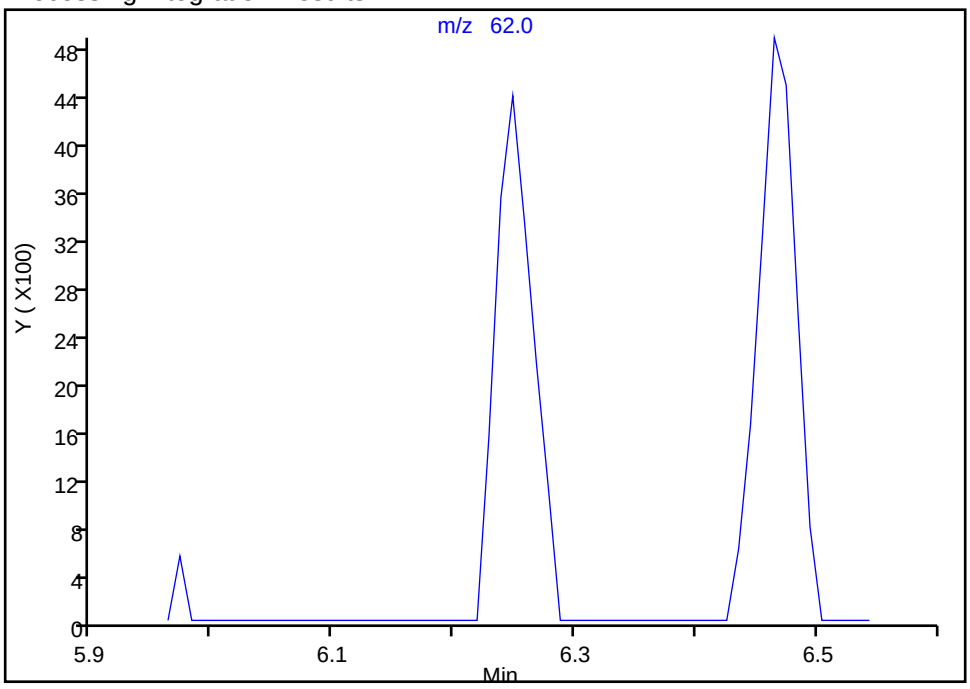
Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0942.D				
Injection Date:	29-Oct-2018 20:00:30	Instrument ID:	VMS_G		
Lims ID:	STD005				
Client ID:					
Operator ID:	newcomer	ALS Bottle#:	11	Worklist Smp#:	10
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	DB-624 (0.25 mm)	Detector	MS SCAN		

77 1,2-Dichloroethane, CAS: 107-06-2

Signal: 1

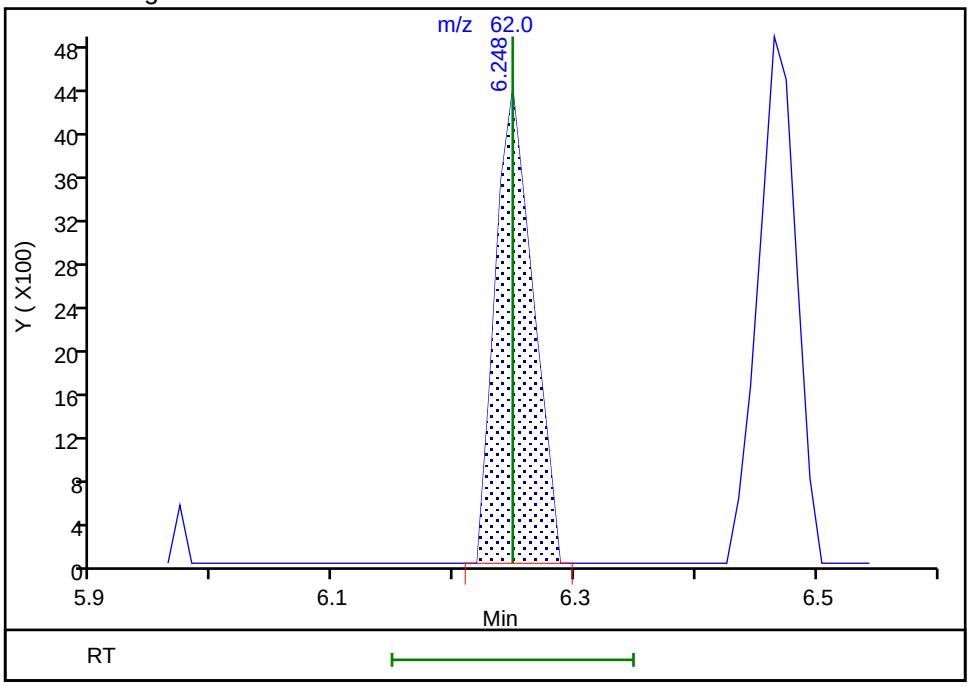
Not Detected
Expected RT: 6.25

Processing Integration Results



Manual Integration Results

RT: 6.25
Area: 9475
Amount: 0.454583
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:18:49
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

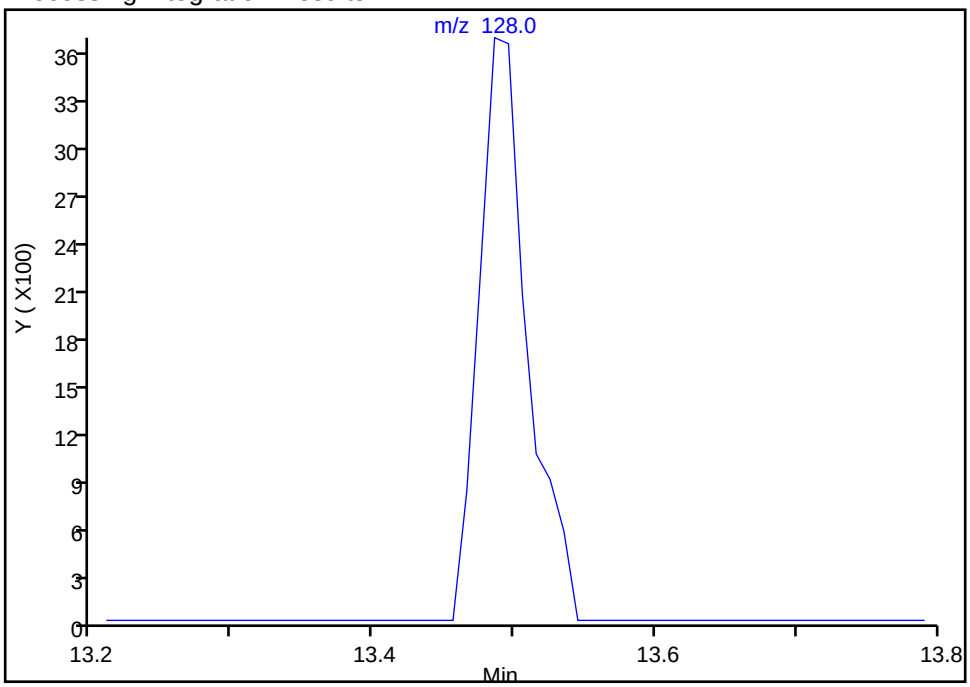
Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0942.D				
Injection Date:	29-Oct-2018 20:00:30	Instrument ID:	VMS_G		
Lims ID:	STD005				
Client ID:					
Operator ID:	newcomer	ALS Bottle#:	11	Worklist Smp#:	10
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	DB-624 (0.25 mm)	Detector	MS SCAN		

134 Naphthalene, CAS: 91-20-3

Signal: 1

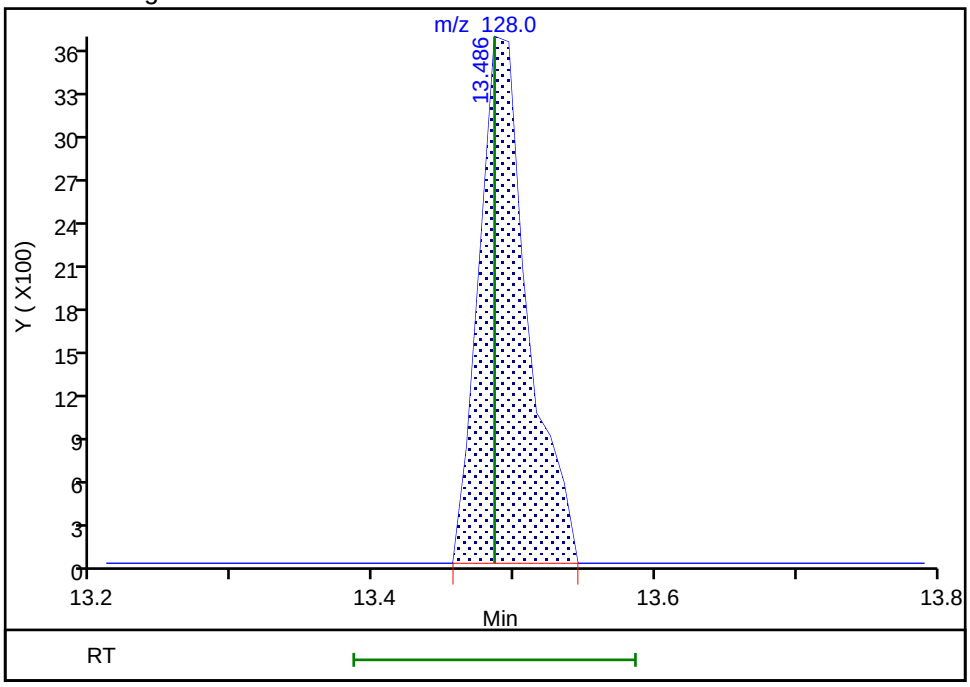
Not Detected
Expected RT: 13.49

Processing Integration Results



Manual Integration Results

RT: 13.49
Area: 8823
Amount: 0.429030
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:21:56
Audit Action: Manually Integrated Audit Reason: Assign Peak

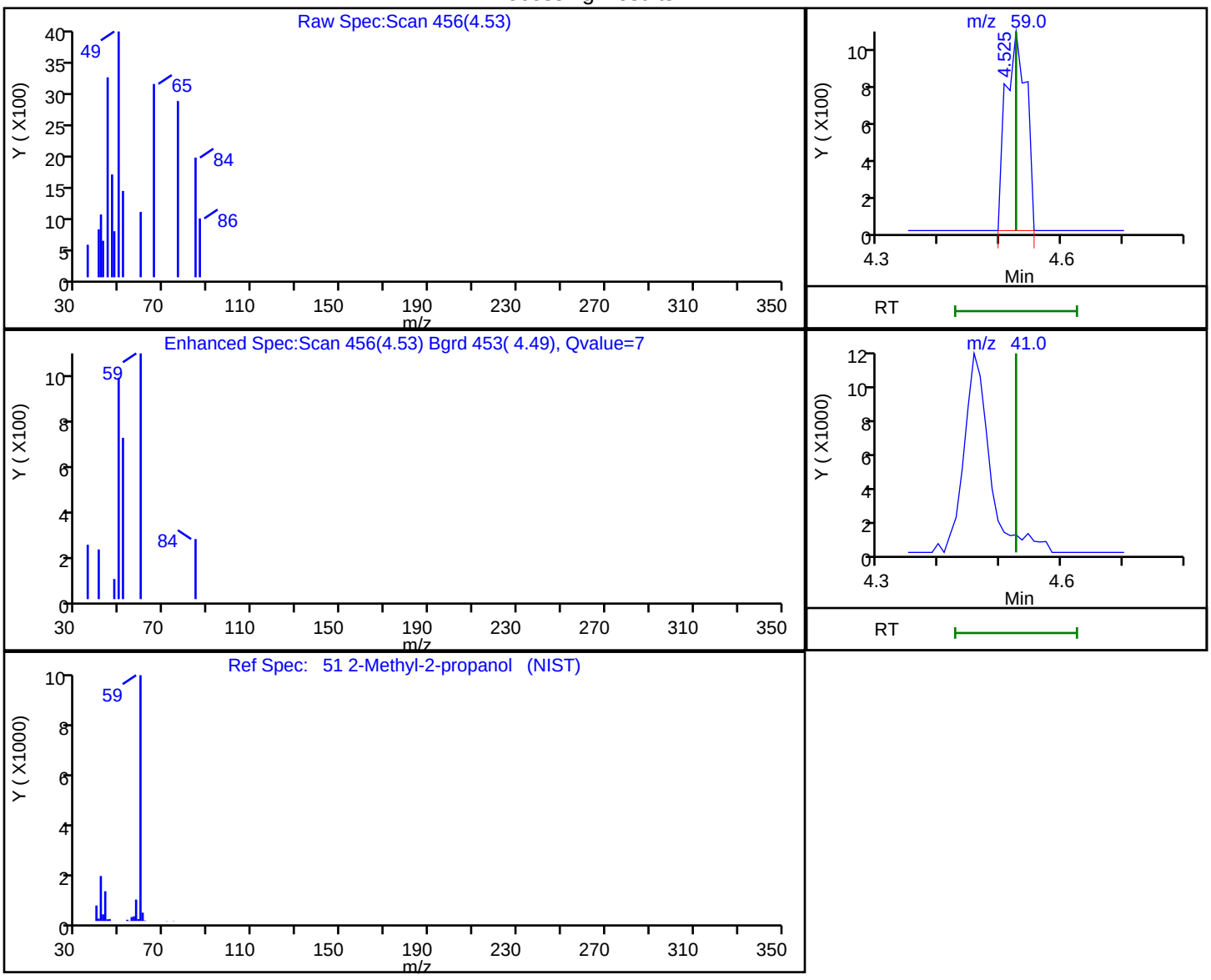
User Disabled Compound Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0942.D
Injection Date: 29-Oct-2018 20:00:30 Instrument ID: VMS_G
Lims ID: STD005
Client ID:
Operator ID: newcomer ALS Bottle#: 11 Worklist Smp#: 10
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

51 2-Methyl-2-propanol, CAS: 75-65-0

Processing Results



RT	Mass	Response	Amount
4.53	59.00	2412	3.976206
4.51	41.00	0	

Reviewer: newcomer, 29-Oct-2018 21:18:11
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

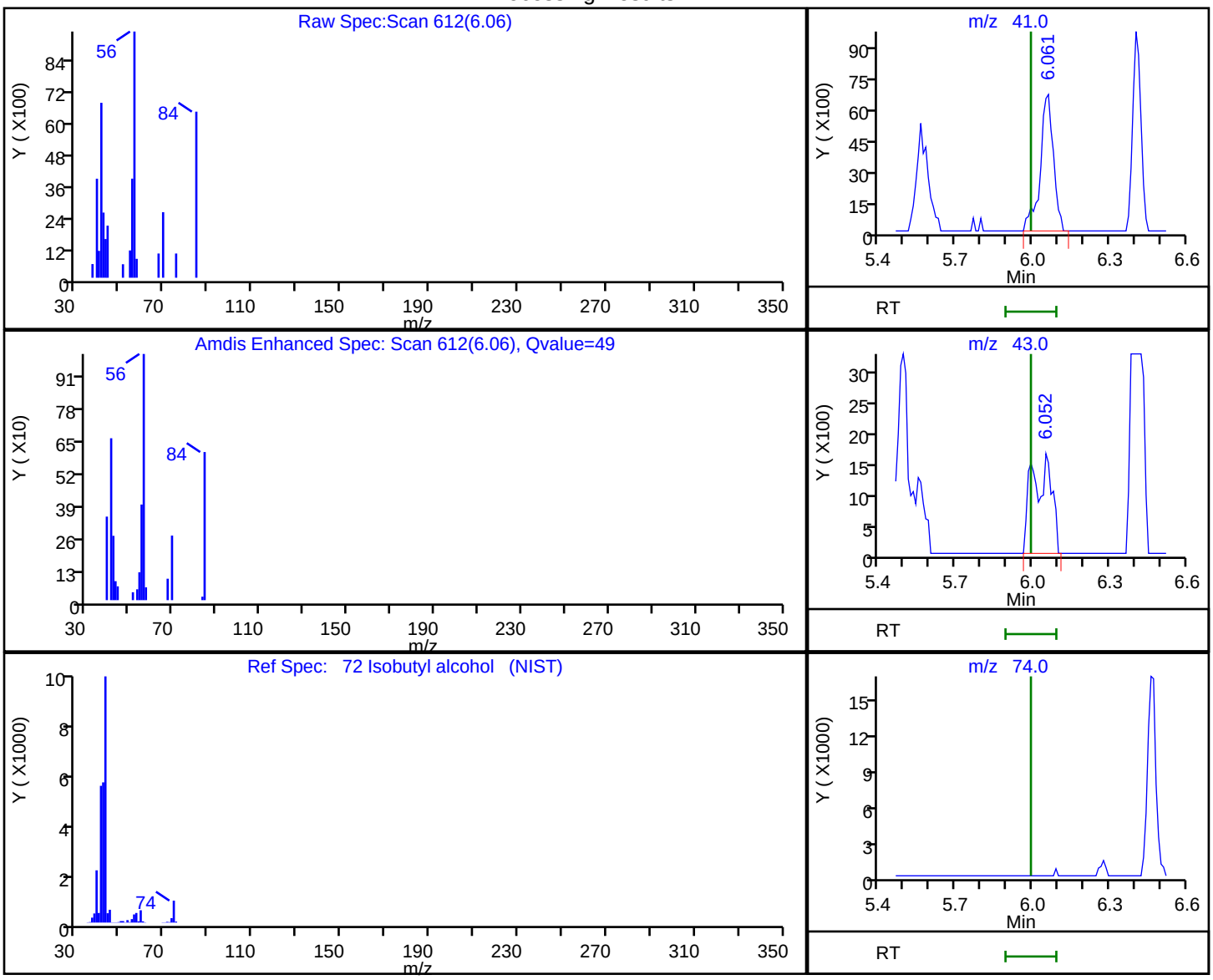
User Disabled Compound Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0942.D
Injection Date: 29-Oct-2018 20:00:30 Instrument ID: VMS_G
Lims ID: STD005
Client ID:
Operator ID: newcomer ALS Bottle#: 11 Worklist Smp#: 10
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

72 Isobutyl alcohol, CAS: 78-83-1

Processing Results



RT	Mass	Response	Amount
6.06	41.00	24306	97.703856
6.05	43.00	8505	
6.05	74.00	0	

Reviewer: newcomer, 29-Oct-2018 23:08:49
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

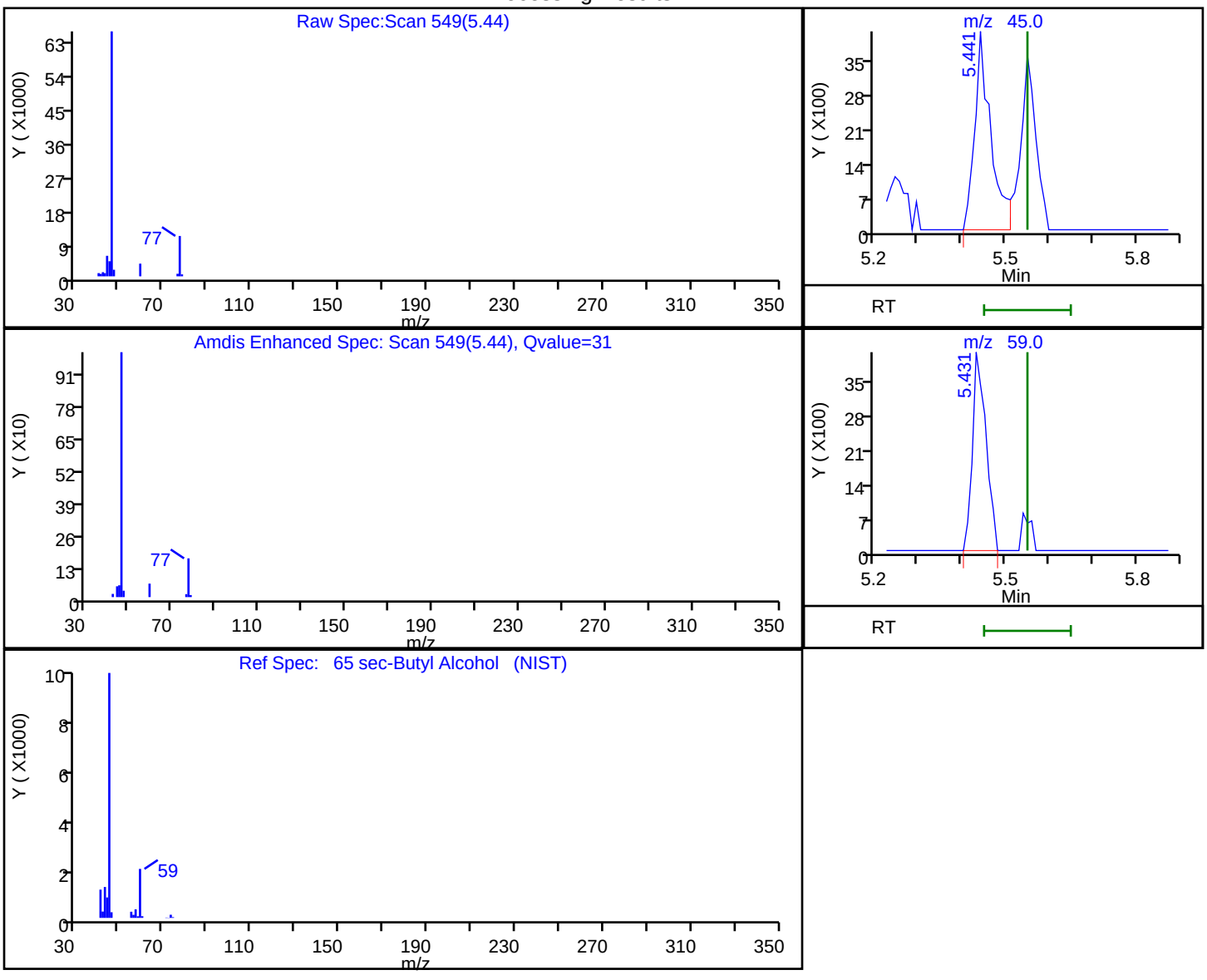
User Disabled Compound Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0942.D
Injection Date: 29-Oct-2018 20:00:30 Instrument ID: VMS_G
Lims ID: STD005
Client ID:
Operator ID: newcomer ALS Bottle#: 11 Worklist Smp#: 10
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

65 sec-Butyl Alcohol, CAS: 78-92-2

Processing Results



RT	Mass	Response	Amount
5.44	45.00	10487	33.305500
5.43	59.00	8845	

Reviewer: newcomer, 29-Oct-2018 21:18:29
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0943.D
Lims ID: STD01
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 29-Oct-2018 20:20:30 ALS Bottle#: 12 Worklist Smp#: 11
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: STD01
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub83

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:32:53 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 21:25:34

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.457	4.466	-0.009	0	98172	250.0	250.0	
* 1 Fluorobenzene	96	6.465	6.465	0.000	97	795776	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.163	9.163	0.000	91	151001	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.290	11.290	0.000	97	208765	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.884	5.884	0.000	89	21351	1.00	0.9505	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.190	6.180	0.010	0	16323	1.00	0.9741	
$ 7 Toluene-d8 (Surr)	98	7.824	7.814	0.010	95	68348	1.00	1.00	
$ 8 4-Bromofluorobenzene (Surr	95	10.276	10.276	0.000	84	22098	1.00	0.99	
25 Dichlorodifluoromethane	85	2.881	2.891	-0.010	97	33055	1.00	0.9897	
27 Chloromethane	50	3.098	3.098	0.000	98	40738	1.00	1.06	
28 Vinyl chloride	62	3.216	3.216	0.000	85	31913	1.00	1.06	
31 Bromomethane	94	3.531	3.521	0.010	94	22682	1.00	1.10	
32 Chloroethane	64	3.580	3.570	0.010	96	15475	1.00	1.07	
33 Dichlorofluoromethane	67	3.718	3.718	0.000	97	43148	1.00	1.06	
35 Trichlorofluoromethane	101	3.826	3.826	0.000	96	41228	1.00	1.06	
38 Ethyl ether	59	3.954	3.954	0.000	93	10512	1.00	1.02	
41 Acrolein	56	4.073	4.072	0.001	97	13433	10.0	10.5	
42 Acetone	43	4.181	4.171	0.010	96	16919	4.00	4.13	
45 1,1-Dichloroethene	96	4.210	4.200	0.010	93	24242	1.00	1.01	
44 1,1,2-Trichloro-1,2,2-trif	151	4.201	4.200	0.001	71	19246	1.00	1.06	
47 Iodomethane	142	4.368	4.358	0.010	97	48220	1.00	1.02	
48 Methyl acetate	43	4.417	4.417	0.000	98	19046	2.00	2.05	
49 3-Chloro-1-propene	41	4.457	4.456	0.001	75	64625	1.00	1.06	
50 Carbon disulfide	76	4.457	4.456	0.001	98	127567	1.00	1.02	
51 2-Methyl-2-propanol	59	4.516	4.525	-0.009	91	6594	10.0	10.9	
52 Methylene Chloride	84	4.555	4.545	0.010	96	26696	1.00	1.11	
53 Acrylonitrile	53	4.703	4.693	0.010	99	28139	10.0	9.69	
54 Methyl tert-butyl ether	73	4.752	4.742	0.010	98	25725	1.00	0.9874	
55 trans-1,2-Dichloroethene	96	4.772	4.771	0.001	94	26037	1.00	1.03	
56 Hexane	57	4.959	4.959	0.000	89	44540	1.00	0.9360	
57 Vinyl acetate	43	5.057	5.047	0.010	96	53771	2.00	1.92	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.087	5.087	0.000	96	51238	1.00	1.01	
62 2-Butanone (MEK)	43	5.481	5.480	0.001	96	16567	4.00	4.06	
66 cis-1,2-Dichloroethene	96	5.540	5.530	0.010	87	25025	1.00	1.02	
65 sec-Butyl Alcohol	45	5.550	5.549	0.001	51	16814	30.0	29.1	M
67 2,2-Dichloropropane	77	5.569	5.559	0.010	88	38536	1.00	1.08	
69 Chlorobromomethane	128	5.737	5.727	0.010	92	8288	1.00	1.00	
70 Chloroform	83	5.756	5.756	0.000	97	43332	1.00	1.02	
71 Tetrahydrofuran	42	5.766	5.766	0.000	1	3432	2.00	1.54	M
73 1,1,1-Trichloroethane	97	5.983	5.973	0.010	96	37528	1.00	1.01	
72 Isobutyl alcohol	41	5.993	5.992	0.001	29	5882	25.0	24.0	M
74 Cyclohexane	56	6.062	6.052	0.010	95	55593	1.00	1.00	
75 1,1-Dichloropropene	75	6.091	6.091	0.000	92	37708	1.00	0.9745	
76 Carbon tetrachloride	117	6.131	6.120	0.011	95	30811	1.00	0.9446	
77 1,2-Dichloroethane	62	6.249	6.248	0.001	95	19655	1.00	0.9873	
79 Benzene	78	6.268	6.268	0.000	97	94692	1.00	1.01	
13 n-Heptane	43	6.406	6.406	0.000	94	63109	1.00	1.00	
81 Trichloroethene	95	6.780	6.770	0.010	94	24739	1.00	0.9741	
82 2-Pentanone	43	6.840	6.829	0.011	95	20881	4.00	4.48	
84 1,2-Dichloropropane	63	6.968	6.957	0.011	93	23130	1.00	0.9824	
85 Methylcyclohexane	55	6.987	6.987	0.000	97	45761	1.00	1.00	
86 1,4-Dioxane	88	7.036	7.036	0.000	14	306	20.0	19.7	M
87 Dibromomethane	93	7.066	7.066	0.000	92	9170	1.00	0.99	
88 Dichlorobromomethane	83	7.164	7.164	0.000	95	24019	1.00	0.9453	
90 2-Chloroethyl vinyl ether	63	7.371	7.361	0.010	1	1248	1.00	1.88	
91 cis-1,3-Dichloropropene	75	7.548	7.538	0.010	88	22758	1.00	0.8920	
92 4-Methyl-2-pentanone (MIBK	43	7.637	7.627	0.010	96	31050	4.00	3.62	
93 Toluene	91	7.883	7.873	0.010	97	81555	1.00	0.9658	
95 trans-1,3-Dichloropropene	75	8.021	8.011	0.010	93	16425	1.00	0.9013	
94 Ethyl methacrylate	69	8.031	8.031	0.000	92	7087	1.00	0.9279	
96 1,1,2-Trichloroethane	97	8.198	8.198	0.000	90	8803	1.00	0.9247	
98 1,3-Dichloropropane	76	8.366	8.366	0.000	96	16568	1.00	0.9423	
97 2-Hexanone	43	8.376	8.375	0.001	54	18064	4.00	3.86	
99 Tetrachloroethene	164	8.405	8.405	0.000	94	18364	1.00	1.02	
100 Chlorodibromomethane	129	8.602	8.592	0.010	90	11505	1.00	0.8786	
102 Ethylene Dibromide	107	8.750	8.740	0.010	98	9027	1.00	0.9496	
103 1-Chlorohexane	91	9.094	9.094	0.000	88	32691	1.00	0.9814	
104 Chlorobenzene	112	9.193	9.193	0.000	91	48885	1.00	1.03	
105 1,1,1,2-Tetrachloroethane	131	9.242	9.242	0.000	94	15282	1.00	0.9820	
106 Ethylbenzene	106	9.272	9.262	0.010	99	25736	1.00	0.9888	
107 m-Xylene & p-Xylene	106	9.370	9.370	0.000	0	29653	1.00	0.9536	
109 Styrene	104	9.774	9.764	0.010	77	35472	1.00	0.8773	
108 o-Xylene	106	9.774	9.764	0.010	88	28779	1.00	1.01	
110 Bromoform	173	9.981	9.980	0.001	83	5169	1.00	0.8346	
111 Isopropylbenzene	105	10.109	10.108	0.001	97	77682	1.00	0.9310	
113 Cyclohexanone	55	10.217	10.217	0.000	94	16493	40.0	36.0	
114 1,1,2,2-Tetrachloroethane	83	10.345	10.345	0.000	87	10962	1.00	0.99	
115 trans-1,4-Dichloro-2-buten	53	10.404	10.404	0.000	1	1591	1.00	1.05	
116 1,2,3-Trichloropropane	110	10.414	10.414	0.000	80	2005	1.00	1.01	
117 Bromobenzene	156	10.453	10.453	0.000	92	16291	1.00	0.9684	
118 N-Propylbenzene	120	10.493	10.492	0.001	99	18977	1.00	0.9240	
120 2-Chlorotoluene	126	10.601	10.601	0.000	95	17717	1.00	0.9519	
119 1,3,5-Trimethylbenzene	105	10.631	10.630	0.000	93	65999	1.00	0.9794	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.690	10.689	0.001	98	17312	1.00	0.9522	
122 tert-Butylbenzene	119	10.926	10.926	0.000	94	61912	1.00	1.00	
123 1,2,4-Trimethylbenzene	105	10.965	10.965	0.000	94	65117	1.00	0.99	
124 sec-Butylbenzene	134	11.113	11.113	0.000	96	15204	1.00	0.9745	
125 4-Isopropyltoluene	119	11.221	11.221	0.000	97	71897	1.00	0.9863	
126 1,3-Dichlorobenzene	146	11.241	11.241	0.000	97	35367	1.00	1.01	
127 1,4-Dichlorobenzene	146	11.310	11.310	0.000	92	36381	1.00	1.02	
129 n-Butylbenzene	91	11.576	11.576	0.000	99	83486	1.00	0.9579	
130 1,2-Dichlorobenzene	146	11.645	11.644	0.001	94	27219	1.00	0.9727	
131 1,2-Dibromo-3-Chloropropan	157	12.334	12.334	0.000	1	767	1.00	1.24	M
132 1,2,4-Trichlorobenzene	180	13.201	13.190	0.010	94	16103	1.00	0.8989	
133 Hexachlorobutadiene	225	13.348	13.348	0.000	95	15586	1.00	1.01	
134 Naphthalene	128	13.486	13.486	0.000	95	16440	1.00	0.8089	
135 1,2,3-Trichlorobenzene	180	13.762	13.752	0.010	94	14873	1.00	0.9885	
S 142 1,2-Dichloroethene, Total	96				0		2.00	2.04	
S 137 Xylenes, Total (URS)	1				0		2.00	1.97	
S 141 Xylenes, Total	106				0		2.00	1.97	
S 138 Total BTEX	1				0			4.93	
S 140 1,2-Dichloroethene, Total	1				0		2.00	2.04	
S 136 Trihalomethanes, Total	1				0		4.00	3.68	
S 139 1,3-Dichloropropene, Total	1				0		2.00	1.79	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	0.08	Units: uL
MV-MegaMainA_00002	Amount Added:	0.40	Units: uL

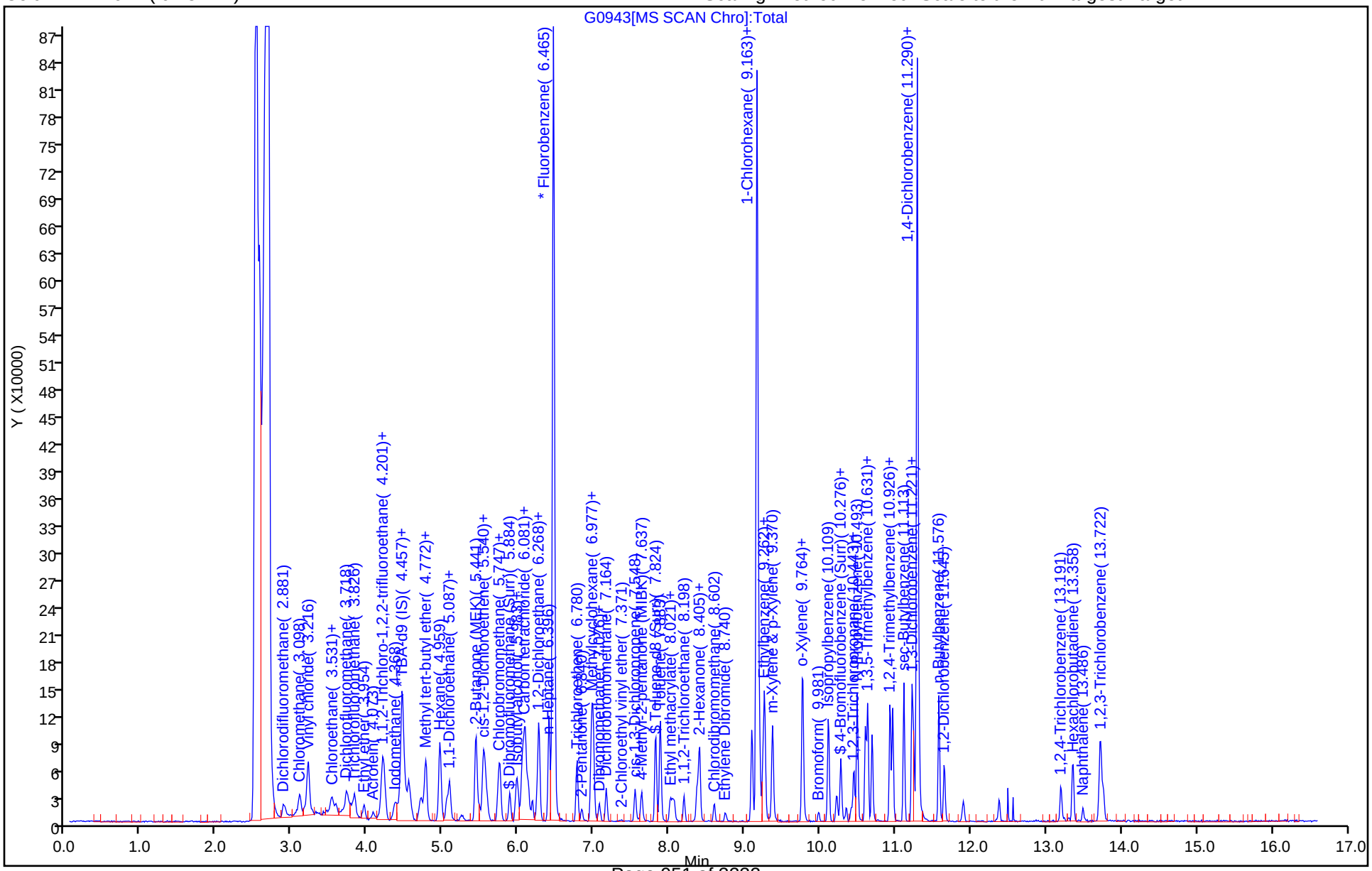
Report Date: 30-Oct-2018 01:32:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0943.D

Injection Date:	29-Oct-2018 20:20:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	STD01			Worklist Smp#:	11
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

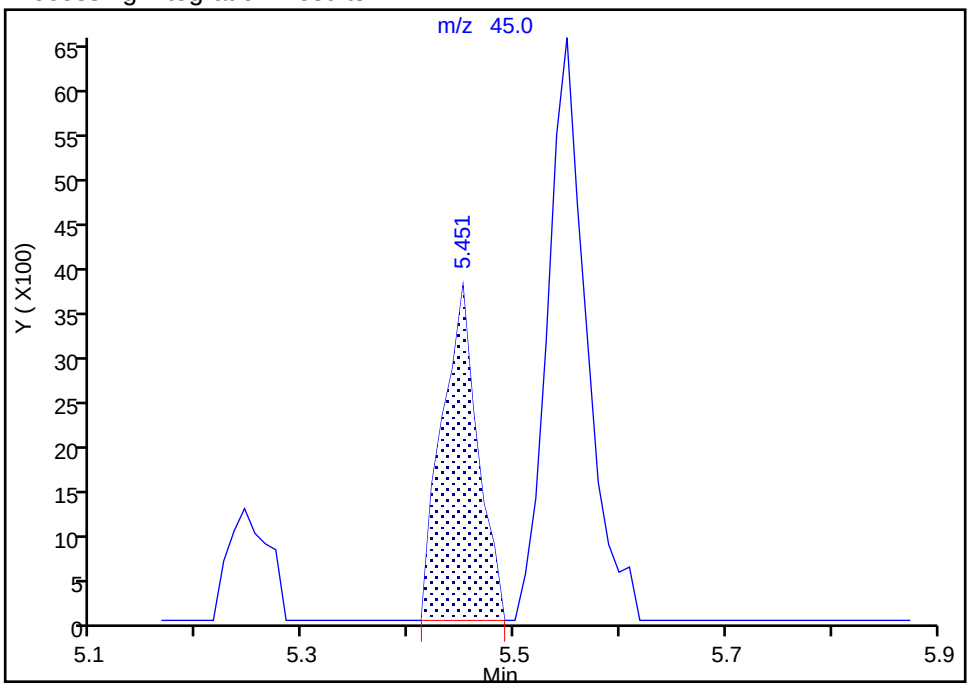
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0943.D
Injection Date: 29-Oct-2018 20:20:30 Instrument ID: VMS_G
Lims ID: STD01
Client ID:
Operator ID: newcomer ALS Bottle#: 12 Worklist Smp#: 11
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

65 sec-Butyl Alcohol, CAS: 78-92-2

Signal: 1

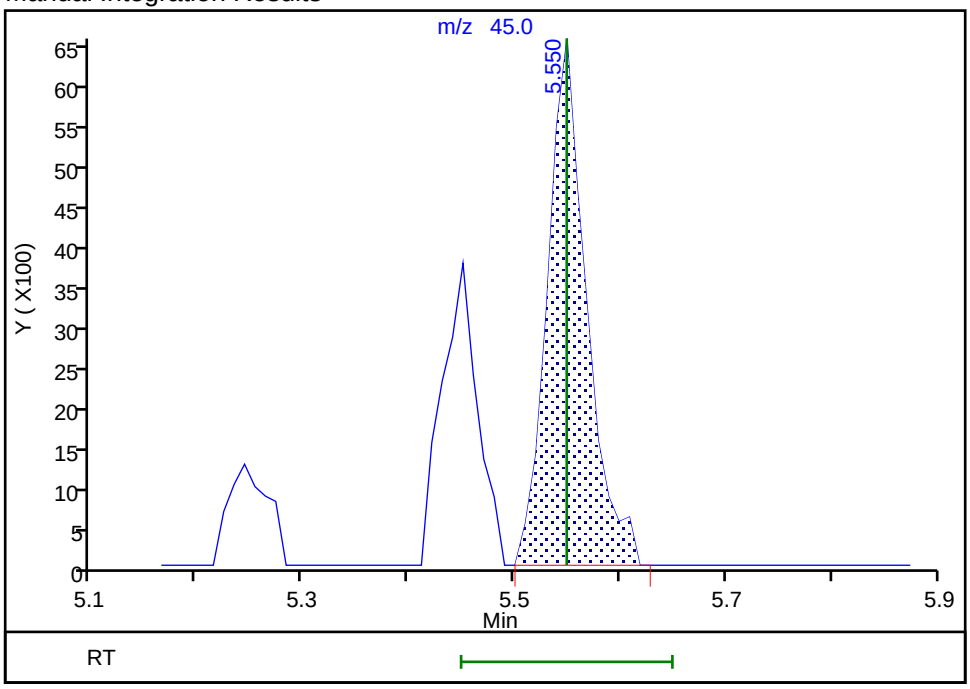
Processing Integration Results

RT: 5.45
Area: 8851
Amount: 38.384312
Amount Units: ug/l



Manual Integration Results

RT: 5.55
Area: 16814
Amount: 29.083074
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:24:01
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

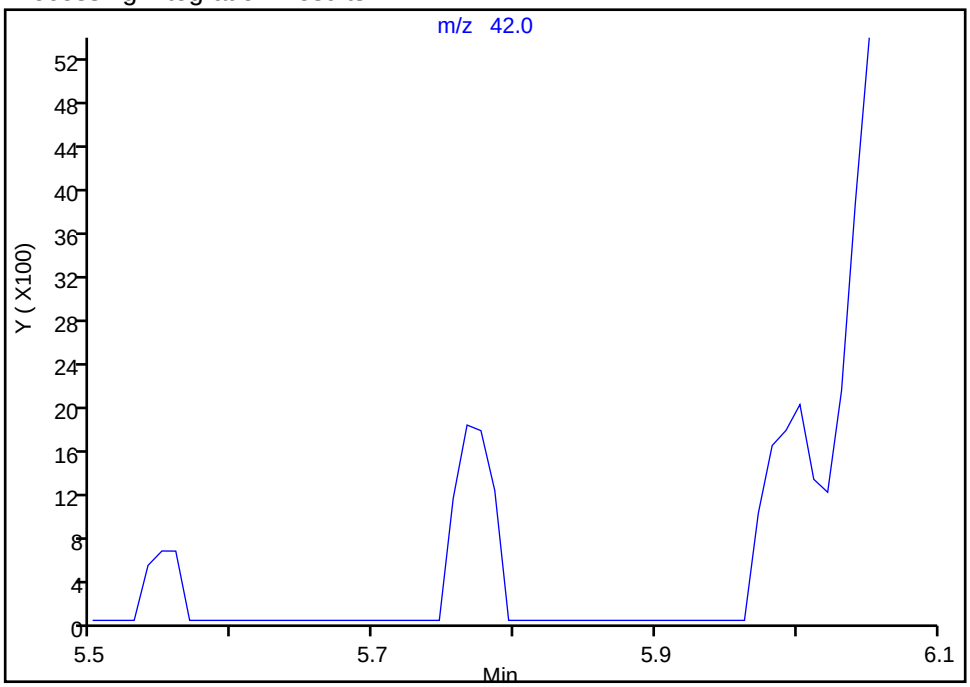
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0943.D
Injection Date: 29-Oct-2018 20:20:30 Instrument ID: VMS_G
Lims ID: STD01
Client ID:
Operator ID: newcomer ALS Bottle#: 12 Worklist Smp#: 11
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

71 Tetrahydrofuran, CAS: 109-99-9

Signal: 1

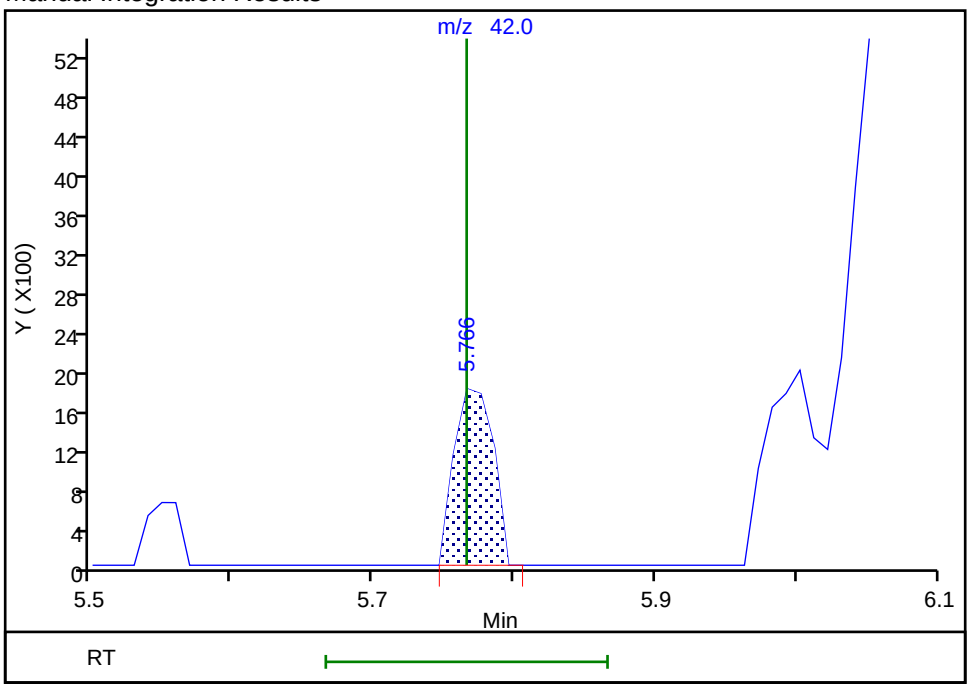
Not Detected
Expected RT: 5.77

Processing Integration Results



Manual Integration Results

RT: 5.77
Area: 3432
Amount: 1.535566
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:24:13
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

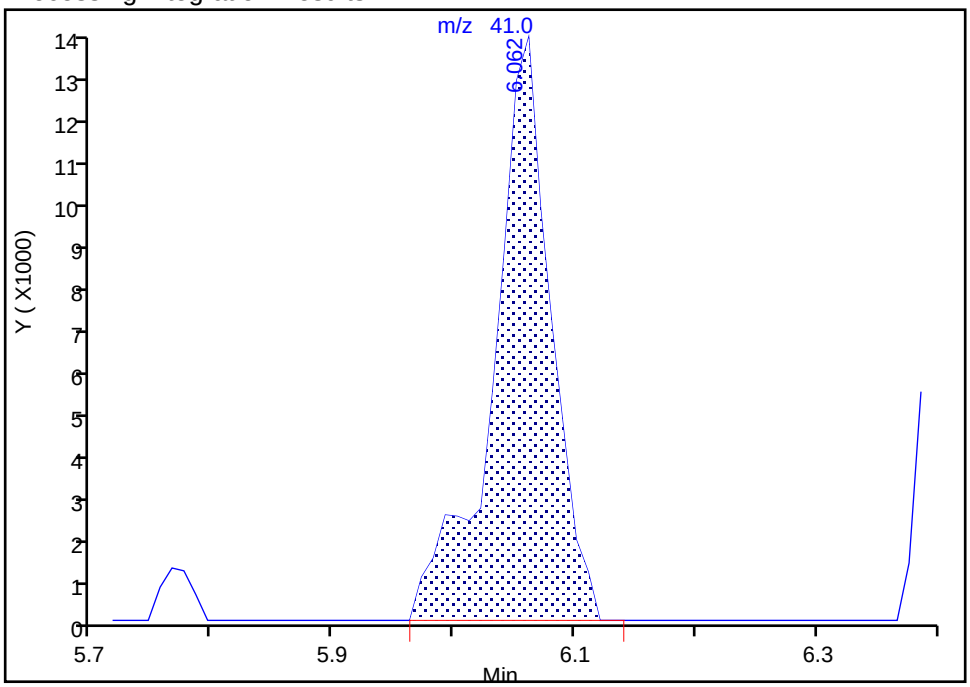
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0943.D
Injection Date: 29-Oct-2018 20:20:30 Instrument ID: VMS_G
Lims ID: STD01
Client ID:
Operator ID: newcomer ALS Bottle#: 12 Worklist Smp#: 11
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

72 Isobutyl alcohol, CAS: 78-83-1

Signal: 1

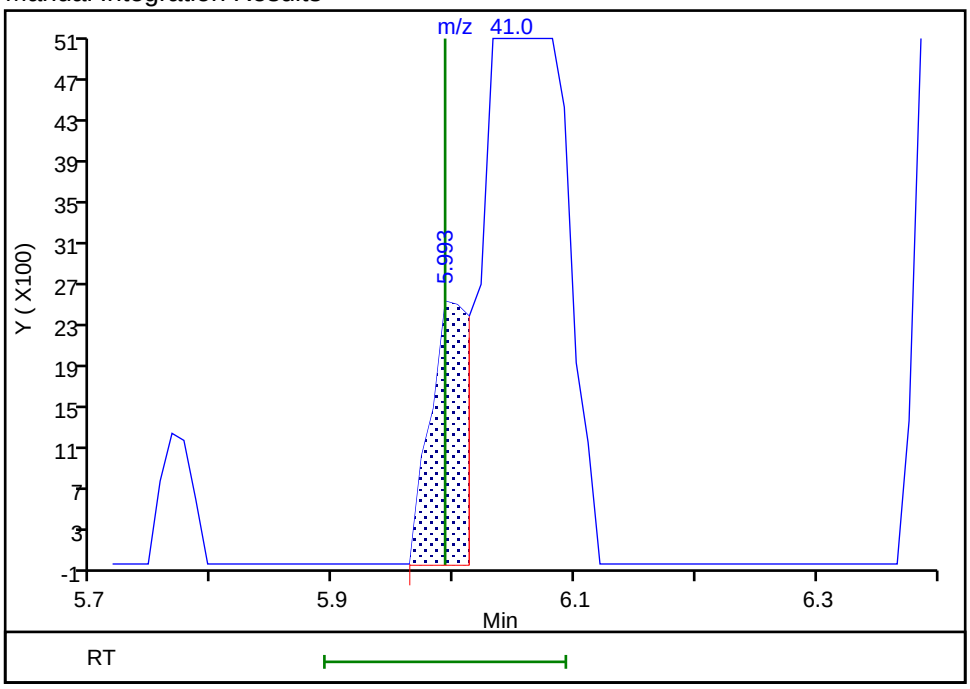
Processing Integration Results

RT: 6.06
Area: 46075
Amount: 48.650592
Amount Units: ug/l



Manual Integration Results

RT: 5.99
Area: 5882
Amount: 23.959629
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:24:35
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

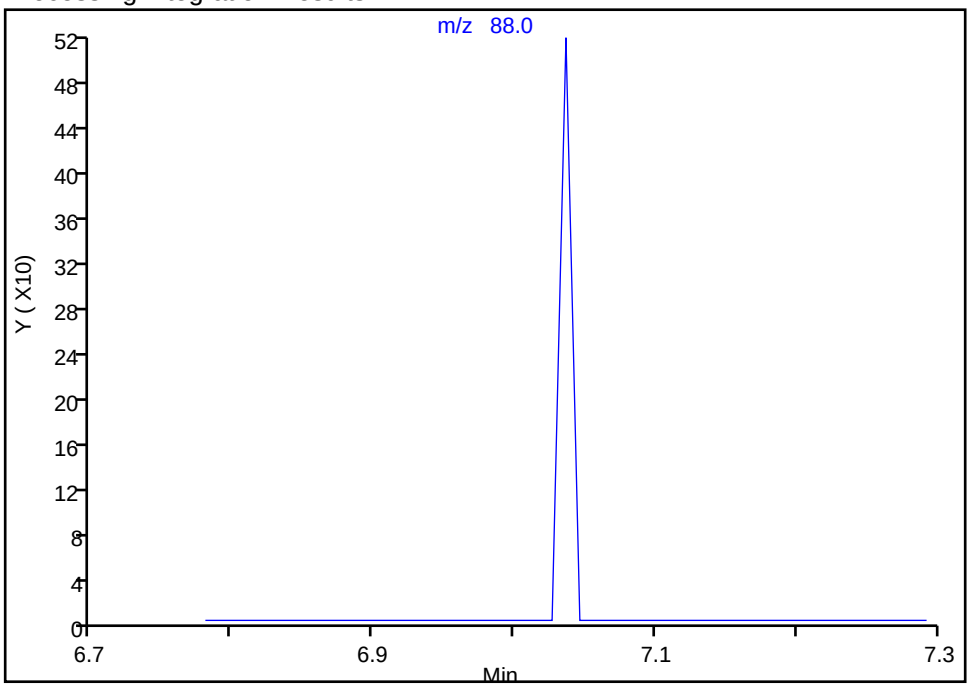
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0943.D
Injection Date: 29-Oct-2018 20:20:30 Instrument ID: VMS_G
Lims ID: STD01
Client ID:
Operator ID: newcomer ALS Bottle#: 12 Worklist Smp#: 11
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

86 1,4-Dioxane, CAS: 123-91-1

Signal: 1

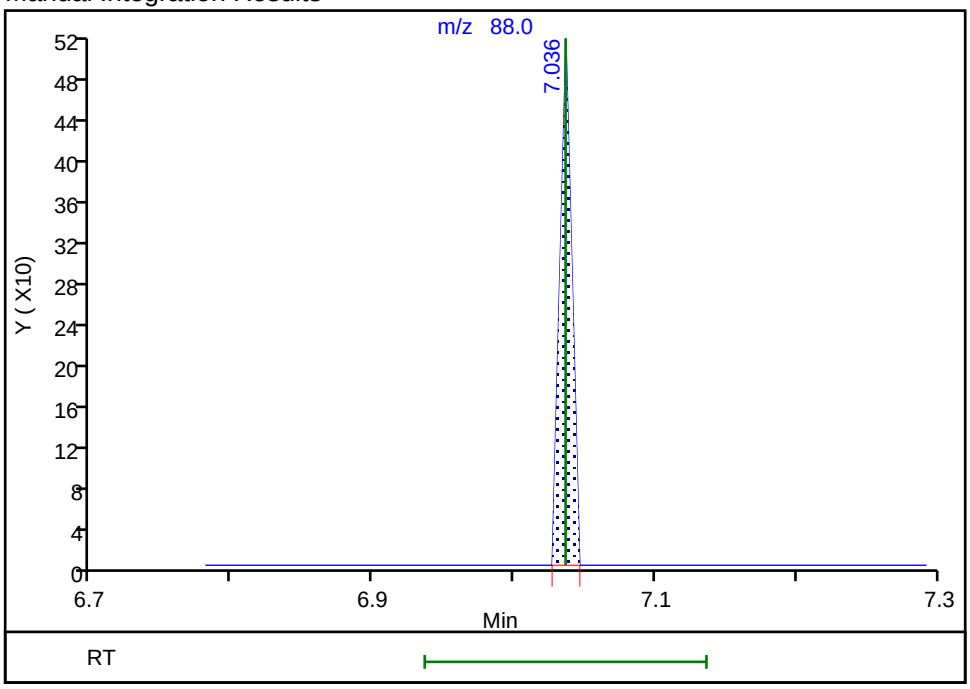
Not Detected
Expected RT: 7.04

Processing Integration Results



Manual Integration Results

RT: 7.04
Area: 306
Amount: 19.676721
Amount Units: ug/l



Reviewer: newcomer, 30-Oct-2018 01:27:43
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

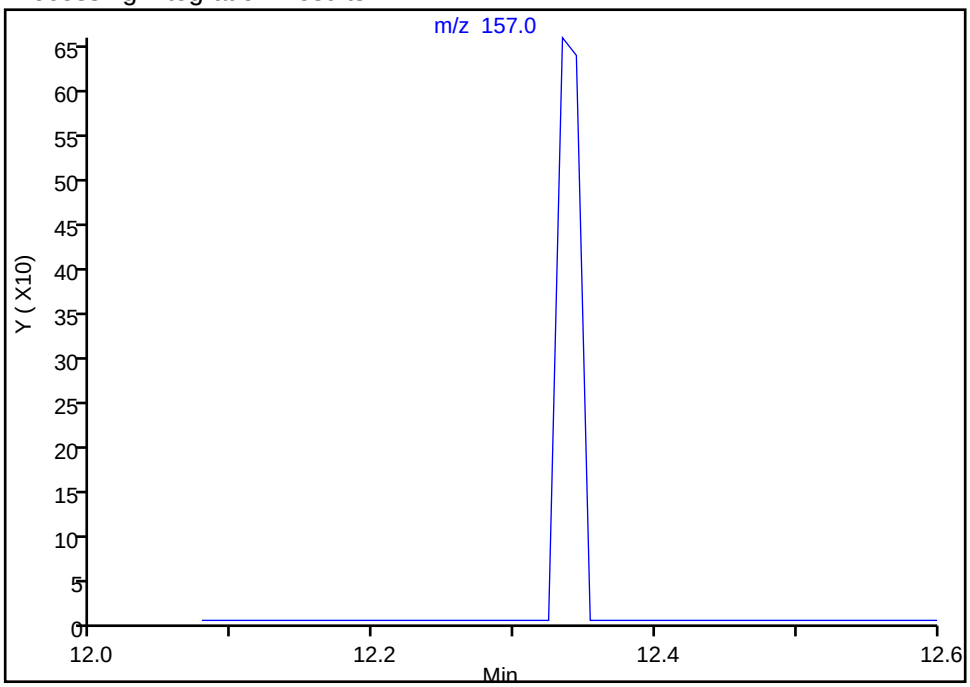
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0943.D
Injection Date: 29-Oct-2018 20:20:30 Instrument ID: VMS_G
Lims ID: STD01
Client ID:
Operator ID: newcomer ALS Bottle#: 12 Worklist Smp#: 11
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

131 1,2-Dibromo-3-Chloropropane, CAS: 96-12-8

Signal: 1

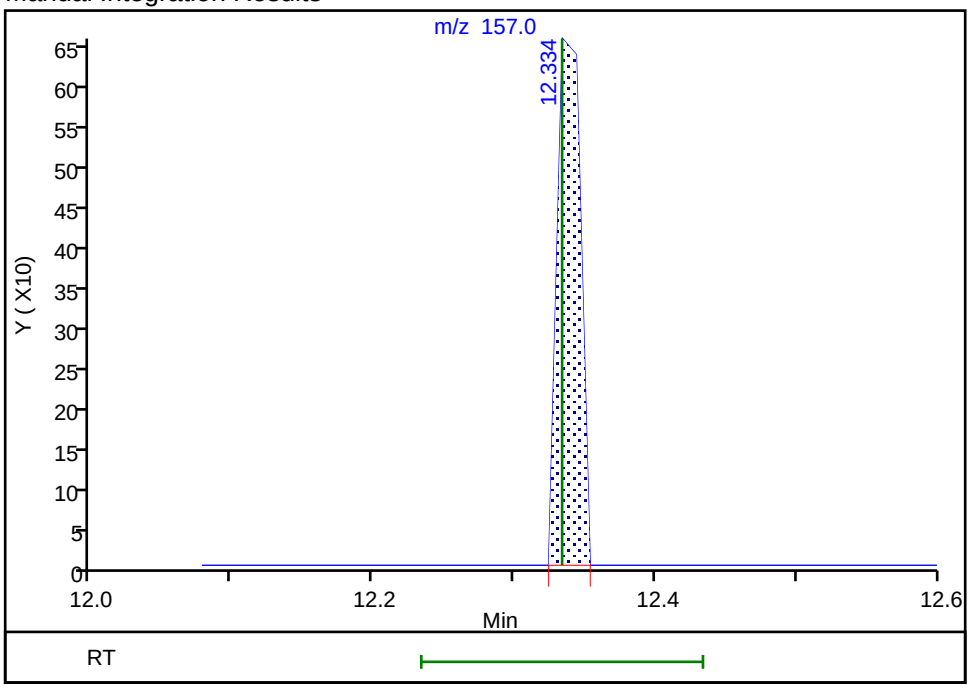
Not Detected
Expected RT: 12.33

Processing Integration Results



Manual Integration Results

RT: 12.33
Area: 767
Amount: 1.235977
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:25:26
Audit Action: Manually Integrated Audit Reason: Assign Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0944.D
Lims ID: STD02
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 29-Oct-2018 20:40:30 ALS Bottle#: 13 Worklist Smp#: 12
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: STD02
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub83

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:32:59 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 21:27:53

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.457	4.466	-0.009	0	97517	250.0	250.0	
* 1 Fluorobenzene	96	6.465	6.465	0.000	97	799549	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.163	9.163	0.000	90	149302	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.290	11.290	0.000	97	205452	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.884	5.884	0.000	91	44360	2.00	1.97	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.190	6.180	0.010	0	32413	2.00	1.93	
$ 7 Toluene-d8 (Surr)	98	7.824	7.814	0.010	96	133819	2.00	1.98	
$ 8 4-Bromofluorobenzene (Surr	95	10.276	10.276	0.000	87	43456	2.00	1.98	
25 Dichlorodifluoromethane	85	2.891	2.891	0.000	99	63354	2.00	1.89	
27 Chloromethane	50	3.098	3.098	0.000	99	75526	2.00	1.96	
28 Vinyl chloride	62	3.216	3.216	0.000	83	60990	2.00	2.01	
31 Bromomethane	94	3.531	3.521	0.010	94	41400	2.00	2.00	
32 Chloroethane	64	3.580	3.570	0.010	95	29301	2.00	2.01	
33 Dichlorofluoromethane	67	3.718	3.718	0.000	98	76698	2.00	1.87	
35 Trichlorofluoromethane	101	3.836	3.826	0.010	99	76155	2.00	1.95	
38 Ethyl ether	59	3.954	3.954	0.000	94	21405	2.00	2.06	
41 Acrolein	56	4.073	4.072	0.001	96	24982	20.0	19.5	
42 Acetone	43	4.181	4.171	0.010	72	28654	8.00	8.20	
45 1,1-Dichloroethene	96	4.210	4.200	0.010	94	47165	2.00	1.96	
44 1,1,2-Trichloro-1,2,2-trif	151	4.210	4.200	0.010	70	36118	2.00	1.98	
47 Iodomethane	142	4.368	4.358	0.010	98	92918	2.00	1.95	
48 Methyl acetate	43	4.417	4.417	0.000	98	32047	4.00	3.90	
49 3-Chloro-1-propene	41	4.457	4.456	0.001	75	121229	2.00	1.97	
50 Carbon disulfide	76	4.466	4.456	0.010	97	244744	2.00	1.94	
51 2-Methyl-2-propanol	59	4.525	4.525	0.000	28	11747	20.0	19.5	
52 Methylene Chloride	84	4.545	4.545	0.000	98	49114	2.00	2.03	
53 Acrylonitrile	53	4.703	4.693	0.010	100	58190	20.0	19.9	
54 Methyl tert-butyl ether	73	4.742	4.742	0.000	98	49863	2.00	1.90	
55 trans-1,2-Dichloroethene	96	4.772	4.771	0.001	92	51347	2.00	2.01	
56 Hexane	57	4.959	4.959	0.000	94	94698	2.00	2.01	
57 Vinyl acetate	43	5.057	5.047	0.010	96	105388	4.00	3.75	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.087	5.087	0.000	97	101149	2.00	1.98	
62 2-Butanone (MEK)	43	5.490	5.480	0.010	97	33162	8.00	8.10	
66 cis-1,2-Dichloroethene	96	5.530	5.530	0.000	88	49758	2.00	2.01	
65 sec-Butyl Alcohol	45	5.550	5.549	0.001	50	32680	60.0	56.9	M
67 2,2-Dichloropropane	77	5.569	5.559	0.010	88	72588	2.00	2.02	
69 Chlorobromomethane	128	5.737	5.727	0.010	91	16732	2.00	2.01	
70 Chloroform	83	5.756	5.756	0.000	97	84022	2.00	1.97	
71 Tetrahydrofuran	42	5.766	5.766	0.000	37	8426	4.00	3.75	
73 1,1,1-Trichloroethane	97	5.983	5.973	0.010	96	73856	2.00	1.98	
72 Isobutyl alcohol	41	5.993	5.992	0.001	29	11641	50.0	47.7	M
74 Cyclohexane	56	6.062	6.052	0.010	94	112012	2.00	2.00	
75 1,1-Dichloropropene	75	6.091	6.091	0.000	91	78001	2.00	2.01	
76 Carbon tetrachloride	117	6.131	6.120	0.010	96	65538	2.00	2.00	
77 1,2-Dichloroethane	62	6.249	6.248	0.001	95	39267	2.00	1.96	
79 Benzene	78	6.278	6.268	0.010	98	180268	2.00	1.92	
13 n-Heptane	43	6.406	6.406	0.000	95	123110	2.00	1.94	
81 Trichloroethene	95	6.780	6.770	0.010	94	49671	2.00	1.95	
82 2-Pentanone	43	6.839	6.829	0.010	97	43051	8.00	7.80	
84 1,2-Dichloropropane	63	6.967	6.957	0.010	93	48144	2.00	2.04	
85 Methylcyclohexane	55	6.987	6.987	0.000	95	90479	2.00	1.96	
86 1,4-Dioxane	88	7.036	7.036	0.000	11	1715	40.0	42.1	
87 Dibromomethane	93	7.076	7.066	0.010	93	17950	2.00	1.94	
88 Dichlorobromomethane	83	7.164	7.164	0.000	97	48772	2.00	1.91	
90 2-Chloroethyl vinyl ether	63	7.371	7.361	0.010	73	2994	2.00	2.52	
91 cis-1,3-Dichloropropene	75	7.548	7.538	0.010	89	46805	2.00	1.86	
92 4-Methyl-2-pentanone (MIBK	43	7.637	7.627	0.010	96	65098	8.00	7.55	
93 Toluene	91	7.883	7.873	0.010	97	167135	2.00	1.97	
95 trans-1,3-Dichloropropene	75	8.011	8.011	0.000	96	34511	2.00	1.88	
94 Ethyl methacrylate	69	8.041	8.031	0.010	92	17245	2.00	1.90	
96 1,1,2-Trichloroethane	97	8.198	8.198	0.000	90	18091	2.00	1.89	
98 1,3-Dichloropropane	76	8.366	8.366	0.000	91	33231	2.00	1.91	
97 2-Hexanone	43	8.376	8.375	0.001	76	37383	8.00	7.30	
99 Tetrachloroethene	164	8.405	8.405	0.000	93	35967	2.00	2.01	
100 Chlorodibromomethane	129	8.602	8.592	0.010	89	25357	2.00	1.96	
102 Ethylene Dibromide	107	8.750	8.740	0.010	98	18519	2.00	1.97	
103 1-Chlorohexane	91	9.104	9.094	0.010	85	62936	2.00	1.91	
104 Chlorobenzene	112	9.193	9.193	0.000	92	93476	2.00	1.99	
105 1,1,1,2-Tetrachloroethane	131	9.252	9.242	0.010	94	30023	2.00	1.95	
106 Ethylbenzene	106	9.272	9.262	0.010	99	51367	2.00	2.00	
107 m-Xylene & p-Xylene	106	9.370	9.370	0.000	0	62169	2.00	2.02	
109 Styrene	104	9.774	9.764	0.010	79	76155	2.00	1.90	
108 o-Xylene	106	9.774	9.764	0.010	89	55046	2.00	1.96	
110 Bromoform	173	9.981	9.980	0.001	90	11361	2.00	1.86	
111 Isopropylbenzene	105	10.118	10.108	0.010	97	163110	2.00	1.99	
113 Cyclohexanone	55	10.227	10.217	0.010	98	34747	80.0	76.6	
114 1,1,2,2-Tetrachloroethane	83	10.345	10.345	0.000	91	21394	2.00	1.97	
115 trans-1,4-Dichloro-2-buten	53	10.404	10.404	0.000	5	3661	2.00	1.88	
116 1,2,3-Trichloropropane	110	10.414	10.414	0.000	83	3346	2.00	1.71	
117 Bromobenzene	156	10.453	10.453	0.000	94	32105	2.00	1.94	
118 N-Propylbenzene	120	10.493	10.492	0.001	99	41330	2.00	2.04	
120 2-Chlorotoluene	126	10.601	10.601	0.000	95	36642	2.00	2.00	
119 1,3,5-Trimethylbenzene	105	10.630	10.630	0.000	93	133451	2.00	2.01	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.690	10.689	0.001	99	36065	2.00	2.02	
122 tert-Butylbenzene	119	10.936	10.926	0.010	93	122674	2.00	2.00	
123 1,2,4-Trimethylbenzene	105	10.965	10.965	0.000	96	128144	2.00	1.98	
124 sec-Butylbenzene	134	11.113	11.113	0.000	97	30738	2.00	2.00	
125 4-Isopropyltoluene	119	11.221	11.221	0.000	97	143353	2.00	2.00	
126 1,3-Dichlorobenzene	146	11.241	11.241	0.000	97	67110	2.00	1.96	
127 1,4-Dichlorobenzene	146	11.310	11.310	0.000	94	71731	2.00	2.05	
129 n-Butylbenzene	91	11.576	11.576	0.000	100	171076	2.00	1.99	
130 1,2-Dichlorobenzene	146	11.645	11.644	0.001	95	53321	2.00	1.94	
131 1,2-Dibromo-3-Chloropropan	157	12.334	12.334	0.000	1	1695	2.00	1.91	
132 1,2,4-Trichlorobenzene	180	13.191	13.190	0.001	93	33297	2.00	1.89	
133 Hexachlorobutadiene	225	13.358	13.348	0.010	95	30619	2.00	2.03	
134 Naphthalene	128	13.486	13.486	0.000	97	37160	2.00	1.86	
135 1,2,3-Trichlorobenzene	180	13.762	13.752	0.010	94	28672	2.00	1.94	
S 142 1,2-Dichloroethene, Total	96				0		4.00	4.03	
S 137 Xylenes, Total (URS)	1				0		4.00	3.98	
S 141 Xylenes, Total	106				0		4.00	3.98	
S 138 Total BTEX	1				0			9.87	
S 140 1,2-Dichloroethene, Total	1				0		4.00	4.03	
S 136 Trihalomethanes, Total	1				0		8.00	7.69	
S 139 1,3-Dichloropropene, Total	1				0		4.00	3.74	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	0.16	Units: uL
MV-MegaMainA_00002	Amount Added:	0.80	Units: uL

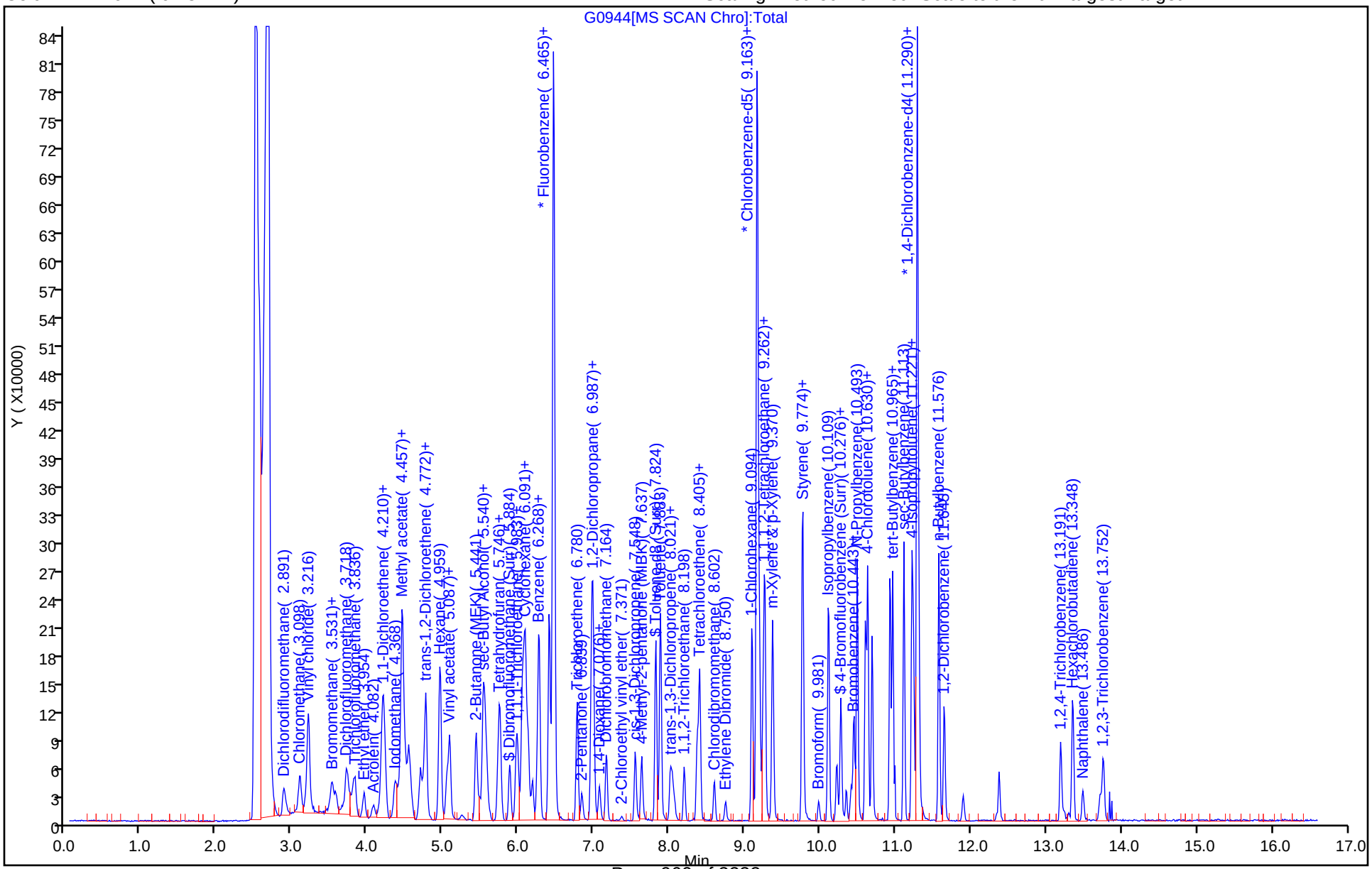
Report Date: 30-Oct-2018 01:33:00 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0944.D

Injection Date:	29-Oct-2018 20:40:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	STD02			Worklist Smp#:	12
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

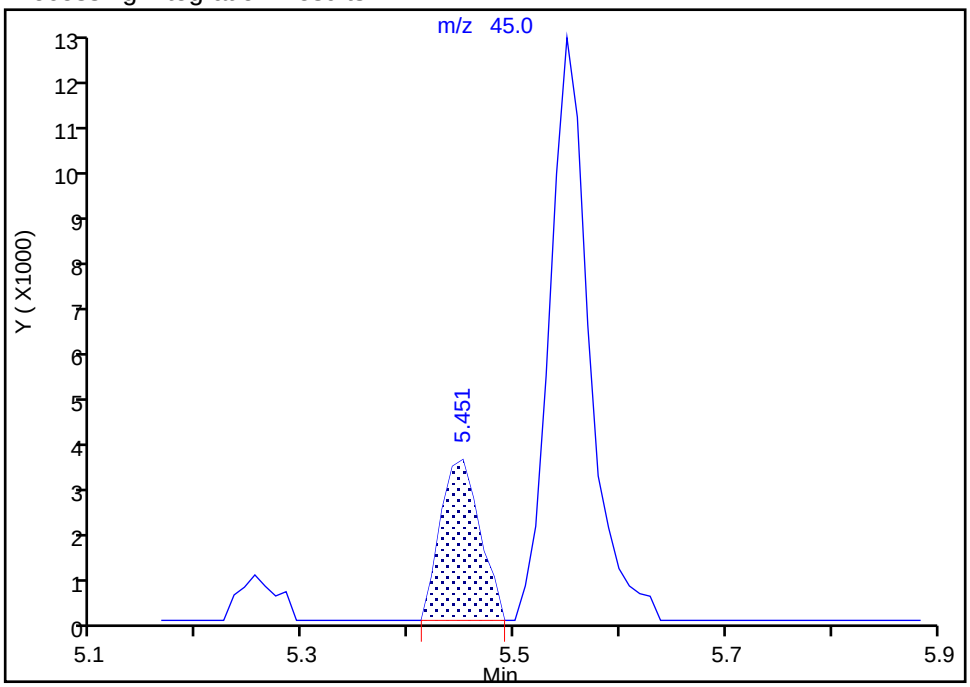
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0944.D
Injection Date: 29-Oct-2018 20:40:30 Instrument ID: VMS_G
Lims ID: STD02
Client ID:
Operator ID: newcomer ALS Bottle#: 13 Worklist Smp#: 12
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

65 sec-Butyl Alcohol, CAS: 78-92-2

Signal: 1

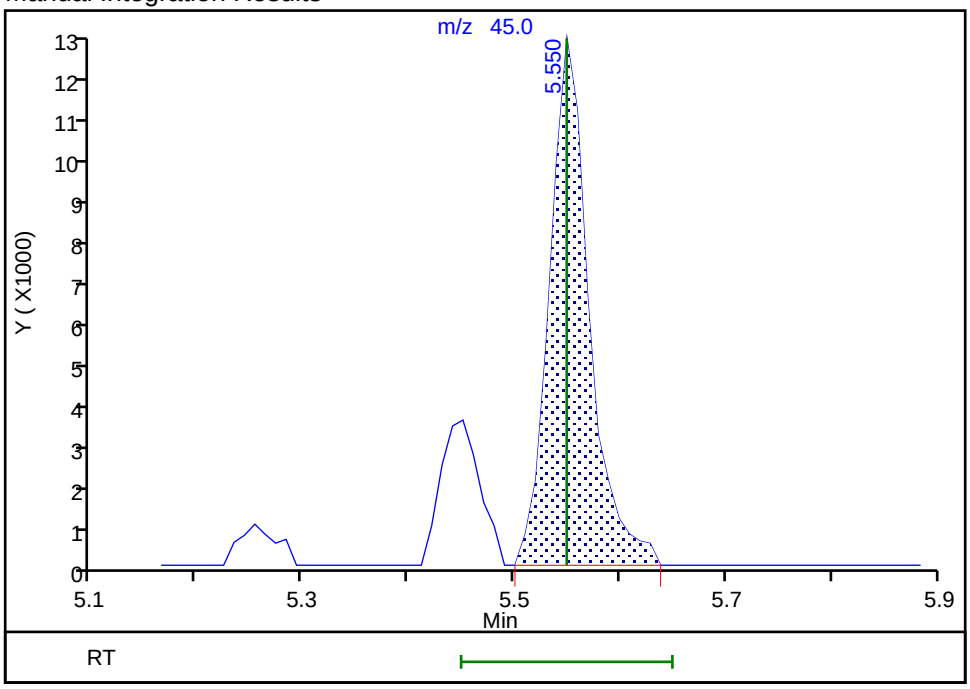
Processing Integration Results

RT: 5.45
Area: 8946
Amount: 31.301173
Amount Units: ug/l



Manual Integration Results

RT: 5.55
Area: 32680
Amount: 56.906074
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:26:04
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

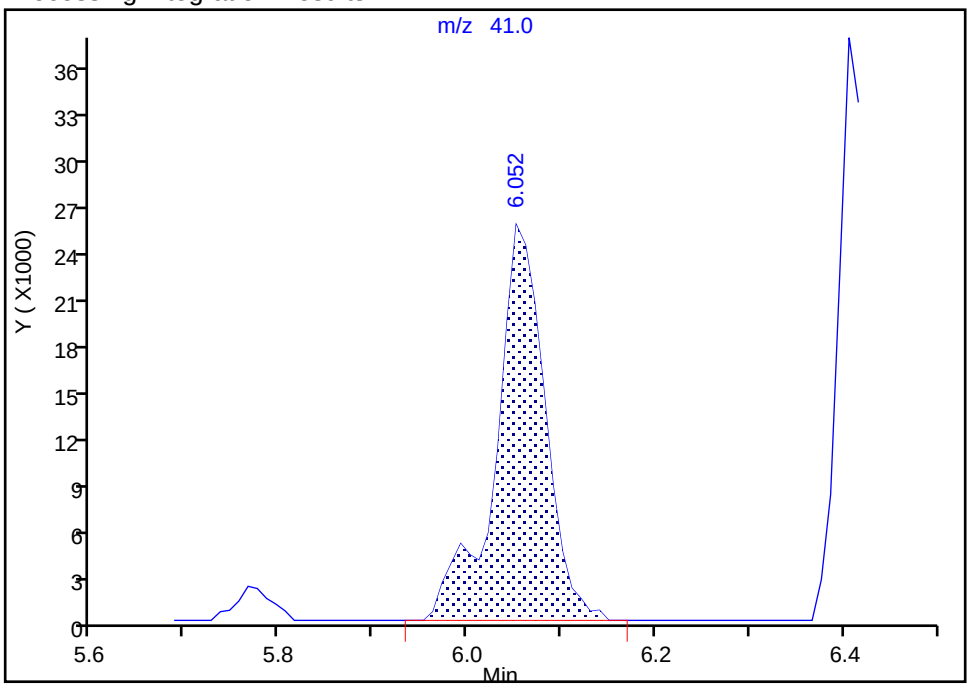
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0944.D
Injection Date: 29-Oct-2018 20:40:30 Instrument ID: VMS_G
Lims ID: STD02
Client ID:
Operator ID: newcomer ALS Bottle#: 13 Worklist Smp#: 12
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

72 Isobutyl alcohol, CAS: 78-83-1

Signal: 1

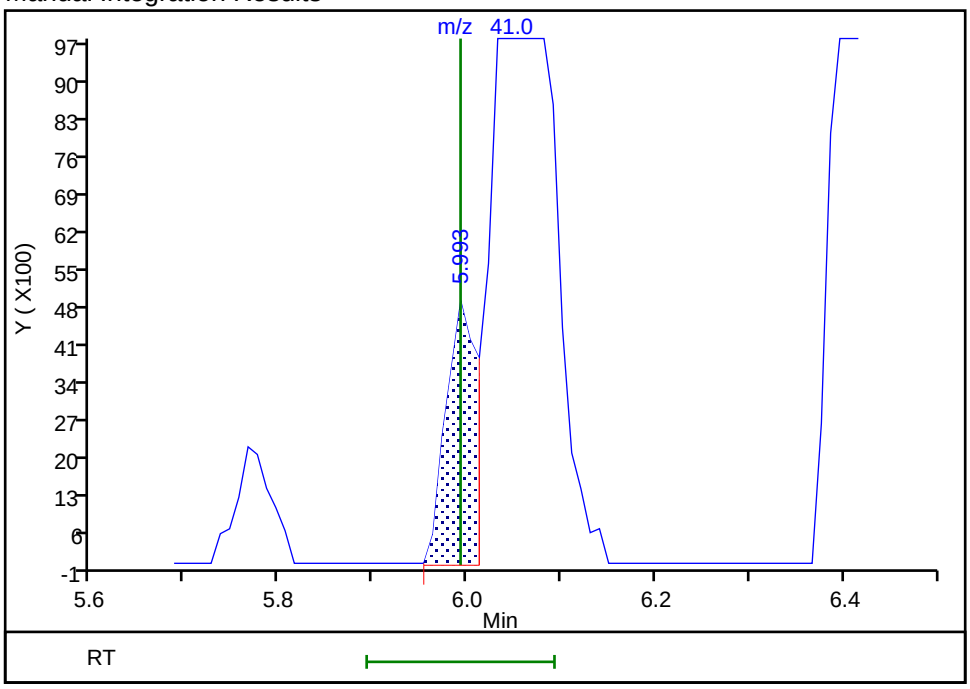
Processing Integration Results

RT: 6.05
Area: 92360
Amount: 129.6101
Amount Units: ug/l



Manual Integration Results

RT: 5.99
Area: 11641
Amount: 47.736731
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:26:26
Audit Action: Manually Integrated Audit Reason: Assign Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0945.D
Lims ID: STD05
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 29-Oct-2018 21:01:30 ALS Bottle#: 14 Worklist Smp#: 13
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: STD05
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub83

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:33:05 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 21:53:46

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.467	4.466	0.001	0	95862	250.0	250.0	
* 1 Fluorobenzene	96	6.466	6.465	0.001	97	757067	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.164	9.163	0.001	91	141631	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.291	11.290	0.001	96	196130	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.885	5.884	0.001	90	103325	5.00	4.84	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.190	6.180	0.010	0	81861	5.00	5.14	
$ 7 Toluene-d8 (Surr)	98	7.815	7.814	0.001	95	314805	5.00	4.90	
$ 8 4-Bromofluorobenzene (Surr	95	10.277	10.276	0.001	86	103489	5.00	4.94	
25 Dichlorodifluoromethane	85	2.892	2.891	0.001	100	139187	5.00	4.38	
27 Chloromethane	50	3.098	3.098	0.000	100	174028	5.00	4.78	
28 Vinyl chloride	62	3.217	3.216	0.001	79	133003	5.00	4.63	
31 Bromomethane	94	3.522	3.521	0.001	93	90558	5.00	4.62	
32 Chloroethane	64	3.581	3.570	0.011	96	67663	5.00	4.90	
33 Dichlorofluoromethane	67	3.719	3.718	0.001	98	192583	5.00	4.97	
35 Trichlorofluoromethane	101	3.827	3.826	0.001	98	174225	5.00	4.72	
38 Ethyl ether	59	3.955	3.954	0.001	92	46427	5.00	4.72	
41 Acrolein	56	4.073	4.072	0.001	98	58037	50.0	47.8	
42 Acetone	43	4.172	4.171	0.001	97	55651	20.0	18.7	
45 1,1-Dichloroethene	96	4.201	4.200	0.001	93	106249	5.00	4.66	
44 1,1,2-Trichloro-1,2,2-trif	151	4.201	4.200	0.001	95	79815	5.00	4.62	
47 Iodomethane	142	4.369	4.358	0.011	98	219276	5.00	4.87	
48 Methyl acetate	43	4.418	4.417	0.001	98	70047	10.0	9.94	
49 3-Chloro-1-propene	41	4.457	4.456	0.001	87	283250	5.00	4.87	
50 Carbon disulfide	76	4.457	4.456	0.001	97	575368	5.00	4.83	
51 2-Methyl-2-propanol	59	4.526	4.525	0.001	93	28566	50.0	48.1	
52 Methylene Chloride	84	4.546	4.545	0.001	97	108438	5.00	4.74	
53 Acrylonitrile	53	4.694	4.693	0.001	99	135971	50.0	49.2	
54 Methyl tert-butyl ether	73	4.743	4.742	0.001	97	123239	5.00	4.97	
55 trans-1,2-Dichloroethene	96	4.772	4.771	0.001	93	121426	5.00	5.03	
56 Hexane	57	4.959	4.959	0.000	94	220907	5.00	4.95	
57 Vinyl acetate	43	5.048	5.047	0.001	96	260435	10.0	9.78	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.087	5.087	0.000	97	234058	5.00	4.84	
62 2-Butanone (MEK)	43	5.481	5.480	0.001	96	76420	20.0	19.7	
66 cis-1,2-Dichloroethene	96	5.531	5.530	0.000	88	116313	5.00	4.97	
65 sec-Butyl Alcohol	45	5.550	5.549	0.001	96	82723	150.0	146.5	a
67 2,2-Dichloropropane	77	5.570	5.559	0.011	90	163633	5.00	4.82	
69 Chlorobromomethane	128	5.727	5.727	0.000	90	39720	5.00	5.03	
70 Chloroform	83	5.757	5.756	0.001	98	198447	5.00	4.92	
71 Tetrahydrofuran	42	5.767	5.766	0.001	91	22524	10.0	10.6	
73 1,1,1-Trichloroethane	97	5.974	5.973	0.001	96	172322	5.00	4.88	
72 Isobutyl alcohol	41	5.993	5.992	0.001	29	29194	125.0	121.8	M
74 Cyclohexane	56	6.052	6.052	0.000	97	259166	5.00	4.89	
75 1,1-Dichloropropene	75	6.092	6.091	0.001	92	184304	5.00	5.01	
76 Carbon tetrachloride	117	6.131	6.120	0.011	96	153675	5.00	4.95	
77 1,2-Dichloroethane	62	6.249	6.248	0.001	96	94931	5.00	5.01	
79 Benzene	78	6.269	6.268	0.001	98	439450	5.00	4.94	
13 n-Heptane	43	6.407	6.406	0.001	96	299368	5.00	4.98	
81 Trichloroethene	95	6.771	6.770	0.001	94	117212	5.00	4.85	
82 2-Pentanone	43	6.840	6.829	0.011	97	107988	20.0	18.5	
84 1,2-Dichloropropane	63	6.968	6.957	0.011	92	112117	5.00	5.01	
85 Methylcyclohexane	55	6.988	6.987	0.001	96	216098	5.00	4.95	
86 1,4-Dioxane	88	7.037	7.036	0.001	85	4579	100.0	92.0	
87 Dibromomethane	93	7.067	7.066	0.001	90	44866	5.00	5.12	
88 Dichlorobromomethane	83	7.165	7.164	0.001	97	118765	5.00	4.91	
90 2-Chloroethyl vinyl ether	63	7.372	7.361	0.011	86	8071	5.00	4.56	
91 cis-1,3-Dichloropropene	75	7.549	7.538	0.011	90	121494	5.00	5.08	
92 4-Methyl-2-pentanone (MIBK	43	7.628	7.627	0.001	96	161325	20.0	19.8	
93 Toluene	91	7.884	7.873	0.011	97	408414	5.00	5.08	
95 trans-1,3-Dichloropropene	75	8.012	8.011	0.001	97	83416	5.00	4.81	
94 Ethyl methacrylate	69	8.041	8.031	0.010	97	44174	5.00	4.69	
96 1,1,2-Trichloroethane	97	8.199	8.198	0.001	92	47776	5.00	5.28	
98 1,3-Dichloropropane	76	8.366	8.366	0.000	97	84408	5.00	5.12	
97 2-Hexanone	43	8.376	8.375	0.001	96	98383	20.0	19.0	
99 Tetrachloroethene	164	8.406	8.405	0.001	94	83074	5.00	4.90	
100 Chlorodibromomethane	129	8.593	8.592	0.001	89	62472	5.00	5.09	
102 Ethylene Dibromide	107	8.741	8.740	0.001	96	45134	5.00	5.06	
103 1-Chlorohexane	91	9.095	9.094	0.001	85	160054	5.00	5.12	
104 Chlorobenzene	112	9.193	9.193	0.000	90	224021	5.00	5.03	
105 1,1,1,2-Tetrachloroethane	131	9.243	9.242	0.001	95	75026	5.00	5.14	
106 Ethylbenzene	106	9.262	9.262	0.000	99	126521	5.00	5.18	
107 m-Xylene & p-Xylene	106	9.371	9.370	0.001	0	151594	5.00	5.20	
109 Styrene	104	9.774	9.764	0.010	82	202146	5.00	5.33	
108 o-Xylene	106	9.765	9.764	0.001	88	138597	5.00	5.21	
110 Bromoform	173	9.981	9.980	0.001	92	29394	5.00	5.06	
111 Isopropylbenzene	105	10.109	10.108	0.001	97	395568	5.00	5.05	
113 Cyclohexanone	55	10.218	10.217	0.001	97	84219	200.0	195.8	
114 1,1,2,2-Tetrachloroethane	83	10.346	10.345	0.001	92	53220	5.00	5.12	
115 trans-1,4-Dichloro-2-buten	53	10.405	10.404	0.001	66	9832	5.00	4.52	
116 1,2,3-Trichloropropane	110	10.424	10.414	0.010	85	9292	5.00	4.98	
117 Bromobenzene	156	10.454	10.453	0.001	96	78958	5.00	5.00	
118 N-Propylbenzene	120	10.493	10.492	0.001	99	100479	5.00	5.21	
120 2-Chlorotoluene	126	10.602	10.601	0.001	95	87437	5.00	5.00	
119 1,3,5-Trimethylbenzene	105	10.631	10.630	0.001	93	324410	5.00	5.12	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.690	10.689	0.001	99	88086	5.00	5.16	
122 tert-Butylbenzene	119	10.927	10.926	0.000	93	304055	5.00	5.21	
123 1,2,4-Trimethylbenzene	105	10.966	10.965	0.001	95	311818	5.00	5.05	
124 sec-Butylbenzene	134	11.114	11.113	0.001	96	73805	5.00	5.04	
125 4-Isopropyltoluene	119	11.222	11.221	0.001	97	350030	5.00	5.11	
126 1,3-Dichlorobenzene	146	11.242	11.241	0.001	96	164219	5.00	5.01	
127 1,4-Dichlorobenzene	146	11.311	11.310	0.001	93	166626	5.00	4.99	
129 n-Butylbenzene	91	11.576	11.576	0.000	99	420454	5.00	5.13	
130 1,2-Dichlorobenzene	146	11.645	11.644	0.001	96	132845	5.00	5.05	
131 1,2-Dibromo-3-Chloropropan	157	12.335	12.334	0.001	83	4946	5.00	4.40	
132 1,2,4-Trichlorobenzene	180	13.191	13.190	0.001	95	85792	5.00	5.10	
133 Hexachlorobutadiene	225	13.349	13.348	0.001	97	69950	5.00	4.85	
134 Naphthalene	128	13.487	13.486	0.001	97	94538	5.00	4.95	
135 1,2,3-Trichlorobenzene	180	13.753	13.752	0.000	93	69580	5.00	4.92	
S 142 1,2-Dichloroethene, Total	96				0		10.0	10.0	
S 137 Xylenes, Total (URS)	1				0		10.0	10.4	
S 141 Xylenes, Total	106				0		10.0	10.4	
S 138 Total BTEX	1				0			25.6	
S 140 1,2-Dichloroethene, Total	1				0		10.0	10.0	
S 136 Trihalomethanes, Total	1				0		20.0	20.0	
S 139 1,3-Dichloropropene, Total	1				0		10.0	9.89	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	0.40	Units: uL
MV-MegaMainA_00002	Amount Added:	2.00	Units: uL

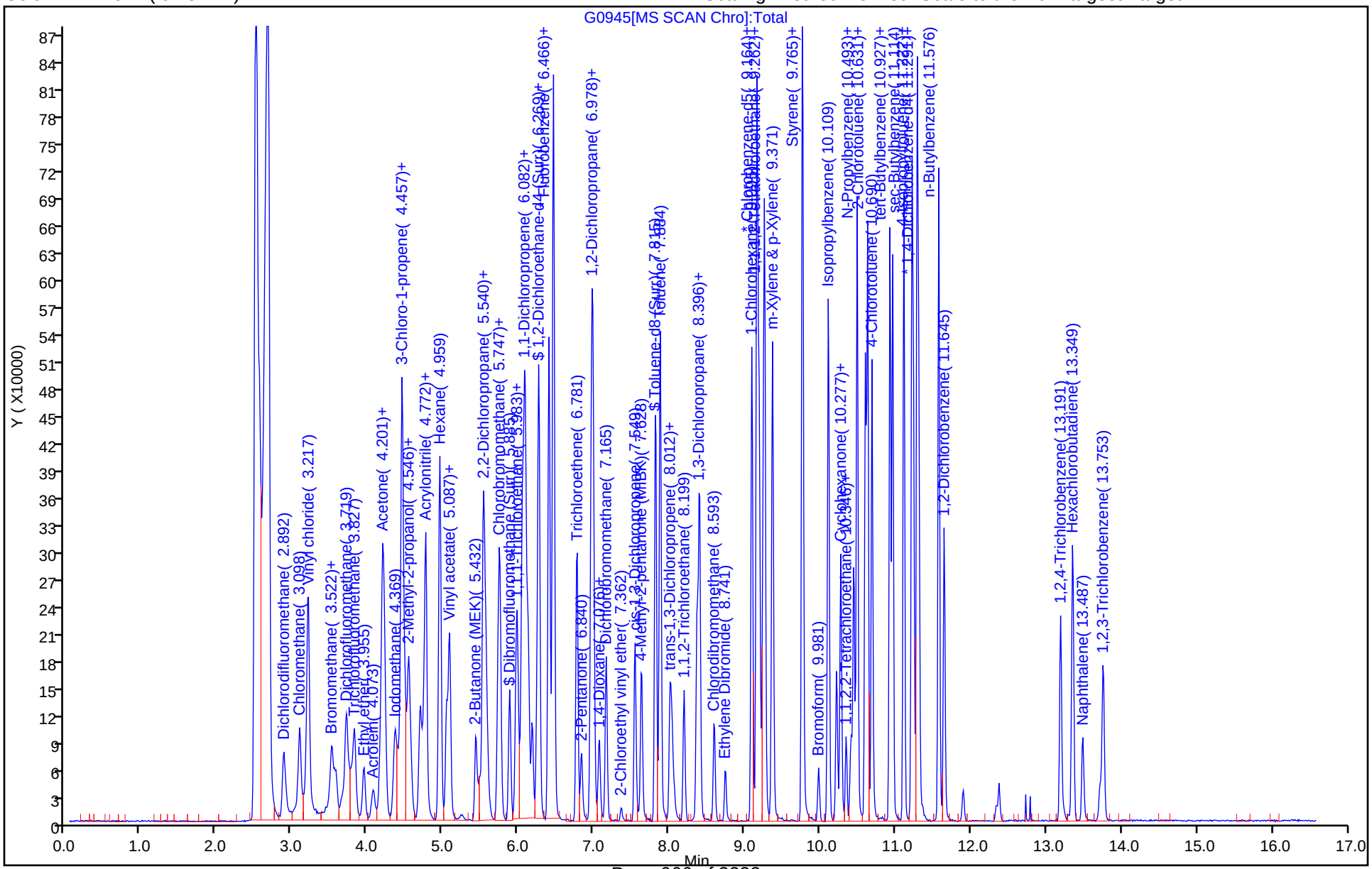
Report Date: 30-Oct-2018 01:33:06 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0945.D

Injection Date:	29-Oct-2018 21:01:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	STD05			Worklist Smp#:	13
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

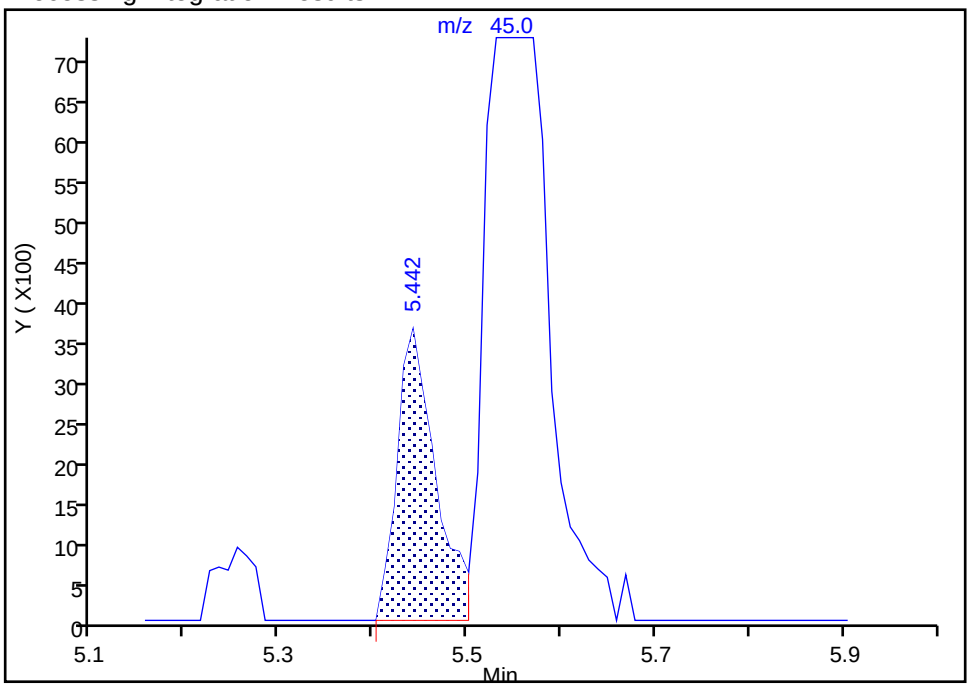
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0945.D
Injection Date: 29-Oct-2018 21:01:30 Instrument ID: VMS_G
Lims ID: STD05
Client ID:
Operator ID: newcomer ALS Bottle#: 14 Worklist Smp#: 13
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

65 sec-Butyl Alcohol, CAS: 78-92-2

Signal: 1

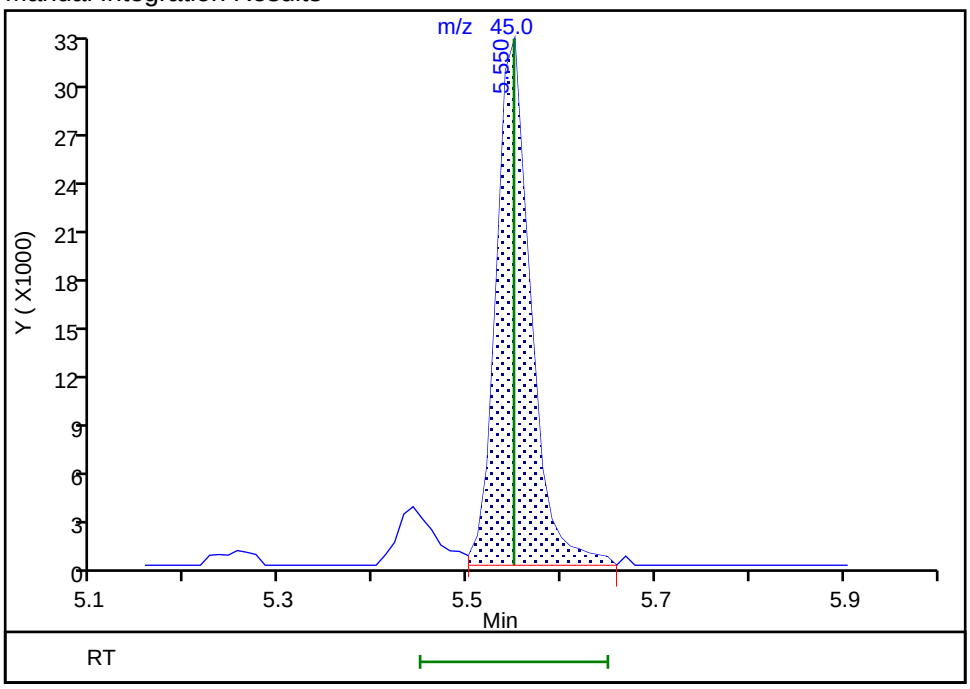
Processing Integration Results

RT: 5.44
Area: 10289
Amount: 55.714609
Amount Units: ug/l



Manual Integration Results

RT: 5.55
Area: 82723
Amount: 146.5334
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:31:00
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

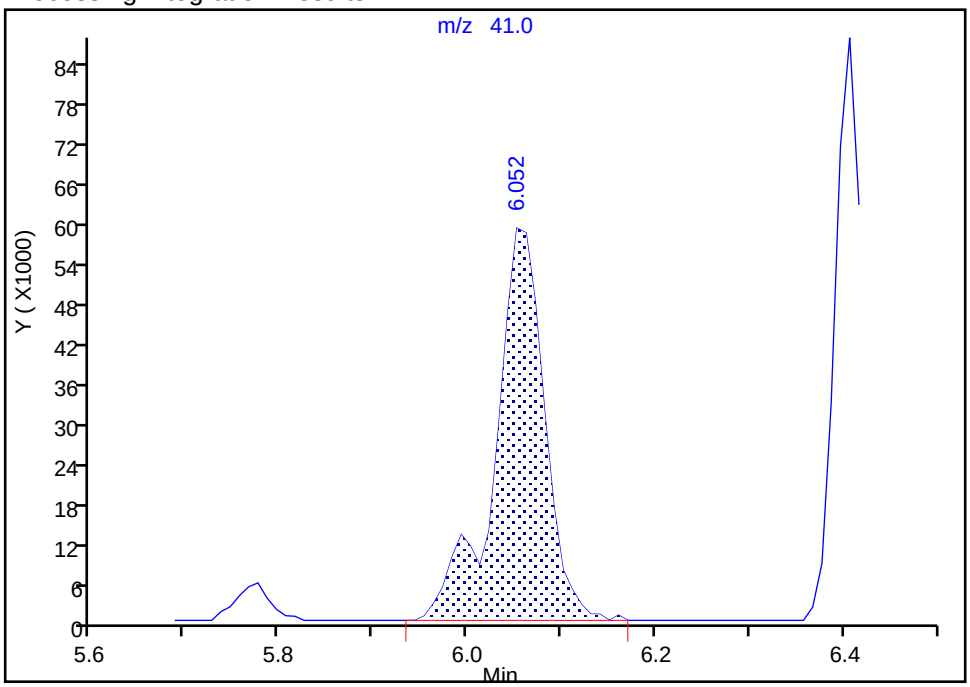
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0945.D
Injection Date: 29-Oct-2018 21:01:30 Instrument ID: VMS_G
Lims ID: STD05
Client ID:
Operator ID: newcomer ALS Bottle#: 14 Worklist Smp#: 13
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

72 Isobutyl alcohol, CAS: 78-83-1

Signal: 1

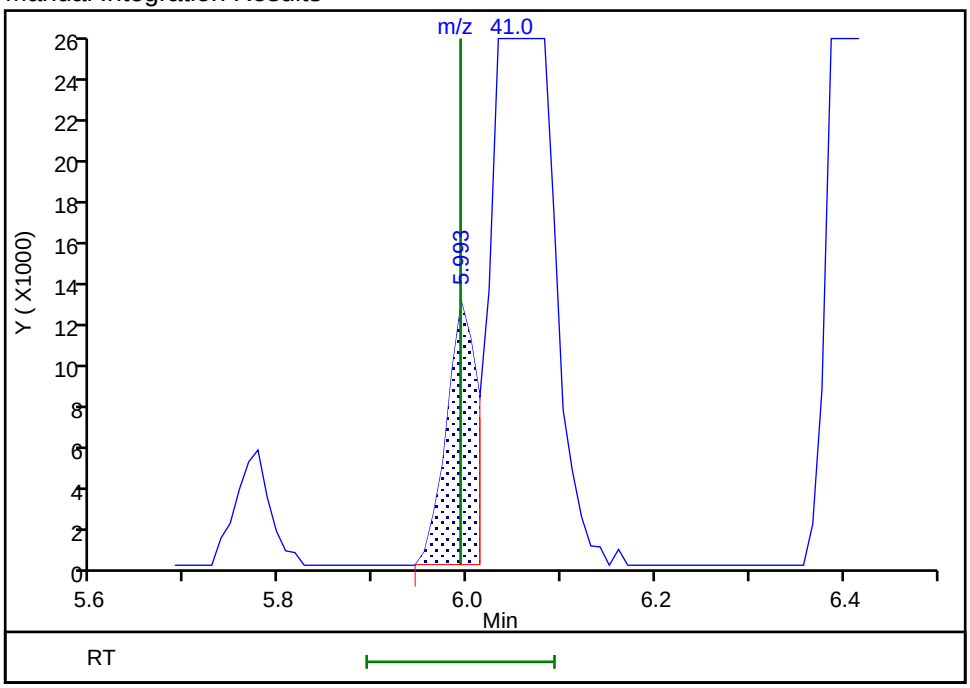
Processing Integration Results

RT: 6.05
Area: 216778
Amount: 317.5217
Amount Units: ug/l



Manual Integration Results

RT: 5.99
Area: 29194
Amount: 121.7839
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:31:22
Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0946.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 29-Oct-2018 21:21:30 ALS Bottle#: 15 Worklist Smp#: 14
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: STD10
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub83

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:33:12 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 22:12:11

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.466	4.466	0.000	0	98670	250.0	250.0	
* 1 Fluorobenzene	96	6.465	6.465	0.000	98	795389	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.163	9.163	0.000	89	150141	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.290	11.290	0.000	96	211577	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.884	5.884	0.000	91	225337	10.0	10.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.180	6.180	0.000	0	177998	10.0	10.6	
$ 7 Toluene-d8 (Surr)	98	7.814	7.814	0.000	95	710539	10.0	10.4	
$ 8 4-Bromofluorobenzene (Surr	95	10.276	10.276	0.000	86	226859	10.0	10.0	
25 Dichlorodifluoromethane	85	2.891	2.891	0.000	99	362413	10.0	10.9	
27 Chloromethane	50	3.098	3.098	0.000	100	396078	10.0	10.4	
28 Vinyl chloride	62	3.216	3.216	0.000	82	321542	10.0	10.6	
31 Bromomethane	94	3.521	3.521	0.000	92	206962	10.0	10.1	
32 Chloroethane	64	3.570	3.570	0.000	97	151203	10.0	10.4	
33 Dichlorofluoromethane	67	3.718	3.718	0.000	98	430409	10.0	10.6	
35 Trichlorofluoromethane	101	3.826	3.826	0.000	99	400011	10.0	10.3	
38 Ethyl ether	59	3.954	3.954	0.000	95	111153	10.0	10.7	
41 Acrolein	56	4.072	4.072	0.000	98	126350	100.0	99.0	
42 Acetone	43	4.171	4.171	0.000	97	123625	40.0	41.6	
45 1,1-Dichloroethene	96	4.200	4.200	0.000	97	247671	10.0	10.3	
44 1,1,2-Trichloro-1,2,2-trif	151	4.200	4.200	0.000	98	188177	10.0	10.4	
47 Iodomethane	142	4.358	4.358	0.000	98	480128	10.0	10.1	
48 Methyl acetate	43	4.417	4.417	0.000	99	144708	20.0	20.2	
49 3-Chloro-1-propene	41	4.456	4.456	0.000	90	613782	10.0	10.0	
50 Carbon disulfide	76	4.456	4.456	0.000	97	1275023	10.0	10.2	
51 2-Methyl-2-propanol	59	4.525	4.525	0.000	94	61733	100.0	101.1	
52 Methylene Chloride	84	4.545	4.545	0.000	97	229711	10.0	9.55	
53 Acrylonitrile	53	4.693	4.693	0.000	97	295451	100.0	101.8	
54 Methyl tert-butyl ether	73	4.742	4.742	0.000	98	267198	10.0	10.3	
55 trans-1,2-Dichloroethene	96	4.771	4.771	0.000	93	263182	10.0	10.4	
56 Hexane	57	4.959	4.959	0.000	94	487229	10.0	10.3	
57 Vinyl acetate	43	5.047	5.047	0.000	96	556939	20.0	19.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.087	5.087	0.000	97	508858	10.0	10.0	
62 2-Butanone (MEK)	43	5.480	5.480	0.000	97	155653	40.0	38.2	
66 cis-1,2-Dichloroethene	96	5.530	5.530	0.000	89	251772	10.0	10.2	
65 sec-Butyl Alcohol	45	5.549	5.549	0.000	51	177391	300.0	305.3	a
67 2,2-Dichloropropane	77	5.559	5.559	0.000	89	354297	10.0	9.93	
69 Chlorobromomethane	128	5.727	5.727	0.000	91	86484	10.0	10.4	
70 Chloroform	83	5.756	5.756	0.000	98	427971	10.0	10.1	
71 Tetrahydrofuran	42	5.766	5.766	0.000	91	46435	20.0	20.8	
73 1,1,1-Trichloroethane	97	5.973	5.973	0.000	97	371046	10.0	10.0	
72 Isobutyl alcohol	41	5.992	5.992	0.000	93	65444	250.0	265.2	
74 Cyclohexane	56	6.052	6.052	0.000	96	572213	10.0	10.3	
75 1,1-Dichloropropene	75	6.091	6.091	0.000	92	401626	10.0	10.4	
76 Carbon tetrachloride	117	6.120	6.120	0.000	97	335539	10.0	10.3	
77 1,2-Dichloroethane	62	6.248	6.248	0.000	96	206859	10.0	10.4	
79 Benzene	78	6.268	6.268	0.000	98	962759	10.0	10.3	
13 n-Heptane	43	6.406	6.406	0.000	96	667293	10.0	10.6	
81 Trichloroethene	95	6.770	6.770	0.000	94	263490	10.0	10.4	
82 2-Pentanone	43	6.829	6.829	0.000	97	248379	40.0	38.9	
84 1,2-Dichloropropane	63	6.957	6.957	0.000	93	239556	10.0	10.2	
85 Methylcyclohexane	55	6.987	6.987	0.000	96	466620	10.0	10.2	
86 1,4-Dioxane	88	7.036	7.036	0.000	93	12207	200.0	210.6	
87 Dibromomethane	93	7.066	7.066	0.000	90	94278	10.0	10.2	
88 Dichlorobromomethane	83	7.164	7.164	0.000	97	267780	10.0	10.5	
90 2-Chloroethyl vinyl ether	63	7.361	7.361	0.000	90	19062	10.0	8.48	
91 cis-1,3-Dichloropropene	75	7.538	7.538	0.000	90	272041	10.0	10.7	
92 4-Methyl-2-pentanone (MIBK	43	7.627	7.627	0.000	96	365729	40.0	42.6	
93 Toluene	91	7.873	7.873	0.000	97	874116	10.0	10.4	
95 trans-1,3-Dichloropropene	75	8.011	8.011	0.000	98	195305	10.0	10.7	
94 Ethyl methacrylate	69	8.031	8.031	0.000	97	102768	10.0	9.97	
96 1,1,2-Trichloroethane	97	8.198	8.198	0.000	92	98799	10.0	10.4	
98 1,3-Dichloropropane	76	8.366	8.366	0.000	97	183045	10.0	10.5	
97 2-Hexanone	43	8.375	8.375	0.000	97	229989	40.0	41.0	
99 Tetrachloroethene	164	8.405	8.405	0.000	97	186097	10.0	10.3	
100 Chlorodibromomethane	129	8.592	8.592	0.000	90	137471	10.0	10.6	
102 Ethylene Dibromide	107	8.740	8.740	0.000	98	99612	10.0	10.5	
103 1-Chlorohexane	91	9.094	9.094	0.000	88	358435	10.0	10.8	
104 Chlorobenzene	112	9.193	9.193	0.000	90	479677	10.0	10.2	
105 1,1,1,2-Tetrachloroethane	131	9.242	9.242	0.000	97	159339	10.0	10.3	
106 Ethylbenzene	106	9.262	9.262	0.000	99	273345	10.0	10.6	
107 m-Xylene & p-Xylene	106	9.370	9.370	0.000	0	322272	10.0	10.4	
109 Styrene	104	9.764	9.764	0.000	79	453384	10.0	11.3	
108 o-Xylene	106	9.764	9.764	0.000	87	297710	10.0	10.6	
110 Bromoform	173	9.980	9.980	0.000	92	64074	10.0	10.4	
111 Isopropylbenzene	105	10.108	10.108	0.000	97	870005	10.0	10.3	
113 Cyclohexanone	55	10.217	10.217	0.000	98	196637	400.0	431.3	
114 1,1,2,2-Tetrachloroethane	83	10.345	10.345	0.000	94	110892	10.0	9.90	
115 trans-1,4-Dichloro-2-buten	53	10.404	10.404	0.000	85	23696	10.0	9.57	
116 1,2,3-Trichloropropane	110	10.414	10.414	0.000	85	20508	10.0	10.2	
117 Bromobenzene	156	10.453	10.453	0.000	96	177254	10.0	10.4	
118 N-Propylbenzene	120	10.492	10.492	0.000	99	219996	10.0	10.6	
120 2-Chlorotoluene	126	10.601	10.601	0.000	95	194794	10.0	10.3	
119 1,3,5-Trimethylbenzene	105	10.630	10.630	0.000	93	712392	10.0	10.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.689	10.689	0.000	99	190303	10.0	10.3	
122 tert-Butylbenzene	119	10.926	10.926	0.000	94	661137	10.0	10.5	
123 1,2,4-Trimethylbenzene	105	10.965	10.965	0.000	96	689309	10.0	10.4	
124 sec-Butylbenzene	134	11.113	11.113	0.000	96	164606	10.0	10.4	
125 4-Isopropyltoluene	119	11.221	11.221	0.000	97	777623	10.0	10.5	
126 1,3-Dichlorobenzene	146	11.241	11.241	0.000	97	357284	10.0	10.1	
127 1,4-Dichlorobenzene	146	11.310	11.310	0.000	92	351050	10.0	9.74	
129 n-Butylbenzene	91	11.576	11.576	0.000	99	911161	10.0	10.3	
130 1,2-Dichlorobenzene	146	11.644	11.644	0.000	95	286743	10.0	10.1	
131 1,2-Dibromo-3-Chloropropan	157	12.334	12.334	0.000	80	12540	10.0	9.39	
132 1,2,4-Trichlorobenzene	180	13.190	13.190	0.000	94	193241	10.0	10.6	
133 Hexachlorobutadiene	225	13.348	13.348	0.000	96	156112	10.0	10.0	
134 Naphthalene	128	13.486	13.486	0.000	97	222722	10.0	10.8	
135 1,2,3-Trichlorobenzene	180	13.752	13.752	0.000	94	149149	10.0	9.78	
S 142 1,2-Dichloroethene, Total	96				0		20.0	20.6	
S 137 Xylenes, Total (URS)	1				0		20.0	21.0	
S 141 Xylenes, Total	106				0		20.0	21.0	
S 140 1,2-Dichloroethene, Total	1				0		20.0	20.6	
S 136 Trihalomethanes, Total	1				0		40.0	41.6	
S 139 1,3-Dichloropropene, Total	1				0		20.0	21.4	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL
MV-MegaMainA_00002	Amount Added:	4.00	Units: uL

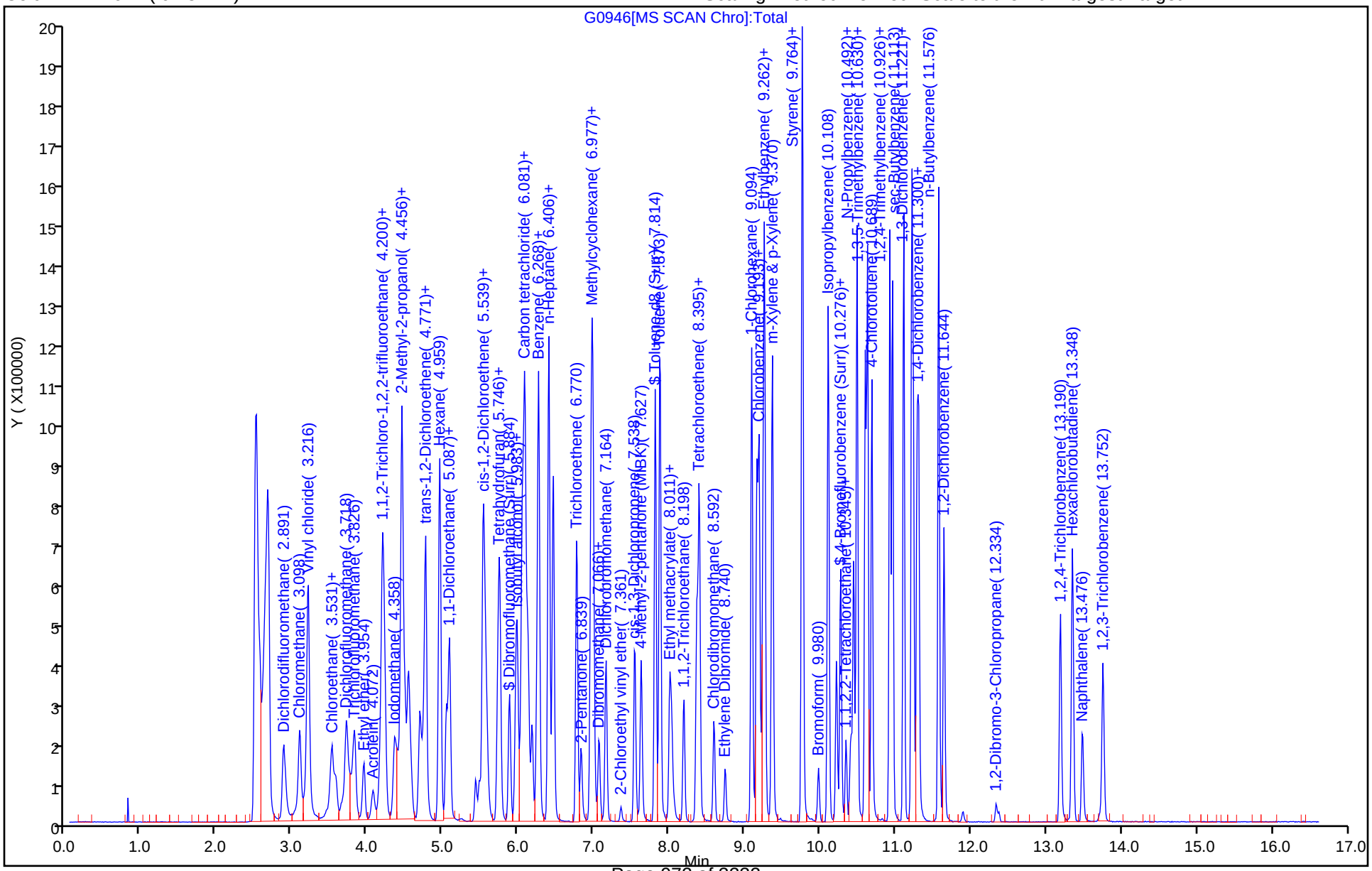
Report Date: 30-Oct-2018 01:33:13 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0946.D

Injection Date:	29-Oct-2018 21:21:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	ICIS			Worklist Smp#:	14
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

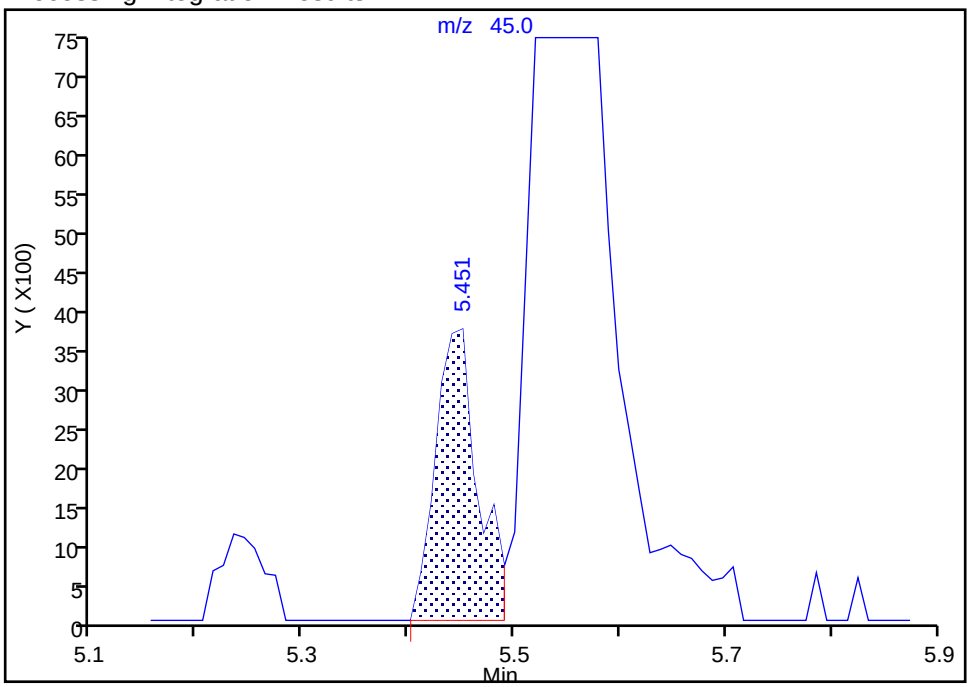
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0946.D
Injection Date: 29-Oct-2018 21:21:30 Instrument ID: VMS_G
Lims ID: ICIS
Client ID:
Operator ID: newcomer ALS Bottle#: 15 Worklist Smp#: 14
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

65 sec-Butyl Alcohol, CAS: 78-92-2

Signal: 1

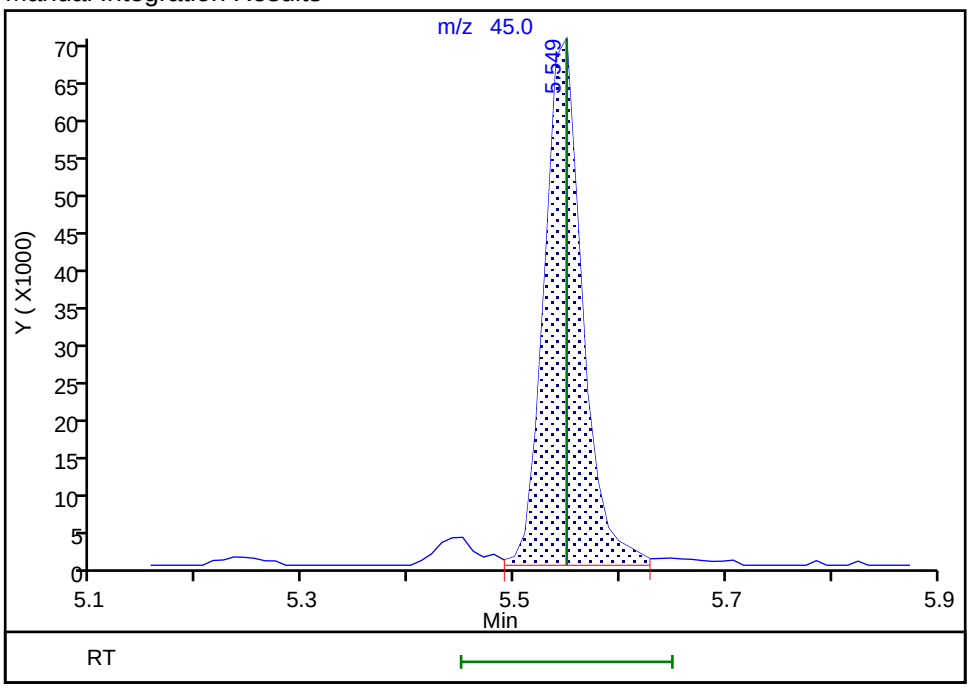
Processing Integration Results

RT: 5.45
Area: 10518
Amount: 658.8197
Amount Units: ug/l



Manual Integration Results

RT: 5.55
Area: 177391
Amount: 305.2835
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 22:15:49
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0947.D
Lims ID: STD25
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 29-Oct-2018 21:42:30 ALS Bottle#: 16 Worklist Smp#: 15
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: STD25
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub83

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:33:19 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 22:17:52

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.456	4.466	-0.010	0	107885	250.0	250.0	
* 1 Fluorobenzene	96	6.465	6.465	0.000	98	839170	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.163	9.163	0.000	89	163933	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.290	11.290	0.000	96	224540	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.884	5.884	0.000	92	610553	25.0	25.8	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.180	6.180	0.000	0	441724	25.0	25.0	
$ 7 Toluene-d8 (Surr)	98	7.814	7.814	0.000	95	1868080	25.0	25.1	
$ 8 4-Bromofluorobenzene (Surr	95	10.276	10.276	0.000	86	599233	25.0	25.0	
25 Dichlorodifluoromethane	85	2.891	2.891	0.000	99	944100	25.0	26.8	
27 Chloromethane	50	3.107	3.098	0.009	99	1022833	25.0	25.3	
28 Vinyl chloride	62	3.216	3.216	0.000	77	819874	25.0	25.7	
31 Bromomethane	94	3.531	3.521	0.010	92	524053	25.0	24.1	
32 Chloroethane	64	3.580	3.570	0.010	97	387921	25.0	25.3	
33 Dichlorofluoromethane	67	3.718	3.718	0.000	98	1107704	25.0	25.8	
35 Trichlorofluoromethane	101	3.826	3.826	0.000	98	1035659	25.0	25.3	
38 Ethyl ether	59	3.954	3.954	0.000	94	293713	25.0	26.9	
41 Acrolein	56	4.072	4.072	0.000	99	359580	250.0	266.9	
42 Acetone	43	4.171	4.171	0.000	97	306683	100.0	100.2	
45 1,1-Dichloroethene	96	4.210	4.200	0.010	94	657521	25.0	26.0	
44 1,1,2-Trichloro-1,2,2-trif	151	4.200	4.200	0.000	97	487591	25.0	25.5	
47 Iodomethane	142	4.368	4.358	0.010	98	1265293	25.0	25.3	
48 Methyl acetate	43	4.407	4.417	-0.010	99	367452	50.0	49.7	
49 3-Chloro-1-propene	41	4.456	4.456	0.000	90	1631204	25.0	25.3	
50 Carbon disulfide	76	4.456	4.456	0.000	100	3405354	25.0	25.8	
51 2-Methyl-2-propanol	59	4.525	4.525	0.000	95	166690	250.0	249.6	
52 Methylene Chloride	84	4.545	4.545	0.000	96	616554	25.0	24.3	
53 Acrylonitrile	53	4.693	4.693	0.000	98	806080	250.0	263.3	
54 Methyl tert-butyl ether	73	4.742	4.742	0.000	98	730417	25.0	26.6	
55 trans-1,2-Dichloroethene	96	4.771	4.771	0.000	92	689108	25.0	25.8	
56 Hexane	57	4.959	4.959	-0.001	94	1310692	25.0	25.4	
57 Vinyl acetate	43	5.047	5.047	0.000	96	1609362	50.0	54.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.087	5.087	0.000	97	1361105	25.0	25.4	
62 2-Butanone (MEK)	43	5.480	5.480	0.000	97	429872	100.0	100.0	
66 cis-1,2-Dichloroethene	96	5.530	5.530	0.000	89	662740	25.0	25.5	
65 sec-Butyl Alcohol	45	5.539	5.549	-0.010	99	490737	750.0	772.4	a
67 2,2-Dichloropropane	77	5.569	5.559	0.010	89	931857	25.0	24.8	
69 Chlorobromomethane	128	5.727	5.727	0.000	90	231122	25.0	26.4	
70 Chloroform	83	5.756	5.756	0.000	98	1150975	25.0	25.7	
71 Tetrahydrofuran	42	5.766	5.766	0.000	92	132248	50.0	56.1	
73 1,1,1-Trichloroethane	97	5.973	5.973	0.000	97	1000044	25.0	25.6	
72 Isobutyl alcohol	41	5.992	5.992	0.000	92	184437	625.0	683.6	
74 Cyclohexane	56	6.061	6.052	0.009	96	1511678	25.0	25.8	
75 1,1-Dichloropropene	75	6.091	6.091	0.000	92	1061606	25.0	26.0	
76 Carbon tetrachloride	117	6.130	6.120	0.010	96	890309	25.0	25.9	
77 1,2-Dichloroethane	62	6.239	6.248	-0.009	96	556741	25.0	26.5	
79 Benzene	78	6.268	6.268	0.000	98	2518964	25.0	25.5	
13 n-Heptane	43	6.406	6.406	0.000	96	1747866	25.0	26.2	
81 Trichloroethene	95	6.770	6.770	0.000	94	695795	25.0	26.0	
82 2-Pentanone	43	6.829	6.829	0.000	97	689606	100.0	100.1	
84 1,2-Dichloropropane	63	6.957	6.957	0.000	93	645210	25.0	26.0	
85 Methylcyclohexane	55	6.987	6.987	0.000	96	1249033	25.0	25.8	
86 1,4-Dioxane	88	7.036	7.036	0.000	98	32387	500.0	507.3	
87 Dibromomethane	93	7.066	7.066	0.000	90	253125	25.0	26.0	
88 Dichlorobromomethane	83	7.164	7.164	0.000	98	717048	25.0	26.8	
90 2-Chloroethyl vinyl ether	63	7.361	7.361	0.000	90	61553	25.0	23.0	
91 cis-1,3-Dichloropropene	75	7.538	7.538	0.000	90	765214	25.0	27.6	
92 4-Methyl-2-pentanone (MIBK	43	7.627	7.627	0.000	96	1003529	100.0	110.8	
93 Toluene	91	7.873	7.873	0.000	97	2312568	25.0	26.0	
95 trans-1,3-Dichloropropene	75	8.011	8.011	0.000	99	540508	25.0	28.1	
94 Ethyl methacrylate	69	8.031	8.031	0.000	96	301142	25.0	26.3	
96 1,1,2-Trichloroethane	97	8.188	8.198	-0.010	92	268342	25.0	26.7	
98 1,3-Dichloropropane	76	8.365	8.366	-0.001	96	498626	25.0	26.1	
97 2-Hexanone	43	8.365	8.375	-0.010	97	659784	100.0	106.6	
99 Tetrachloroethene	164	8.395	8.405	-0.010	95	494911	25.0	25.2	
100 Chlorodibromomethane	129	8.592	8.592	0.000	90	382971	25.0	26.9	
102 Ethylene Dibromide	107	8.740	8.740	0.000	98	274242	25.0	26.6	
103 1-Chlorohexane	91	9.094	9.094	0.000	88	967325	25.0	26.7	
104 Chlorobenzene	112	9.193	9.193	0.000	90	1267094	25.0	24.6	
105 1,1,1,2-Tetrachloroethane	131	9.242	9.242	0.000	97	432148	25.0	25.6	
106 Ethylbenzene	106	9.262	9.262	0.000	99	710703	25.0	25.2	
107 m-Xylene & p-Xylene	106	9.370	9.370	0.000	0	871370	25.0	25.8	
109 Styrene	104	9.764	9.764	0.000	80	1218992	25.0	27.8	
108 o-Xylene	106	9.764	9.764	0.000	87	783298	25.0	25.4	
110 Bromoform	173	9.980	9.980	0.000	93	179732	25.0	26.7	
111 Isopropylbenzene	105	10.108	10.108	0.000	97	2375776	25.0	26.5	
113 Cyclohexanone	55	10.217	10.217	0.000	99	552931	1000.0	1110.8	
114 1,1,2,2-Tetrachloroethane	83	10.345	10.345	0.000	93	301722	25.0	25.4	
115 trans-1,4-Dichloro-2-buten	53	10.394	10.404	-0.010	86	70921	25.0	26.2	
116 1,2,3-Trichloropropane	110	10.414	10.414	0.000	87	55910	25.0	26.2	
117 Bromobenzene	156	10.443	10.453	-0.010	96	478762	25.0	26.5	
118 N-Propylbenzene	120	10.492	10.492	0.000	99	588769	25.0	26.7	
120 2-Chlorotoluene	126	10.601	10.601	0.000	95	511732	25.0	25.6	
119 1,3,5-Trimethylbenzene	105	10.630	10.630	0.000	93	1862759	25.0	25.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.689	10.689	0.000	99	498802	25.0	25.5	
122 tert-Butylbenzene	119	10.926	10.926	0.000	94	1743280	25.0	26.1	
123 1,2,4-Trimethylbenzene	105	10.965	10.965	0.000	95	1829002	25.0	25.9	
124 sec-Butylbenzene	134	11.113	11.113	0.000	96	438151	25.0	26.1	
125 4-Isopropyltoluene	119	11.211	11.221	-0.010	97	2008203	25.0	25.6	
126 1,3-Dichlorobenzene	146	11.241	11.241	0.000	97	933293	25.0	24.9	
127 1,4-Dichlorobenzene	146	11.310	11.310	0.000	97	961899	25.0	25.1	
129 n-Butylbenzene	91	11.576	11.576	0.000	99	2395194	25.0	25.5	
130 1,2-Dichlorobenzene	146	11.644	11.644	0.000	96	774851	25.0	25.7	
131 1,2-Dibromo-3-Chloropropan	157	12.334	12.334	0.000	76	35522	25.0	23.9	
132 1,2,4-Trichlorobenzene	180	13.190	13.190	0.000	94	520400	25.0	27.0	
133 Hexachlorobutadiene	225	13.348	13.348	0.000	96	415593	25.0	25.2	
134 Naphthalene	128	13.476	13.486	-0.010	97	624895	25.0	28.6	
135 1,2,3-Trichlorobenzene	180	13.752	13.752	0.000	96	408924	25.0	25.3	
S 142 1,2-Dichloroethene, Total	96				0		50.0	51.3	
S 137 Xylenes, Total (URS)	1				0		50.0	51.2	
S 141 Xylenes, Total	106				0		50.0	51.2	
S 138 Total BTEX	1				0			127.9	
S 140 1,2-Dichloroethene, Total	1				0		50.0	51.3	
S 136 Trihalomethanes, Total	1				0		100.0	106.2	
S 139 1,3-Dichloropropene, Total	1				0		50.0	55.8	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	2.00	Units: uL
MV-MegaMainA_00002	Amount Added:	10.00	Units: uL

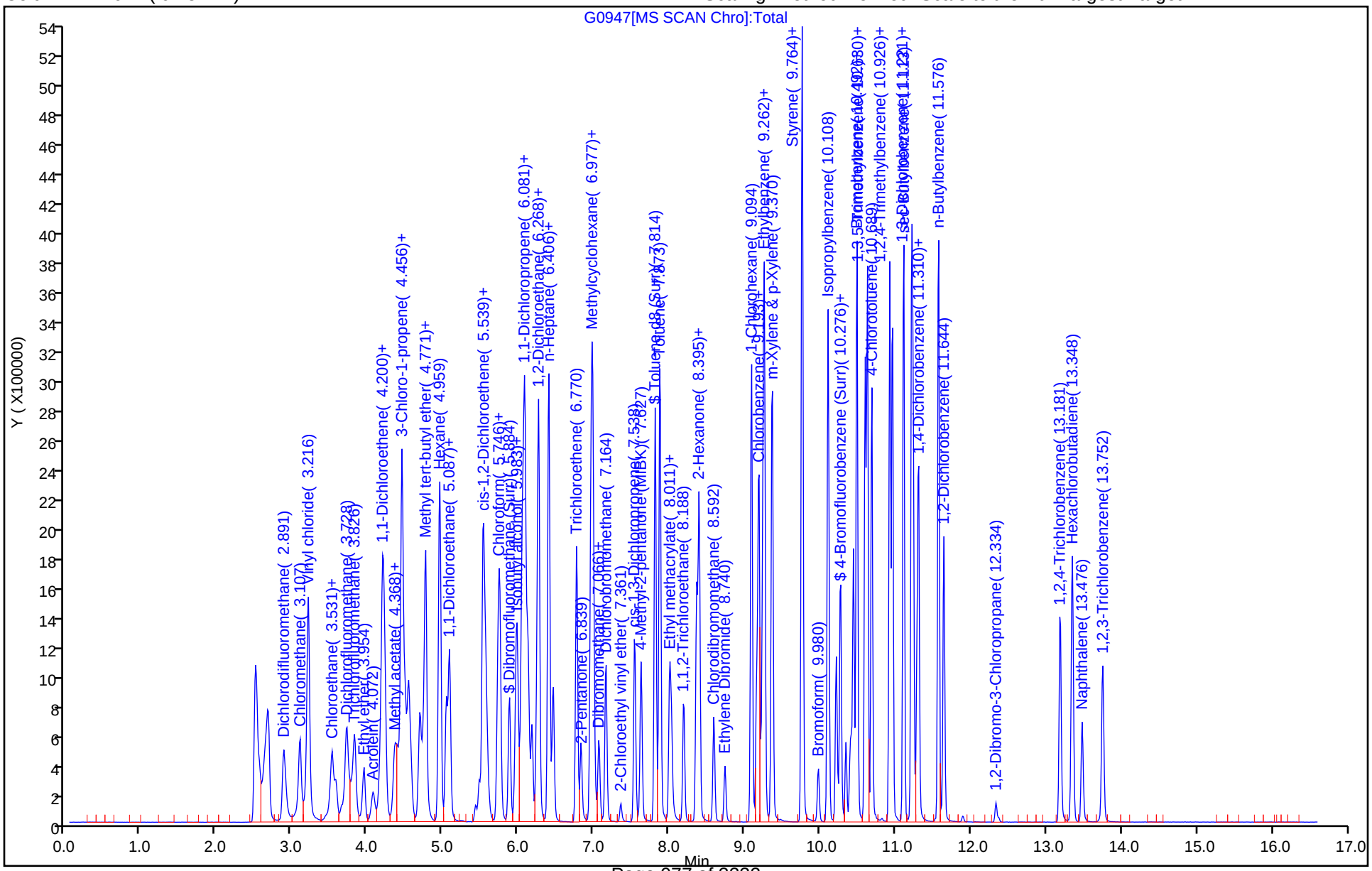
Report Date: 30-Oct-2018 01:33:20 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0947.D

Injection Date:	29-Oct-2018 21:42:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	STD25			Worklist Smp#:	15
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

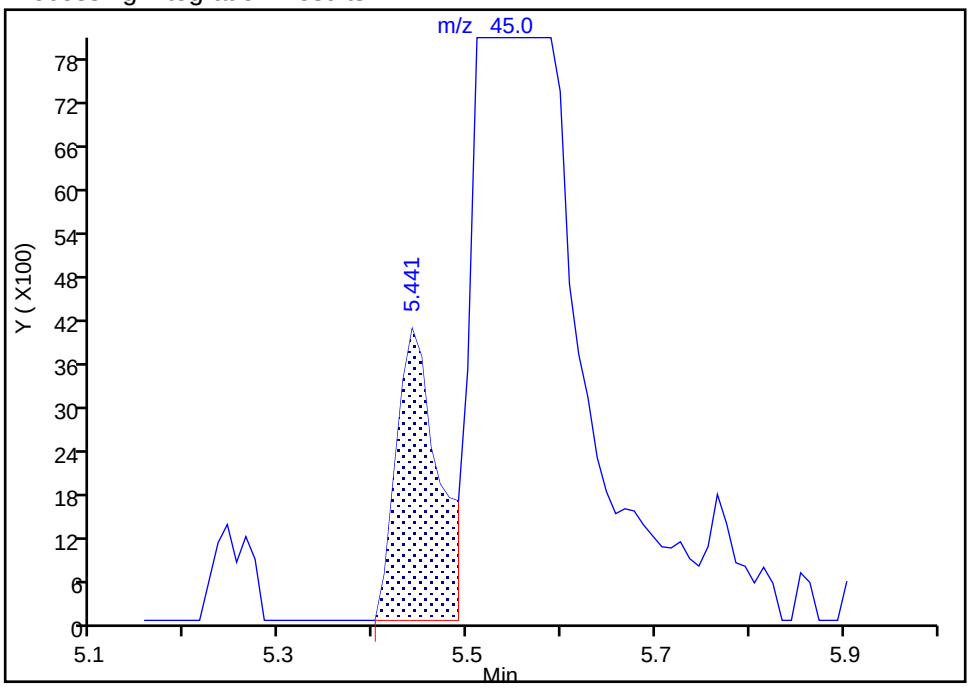
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0947.D
Injection Date: 29-Oct-2018 21:42:30 Instrument ID: VMS_G
Lims ID: STD25
Client ID:
Operator ID: newcomer ALS Bottle#: 16 Worklist Smp#: 15
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

65 sec-Butyl Alcohol, CAS: 78-92-2

Signal: 1

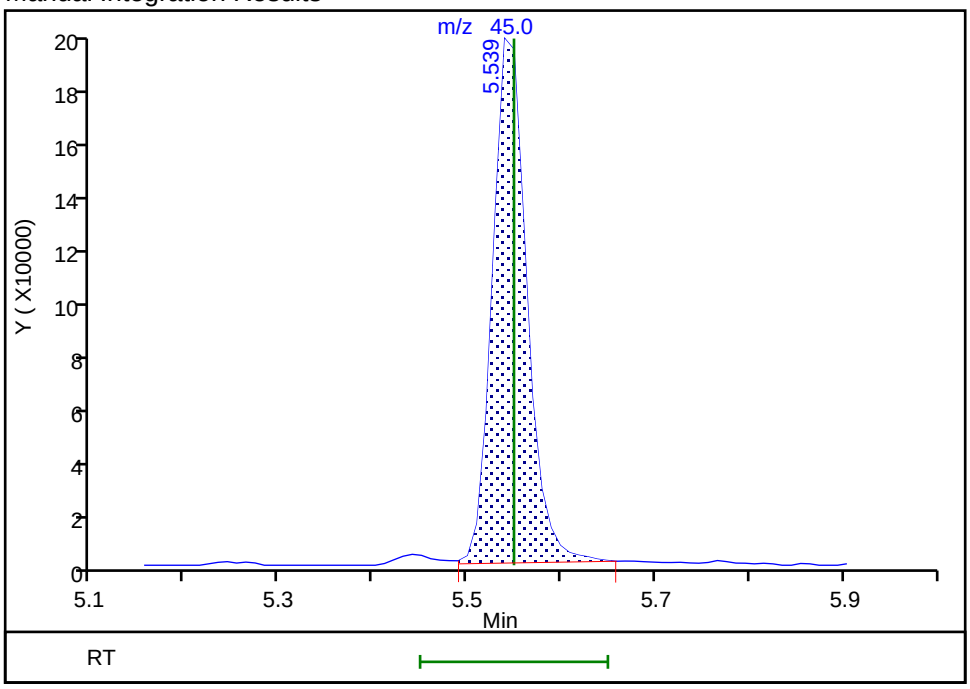
Processing Integration Results

RT: 5.44
Area: 12548
Amount: 23.548149
Amount Units: ug/l



Manual Integration Results

RT: 5.54
Area: 490737
Amount: 772.4042
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 22:16:11
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D
Lims ID: STD60
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 29-Oct-2018 22:02:30 ALS Bottle#: 17 Worklist Smp#: 16
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: STD60
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub83

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:33:26 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 23:00:51

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.457	4.466	-0.009	0	108187	250.0	250.0	
* 1 Fluorobenzene	96	6.456	6.465	-0.009	97	838153	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.154	9.163	-0.009	90	160656	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.281	11.290	-0.009	96	213391	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.875	5.884	-0.009	91	1413118	60.0	59.7	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.180	6.180	0.000	0	1030951	60.0	58.4	
$ 7 Toluene-d8 (Surr)	98	7.815	7.814	0.001	95	4301156	60.0	59.1	
$ 8 4-Bromofluorobenzene (Surr	95	10.267	10.276	-0.009	86	1382771	60.0	60.7	
25 Dichlorodifluoromethane	85	2.892	2.891	0.001	99	2201431	60.0	62.6	
27 Chloromethane	50	3.098	3.098	0.000	100	2348854	60.0	58.3	
28 Vinyl chloride	62	3.207	3.216	-0.009	95	1758215	60.0	55.2	
31 Bromomethane	94	3.522	3.521	0.001	92	1103895	60.0	50.9	
32 Chloroethane	64	3.571	3.570	0.001	97	807775	60.0	52.8	
33 Dichlorofluoromethane	67	3.709	3.718	-0.009	98	2434070	60.0	56.7	
35 Trichlorofluoromethane	101	3.817	3.826	-0.009	99	2273426	60.0	55.6	
38 Ethyl ether	59	3.945	3.954	-0.009	94	644914	60.0	59.2	
41 Acrolein	56	4.063	4.072	-0.009	100	837071	600.1	622.1	
42 Acetone	43	4.162	4.171	-0.009	97	714004	240.0	235.9	
45 1,1-Dichloroethene	96	4.201	4.200	0.001	94	1502214	60.0	59.6	
44 1,1,2-Trichloro-1,2,2-trif	151	4.201	4.200	0.001	97	1113937	60.0	58.2	
47 Iodomethane	142	4.359	4.358	0.001	98	2969268	60.0	59.6	
48 Methyl acetate	43	4.408	4.417	-0.009	100	880480	120.0	120.2	
49 3-Chloro-1-propene	41	4.447	4.456	-0.009	90	3781854	60.0	58.7	
50 Carbon disulfide	76	4.447	4.456	-0.009	100	7885623	60.0	59.8	
51 2-Methyl-2-propanol	59	4.516	4.525	-0.009	94	389448	600.0	581.6	
52 Methylene Chloride	84	4.536	4.545	-0.009	96	1415583	60.0	55.9	
53 Acrylonitrile	53	4.684	4.693	-0.009	98	1900539	600.0	621.5	
54 Methyl tert-butyl ether	73	4.733	4.742	-0.009	98	1705233	60.0	62.1	
55 trans-1,2-Dichloroethene	96	4.762	4.771	-0.009	92	1600365	60.0	59.9	
56 Hexane	57	4.950	4.959	-0.009	94	2999386	60.0	59.2	
57 Vinyl acetate	43	5.038	5.047	-0.009	96	3677378	120.0	124.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.078	5.087	-0.009	97	3197979	60.0	59.8	
62 2-Butanone (MEK)	43	5.481	5.480	0.001	97	1063889	240.0	247.8	
66 cis-1,2-Dichloroethene	96	5.521	5.530	-0.009	89	1558561	60.0	60.1	
65 sec-Butyl Alcohol	45	5.540	5.549	-0.009	98	1213043	1800.0	1904.0	
67 2,2-Dichloropropane	77	5.560	5.559	0.001	90	2165163	60.0	57.6	
69 Chlorobromomethane	128	5.727	5.727	0.000	90	540017	60.0	61.8	
70 Chloroform	83	5.747	5.756	-0.009	98	2642141	60.0	59.1	
71 Tetrahydrofuran	42	5.767	5.766	0.001	93	303191	120.0	128.8	
73 1,1,1-Trichloroethane	97	5.974	5.973	0.001	97	2322546	60.0	59.4	
72 Isobutyl alcohol	41	5.983	5.992	-0.009	94	388705	1500.0	1436.8	
74 Cyclohexane	56	6.052	6.052	0.000	96	3434488	60.0	58.6	
75 1,1-Dichloropropene	75	6.082	6.091	-0.009	91	2401475	60.0	58.9	
76 Carbon tetrachloride	117	6.121	6.120	0.001	96	2050744	60.0	59.7	
77 1,2-Dichloroethane	62	6.239	6.248	-0.009	96	1282258	60.0	61.2	
79 Benzene	78	6.269	6.268	0.001	98	5829470	60.0	59.1	
13 n-Heptane	43	6.397	6.406	-0.009	96	4037922	60.0	60.7	
81 Trichloroethene	95	6.771	6.770	0.001	94	1616845	60.0	60.4	
82 2-Pentanone	43	6.820	6.829	-0.009	96	1680746	240.0	242.3	
84 1,2-Dichloropropane	63	6.958	6.957	0.001	93	1468752	60.0	59.2	
85 Methylcyclohexane	55	6.978	6.987	-0.009	96	2844803	60.0	58.8	
86 1,4-Dioxane	88	7.027	7.036	-0.009	96	75909	1200.0	1170.5	
87 Dibromomethane	93	7.067	7.066	0.001	90	600668	60.0	61.9	
88 Dichlorobromomethane	83	7.155	7.164	-0.009	98	1695227	60.0	63.3	
90 2-Chloroethyl vinyl ether	63	7.352	7.361	-0.009	90	176324	60.0	63.4	
91 cis-1,3-Dichloropropene	75	7.539	7.538	0.001	90	1800721	60.0	66.3	
92 4-Methyl-2-pentanone (MIBK	43	7.618	7.627	-0.009	96	2368458	240.0	261.9	
93 Toluene	91	7.874	7.873	0.001	96	5306072	60.0	59.7	
95 trans-1,3-Dichloropropene	75	8.002	8.011	-0.009	99	1280670	60.0	66.7	
94 Ethyl methacrylate	69	8.022	8.031	-0.009	95	731813	60.0	64.9	
96 1,1,2-Trichloroethane	97	8.189	8.198	-0.009	91	619437	60.0	61.8	
98 1,3-Dichloropropane	76	8.357	8.366	-0.009	96	1134760	60.0	60.7	
97 2-Hexanone	43	8.366	8.375	-0.009	97	1522296	240.0	249.9	
99 Tetrachloroethene	164	8.396	8.405	-0.009	95	1105058	60.0	57.4	
100 Chlorodibromomethane	129	8.593	8.592	0.001	90	903891	60.0	64.9	
102 Ethylene Dibromide	107	8.731	8.740	-0.009	98	643353	60.0	63.6	
103 1-Chlorohexane	91	9.085	9.094	-0.009	88	2191537	60.0	61.8	
104 Chlorobenzene	112	9.184	9.193	-0.009	90	2935465	60.0	58.1	
105 1,1,1,2-Tetrachloroethane	131	9.233	9.242	-0.009	97	971474	60.0	58.7	
106 Ethylbenzene	106	9.262	9.262	0.000	99	1570437	60.0	56.7	
107 m-Xylene & p-Xylene	106	9.361	9.370	-0.009	0	1983179	60.0	59.9	
109 Styrene	104	9.765	9.764	0.001	82	2725854	60.0	63.4	
108 o-Xylene	106	9.755	9.764	-0.009	86	1717337	60.0	56.9	
110 Bromoform	173	9.971	9.980	-0.009	93	441121	60.0	66.9	
111 Isopropylbenzene	105	10.099	10.108	-0.009	97	5346881	60.0	62.7	
113 Cyclohexanone	55	10.208	10.217	-0.009	98	1302693	2400.0	2670.4	
114 1,1,2,2-Tetrachloroethane	83	10.336	10.345	-0.009	94	692250	60.0	61.2	
115 trans-1,4-Dichloro-2-buten	53	10.395	10.404	-0.009	85	171577	60.0	66.0	
116 1,2,3-Trichloropropane	110	10.414	10.414	0.000	88	130921	60.0	64.5	
117 Bromobenzene	156	10.444	10.453	-0.009	97	1087600	60.0	63.2	
118 N-Propylbenzene	120	10.483	10.492	-0.009	99	1319729	60.0	62.9	
120 2-Chlorotoluene	126	10.602	10.601	0.001	95	1124078	60.0	59.1	
119 1,3,5-Trimethylbenzene	105	10.631	10.630	0.001	93	3989293	60.0	57.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.680	10.689	-0.009	99	1114689	60.0	60.0	
122 tert-Butylbenzene	119	10.927	10.926	0.001	94	3907330	60.0	61.5	
123 1,2,4-Trimethylbenzene	105	10.956	10.965	-0.009	95	4104525	60.0	61.1	
124 sec-Butylbenzene	134	11.104	11.113	-0.009	96	967706	60.0	60.7	
125 4-Isopropyltoluene	119	11.212	11.221	-0.009	97	4373881	60.0	58.7	
126 1,3-Dichlorobenzene	146	11.232	11.241	-0.009	96	2052839	60.0	57.6	
127 1,4-Dichlorobenzene	146	11.301	11.310	-0.009	92	2094459	60.0	57.6	
129 n-Butylbenzene	91	11.567	11.576	-0.009	100	5452789	60.0	61.2	
130 1,2-Dichlorobenzene	146	11.645	11.644	0.001	97	1726193	60.0	60.4	
131 1,2-Dibromo-3-Chloropropan	157	12.335	12.334	0.001	80	89433	60.0	62.2	
132 1,2,4-Trichlorobenzene	180	13.181	13.190	-0.009	94	1216076	60.0	66.4	
133 Hexachlorobutadiene	225	13.349	13.348	0.001	97	942693	60.0	60.0	
134 Naphthalene	128	13.477	13.486	-0.009	97	1481945	60.0	71.3	
135 1,2,3-Trichlorobenzene	180	13.753	13.752	0.001	94	938622	60.0	61.0	
S 142 1,2-Dichloroethene, Total	96				0		120.0	120.0	
S 137 Xylenes, Total (URS)	1				0		120.0	116.8	
S 141 Xylenes, Total	106				0		120.0	116.8	
S 138 Total BTEX	1				0			292.3	
S 140 1,2-Dichloroethene, Total	1				0		120.0	120.0	
S 136 Trihalomethanes, Total	1				0		240.0	254.3	
S 139 1,3-Dichloropropene, Total	1				0		120.0	133.1	

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	4.80	Units: uL
MV-MegaMainA_00002	Amount Added:	24.00	Units: uL

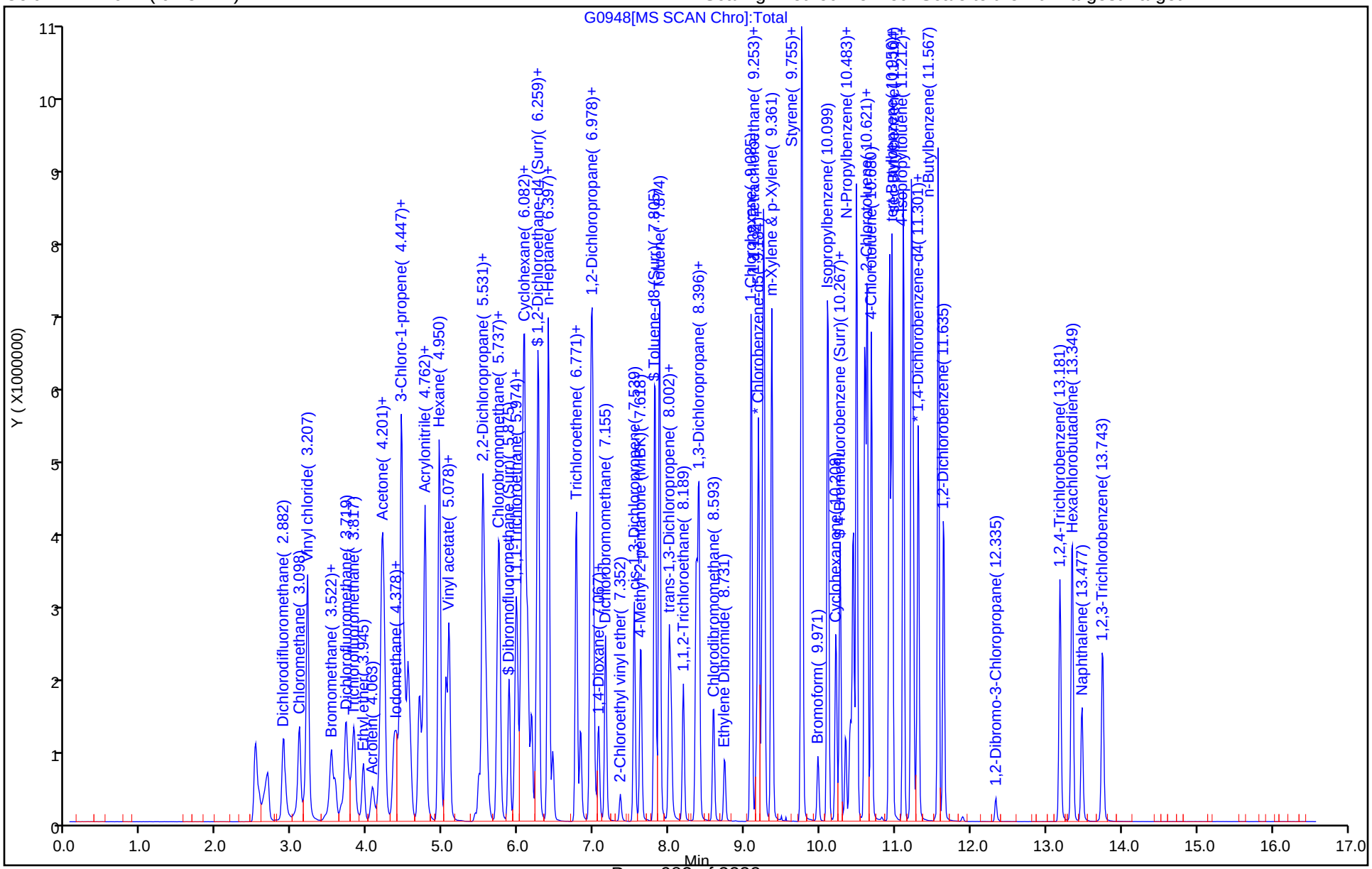
Report Date: 30-Oct-2018 01:33:28 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Injection Date:	29-Oct-2018 22:02:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	STD60			Worklist Smp#:	16
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-435406/17 Calibration Date: 10/29/2018 22:43

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G0950.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.5246	0.5825		11.1	10.0	11.0	20.0
Chloromethane	Ave	0.6014	0.5651	0.1000	9.40	10.0	-6.0	20.0
Vinyl chloride	Ave	0.4747	0.4595		9.68	10.0	-3.2	20.0
Bromomethane	Ave	0.3234	0.3027		9.36	10.0	-6.4	20.0
Chloroethane	Ave	0.2279	0.2227		9.77	10.0	-2.3	20.0
Dichlorofluoromethane	Ave	0.6401	0.6727		10.5	10.0	5.1	20.0
Trichlorofluoromethane	Ave	0.6094	0.6060		9.94	10.0	-0.6	20.0
Ethyl ether	Ave	0.1625	0.1673		10.3	10.0	3.0	20.0
Acrolein	Ave	0.0201	0.0201		100	100	0.0	20.0
Acetone	Lin2		0.0417		35.4	40.0	-11.5	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2852	0.3002		10.5	10.0	5.2	20.0
1,1-Dichloroethene	Ave	0.3761	0.4022		10.7	10.0	6.9	20.0
Iodomethane	Ave	0.7436	0.7784		10.5	10.0	4.7	20.0
Methyl acetate	Lin1		0.1108		19.7	20.0	-1.5	20.0
3-Chloro-1-propene	Ave	0.9605	0.9758		10.2	10.0	1.6	20.0
Carbon disulfide	Ave	1.968	2.048		10.4	10.0	4.1	20.0
t-Butyl alcohol	Ave	1.547	1.587		103	100	2.6	20.0
Methylene Chloride	Ave	0.3779	0.3542		9.37	10.0	-6.3	20.0
Acrylonitrile	Ave	0.0456	0.0459		101	100	0.7	20.0
Methyl tert-butyl ether	Ave	0.4093	0.4116		10.1	10.0	0.6	20.0
trans-1,2-Dichloroethene	Ave	0.3985	0.4297		10.8	10.0	7.8	20.0
Hexane	Ave	3.939	4.162		10.6	10.0	5.7	20.0
Vinyl acetate	Ave	0.4397	0.4052		18.4	20.0	-7.9	20.0
1,1-Dichloroethane	Ave	0.7981	0.8142	0.1000	10.2	10.0	2.0	20.0
2-Butanone (MEK)	Ave	0.0640	0.0594		37.1	40.0	-7.2	20.0
cis-1,2-Dichloroethene	Ave	0.3865	0.3894		10.1	10.0	0.8	20.0
sec-Butyl Alcohol	Ave	1.472	1.522		248	240	3.3	20.0
2,2-Dichloropropane	Ave	0.5607	0.5682		10.1	10.0	1.3	20.0
Bromochloromethane	Ave	0.1304	0.1305		10.0	10.0	0.0	20.0
Chloroform	Ave	0.6665	0.6817		10.2	10.0	2.3	20.0
Tetrahydrofuran	Ave	0.0351	0.0360		20.5	20.0	2.5	20.0
1,1,1-Trichloroethane	Ave	0.5830	0.5898		10.1	10.0	1.2	20.0
Isobutyl alcohol	Ave	0.6252	0.6115		245	250	-2.2	20.0
Cyclohexane	Ave	0.8743	0.8921		10.2	10.0	2.0	20.0
1,1-Dichloropropene	Ave	0.6078	0.6282		10.3	10.0	3.4	20.0
Carbon tetrachloride	Ave	0.5123	0.5169		10.1	10.0	0.9	20.0
1,2-Dichloroethane	Ave	0.3127	0.3102		9.92	10.0	-0.8	20.0
Benzene	Ave	1.470	1.469		9.99	10.0	-0.0	20.0
Trichloroethene	Ave	0.3989	0.4054		10.2	10.0	1.6	20.0
2-Pentanone	Lin1		0.0902		29.1	32.0	-9.2	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-435406/17 Calibration Date: 10/29/2018 22:43

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G0950.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dichloropropane	Ave	0.3698	0.3795		10.3	10.0	2.6	20.0
Methylcyclohexane	Ave	0.7212	0.7199		9.98	10.0	-0.2	20.0
1,4-Dioxane	Lin2		0.0008		186	200	-7.2	20.0
Dibromomethane	Ave	0.1448	0.1396		9.64	10.0	-3.6	20.0
Bromodichloromethane	Ave	0.3991	0.4027		10.1	10.0	0.9	20.0
2-Chloroethyl vinyl ether	Lin1		0.0337		9.37	10.0	-6.3	20.0
cis-1,3-Dichloropropene	Ave	2.112	2.347		11.1	10.0	11.1	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1349	0.1381		41.0	40.0	2.4	20.0
Toluene	Ave	1.326	1.353		10.2	10.0	2.0	20.0
trans-1,3-Dichloropropene	Ave	0.2863	0.2968		10.4	10.0	3.7	20.0
Ethyl methacrylate	Lin2		0.8570		9.99	10.0	-0.1	20.0
1,1,2-Trichloroethane	Ave	0.1495	0.1544		10.3	10.0	3.3	20.0
1,3-Dichloropropane	Ave	1.455	1.479		10.2	10.0	1.6	20.0
2-Hexanone	Lin2		0.4723		40.5	40.0	1.2	20.0
Tetrachloroethene	Ave	1.497	1.559		10.4	10.0	4.1	20.0
Dibromochloromethane	Ave	1.084	1.149		10.6	10.0	6.0	20.0
1,2-Dibromoethane	Ave	0.7869	0.8179		10.4	10.0	3.9	20.0
1-Chlorohexane	Ave	2.757	3.024		8.77	8.00	9.7	20.0
Chlorobenzene	Ave	3.931	3.940	0.3000	10.0	10.0	0.2	20.0
1,1,1,2-Tetrachloroethane	Ave	1.288	1.309		10.2	10.0	1.6	20.0
Ethylbenzene	Ave	2.154	2.224		10.3	10.0	3.2	20.0
m-Xylene & p-Xylene	Ave	2.574	2.653		10.3	10.0	3.1	20.0
o-Xylene	Ave	2.349	2.502		10.7	10.0	6.5	20.0
Styrene	Ave	3.347	3.704		11.1	10.0	10.7	20.0
Bromoform	Ave	0.5127	0.5166	0.1000	10.1	10.0	0.8	20.0
Isopropylbenzene	Ave	4.996	5.348		10.7	10.0	7.0	20.0
Cyclohexanone	Ave	0.0380	0.0320		337	400	-15.6	20.0
1,1,2,2-Tetrachloroethane	Ave	0.6621	0.6658	0.3000	10.1	10.0	0.6	20.0
trans-1,4-Dichloro-2-butene	Lin2		0.1576		10.7	10.0	7.2	20.0
1,2,3-Trichloropropane	Ave	0.1190	0.1252		10.5	10.0	5.3	20.0
Bromobenzene	Ave	1.007	1.070		10.6	10.0	6.2	20.0
N-Propylbenzene	Ave	1.230	1.375		11.2	10.0	11.8	20.0
2-Chlorotoluene	Ave	1.114	1.159		10.4	10.0	4.0	20.0
1,3,5-Trimethylbenzene	Ave	4.035	4.306		10.7	10.0	6.7	20.0
4-Chlorotoluene	Ave	1.089	1.150		10.6	10.0	5.6	20.0
tert-Butylbenzene	Ave	3.723	4.003		10.8	10.0	7.5	20.0
1,2,4-Trimethylbenzene	Ave	3.933	4.073		10.4	10.0	3.6	20.0
sec-Butylbenzene	Ave	0.9342	0.998		10.7	10.0	6.9	20.0
4-Isopropyltoluene	Ave	4.365	4.661		10.7	10.0	6.8	20.0
1,3-Dichlorobenzene	Ave	2.087	2.111		10.1	10.0	1.1	20.0
1,4-Dichlorobenzene	Ave	2.129	2.128		9.99	10.0	-0.0	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-435406/17 Calibration Date: 10/29/2018 22:43

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G0950.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
n-Butylbenzene	Ave	5.219	5.478		10.5	10.0	5.0	20.0
1,2-Dichlorobenzene	Ave	1.675	1.729		10.3	10.0	3.2	20.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0738		9.36	10.0	-6.4	20.0
1,2,4-Trichlorobenzene	Ave	1.073	1.233		11.5	10.0	15.0	20.0
Hexachlorobutadiene	Ave	0.9196	0.9760		10.6	10.0	6.1	20.0
Naphthalene	Ave	1.217	1.358		11.2	10.0	11.6	20.0
1,2,3-Trichlorobenzene	Ave	0.9009	0.9389		10.4	10.0	4.2	20.0
Dibromofluoromethane (Surr)	Ave	0.3528	0.3427		9.71	10.0	-2.9	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2632	0.2428		9.22	10.0	-7.8	20.0
Toluene-d8 (Surr)	Ave	5.665	5.701		10.1	10.0	0.6	20.0
4-Bromofluorobenzene (Surr)	Ave	1.334	1.311		9.83	10.0	-1.7	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0950.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 29-Oct-2018 22:43:30 ALS Bottle#: 19 Worklist Smp#: 17
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: ICV
Operator ID: newcomer Instrument ID: VMS_G
Sublist:

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:34:22 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 23:13:53

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.457	4.466	-0.009	0	105013	250.0	250.0	
* 1 Fluorobenzene	96	6.456	6.465	-0.009	97	867672	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.154	9.163	-0.009	89	162862	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.281	11.290	-0.010	96	222059	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.875	5.884	-0.009	91	237895	10.0	9.71	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.170	6.180	-0.010	0	168500	10.0	9.22	
$ 7 Toluene-d8 (Surr)	98	7.805	7.814	-0.009	96	742746	10.0	10.1	
$ 8 4-Bromofluorobenzene (Surr	95	10.266	10.276	-0.010	87	232968	10.0	9.83	
25 Dichlorodifluoromethane	85	2.881	2.891	-0.010	99	404335	10.0	11.1	
27 Chloromethane	50	3.098	3.098	0.000	100	392235	10.0	9.40	
28 Vinyl chloride	62	3.206	3.216	-0.010	76	318922	10.0	9.68	
31 Bromomethane	94	3.521	3.521	0.000	93	210128	10.0	9.36	
32 Chloroethane	64	3.571	3.570	0.001	96	154570	10.0	9.77	
33 Dichlorofluoromethane	67	3.708	3.718	-0.010	98	466912	10.0	10.5	
35 Trichlorofluoromethane	101	3.817	3.826	-0.009	98	420661	10.0	9.94	
38 Ethyl ether	59	3.945	3.954	-0.009	94	116155	10.0	10.3	
41 Acrolein	56	4.063	4.072	-0.009	99	139412	100.0	100.1	
42 Acetone	43	4.171	4.171	0.000	97	115651	40.0	35.4	
45 1,1-Dichloroethene	96	4.211	4.200	0.011	94	279196	10.0	10.7	
44 1,1,2-Trichloro-1,2,2-trif	151	4.201	4.200	0.001	96	208353	10.0	10.5	
47 Iodomethane	142	4.368	4.358	0.010	98	540324	10.0	10.5	
48 Methyl acetate	43	4.407	4.417	-0.010	99	153790	20.0	19.7	
49 3-Chloro-1-propene	41	4.447	4.456	-0.009	89	677316	10.0	10.2	
50 Carbon disulfide	76	4.457	4.456	0.001	100	1421830	10.0	10.4	
51 2-Methyl-2-propanol	59	4.516	4.525	-0.009	93	66677	100.0	102.6	
52 Methylene Chloride	84	4.545	4.545	0.000	97	245827	10.0	9.37	
53 Acrylonitrile	53	4.693	4.693	0.000	98	318719	100.0	100.7	
54 Methyl tert-butyl ether	73	4.742	4.742	0.000	98	285715	10.0	10.1	
55 trans-1,2-Dichloroethene	96	4.762	4.771	-0.009	93	298253	10.0	10.8	
56 Hexane	57	4.949	4.959	-0.010	94	542329	10.0	10.6	
57 Vinyl acetate	43	5.038	5.047	-0.009	96	562475	20.0	18.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.077	5.087	-0.010	96	565191	10.0	10.2	
62 2-Butanone (MEK)	43	5.481	5.480	0.001	96	164992	40.0	37.1	
66 cis-1,2-Dichloroethene	96	5.530	5.530	0.000	89	270293	10.0	10.1	
65 sec-Butyl Alcohol	45	5.540	5.549	-0.009	97	153386	240.0	248.0	
67 2,2-Dichloropropane	77	5.560	5.559	0.001	92	394397	10.0	10.1	
69 Chlorobromomethane	128	5.717	5.727	-0.010	89	90562	10.0	10.0	
70 Chloroform	83	5.747	5.756	-0.009	98	473215	10.0	10.2	
71 Tetrahydrofuran	42	5.756	5.766	-0.010	91	49966	20.0	20.5	
73 1,1,1-Trichloroethane	97	5.973	5.973	0.000	97	409380	10.0	10.1	
72 Isobutyl alcohol	41	5.983	5.992	-0.009	95	64219	250.0	244.5	
74 Cyclohexane	56	6.052	6.052	0.000	95	619216	10.0	10.2	
75 1,1-Dichloropropene	75	6.081	6.091	-0.010	91	436065	10.0	10.3	
76 Carbon tetrachloride	117	6.121	6.120	0.001	96	358821	10.0	10.1	
77 1,2-Dichloroethane	62	6.239	6.248	-0.009	96	215338	10.0	9.92	
79 Benzene	78	6.259	6.268	-0.009	98	1019897	10.0	10.0	
13 n-Heptane	43	6.397	6.406	-0.009	96	713842	10.0	10.4	
81 Trichloroethene	95	6.771	6.770	0.001	95	281389	10.0	10.2	
82 2-Pentanone	43	6.830	6.829	0.001	96	200320	32.0	29.1	
84 1,2-Dichloropropane	63	6.958	6.957	0.001	92	263425	10.0	10.3	
85 Methylcyclohexane	55	6.977	6.987	-0.010	96	499732	10.0	9.98	
86 1,4-Dioxane	88	7.037	7.036	0.001	87	11617	200.0	185.6	
87 Dibromomethane	93	7.066	7.066	0.000	91	96874	10.0	9.64	
88 Dichlorobromomethane	83	7.155	7.164	-0.009	97	279529	10.0	10.1	
90 2-Chloroethyl vinyl ether	63	7.352	7.361	-0.009	89	23407	10.0	9.37	
91 cis-1,3-Dichloropropene	75	7.539	7.538	0.001	90	305771	10.0	11.1	
92 4-Methyl-2-pentanone (MIBK	43	7.618	7.627	-0.009	96	383407	40.0	41.0	
93 Toluene	91	7.874	7.873	0.001	97	938978	10.0	10.2	
95 trans-1,3-Dichloropropene	75	8.002	8.011	-0.009	99	206038	10.0	10.4	
94 Ethyl methacrylate	69	8.031	8.031	0.000	95	111655	10.0	9.99	
96 1,1,2-Trichloroethane	97	8.189	8.198	-0.009	91	107200	10.0	10.3	
98 1,3-Dichloropropane	76	8.356	8.366	-0.010	95	192653	10.0	10.2	
97 2-Hexanone	43	8.366	8.375	-0.009	98	246162	40.0	40.5	
99 Tetrachloroethene	164	8.395	8.405	-0.010	96	203118	10.0	10.4	
100 Chlorodibromomethane	129	8.583	8.592	-0.010	90	149702	10.0	10.6	
102 Ethylene Dibromide	107	8.730	8.740	-0.010	98	106559	10.0	10.4	
103 1-Chlorohexane	91	9.085	9.094	-0.009	87	315228	8.00	8.77	
104 Chlorobenzene	112	9.183	9.193	-0.010	90	513378	10.0	10.0	
105 1,1,1,2-Tetrachloroethane	131	9.232	9.242	-0.010	97	170597	10.0	10.2	
106 Ethylbenzene	106	9.252	9.262	-0.010	99	289710	10.0	10.3	
107 m-Xylene & p-Xylene	106	9.360	9.370	-0.010	0	345657	10.0	10.3	
109 Styrene	104	9.764	9.764	0.000	82	482617	10.0	11.1	
108 o-Xylene	106	9.754	9.764	-0.010	88	325990	10.0	10.7	
110 Bromoform	173	9.971	9.980	-0.009	92	67311	10.0	10.1	
111 Isopropylbenzene	105	10.099	10.108	-0.009	97	950101	10.0	10.7	
113 Cyclohexanone	55	10.207	10.217	-0.010	97	166881	400.0	337.5	
114 1,1,2,2-Tetrachloroethane	83	10.335	10.345	-0.010	93	118281	10.0	10.1	
115 trans-1,4-Dichloro-2-buten	53	10.394	10.404	-0.010	82	27994	10.0	10.7	
116 1,2,3-Trichloropropane	110	10.414	10.414	0.000	86	22246	10.0	10.5	
117 Bromobenzene	156	10.444	10.453	-0.009	93	190020	10.0	10.6	
118 N-Propylbenzene	120	10.483	10.492	-0.009	99	244178	10.0	11.2	
120 2-Chlorotoluene	126	10.591	10.601	-0.010	95	205908	10.0	10.4	
119 1,3,5-Trimethylbenzene	105	10.621	10.630	-0.009	93	764897	10.0	10.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.680	10.689	-0.009	99	204306	10.0	10.6	
122 tert-Butylbenzene	119	10.926	10.926	0.000	94	711196	10.0	10.8	
123 1,2,4-Trimethylbenzene	105	10.956	10.965	-0.009	96	723611	10.0	10.4	
124 sec-Butylbenzene	134	11.103	11.113	-0.010	96	177366	10.0	10.7	
125 4-Isopropyltoluene	119	11.212	11.221	-0.009	97	827936	10.0	10.7	
126 1,3-Dichlorobenzene	146	11.231	11.241	-0.010	97	374989	10.0	10.1	
127 1,4-Dichlorobenzene	146	11.300	11.310	-0.010	96	377993	10.0	10.0	
129 n-Butylbenzene	91	11.566	11.576	-0.010	99	973166	10.0	10.5	
130 1,2-Dichlorobenzene	146	11.635	11.644	-0.009	95	307068	10.0	10.3	
131 1,2-Dibromo-3-Chloropropan	157	12.334	12.334	0.000	81	13112	10.0	9.36	
132 1,2,4-Trichlorobenzene	180	13.181	13.190	-0.009	94	219109	10.0	11.5	
133 Hexachlorobutadiene	225	13.338	13.348	-0.010	96	173382	10.0	10.6	
134 Naphthalene	128	13.476	13.486	-0.010	97	241241	10.0	11.2	
135 1,2,3-Trichlorobenzene	180	13.742	13.752	-0.010	94	166799	10.0	10.4	
S 142 1,2-Dichloroethene, Total	96				0		20.0	20.9	
S 137 Xylenes, Total (URS)	1				0		20.0	21.0	
S 141 Xylenes, Total	106				0		20.0	21.0	
S 140 1,2-Dichloroethene, Total	1				0		20.0	20.9	
S 136 Trihalomethanes, Total	1				0		40.0	41.0	
S 139 1,3-Dichloropropene, Total	1				0		20.0	21.5	

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL
MV-MegaMain B_00002	Amount Added:	4.00	Units: uL
MV-MainBaddon_00001	Amount Added:	4.00	Units: uL

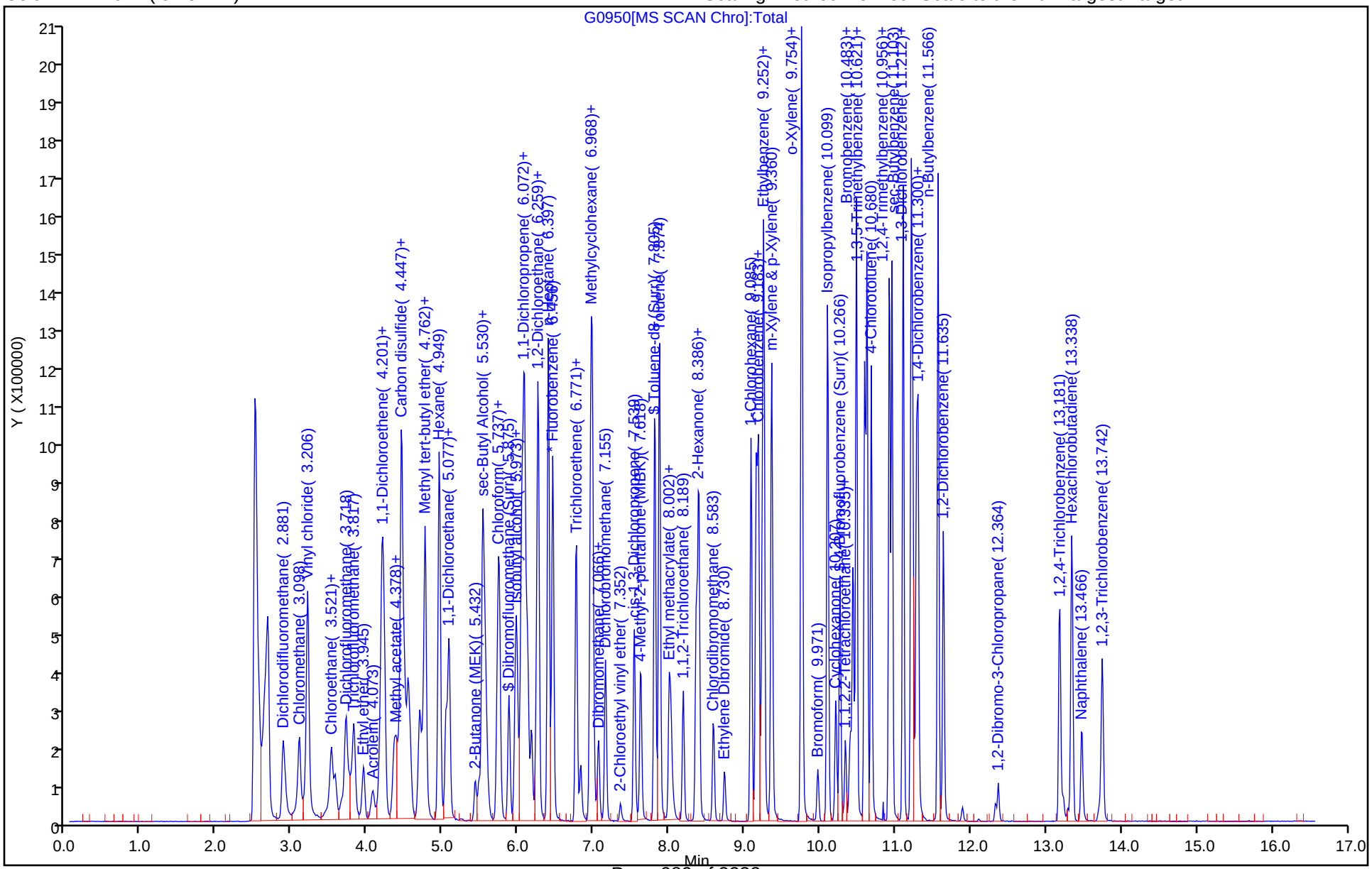
Report Date: 30-Oct-2018 01:34:26 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0950.D

Injection Date:	29-Oct-2018 22:43:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	ICV			Worklist Smp#:	17
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-437463/2 Calibration Date: 11/13/2018 20:08

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G1677.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.5246	0.3957		7.54	10.0	-24.6*	20.0
Chloromethane	Ave	0.6014	0.5233	0.1000	8.70	10.0	-13.0	20.0
Vinyl chloride	Ave	0.4747	0.4326		9.11	10.0	-8.9	20.0
Bromomethane	Ave	0.3234	0.3066		9.48	10.0	-5.2	20.0
Chloroethane	Ave	0.2279	0.2233		9.79	10.0	-2.1	20.0
Dichlorofluoromethane	Ave	0.6401	0.6378		9.96	10.0	-0.4	20.0
Trichlorofluoromethane	Ave	0.6094	0.5630		9.24	10.0	-7.6	20.0
Ethyl ether	Ave	0.1625	0.1653		10.2	10.0	1.7	20.0
Acrolein	Ave	0.0201	0.0199		99.4	100	-0.6	20.0
Acetone	Lin2		0.0458		39.1	40.0	-2.3	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2852	0.2753		9.65	10.0	-3.5	20.0
1,1-Dichloroethene	Ave	0.3761	0.3670		9.76	10.0	-2.4	20.0
Iodomethane	Ave	0.7436	0.7134		9.59	10.0	-4.1	20.0
Methyl acetate	Lin1		0.1069		19.0	20.0	-5.1	20.0
3-Chloro-1-propene	Ave	0.9605	0.9226		9.61	10.0	-3.9	20.0
Carbon disulfide	Ave	1.968	1.906		9.68	10.0	-3.2	20.0
t-Butyl alcohol	Ave	1.547	1.506		97.3	100	-2.7	20.0
Methylene Chloride	Ave	0.3779	0.3547		9.39	10.0	-6.1	20.0
Acrylonitrile	Ave	0.0456	0.0451		98.9	100	-1.1	20.0
Methyl tert-butyl ether	Ave	0.4093	0.4031		9.85	10.0	-1.5	20.0
trans-1,2-Dichloroethene	Ave	0.3985	0.3933		9.87	10.0	-1.3	20.0
Hexane	Ave	3.939	3.776		9.59	10.0	-4.1	20.0
Vinyl acetate	Ave	0.4397	0.4529		20.6	20.0	3.0	20.0
1,1-Dichloroethane	Ave	0.7981	0.8007	0.1000	10.0	10.0	0.3	20.0
2-Butanone (MEK)	Ave	0.0640	0.0567		35.4	40.0	-11.5	20.0
cis-1,2-Dichloroethene	Ave	0.3865	0.3863		10.0	10.0	-0.0	20.0
2,2-Dichloropropane	Ave	0.5607	0.5662		10.1	10.0	1.0	20.0
Bromochloromethane	Ave	0.1304	0.1291		9.90	10.0	-1.0	20.0
Chloroform	Ave	0.6665	0.6687		10.0	10.0	0.3	20.0
Tetrahydrofuran	Ave	0.0351	0.0340		19.3	20.0	-3.3	20.0
1,1,1-Trichloroethane	Ave	0.5830	0.5679		9.74	10.0	-2.6	20.0
Isobutyl alcohol	Ave	0.6252	0.6190		248	250	-1.0	20.0
Cyclohexane	Ave	0.8743	0.8489		9.71	10.0	-2.9	20.0
1,1-Dichloropropene	Ave	0.6078	0.6187		10.2	10.0	1.8	20.0
Carbon tetrachloride	Ave	0.5123	0.5118		9.99	10.0	-0.1	20.0
1,2-Dichloroethane	Ave	0.3127	0.3229		10.3	10.0	3.3	20.0
Benzene	Ave	1.470	1.448		9.85	10.0	-1.5	20.0
Trichloroethene	Ave	0.3989	0.3913		9.81	10.0	-1.9	20.0
1,2-Dichloropropane	Ave	0.3698	0.3664		9.91	10.0	-0.9	20.0
Methylcyclohexane	Ave	0.7212	0.7032		9.75	10.0	-2.5	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-437463/2 Calibration Date: 11/13/2018 20:08

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G1677.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin2		0.0009		196	200	-1.8	20.0
Dibromomethane	Ave	0.1448	0.1461		10.1	10.0	0.9	20.0
Bromodichloromethane	Ave	0.3991	0.4058		10.2	10.0	1.7	20.0
2-Chloroethyl vinyl ether	Lin1		0.0681		17.5	10.0	74.7*	20.0
cis-1,3-Dichloropropene	Ave	2.112	2.242		10.6	10.0	6.2	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1349	0.1394		41.3	40.0	3.3	20.0
Toluene	Ave	1.326	1.340		10.1	10.0	1.1	20.0
trans-1,3-Dichloropropene	Ave	0.2863	0.3009		10.5	10.0	5.1	20.0
Ethyl methacrylate	Lin2		0.8310		9.69	10.0	-3.1	20.0
1,1,2-Trichloroethane	Ave	0.1495	0.1499		10.0	10.0	0.2	20.0
1,3-Dichloropropane	Ave	1.455	1.502		10.3	10.0	3.2	20.0
2-Hexanone	Lin2		0.4744		40.6	40.0	1.6	20.0
Tetrachloroethene	Ave	1.497	1.493		9.97	10.0	-0.3	20.0
Dibromochloromethane	Ave	1.084	1.103		10.2	10.0	1.7	20.0
1,2-Dibromoethane	Ave	0.7869	0.8124		10.3	10.0	3.2	20.0
Chlorobenzene	Ave	3.931	3.921	0.3000	9.97	10.0	-0.3	20.0
1,1,1,2-Tetrachloroethane	Ave	1.288	1.324		10.3	10.0	2.8	20.0
Ethylbenzene	Ave	2.154	2.209		10.3	10.0	2.5	20.0
m-Xylene & p-Xylene	Ave	2.574	2.704		10.5	10.0	5.1	20.0
o-Xylene	Ave	2.349	2.433		10.4	10.0	3.6	20.0
Styrene	Ave	3.347	3.780		11.3	10.0	12.9	20.0
Bromoform	Ave	0.5127	0.5180	0.1000	10.1	10.0	1.0	20.0
Isopropylbenzene	Ave	4.996	5.158		10.3	10.0	3.2	20.0
Cyclohexanone	Ave	0.0380	0.0518		546	400	36.4*	20.0
1,1,2,2-Tetrachloroethane	Ave	0.6621	0.6780	0.3000	10.2	10.0	2.4	20.0
trans-1,4-Dichloro-2-butene	Lin2		0.1383		9.46	10.0	-5.4	20.0
1,2,3-Trichloropropane	Ave	0.1190	0.1236		10.4	10.0	3.9	20.0
Bromobenzene	Ave	1.007	1.044		10.4	10.0	3.6	20.0
N-Propylbenzene	Ave	1.230	1.322		10.7	10.0	7.5	20.0
2-Chlorotoluene	Ave	1.114	1.126		10.1	10.0	1.1	20.0
1,3,5-Trimethylbenzene	Ave	4.035	4.054		10.0	10.0	0.5	20.0
4-Chlorotoluene	Ave	1.089	1.121		10.3	10.0	3.0	20.0
tert-Butylbenzene	Ave	3.723	3.806		10.2	10.0	2.2	20.0
1,2,4-Trimethylbenzene	Ave	3.933	3.998		10.2	10.0	1.6	20.0
sec-Butylbenzene	Ave	0.9342	0.9428		10.1	10.0	0.9	20.0
4-Isopropyltoluene	Ave	4.365	4.419		10.1	10.0	1.2	20.0
1,3-Dichlorobenzene	Ave	2.087	2.052		9.83	10.0	-1.7	20.0
1,4-Dichlorobenzene	Ave	2.129	2.056		9.66	10.0	-3.4	20.0
n-Butylbenzene	Ave	5.219	5.306		10.2	10.0	1.7	20.0
1,2-Dichlorobenzene	Ave	1.675	1.681		10.0	10.0	0.3	20.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0668		8.54	10.0	-14.6	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-437463/2 Calibration Date: 11/13/2018 20:08

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G1677.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2,4-Trichlorobenzene	Ave	1.073	1.046		9.76	10.0	-2.4	20.0
Hexachlorobutadiene	Ave	0.9196	0.8880		9.66	10.0	-3.4	20.0
Naphthalene	Ave	1.217	1.212		9.96	10.0	-0.4	20.0
1,2,3-Trichlorobenzene	Ave	0.9009	0.8364		9.28	10.0	-7.2	20.0
Dibromofluoromethane (Surr)	Ave	0.3528	0.3427		9.71	10.0	-2.9	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2632	0.2674		10.2	10.0	1.6	20.0
Toluene-d8 (Surr)	Ave	5.665	5.658		9.99	10.0	-0.1	20.0
4-Bromofluorobenzene (Surr)	Ave	1.334	1.271		9.52	10.0	-4.8	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1677.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 13-Nov-2018 20:08:30 ALS Bottle#: 11 Worklist Smp#: 2
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub136

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:44:16 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 14-Nov-2018 18:11:16

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.437	4.437	0.000	0	73988	250.0	250.0	
* 1 Fluorobenzene	96	6.436	6.436	0.000	97	603770	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.134	9.134	0.000	89	113550	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.261	11.261	0.000	96	158502	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.855	5.855	0.000	91	165514	10.0	9.71	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.151	6.151	0.000	0	129137	10.0	10.2	
$ 7 Toluene-d8 (Surr)	98	7.785	7.785	0.000	95	514013	10.0	9.99	
$ 8 4-Bromofluorobenzene (Surr	95	10.247	10.247	0.000	87	161126	10.0	9.52	
25 Dichlorodifluoromethane	85	2.872	2.872	0.000	99	191110	10.0	7.54	
27 Chloromethane	50	3.079	3.079	0.000	99	252749	10.0	8.70	
28 Vinyl chloride	62	3.187	3.187	0.000	99	208939	10.0	9.11	
31 Bromomethane	94	3.502	3.502	0.000	92	148093	10.0	9.48	
32 Chloroethane	64	3.551	3.551	0.000	97	107843	10.0	9.79	
33 Dichlorofluoromethane	67	3.699	3.699	0.000	98	308059	10.0	9.96	
35 Trichlorofluoromethane	101	3.797	3.797	0.000	99	271936	10.0	9.24	
38 Ethyl ether	59	3.925	3.925	0.000	92	79846	10.0	10.2	
41 Acrolein	56	4.053	4.053	0.000	97	96311	100.0	99.4	
42 Acetone	43	4.142	4.142	0.000	97	88463	40.0	39.1	
44 1,1,2-Trichloro-1,2,2-trif	151	4.171	4.171	0.000	95	132978	10.0	9.65	
45 1,1-Dichloroethene	96	4.181	4.181	0.000	94	177271	10.0	9.76	
47 Iodomethane	142	4.339	4.339	0.000	98	344558	10.0	9.59	
48 Methyl acetate	43	4.388	4.388	0.000	98	103249	20.0	19.0	
50 Carbon disulfide	76	4.428	4.428	0.000	97	920586	10.0	9.68	
49 3-Chloro-1-propene	41	4.428	4.428	0.000	73	445650	10.0	9.61	
51 2-Methyl-2-propanol	59	4.496	4.496	0.000	94	44572	100.0	97.3	
52 Methylene Chloride	84	4.516	4.516	0.000	97	171342	10.0	9.39	
53 Acrylonitrile	53	4.664	4.664	0.000	98	217914	100.0	98.9	
54 Methyl tert-butyl ether	73	4.713	4.713	0.000	97	194717	10.0	9.85	
55 trans-1,2-Dichloroethene	96	4.743	4.743	0.000	93	189953	10.0	9.87	
56 Hexane	57	4.930	4.930	0.000	94	342998	10.0	9.59	
57 Vinyl acetate	43	5.018	5.018	0.000	96	437553	20.0	20.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.058	5.058	0.000	97	386745	10.0	10.0	
62 2-Butanone (MEK)	43	5.461	5.461	0.000	97	109528	40.0	35.4	
66 cis-1,2-Dichloroethene	96	5.501	5.501	0.000	89	186590	10.0	10.0	
67 2,2-Dichloropropane	77	5.530	5.530	0.000	89	273504	10.0	10.1	
69 Chlorobromomethane	128	5.698	5.698	0.000	89	62333	10.0	9.90	
70 Chloroform	83	5.727	5.727	0.000	98	322975	10.0	10.0	
71 Tetrahydrofuran	42	5.737	5.737	0.000	88	32810	20.0	19.3	
73 1,1,1-Trichloroethane	97	5.944	5.944	0.000	97	274311	10.0	9.74	
72 Isobutyl alcohol	41	5.964	5.964	0.000	95	45797	250.0	247.5	
74 Cyclohexane	56	6.033	6.033	0.000	96	410036	10.0	9.71	
75 1,1-Dichloropropene	75	6.062	6.062	0.000	92	298863	10.0	10.2	
76 Carbon tetrachloride	117	6.092	6.092	0.000	96	247225	10.0	10.0	
77 1,2-Dichloroethane	62	6.220	6.220	0.000	96	155957	10.0	10.3	
79 Benzene	78	6.239	6.239	0.000	98	699407	10.0	9.85	
13 n-Heptane	43	6.377	6.377	0.000	96	453856	10.0	9.47	
81 Trichloroethene	95	6.741	6.741	0.000	95	188978	10.0	9.81	
84 1,2-Dichloropropane	63	6.938	6.938	0.000	93	176966	10.0	9.91	
85 Methylcyclohexane	55	6.958	6.958	0.000	96	339667	10.0	9.75	
86 1,4-Dioxane	88	7.007	7.007	0.000	86	8593	200.0	196.4	
87 Dibromomethane	93	7.037	7.037	0.000	90	70590	10.0	10.1	
88 Dichlorobromomethane	83	7.135	7.135	0.000	97	195991	10.0	10.2	
90 2-Chloroethyl vinyl ether	63	7.332	7.332	0.000	91	32894	10.0	17.5	
91 cis-1,3-Dichloropropene	75	7.519	7.519	0.000	90	203691	10.0	10.6	
92 4-Methyl-2-pentanone (MIBK	43	7.598	7.598	0.000	96	269262	40.0	41.3	
93 Toluene	91	7.854	7.854	0.000	97	647475	10.0	10.1	
95 trans-1,3-Dichloropropene	75	7.982	7.982	0.000	99	145360	10.0	10.5	
94 Ethyl methacrylate	69	8.002	8.002	0.000	95	75489	10.0	9.69	
96 1,1,2-Trichloroethane	97	8.169	8.169	0.000	92	72383	10.0	10.0	
98 1,3-Dichloropropane	76	8.337	8.337	0.000	98	136454	10.0	10.3	
97 2-Hexanone	43	8.346	8.346	0.000	96	172373	40.0	40.6	
99 Tetrachloroethene	164	8.376	8.376	0.000	94	135668	10.0	9.97	
100 Chlorodibromomethane	129	8.563	8.563	0.000	90	100158	10.0	10.2	
102 Ethylene Dibromide	107	8.711	8.711	0.000	98	73800	10.0	10.3	
104 Chlorobenzene	112	9.164	9.164	0.000	90	356214	10.0	9.97	
105 1,1,1,2-Tetrachloroethane	131	9.213	9.213	0.000	97	120283	10.0	10.3	
106 Ethylbenzene	106	9.233	9.233	0.000	99	200672	10.0	10.3	
107 m-Xylene & p-Xylene	106	9.341	9.341	0.000	0	245668	10.0	10.5	
109 Styrene	104	9.735	9.735	0.000	80	343388	10.0	11.3	
108 o-Xylene	106	9.735	9.735	0.000	87	221038	10.0	10.4	
110 Bromoform	173	9.952	9.952	0.000	92	47051	10.0	10.1	
111 Isopropylbenzene	105	10.080	10.080	0.000	97	654037	10.0	10.3	
113 Cyclohexanone	55	10.188	10.188	0.000	98	188115	400.0	545.6	
114 1,1,2,2-Tetrachloroethane	83	10.316	10.316	0.000	93	85966	10.0	10.2	
115 trans-1,4-Dichloro-2-buten	53	10.375	10.375	0.000	78	17540	10.0	9.46	
116 1,2,3-Trichloropropane	110	10.395	10.395	0.000	85	15671	10.0	10.4	
117 Bromobenzene	156	10.424	10.424	0.000	94	132384	10.0	10.4	
118 N-Propylbenzene	120	10.464	10.464	0.000	99	167603	10.0	10.7	
120 2-Chlorotoluene	126	10.572	10.572	0.000	95	142826	10.0	10.1	
119 1,3,5-Trimethylbenzene	105	10.611	10.611	0.000	93	514058	10.0	10.0	
121 4-Chlorotoluene	126	10.660	10.660	0.000	99	142154	10.0	10.3	
122 tert-Butylbenzene	119	10.907	10.907	0.000	94	482608	10.0	10.2	
123 1,2,4-Trimethylbenzene	105	10.936	10.936	0.000	96	506891	10.0	10.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
124 sec-Butylbenzene	134	11.084	11.084	0.000	96	119554	10.0	10.1	
125 4-Isopropyltoluene	119	11.192	11.192	0.000	97	560324	10.0	10.1	
126 1,3-Dichlorobenzene	146	11.212	11.212	0.000	96	260242	10.0	9.83	
127 1,4-Dichlorobenzene	146	11.281	11.281	0.000	92	260752	10.0	9.66	
129 n-Butylbenzene	91	11.547	11.547	0.000	99	672803	10.0	10.2	
130 1,2-Dichlorobenzene	146	11.625	11.625	0.000	96	213098	10.0	10.0	
131 1,2-Dibromo-3-Chloropropan	157	12.315	12.315	0.000	81	8470	10.0	8.54	
132 1,2,4-Trichlorobenzene	180	13.162	13.162	0.000	94	132687	10.0	9.76	
133 Hexachlorobutadiene	225	13.319	13.319	0.000	96	112604	10.0	9.66	
134 Naphthalene	128	13.447	13.447	0.000	97	153723	10.0	9.96	
135 1,2,3-Trichlorobenzene	180	13.723	13.723	0.000	94	106061	10.0	9.28	
S 142 1,2-Dichloroethene, Total	96				0		20.0	19.9	
S 136 Trihalomethanes, Total	1				0		40.0	40.5	
S 139 1,3-Dichloropropene, Total	1				0		20.0	21.1	
S 140 1,2-Dichloroethene, Total	1				0		20.0	19.9	
S 137 Xylenes, Total (URS)	1				0		20.0	20.9	
S 141 Xylenes, Total	106				0		20.0	20.9	

Reagents:

MV-MegaMainA_00005	Amount Added:	4.00	Units: uL	
MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

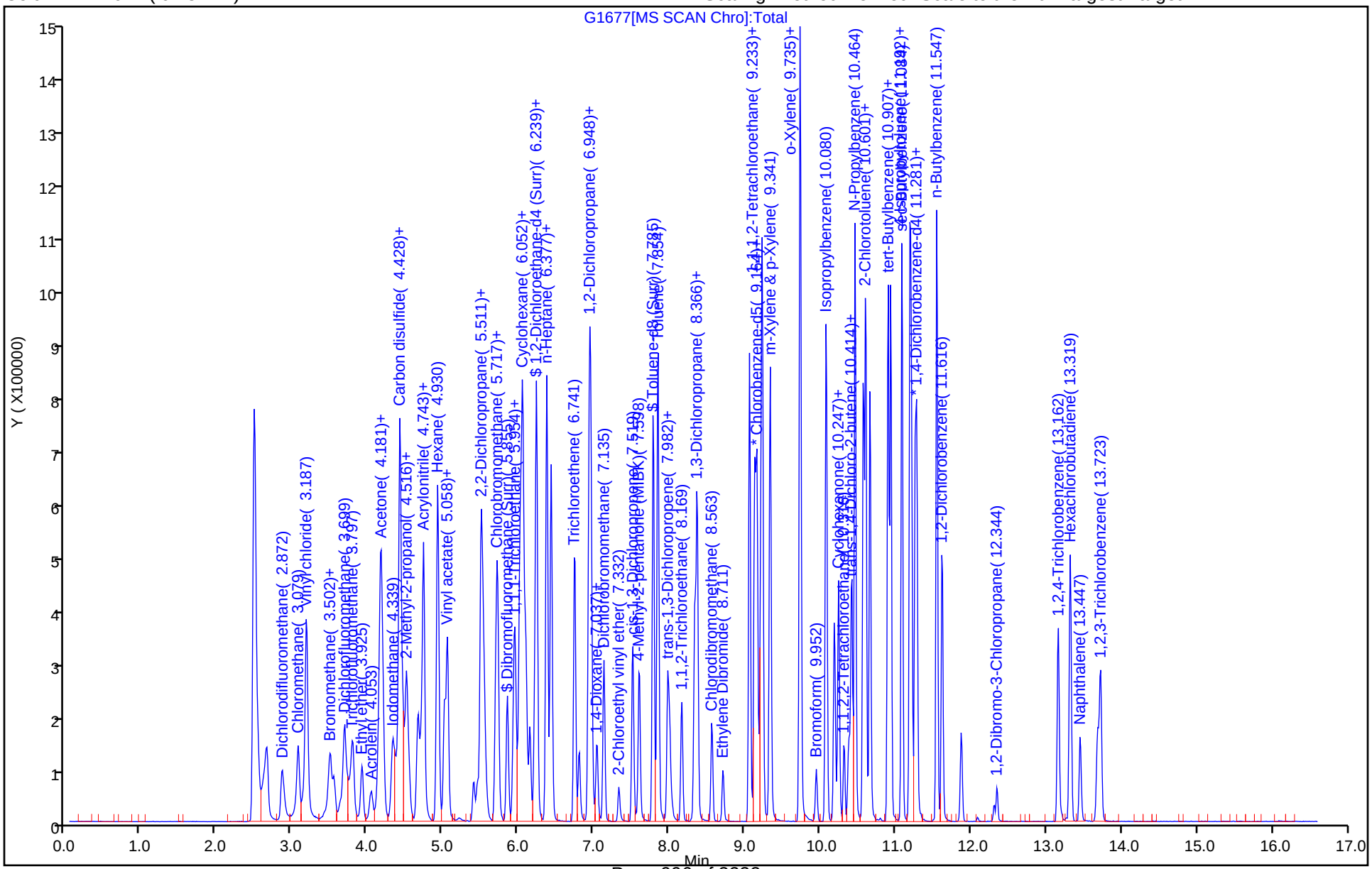
Report Date: 14-Nov-2018 23:44:17 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1677.D

Injection Date:	13-Nov-2018 20:08:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	CCV			Worklist Smp#:	2
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVC 280-437463/36 Calibration Date: 11/14/2018 06:14

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G1707.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.5246	0.3414		6.51	10.0	-34.9	50.0
Chloromethane	Ave	0.6014	0.4856	0.1000	8.07	10.0	-19.3	50.0
Vinyl chloride	Ave	0.4747	0.3861		8.13	10.0	-18.7	50.0
Bromomethane	Ave	0.3234	0.2724		8.42	10.0	-15.8	50.0
Chloroethane	Ave	0.2279	0.2027		8.89	10.0	-11.1	50.0
Dichlorofluoromethane	Ave	0.6401	0.6007		9.38	10.0	-6.2	50.0
Trichlorofluoromethane	Ave	0.6094	0.5165		8.48	10.0	-15.2	50.0
Ethyl ether	Ave	0.1625	0.1398		8.60	10.0	-14.0	50.0
Acrolein	Ave	0.0201	0.0155		77.0	100	-23.0	50.0
Acetone	Lin2		0.0406		34.4	40.0	-14.0	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2852	0.2191		7.68	10.0	-23.2	50.0
1,1-Dichloroethene	Ave	0.3761	0.2895		7.70	10.0	-23.0	50.0
Iodomethane	Ave	0.7436	0.5760		7.75	10.0	-22.5	50.0
Methyl acetate	Lin1		0.0925		16.3	20.0	-18.4	50.0
3-Chloro-1-propene	Ave	0.9605	0.7836		8.16	10.0	-18.4	50.0
Carbon disulfide	Ave	1.968	1.577		8.01	10.0	-19.9	50.0
t-Butyl alcohol	Ave	1.547	1.631		105	100	5.4	50.0
Methylene Chloride	Ave	0.3779	0.3275		8.67	10.0	-13.3	50.0
Acrylonitrile	Ave	0.0456	0.0439		96.2	100	-3.8	50.0
Methyl tert-butyl ether	Ave	0.4093	0.3993		9.76	10.0	-2.4	50.0
trans-1,2-Dichloroethene	Ave	0.3985	0.3617		9.08	10.0	-9.2	50.0
Hexane	Ave	3.939	3.350		8.50	10.0	-15.0	50.0
Vinyl acetate	Ave	0.4397	0.3717		16.9	20.0	-15.5	50.0
1,1-Dichloroethane	Ave	0.7981	0.7645	0.1000	9.58	10.0	-4.2	50.0
2-Butanone (MEK)	Ave	0.0640	0.0570		35.6	40.0	-11.0	50.0
cis-1,2-Dichloroethene	Ave	0.3865	0.3689		9.55	10.0	-4.5	50.0
2,2-Dichloropropane	Ave	0.5607	0.4570		8.15	10.0	-18.5	50.0
Bromochloromethane	Ave	0.1304	0.1269		9.73	10.0	-2.7	50.0
Chloroform	Ave	0.6665	0.6513		9.77	10.0	-2.3	50.0
Tetrahydrofuran	Ave	0.0351	0.0332		18.9	20.0	-5.4	50.0
1,1,1-Trichloroethane	Ave	0.5830	0.5515		9.46	10.0	-5.4	50.0
Isobutyl alcohol	Ave	0.6252	0.6900		276	250	10.4	50.0
Cyclohexane	Ave	0.8743	0.7700		8.81	10.0	-11.9	50.0
1,1-Dichloropropene	Ave	0.6078	0.5626		9.26	10.0	-7.4	50.0
Carbon tetrachloride	Ave	0.5123	0.4811		9.39	10.0	-6.1	50.0
1,2-Dichloroethane	Ave	0.3127	0.3261		10.4	10.0	4.3	50.0
Benzene	Ave	1.470	1.394		9.48	10.0	-5.2	50.0
Trichloroethene	Ave	0.3989	0.3823		9.58	10.0	-4.2	50.0
1,2-Dichloropropane	Ave	0.3698	0.3615		9.78	10.0	-2.2	50.0
Methylcyclohexane	Ave	0.7212	0.6444		8.94	10.0	-10.6	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVC 280-437463/36 Calibration Date: 11/14/2018 06:14

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G1707.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin2		0.0008		186	200	-7.2	50.0
Dibromomethane	Ave	0.1448	0.1434		9.90	10.0	-1.0	50.0
Bromodichloromethane	Ave	0.3991	0.4065		10.2	10.0	1.8	50.0
2-Chloroethyl vinyl ether	Lin1		0.0518		13.6	10.0	36.2	50.0
cis-1,3-Dichloropropene	Ave	2.112	2.051		9.71	10.0	-2.9	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1349	0.1357		40.2	40.0	0.6	50.0
Toluene	Ave	1.326	1.262		9.52	10.0	-4.8	50.0
trans-1,3-Dichloropropene	Ave	0.2863	0.2846		9.94	10.0	-0.6	50.0
Ethyl methacrylate	Lin2		0.8397		9.79	10.0	-2.1	50.0
1,1,2-Trichloroethane	Ave	0.1495	0.1460		9.76	10.0	-2.4	50.0
1,3-Dichloropropane	Ave	1.455	1.454		9.99	10.0	-0.0	50.0
2-Hexanone	Lin2		0.4629		39.7	40.0	-0.8	50.0
Tetrachloroethene	Ave	1.497	1.369		9.14	10.0	-8.6	50.0
Dibromochloromethane	Ave	1.084	1.111		10.2	10.0	2.5	50.0
1,2-Dibromoethane	Ave	0.7869	0.7924		10.1	10.0	0.7	50.0
Chlorobenzene	Ave	3.931	3.840	0.3000	9.77	10.0	-2.3	50.0
1,1,1,2-Tetrachloroethane	Ave	1.288	1.304		10.1	10.0	1.2	50.0
Ethylbenzene	Ave	2.154	2.118		9.83	10.0	-1.7	50.0
m-Xylene & p-Xylene	Ave	2.574	2.609		10.1	10.0	1.4	50.0
o-Xylene	Ave	2.349	2.376		10.1	10.0	1.2	50.0
Styrene	Ave	3.347	3.668		11.0	10.0	9.6	50.0
Bromoform	Ave	0.5127	0.4920	0.1000	9.60	10.0	-4.0	50.0
Isopropylbenzene	Ave	4.996	4.889		9.79	10.0	-2.1	50.0
Cyclohexanone	Ave	0.0380	0.0493		519	400	29.8	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6621	0.6246	0.3000	9.43	10.0	-5.7	50.0
trans-1,4-Dichloro-2-butene	Lin2		0.1288		8.84	10.0	-11.6	50.0
1,2,3-Trichloropropane	Ave	0.1190	0.1198		10.1	10.0	0.7	50.0
Bromobenzene	Ave	1.007	0.9857		9.79	10.0	-2.1	50.0
N-Propylbenzene	Ave	1.230	1.217		9.90	10.0	-1.0	50.0
2-Chlorotoluene	Ave	1.114	1.063		9.54	10.0	-4.6	50.0
1,3,5-Trimethylbenzene	Ave	4.035	3.950		9.79	10.0	-2.1	50.0
4-Chlorotoluene	Ave	1.089	1.049		9.63	10.0	-3.7	50.0
tert-Butylbenzene	Ave	3.723	3.708		9.96	10.0	-0.4	50.0
1,2,4-Trimethylbenzene	Ave	3.933	3.920		9.97	10.0	-0.3	50.0
sec-Butylbenzene	Ave	0.9342	0.9109		9.75	10.0	-2.5	50.0
4-Isopropyltoluene	Ave	4.365	4.253		9.74	10.0	-2.6	50.0
1,3-Dichlorobenzene	Ave	2.087	1.980		9.49	10.0	-5.1	50.0
1,4-Dichlorobenzene	Ave	2.129	1.981		9.30	10.0	-7.0	50.0
n-Butylbenzene	Ave	5.219	5.076		9.73	10.0	-2.7	50.0
1,2-Dichlorobenzene	Ave	1.675	1.589		9.49	10.0	-5.1	50.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0685		8.73	10.0	-12.7	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVC 280-437463/36 Calibration Date: 11/14/2018 06:14

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G1707.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2,4-Trichlorobenzene	Ave	1.073	0.9887		9.22	10.0	-7.8	50.0
Hexachlorobutadiene	Ave	0.9196	0.8557		9.31	10.0	-6.9	50.0
Naphthalene	Ave	1.217	1.156		9.50	10.0	-5.0	50.0
1,2,3-Trichlorobenzene	Ave	0.9009	0.7934		8.81	10.0	-11.9	50.0
Dibromofluoromethane (Surr)	Ave	0.3528	0.3491		9.89	10.0	-1.1	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2632	0.2592		9.85	10.0	-1.5	50.0
Toluene-d8 (Surr)	Ave	5.665	5.604		9.89	10.0	-1.1	50.0
4-Bromofluorobenzene (Surr)	Ave	1.334	1.262		9.45	10.0	-5.5	50.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1707.D
Lims ID: CCVC
Client ID:
Sample Type: CCVC
Inject. Date: 14-Nov-2018 06:14:30 ALS Bottle#: 41 Worklist Smp#: 36
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: CCVC
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub136

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:45:15 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 14-Nov-2018 18:43:52

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.440	4.437	0.003	0	65013	250.0	250.0	
* 1 Fluorobenzene	96	6.439	6.436	0.003	97	583772	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.137	9.134	0.003	90	108599	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.264	11.261	0.003	96	153398	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.858	5.855	0.003	91	163035	10.0	9.89	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.163	6.151	0.012	0	121045	10.0	9.85	
$ 7 Toluene-d8 (Surr)	98	7.788	7.785	0.003	96	486862	10.0	9.89	
$ 8 4-Bromofluorobenzene (Surr	95	10.250	10.247	0.003	86	154811	10.0	9.45	
25 Dichlorodifluoromethane	85	2.874	2.872	0.002	99	159456	10.0	6.51	
27 Chloromethane	50	3.081	3.079	0.003	100	226778	10.0	8.07	
28 Vinyl chloride	62	3.199	3.187	0.012	80	180336	10.0	8.13	
31 Bromomethane	94	3.505	3.502	0.002	93	127231	10.0	8.42	
32 Chloroethane	64	3.554	3.551	0.003	97	94661	10.0	8.89	
33 Dichlorofluoromethane	67	3.701	3.699	0.002	98	280526	10.0	9.38	
35 Trichlorofluoromethane	101	3.810	3.797	0.013	99	241235	10.0	8.48	
38 Ethyl ether	59	3.928	3.925	0.003	94	65290	10.0	8.60	
41 Acrolein	56	4.046	4.053	-0.007	98	72147	100.0	77.0	
42 Acetone	43	4.154	4.142	0.012	97	75760	40.0	34.4	
44 1,1,2-Trichloro-1,2,2-trif	151	4.184	4.171	0.013	96	102337	10.0	7.68	
45 1,1-Dichloroethene	96	4.194	4.181	0.013	93	135187	10.0	7.70	
47 Iodomethane	142	4.341	4.339	0.002	97	269022	10.0	7.75	
48 Methyl acetate	43	4.391	4.388	0.003	100	86358	20.0	16.3	
50 Carbon disulfide	76	4.430	4.428	0.002	100	736605	10.0	8.01	
49 3-Chloro-1-propene	41	4.430	4.428	0.002	82	365939	10.0	8.16	
51 2-Methyl-2-propanol	59	4.509	4.496	0.013	29	42410	100.0	105.4	
52 Methylene Chloride	84	4.519	4.516	0.003	96	152935	10.0	8.67	
53 Acrylonitrile	53	4.676	4.664	0.012	98	204934	100.0	96.2	
54 Methyl tert-butyl ether	73	4.716	4.713	0.003	97	186463	10.0	9.76	
55 trans-1,2-Dichloroethene	96	4.745	4.743	0.002	92	168924	10.0	9.08	
56 Hexane	57	4.932	4.930	0.002	94	291011	10.0	8.50	
57 Vinyl acetate	43	5.021	5.018	0.003	96	347214	20.0	16.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.060	5.058	0.002	97	357040	10.0	9.58	
62 2-Butanone (MEK)	43	5.464	5.461	0.003	97	106433	40.0	35.6	
66 cis-1,2-Dichloroethene	96	5.513	5.501	0.012	89	172287	10.0	9.55	
67 2,2-Dichloropropane	77	5.543	5.530	0.013	90	213429	10.0	8.15	
69 Chlorobromomethane	128	5.700	5.698	0.002	89	59266	10.0	9.73	
70 Chloroform	83	5.730	5.727	0.003	98	304180	10.0	9.77	
71 Tetrahydrofuran	42	5.750	5.737	0.013	92	31037	20.0	18.9	
73 1,1,1-Trichloroethane	97	5.956	5.944	0.012	97	257581	10.0	9.46	
72 Isobutyl alcohol	41	5.966	5.964	0.002	93	44861	250.0	275.9	
74 Cyclohexane	56	6.035	6.033	0.002	96	359609	10.0	8.81	
75 1,1-Dichloropropene	75	6.065	6.062	0.003	91	262736	10.0	9.26	
76 Carbon tetrachloride	117	6.104	6.092	0.012	96	224683	10.0	9.39	
77 1,2-Dichloroethane	62	6.222	6.220	0.002	96	152301	10.0	10.4	
79 Benzene	78	6.242	6.239	0.003	98	650904	10.0	9.48	
13 n-Heptane	43	6.380	6.377	0.003	96	404775	10.0	8.74	
81 Trichloroethene	95	6.754	6.741	0.013	94	178544	10.0	9.58	
84 1,2-Dichloropropane	63	6.941	6.938	0.003	93	168845	10.0	9.78	
85 Methylcyclohexane	55	6.961	6.958	0.003	96	300950	10.0	8.94	
86 1,4-Dioxane	88	7.010	7.007	0.003	91	7813	200.0	185.6	
87 Dibromomethane	93	7.039	7.037	0.002	88	66952	10.0	9.90	
88 Dichlorobromomethane	83	7.138	7.135	0.003	97	189850	10.0	10.2	
90 2-Chloroethyl vinyl ether	63	7.335	7.332	0.003	90	24172	10.0	13.6	
91 cis-1,3-Dichloropropene	75	7.522	7.519	0.003	89	178219	10.0	9.71	
92 4-Methyl-2-pentanone (MIBK	43	7.601	7.598	0.003	96	253397	40.0	40.2	
93 Toluene	91	7.857	7.854	0.003	96	589523	10.0	9.52	
95 trans-1,3-Dichloropropene	75	7.985	7.982	0.003	99	132904	10.0	9.94	
94 Ethyl methacrylate	69	8.004	8.002	0.002	95	72949	10.0	9.79	
96 1,1,2-Trichloroethane	97	8.172	8.169	0.003	92	68178	10.0	9.76	
98 1,3-Dichloropropane	76	8.339	8.337	0.002	98	126338	10.0	10.0	
97 2-Hexanone	43	8.349	8.346	0.003	96	160870	40.0	39.7	
99 Tetrachloroethene	164	8.379	8.376	0.003	92	118938	10.0	9.14	
100 Chlorodibromomethane	129	8.566	8.563	0.003	90	96524	10.0	10.2	
102 Ethylene Dibromide	107	8.713	8.711	0.002	98	68846	10.0	10.1	
104 Chlorobenzene	112	9.166	9.164	0.002	90	333608	10.0	9.77	
105 1,1,1,2-Tetrachloroethane	131	9.216	9.213	0.003	96	113313	10.0	10.1	
106 Ethylbenzene	106	9.235	9.233	0.002	99	183975	10.0	9.83	
107 m-Xylene & p-Xylene	106	9.344	9.341	0.003	0	226673	10.0	10.1	
109 Styrene	104	9.737	9.735	0.002	79	318704	10.0	11.0	
108 o-Xylene	106	9.737	9.735	0.002	87	206455	10.0	10.1	
110 Bromoform	173	9.954	9.952	0.002	92	42744	10.0	9.60	
111 Isopropylbenzene	105	10.082	10.080	0.002	97	600027	10.0	9.79	
113 Cyclohexanone	55	10.190	10.188	0.002	98	171174	400.0	519.1	
114 1,1,2,2-Tetrachloroethane	83	10.318	10.316	0.002	93	76652	10.0	9.43	
115 trans-1,4-Dichloro-2-buten	53	10.378	10.375	0.003	81	15808	10.0	8.84	
116 1,2,3-Trichloropropane	110	10.397	10.395	0.002	89	14706	10.0	10.1	
117 Bromobenzene	156	10.427	10.424	0.003	96	120958	10.0	9.79	
118 N-Propylbenzene	120	10.466	10.464	0.002	99	149338	10.0	9.90	
120 2-Chlorotoluene	126	10.574	10.572	0.002	95	130459	10.0	9.54	
119 1,3,5-Trimethylbenzene	105	10.604	10.611	-0.007	93	484677	10.0	9.79	
121 4-Chlorotoluene	126	10.663	10.660	0.003	99	128687	10.0	9.63	
122 tert-Butylbenzene	119	10.909	10.907	0.002	94	455011	10.0	9.96	
123 1,2,4-Trimethylbenzene	105	10.939	10.936	0.003	96	481036	10.0	9.97	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
124 sec-Butylbenzene	134	11.086	11.084	0.002	97	111781	10.0	9.75	
125 4-Isopropyltoluene	119	11.195	11.192	0.003	97	521919	10.0	9.74	
126 1,3-Dichlorobenzene	146	11.214	11.212	0.002	96	242994	10.0	9.49	
127 1,4-Dichlorobenzene	146	11.283	11.281	0.002	91	243087	10.0	9.30	
129 n-Butylbenzene	91	11.549	11.547	0.002	99	622909	10.0	9.73	
130 1,2-Dichlorobenzene	146	11.618	11.625	-0.007	95	195030	10.0	9.49	
131 1,2-Dibromo-3-Chloropropan	157	12.317	12.315	0.002	76	8400	10.0	8.73	
132 1,2,4-Trichlorobenzene	180	13.164	13.162	0.002	94	121330	10.0	9.22	
133 Hexachlorobutadiene	225	13.322	13.319	0.003	96	105015	10.0	9.31	
134 Naphthalene	128	13.450	13.447	0.003	97	141838	10.0	9.50	
135 1,2,3-Trichlorobenzene	180	13.725	13.723	0.002	93	97363	10.0	8.81	
S 142 1,2-Dichloroethene, Total	96				0		20.0	18.6	
S 136 Trihalomethanes, Total	1				0		40.0	39.8	
S 139 1,3-Dichloropropene, Total	1				0		20.0	19.7	
S 140 1,2-Dichloroethene, Total	1				0		20.0	18.6	
S 137 Xylenes, Total (URS)	1				0		20.0	20.3	
S 141 Xylenes, Total	106				0		20.0	20.3	
S 138 Total BTEX	1				0			49.1	

Reagents:

MV-MegaMainA_00005	Amount Added:	4.00	Units: uL	
MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

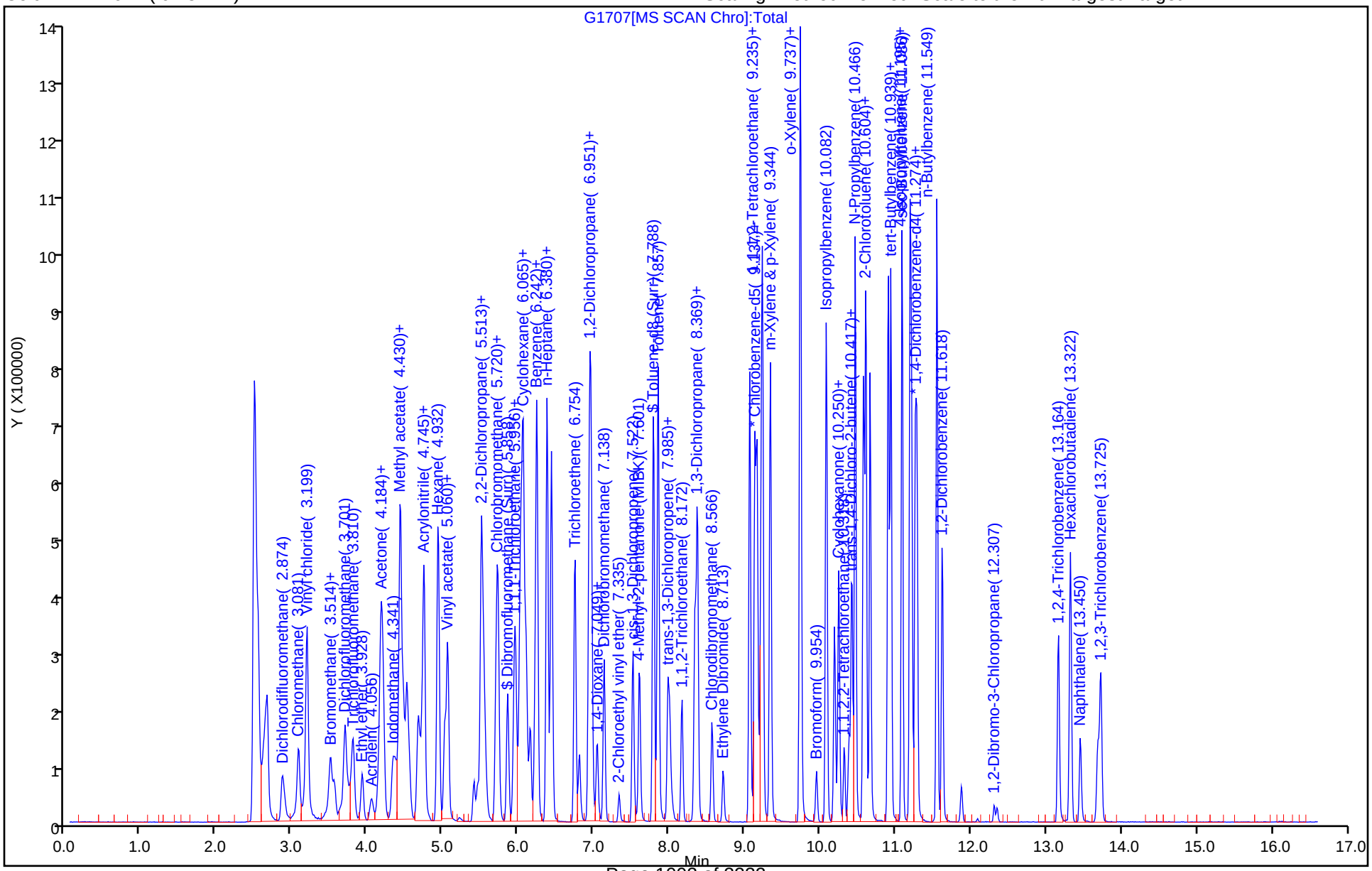
Report Date: 14-Nov-2018 23:45:16 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1707.D

Injection Date:	14-Nov-2018 06:14:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	CCVC			Worklist Smp#:	36
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	41
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVC 280-437463/37 Calibration Date: 11/14/2018 06:34

Instrument ID: VMS_G Calib Start Date: 09/28/2018 14:37

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 09/28/2018 16:19

Lab File ID: G1708.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Ave	0.0030	0.0020		660	1000	-34.0	50.0
Ethanol	Ave	0.0019	0.0012		371	600	-38.1	50.0
Isopropyl alcohol	Ave	0.0092	0.0067		72.0	100	-28.0	50.0
Acetonitrile	Ave	0.0212	0.0138		64.8	100	-35.2	50.0
Isopropyl ether	Ave	0.1809	0.1455		8.04	10.0	-19.6	50.0
2-Chloro-1,3-butadiene	Ave	0.6949	0.5553		7.99	10.0	-20.1	50.0
Tert-butyl ethyl ether	Ave	0.7676	0.6049		7.88	10.0	-21.2	50.0
Ethyl acetate	Ave	0.1278	0.0961		15.0	20.0	-24.8	50.0
Propionitrile	Ave	0.0156	0.0120		77.1	100	-22.9	50.0
Methacrylonitrile	Ave	0.1080	0.0833		77.1	100	-22.9	50.0
Tert-amyl methyl ether	Ave	0.4885	0.3834		7.85	10.0	-21.5	50.0
n-Butanol	Lin1		0.0017		157	250	-37.3	50.0
Methyl methacrylate	Ave	0.0219	0.0163		14.9	20.0	-25.6	50.0
2-Nitropropane	Lin2		0.0192		15.7	20.0	-21.5	50.0
cis-1,4-Dichloro-2-butene	Lin2		0.0546		12.4	20.0	-38.2	50.0
1,2,3-Trimethylbenzene	Ave	3.438	3.072		8.94	10.0	-10.6	50.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1708.D
Lims ID: CCVC
Client ID:
Sample Type: CCVC
Inject. Date: 14-Nov-2018 06:34:30 ALS Bottle#: 42 Worklist Smp#: 37
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: CCVC
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub121

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:45:21 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 14-Nov-2018 18:44:22

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.437	4.437	0.000	0	73185	250.0	250.0	
* 1 Fluorobenzene	96	6.435	6.436	-0.001	97	604434	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.133	9.134	-0.001	91	112348	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.270	11.261	0.009	96	144666	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.855	5.855	0.000	91	168756	10.0	9.89	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.160	6.151	0.009	0	123334	10.0	9.69	
$ 7 Toluene-d8 (Surr)	98	7.794	7.785	0.009	96	492671	10.0	9.68	
$ 8 4-Bromofluorobenzene (Surr	95	10.246	10.247	-0.001	85	149188	10.0	9.66	
30 Ethylene oxide	43	3.432	3.443	-0.011	100	95263	1000.0	659.5	
34 Ethanol	45	3.797	3.807	-0.010	91	34163	600.0	371.3	
39 Propene oxide	58	4.013	4.004	0.009	95	527103	1000.0	684.9	
43 Isopropyl alcohol	45	4.181	4.182	-0.001	98	32178	100.0	72.0	
46 Acetonitrile	41	4.368	4.369	-0.001	99	66589	100.0	64.8	
58 Isopropyl ether	87	5.047	5.048	-0.001	98	70351	10.0	8.04	
60 2-Chloro-1,3-butadiene	53	5.136	5.137	-0.001	94	268491	10.0	7.99	
61 Tert-butyl ethyl ether	59	5.333	5.334	-0.001	96	292500	10.0	7.88	
63 Ethyl acetate	43	5.471	5.471	-0.001	98	92972	20.0	15.0	
64 Propionitrile	54	5.510	5.501	0.009	98	58197	100.0	77.1	
68 Methacrylonitrile	41	5.638	5.639	-0.001	98	402544	100.0	77.1	
78 Tert-amyl methyl ether	73	6.268	6.269	-0.001	92	185397	10.0	7.85	
80 n-Butanol	56	6.504	6.505	-0.001	96	20478	250.0	156.8	
83 Methyl methacrylate	100	6.928	6.929	-0.001	91	15723	20.0	14.9	
89 2-Nitropropane	41	7.302	7.293	0.009	92	18549	20.0	15.7	
101 Tetrahydrothiophene	60	8.612	8.613	-0.001	92	4325	20.0	9.59	
112 cis-1,4-Dichloro-2-butene	53	10.108	10.109	-0.001	0	12640	20.0	12.4	
128 1,2,3-Trimethylbenzene	105	11.310	11.311	-0.001	99	355568	10.0	8.94	
11 1,3,5-Trichlorobenzene	180	12.531	12.522	0.009	95	144934	10.0	9.74	

Reagents:

MV-Supp A_00031	Amount Added:	5.00	Units: uL	
MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

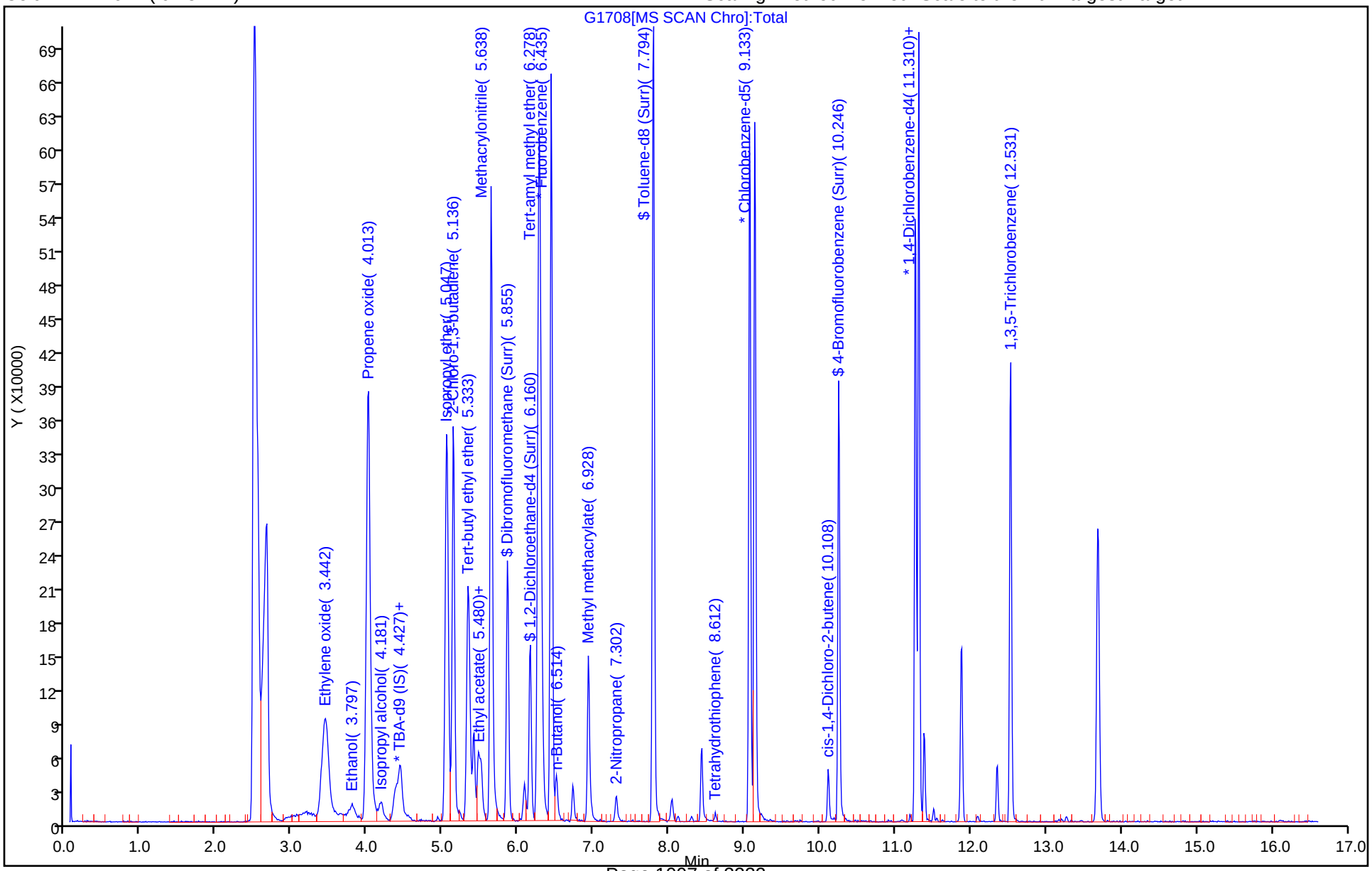
Report Date: 14-Nov-2018 23:45:22 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1708.D

Injection Date:	14-Nov-2018 06:34:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	CCVC			Worklist Smp#:	37
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	42
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVC 280-437463/37 Calibration Date: 11/14/2018 06:34

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G1708.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Ave	0.3528	0.3490		9.89	10.0	-1.1	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2632	0.2551		9.69	10.0	-3.1	50.0
Toluene-d8 (Surr)	Ave	5.665	5.482		9.68	10.0	-3.2	50.0
4-Bromofluorobenzene (Surr)	Ave	1.334	1.289		9.66	10.0	-3.4	50.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1708.D
Lims ID: CCVC
Client ID:
Sample Type: CCVC
Inject. Date: 14-Nov-2018 06:34:30 ALS Bottle#: 42 Worklist Smp#: 37
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: CCVC
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub121

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:45:21 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 14-Nov-2018 18:44:22

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.437	4.437	0.000	0	73185	250.0	250.0	
* 1 Fluorobenzene	96	6.435	6.436	-0.001	97	604434	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.133	9.134	-0.001	91	112348	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.270	11.261	0.009	96	144666	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.855	5.855	0.000	91	168756	10.0	9.89	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.160	6.151	0.009	0	123334	10.0	9.69	
$ 7 Toluene-d8 (Surr)	98	7.794	7.785	0.009	96	492671	10.0	9.68	
$ 8 4-Bromofluorobenzene (Surr	95	10.246	10.247	-0.001	85	149188	10.0	9.66	
30 Ethylene oxide	43	3.432	3.443	-0.011	100	95263	1000.0	659.5	
34 Ethanol	45	3.797	3.807	-0.010	91	34163	600.0	371.3	
39 Propene oxide	58	4.013	4.004	0.009	95	527103	1000.0	684.9	
43 Isopropyl alcohol	45	4.181	4.182	-0.001	98	32178	100.0	72.0	
46 Acetonitrile	41	4.368	4.369	-0.001	99	66589	100.0	64.8	
58 Isopropyl ether	87	5.047	5.048	-0.001	98	70351	10.0	8.04	
60 2-Chloro-1,3-butadiene	53	5.136	5.137	-0.001	94	268491	10.0	7.99	
61 Tert-butyl ethyl ether	59	5.333	5.334	-0.001	96	292500	10.0	7.88	
63 Ethyl acetate	43	5.471	5.471	-0.001	98	92972	20.0	15.0	
64 Propionitrile	54	5.510	5.501	0.009	98	58197	100.0	77.1	
68 Methacrylonitrile	41	5.638	5.639	-0.001	98	402544	100.0	77.1	
78 Tert-amyl methyl ether	73	6.268	6.269	-0.001	92	185397	10.0	7.85	
80 n-Butanol	56	6.504	6.505	-0.001	96	20478	250.0	156.8	
83 Methyl methacrylate	100	6.928	6.929	-0.001	91	15723	20.0	14.9	
89 2-Nitropropane	41	7.302	7.293	0.009	92	18549	20.0	15.7	
101 Tetrahydrothiophene	60	8.612	8.613	-0.001	92	4325	20.0	9.59	
112 cis-1,4-Dichloro-2-butene	53	10.108	10.109	-0.001	0	12640	20.0	12.4	
128 1,2,3-Trimethylbenzene	105	11.310	11.311	-0.001	99	355568	10.0	8.94	
11 1,3,5-Trichlorobenzene	180	12.531	12.522	0.009	95	144934	10.0	9.74	

Reagents:

MV-Supp A_00031	Amount Added:	5.00	Units: uL	
MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

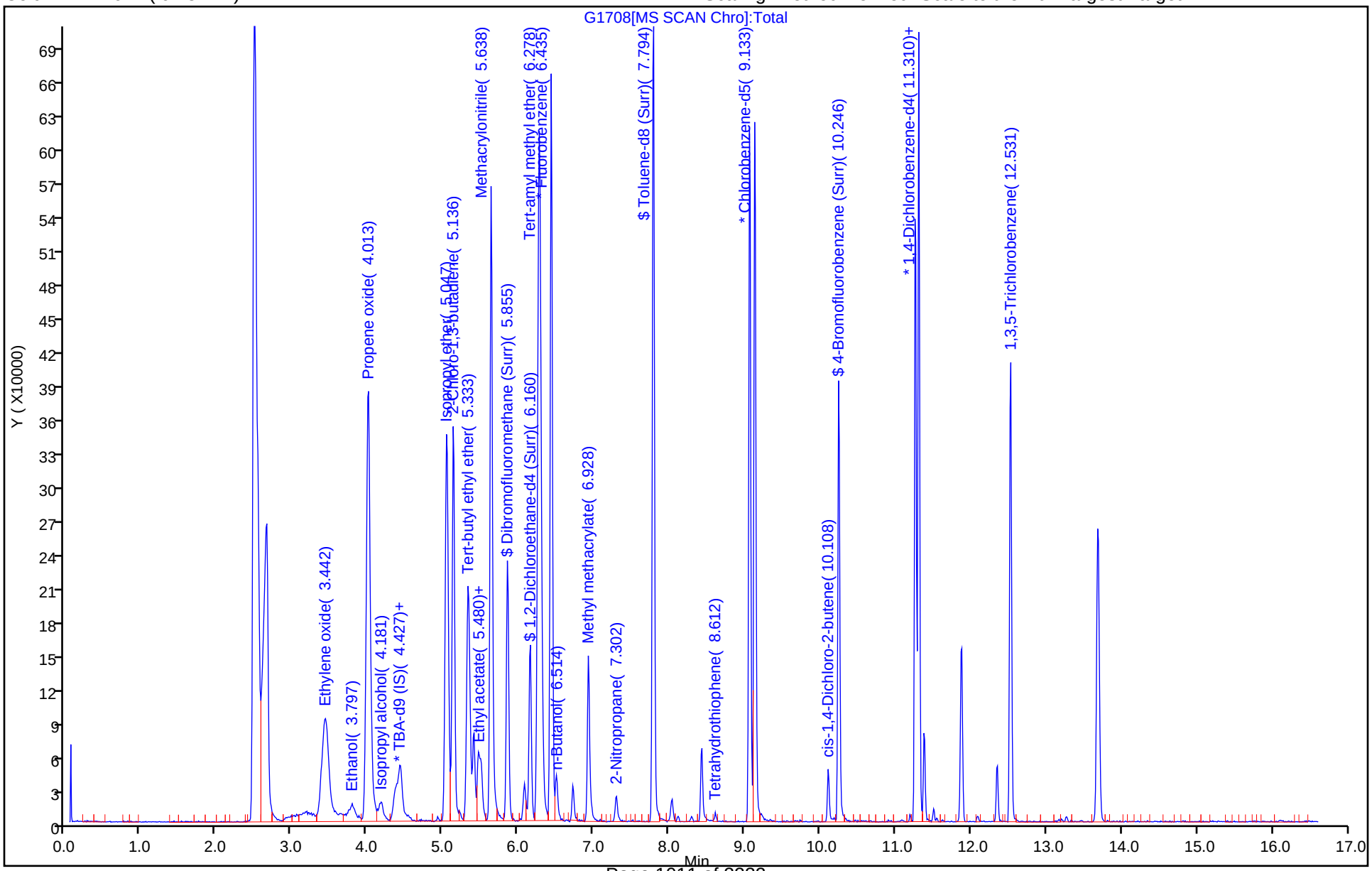
Report Date: 14-Nov-2018 23:45:22 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1708.D

Injection Date:	14-Nov-2018 06:34:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	CCVC			Worklist Smp#:	37
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	42
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b\G9554.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 28-Sep-2018 10:25:30 ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 1.0 uL Dil. Factor: 1.0000
Sample Info: BFB
Operator ID: SEIFERTJ Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 29-Sep-2018 09:05:32 Calib Date: 28-Sep-2018 16:19:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b\G9571.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0311

First Level Reviewer: seifertj Date: 29-Sep-2018 09:05:32

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 4 BFB	95	3.607	3.607	0.000	79	44358	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

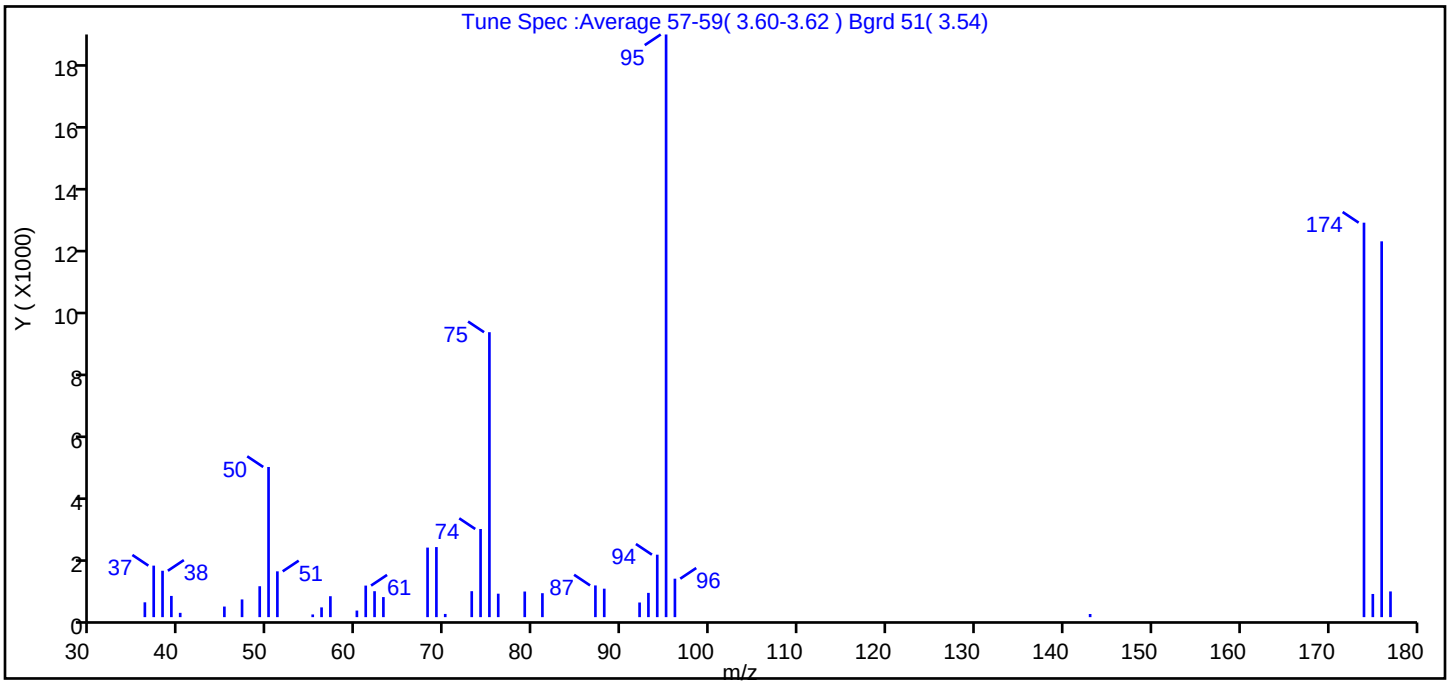
MV-BFB_00026 Amount Added: 1.00 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b\G9554.D
Injection Date: 28-Sep-2018 10:25:30 Instrument ID: VMS_G
Lims ID: BFB
Client ID:
Operator ID: SEIFERTJ ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 1.0 uL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Tune Method: BFB Method 8260

$ 4 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	25.8
75	30 to 60% of m/z 95	48.9
96	5 to 9% of m/z 95	6.6
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	67.7
175	5 to 9% of m/z 174	4.0 (5.9)
176	Greater than 95% but less than 101% of m/z 174	64.5 (95.3)
177	5 to 9% of m/z 176	4.4 (6.8)

Data File: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b\G9554.D\AQ_VMSG_8260.rslt\spectra.d
Injection Date: 28-Sep-2018 10:25:30
Spectrum: Tune Spec :Average 57-59(3.60-3.62) Bgrd 51(3.54)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 38

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	462	55.00	84	73.00	809	94.00	1946
37.00	1605	56.00	304	74.00	2746	95.00	18152
38.00	1445	57.00	652	75.00	8877	96.00	1198
39.00	661	60.00	205	76.00	731	143.00	98
40.00	134	61.00	983	79.00	798	174.00	12289
45.00	330	62.00	808	81.00	746	175.00	722
47.00	552	63.00	625	87.00	988	176.00	11708
49.00	963	68.00	2167	88.00	887	177.00	801
50.00	4678	69.00	2183	92.00	456		
51.00	1427	70.00	100	93.00	756		

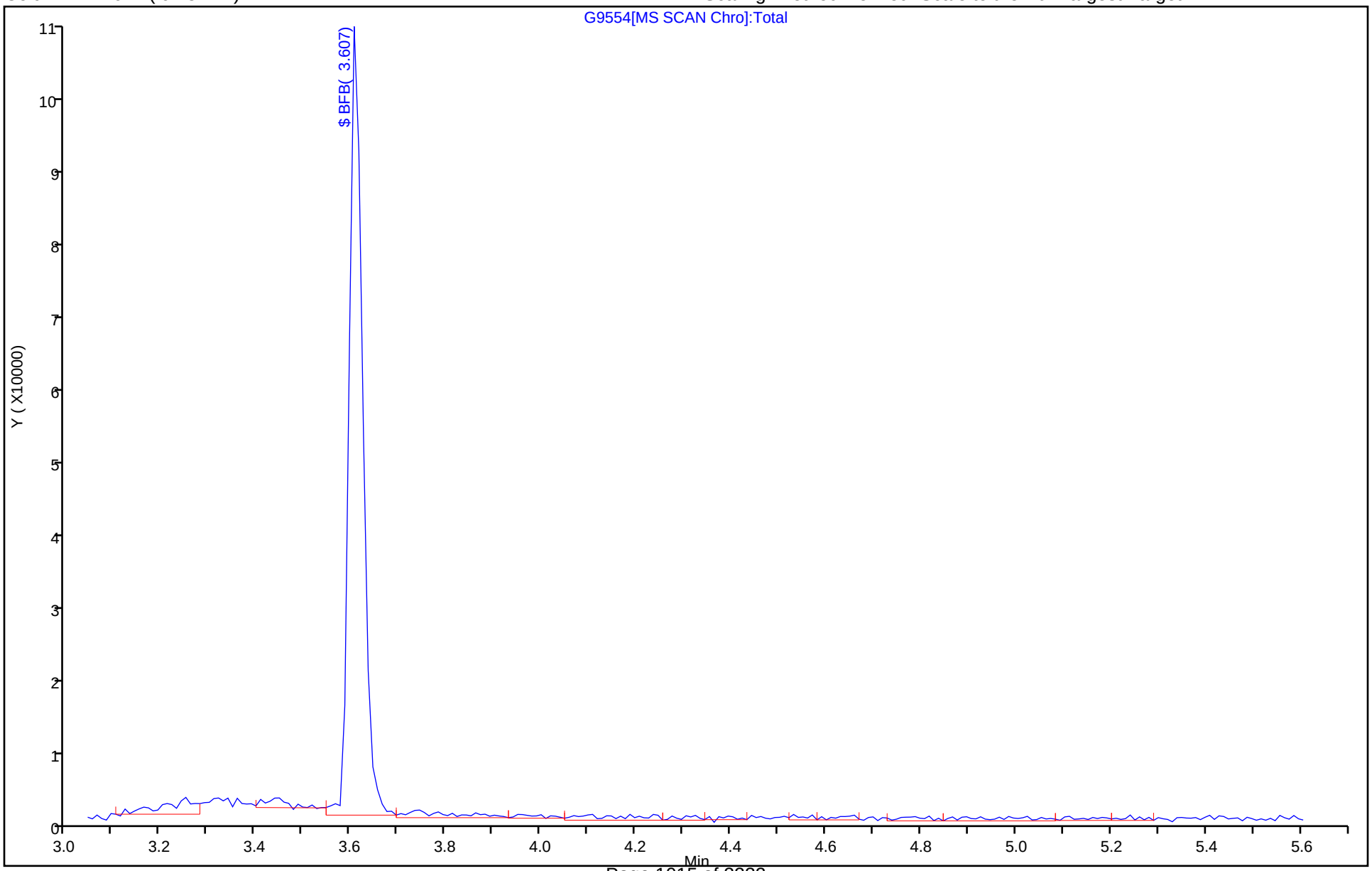
Report Date: 29-Sep-2018 09:05:37 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b\G9554.D

Injection Date:	28-Sep-2018 10:25:30	Instrument ID:	VMS_G	Operator ID:	SEIFERTJ
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	100
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0940.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	29-Oct-2018 19:13:30	ALS Bottle#:	100	Worklist Smp#:	1
Injection Vol:	1.0 uL	Dil. Factor:	1.0000		
Sample Info:	BFB				
Operator ID:	newcomer	Instrument ID:	VMS_G		
Method:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	30-Oct-2018 01:34:22	Calib Date:	29-Oct-2018 22:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D				
Column 1 :	DB-624 (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0323				

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 4 BFB	95	3.631	3.631	0.000	84	142007	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

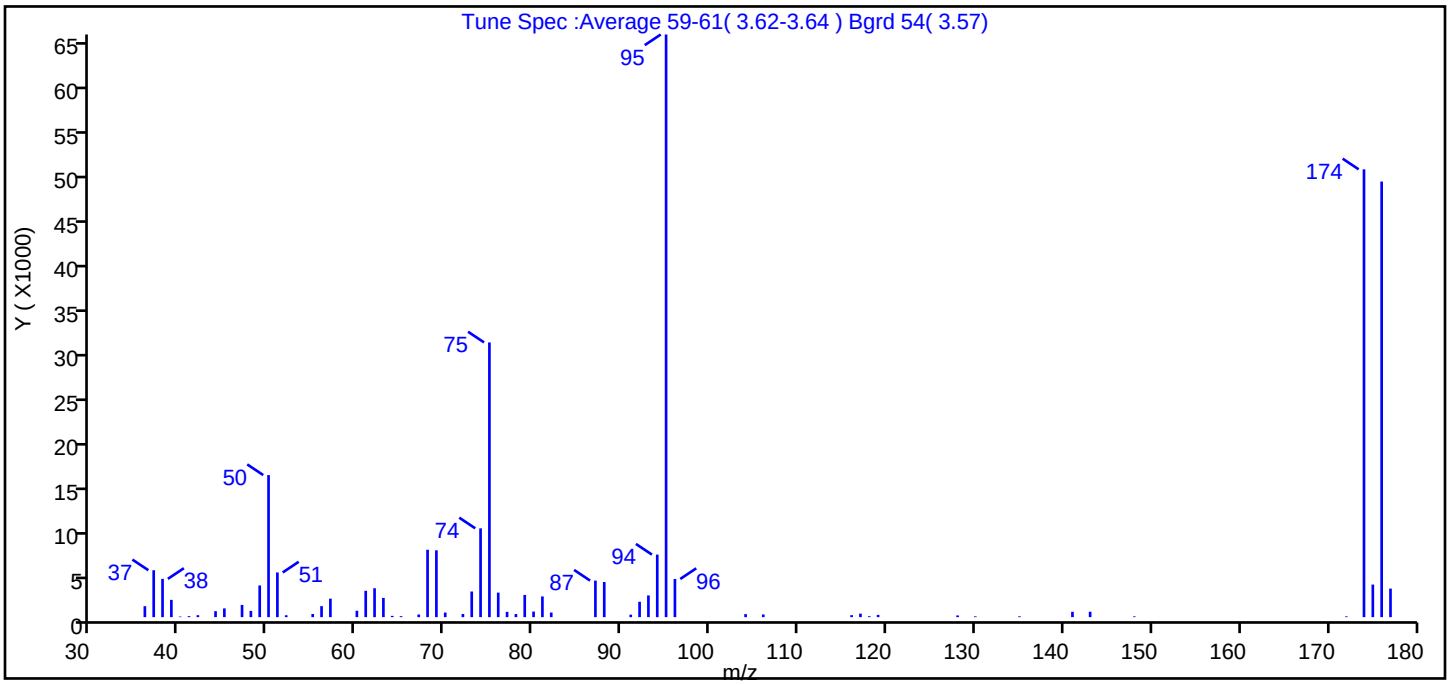
MV-BFB_00027 Amount Added: 1.00 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0940.D
Injection Date: 29-Oct-2018 19:13:30 Instrument ID: VMS_G
Lims ID: BFB
Client ID:
Operator ID: newcomer ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 1.0 uL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Tune Method: BFB Method 8260

$ 4 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	24.4
75	30 to 60% of m/z 95	47.1
96	5 to 9% of m/z 95	6.6
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	76.9
175	5 to 9% of m/z 174	5.6 (7.3)
176	Greater than 95% but less than 101% of m/z 174	74.8 (97.3)
177	5 to 9% of m/z 176	4.9 (6.6)

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0940.D\AQ_VMSG_8260.rslt\spectra.d
Injection Date: 29-Oct-2018 19:13:30
Spectrum: Tune Spec :Average 59-61(3.62-3.64) Bgrd 54(3.57)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 64

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1241	56.00	1244	76.00	2774	106.00	303
37.00	5310	57.00	2093	77.00	598	116.00	226
38.00	4332	60.00	724	78.00	352	117.00	397
39.00	1956	61.00	2980	79.00	2514	118.00	102
40.00	64	62.00	3272	80.00	632	119.00	253
41.00	112	63.00	2175	81.00	2344	128.00	193
42.00	221	64.00	144	82.00	523	130.00	88
44.00	675	65.00	109	87.00	4137	135.00	92
45.00	991	67.00	298	88.00	3978	141.00	606
47.00	1382	68.00	7628	91.00	282	143.00	612
48.00	710	69.00	7566	92.00	1740	148.00	84
49.00	3587	70.00	521	93.00	2457	172.00	86
50.00	16082	72.00	358	94.00	7079	174.00	50688
51.00	5058	73.00	2902	95.00	65952	175.00	3688
52.00	214	74.00	10053	96.00	4320	176.00	49304
55.00	355	75.00	31096	104.00	343	177.00	3231

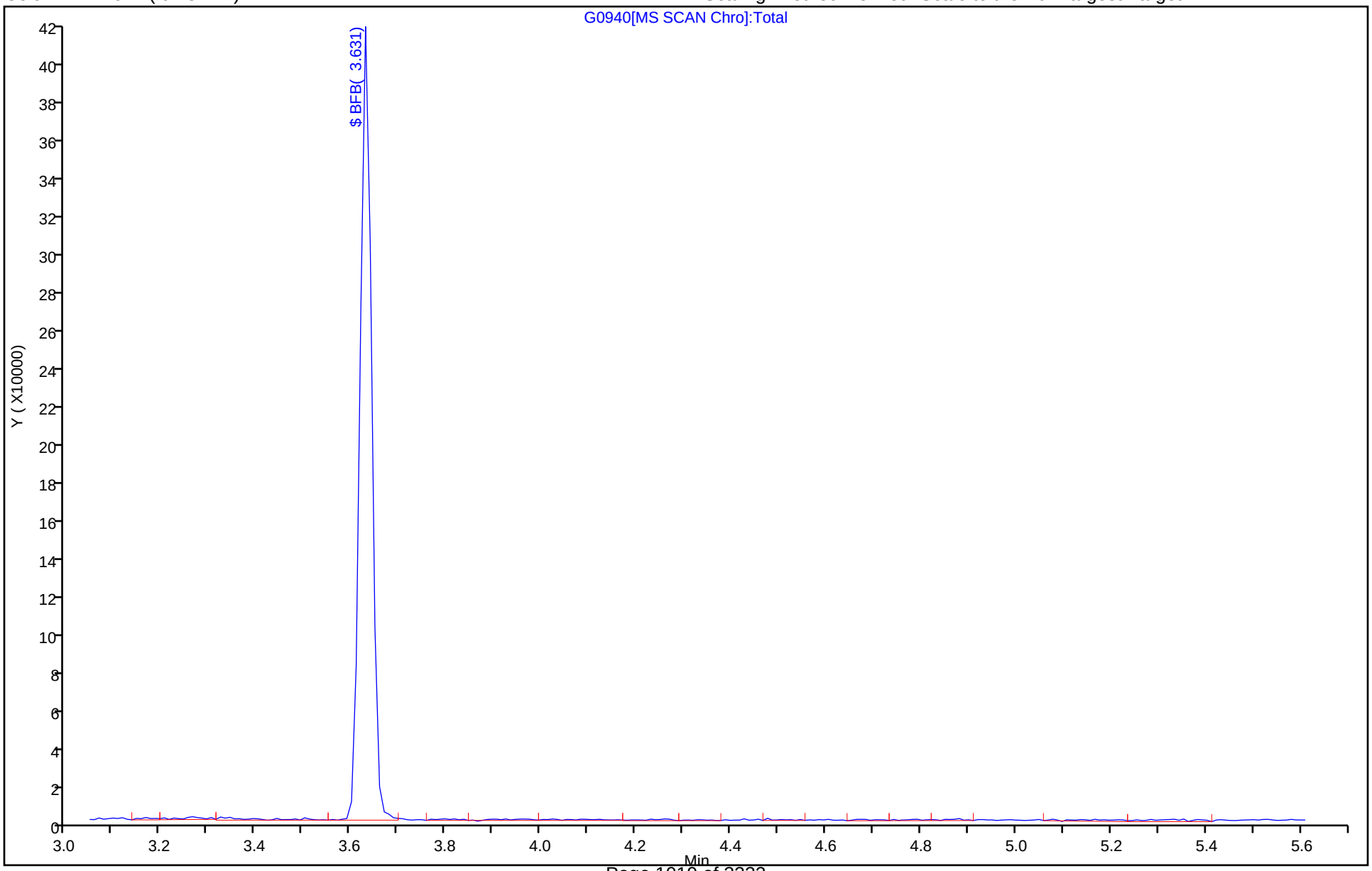
Report Date: 30-Oct-2018 01:34:23 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0940.D

Injection Date:	29-Oct-2018 19:13:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	100
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1675.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 13-Nov-2018 19:24:30 ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 1.0 uL Dil. Factor: 1.0000
Sample Info: BFB
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:44:15 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 13-Nov-2018 19:32:10

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 4 BFB	95	3.608	3.608	0.000	0	40739	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

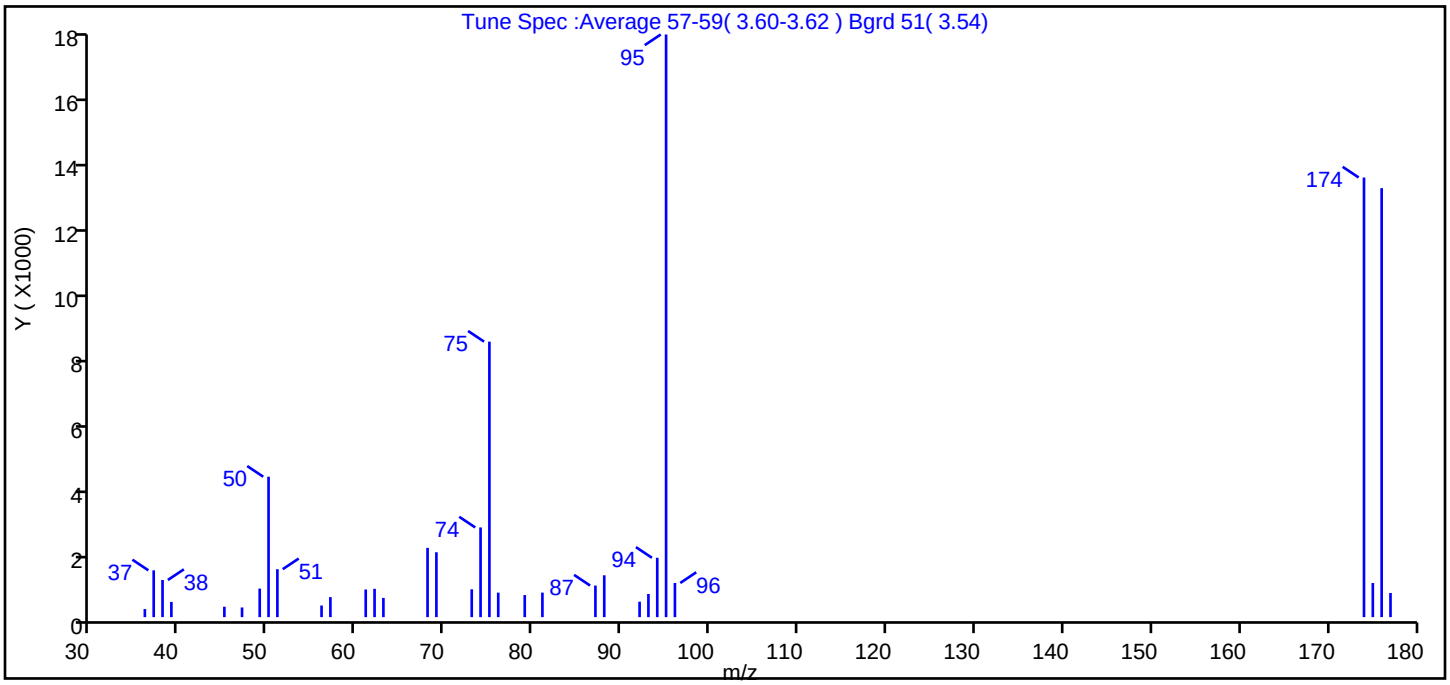
MV-BFB_00027 Amount Added: 1.00 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1675.D
Injection Date: 13-Nov-2018 19:24:30 Instrument ID: VMS_G
Lims ID: BFB
Client ID:
Operator ID: newcomer ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 1.0 uL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Tune Method: BFB Method 8260

$ 4 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	24.1
75	30 to 60% of m/z 95	47.3
96	5 to 9% of m/z 95	5.9
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	75.5
175	5 to 9% of m/z 174	5.9 (7.8)
176	Greater than 95% but less than 101% of m/z 174	73.6 (97.6)
177	5 to 9% of m/z 176	4.2 (5.6)

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1675.D\AQ_VMSG_8260.rslt\spectra.d
Injection Date: 13-Nov-2018 19:24:30
Spectrum: Tune Spec :Average 57-59(3.60-3.62) Bgrd 51(3.54)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 33

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	250	56.00	359	75.00	8511	95.00	18000
37.00	1446	57.00	619	76.00	757	96.00	1056
38.00	1148	61.00	855	79.00	682	174.00	13582
39.00	470	62.00	875	81.00	758	175.00	1054
45.00	322	63.00	594	87.00	976	176.00	13253
47.00	299	68.00	2140	88.00	1293	177.00	747
49.00	882	69.00	2005	92.00	477		
50.00	4338	73.00	860	93.00	715		
51.00	1481	74.00	2771	94.00	1834		

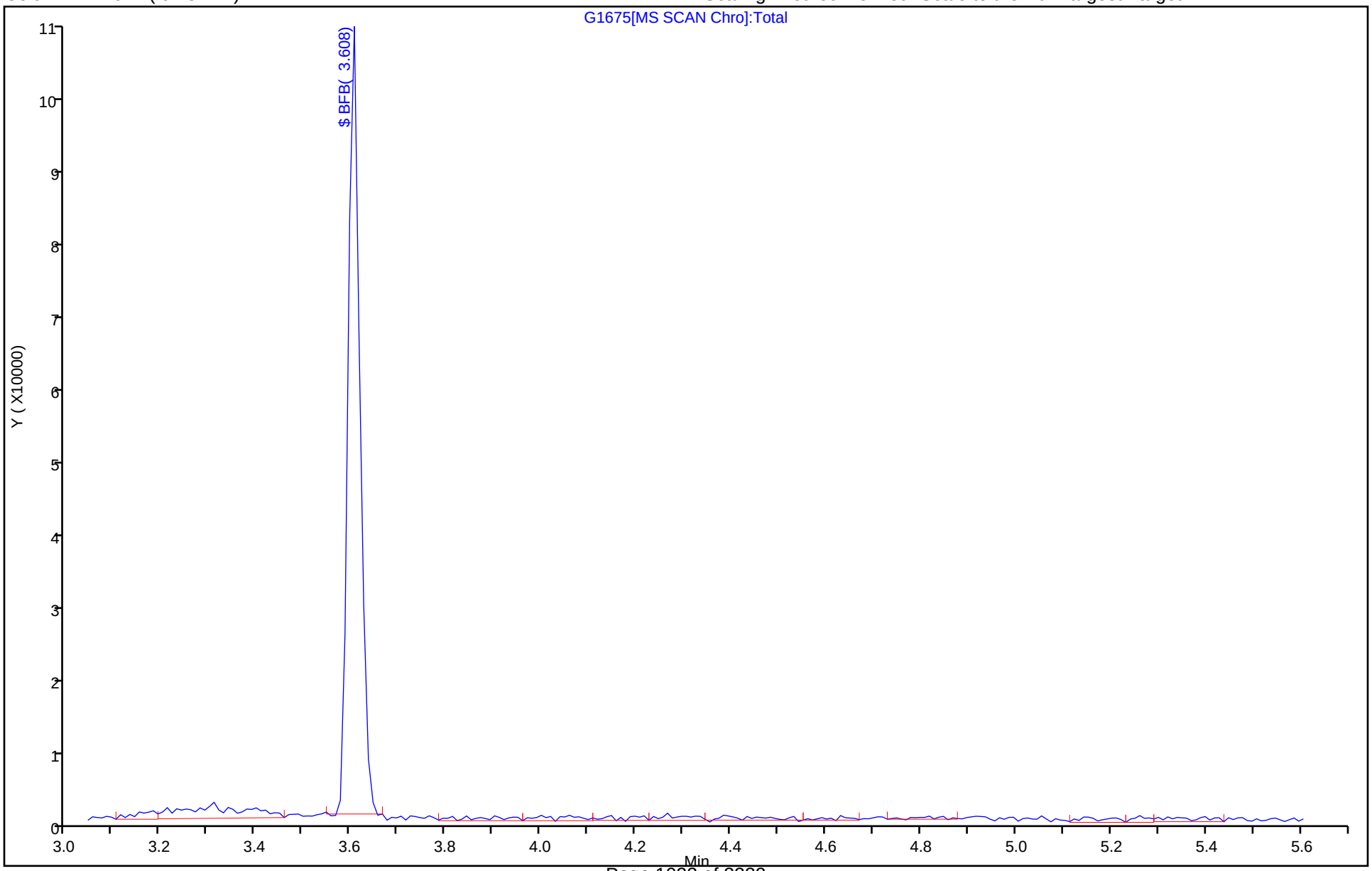
Report Date: 14-Nov-2018 23:44:15 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1675.D

Injection Date:	13-Nov-2018 19:24:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	100
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-437463/4

Matrix: Water | Lab File ID: G1679.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 20(mL) | Date Analyzed: 11/13/2018 20:48

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 437463 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.40	U	1.0	0.40	0.16
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethene	0.80	U	1.0	0.80	0.23
106-93-4	1,2-Dibromoethane	0.40	U	1.0	0.40	0.18
107-06-2	1,2-Dichloroethane	0.40	U	1.0	0.40	0.13
540-59-0	1,2-Dichloroethene, Total	0.20	U	1.0	0.20	0.24
78-87-5	1,2-Dichloropropane	0.40	U	1.0	0.40	0.18
78-93-3	2-Butanone (MEK)	4.0	U	6.0	4.0	2.0
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	6.4	U	10	6.4	1.9
71-43-2	Benzene	0.40	U	1.0	0.40	0.16
108-86-1	Bromobenzene	0.40	U	1.0	0.40	0.17
74-97-5	Bromochloromethane	0.20	U	1.0	0.20	0.10
75-27-4	Bromodichloromethane	0.40	U	1.0	0.40	0.17
75-25-2	Bromoform	0.40	U	1.0	0.40	0.19
74-83-9	Bromomethane	0.80	U	2.0	0.80	0.21
75-15-0	Carbon disulfide	1.6	U	2.0	1.6	0.45
56-23-5	Carbon tetrachloride	0.40	U	2.0	0.40	0.19
108-90-7	Chlorobenzene	0.40	U	1.0	0.40	0.17
75-00-3	Chloroethane	1.6	U	2.0	1.6	0.41
67-66-3	Chloroform	0.40	U	1.0	0.40	0.16
74-87-3	Chloromethane	0.80	U	2.0	0.80	0.30
10061-01-5	cis-1,3-Dichloropropene	0.40	U	1.0	0.40	0.16
124-48-1	Dibromochloromethane	0.40	U	1.0	0.40	0.17
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.16
75-09-2	Methylene Chloride	0.80	U	5.0	0.80	0.32
100-42-5	Styrene	0.40	U	1.0	0.40	0.17
127-18-4	Tetrachloroethene	0.40	U	1.0	0.40	0.20
108-88-3	Toluene	0.40	U	1.0	0.40	0.17
10061-02-6	trans-1,3-Dichloropropene	0.40	U	1.0	0.40	0.19
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.16
75-01-4	Vinyl chloride	0.20	U	1.5	0.20	0.10
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 280-437463/4

Matrix: Water Lab File ID: G1679.D

Analysis Method: 8260B Date Collected:

Sample wt/vol: 20(mL) Date Analyzed: 11/13/2018 20:48

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 437463 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		81-118
460-00-4	4-Bromofluorobenzene (Surr)	95		85-114
1868-53-7	Dibromofluoromethane (Surr)	89		80-119
2037-26-5	Toluene-d8 (Surr)	102		89-112

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1679.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 13-Nov-2018 20:48:30 ALS Bottle#: 13 Worklist Smp#: 4
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: MB
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:44:19 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 14-Nov-2018 01:07:40

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.433	4.437	-0.004	0	63106	250.0	250.0	
* 149 1,4-Dioxane-d8	96		4.687					ND	
* 1 Fluorobenzene	96	6.432	6.436	-0.004	97	571573	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.130	9.134	-0.004	91	101767	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.267	11.261	0.006	97	139245	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.851	5.855	-0.004	91	143944	10.0	8.92	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.156	6.151	0.005	0	114205	10.0	9.49	
$ 7 Toluene-d8 (Surr)	98	7.791	7.785	0.006	96	470660	10.0	10.2	
$ 8 4-Bromofluorobenzene (Surr	95	10.243	10.247	-0.004	86	140986	10.0	9.49	
$ 151 Trifluorotoluene (Surr)	1		0.000					ND	
$ 4 BFB	95		3.608					ND	
25 Dichlorodifluoromethane	85		2.872					ND	
27 Chloromethane	50		3.079					ND	
28 Vinyl chloride	62		3.187					ND	
30 Ethylene oxide	43		3.443					ND	
31 Bromomethane	94		3.502					ND	
32 Chloroethane	64		3.551					ND	
33 Dichlorofluoromethane	67		3.699					ND	
35 Trichlorofluoromethane	101		3.797					ND	
34 Ethanol	45		3.807					ND	
38 Ethyl ether	59		3.925					ND	
24 Chlorotrifluoroethene	116		3.956					ND	
39 Propene oxide	58		4.004					ND	
41 Acrolein	56		4.053					ND	
42 Acetone	43		4.142					ND	
44 1,1,2-Trichloro-1,2,2-trif	151		4.171					ND	
26 1,2-Dichloro-1,1,2,2-tetra	85		4.173					ND	
45 1,1-Dichloroethene	96		4.181					ND	
43 Isopropyl alcohol	45		4.182					ND	
47 Iodomethane	142		4.339					ND	
46 Acetonitrile	41		4.369					ND	
48 Methyl acetate	43		4.388					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
50 Carbon disulfide	76		4.428					ND	
49 3-Chloro-1-propene	41		4.428					ND	
29 2-Chloro-1,1,1-Trifluoroet	118		4.429					ND	
51 2-Methyl-2-propanol	59		4.496					ND	
52 Methylene Chloride	84		4.516					ND	
53 Acrylonitrile	53		4.664					ND	
54 Methyl tert-butyl ether	73		4.713					ND	
55 trans-1,2-Dichloroethene	96		4.743					ND	
56 Hexane	57		4.930					ND	
57 Vinyl acetate	43		5.018					ND	
58 Isopropyl ether	87		5.048					ND	
59 1,1-Dichloroethane	63		5.058					ND	
60 2-Chloro-1,3-butadiene	53		5.137					ND	
36 1,2-Dichloro-1,1,2-trifluo	117		5.267					ND	
37 1,1,1-Trifluoro-2,2-dichlo	83		5.297					ND	
61 Tert-butyl ethyl ether	59		5.334					ND	
62 2-Butanone (MEK)	43		5.461					ND	
63 Ethyl acetate	43		5.471					ND	
66 cis-1,2-Dichloroethene	96		5.501					ND	
64 Propionitrile	54		5.501					ND	
67 2,2-Dichloropropane	77		5.530					ND	
65 sec-Butyl Alcohol	45		5.550					ND	
68 Methacrylonitrile	41		5.639					ND	
69 Chlorobromomethane	128		5.698					ND	
70 Chloroform	83		5.727					ND	
71 Tetrahydrofuran	42		5.737					ND	
73 1,1,1-Trichloroethane	97		5.944					ND	
72 Isobutyl alcohol	41		5.964					ND	
74 Cyclohexane	56		6.033					ND	
75 1,1-Dichloropropene	75		6.062					ND	
76 Carbon tetrachloride	117		6.092					ND	
77 1,2-Dichloroethane	62		6.220					ND	
79 Benzene	78		6.239					ND	
78 Tert-amyl methyl ether	73		6.269					ND	
13 n-Heptane	43		6.377					ND	
80 n-Butanol	56		6.505					ND	U
81 Trichloroethene	95		6.741					ND	
82 2-Pentanone	43		6.830					ND	
83 Methyl methacrylate	100		6.929					ND	
84 1,2-Dichloropropane	63		6.938					ND	
85 Methylcyclohexane	55		6.958					ND	
86 1,4-Dioxane	88		7.007					ND	
87 Dibromomethane	93		7.037					ND	
88 Dichlorobromomethane	83		7.135					ND	
89 2-Nitropropane	41		7.293					ND	
90 2-Chloroethyl vinyl ether	63		7.332					ND	
91 cis-1,3-Dichloropropene	75		7.519					ND	
92 4-Methyl-2-pentanone (MIBK	43		7.598					ND	
93 Toluene	91		7.854					ND	
95 trans-1,3-Dichloropropene	75		7.982					ND	
94 Ethyl methacrylate	69		8.002					ND	
96 1,1,2-Trichloroethane	97		8.169					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
98 1,3-Dichloropropane	76		8.337					ND	
97 2-Hexanone	43		8.346					ND	
99 Tetrachloroethene	164		8.376					ND	
100 Chlorodibromomethane	129		8.563					ND	
101 Tetrahydrothiophene	60		8.613					ND	
102 Ethylene Dibromide	107		8.711					ND	
103 1-Chlorohexane	91		9.094					ND	
104 Chlorobenzene	112		9.164					ND	
105 1,1,1,2-Tetrachloroethane	131		9.213					ND	
106 Ethylbenzene	106		9.233					ND	
107 m-Xylene & p-Xylene	106		9.341					ND	
109 Styrene	104		9.735					ND	
108 o-Xylene	106		9.735					ND	
110 Bromoform	173		9.952					ND	
111 Isopropylbenzene	105		10.080					ND	
112 cis-1,4-Dichloro-2-butene	53		10.109					ND	
113 Cyclohexanone	55		10.188					ND	
114 1,1,2,2-Tetrachloroethane	83		10.316					ND	
115 trans-1,4-Dichloro-2-buten	53		10.375					ND	
116 1,2,3-Trichloropropane	110		10.395					ND	
117 Bromobenzene	156		10.424					ND	
118 N-Propylbenzene	120		10.464					ND	
120 2-Chlorotoluene	126		10.572					ND	
119 1,3,5-Trimethylbenzene	105		10.611					ND	
121 4-Chlorotoluene	126		10.660					ND	
122 tert-Butylbenzene	119		10.907					ND	
123 1,2,4-Trimethylbenzene	105		10.936					ND	
124 sec-Butylbenzene	134		11.084					ND	
125 4-Isopropyltoluene	119		11.192					ND	
126 1,3-Dichlorobenzene	146		11.212					ND	
127 1,4-Dichlorobenzene	146		11.281					ND	
128 1,2,3-Trimethylbenzene	105		11.311					ND	
129 n-Butylbenzene	91		11.547					ND	
130 1,2-Dichlorobenzene	146		11.625					ND	
131 1,2-Dibromo-3-Chloropropan	157		12.315					ND	
11 1,3,5-Trichlorobenzene	180		12.522					ND	
132 1,2,4-Trichlorobenzene	180		13.162					ND	
133 Hexachlorobutadiene	225		13.319					ND	
134 Naphthalene	128		13.447					ND	
135 1,2,3-Trichlorobenzene	180		13.723					ND	
161 1-Chloro-1-fluoroethane TI	1		0.000					ND	
160 Cyclohexane TIC	1		0.000					ND	
15 3-Ethylpentane	1		0.000					ND	
16 3-Methylhexane	1		0.000					ND	
10 2,2-Dimethylpentane	1		0.000					ND	
21 2-Methylhexane	1		0.000					ND	
158 1-Chlorohexane TIC	1		0.000					ND	
9 2,2,3-Trimethylbutane	1		0.000					ND	
14 2,3-Dimethylpentane	1		0.000					ND	
18 3,3-Dimethylpentane	1		0.000					ND	
17 Dimethyl disulfide	1		0.000					ND	
143 Pentachloroethane	167		0.000					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
19 2,4-Dimethylpentane	1		0.000				ND		
12 n-Nonyl Aldehyde	1		0.000				ND		
159 Methyl cyclohexane TIC	1		0.000				ND		
S 142 1,2-Dichloroethene, Total	96		2.000				ND		
S 156 TAH	1				0			0	7
S 136 Trihalomethanes, Total	1		0.000				ND		
S 139 1,3-Dichloropropene, Total	1		0.000				ND		
S 140 1,2-Dichloroethene, Total	1		0.000				ND		
S 137 Xylenes, Total (URS)	1		0.000				ND		
S 141 Xylenes, Total	106		0.000				ND		
S 138 Total BTEX	1		0.000				ND		

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

U - Marked Undetected

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

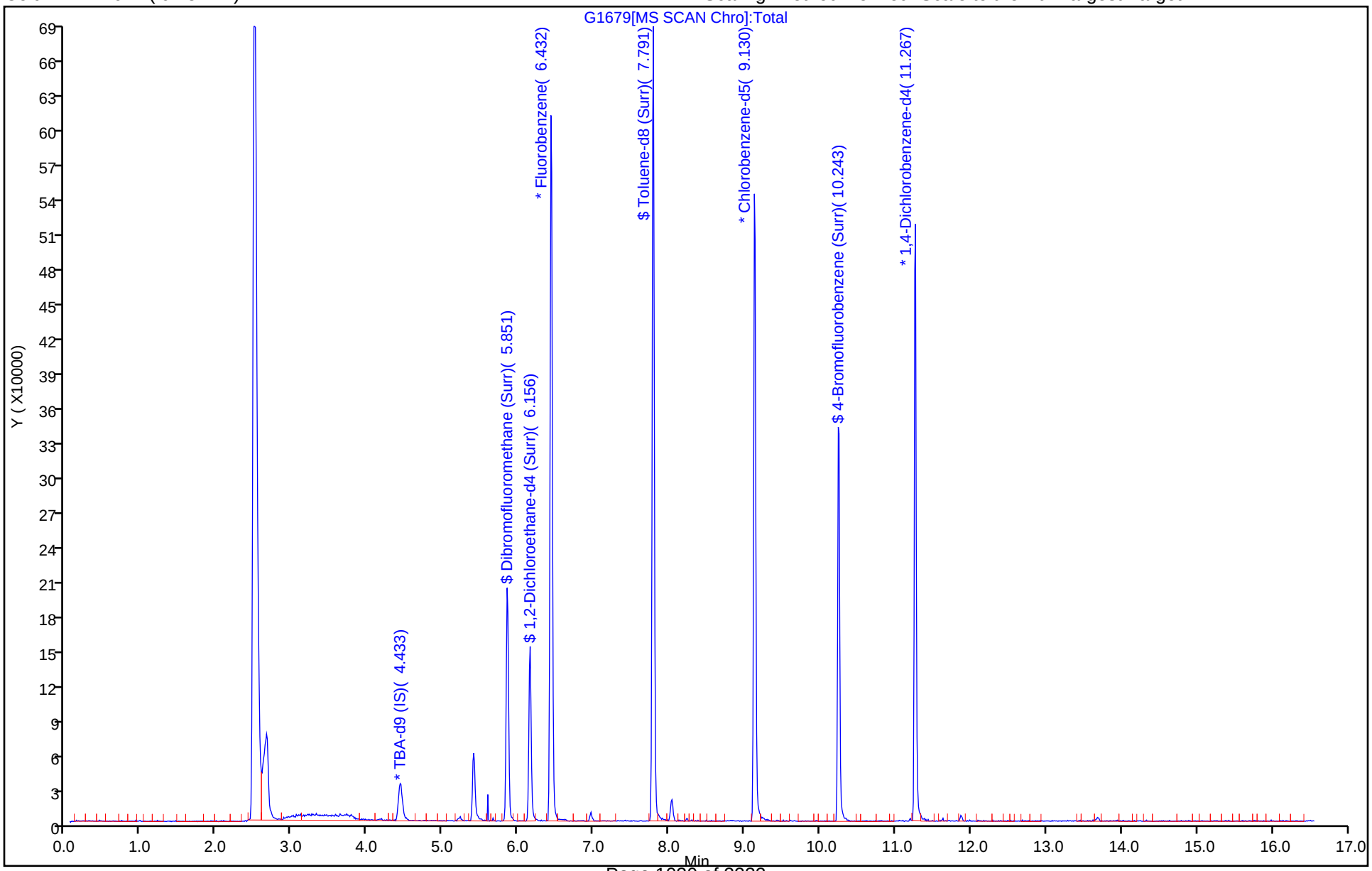
Report Date: 14-Nov-2018 23:44:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1679.D

Injection Date:	13-Nov-2018 20:48:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	MB			Worklist Smp#:	4
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1679.D				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	13-Nov-2018 20:48:30	ALS Bottle#:	13	Worklist Smp#:	4
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	MB				
Operator ID:	newcomer	Instrument ID:	VMS_G		
Method:	\\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	14-Nov-2018 23:44:19	Calib Date:	29-Oct-2018 22:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D				
Column 1 :	DB-624 (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0332				

First Level Reviewer: newcomer Date: 14-Nov-2018 01:07:40

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	10.0	8.92	89.22
$ 6 1,2-Dichloroethane-d4 (Surr)	10.0	9.49	94.89
$ 7 Toluene-d8 (Surr)	10.0	10.2	102.05
$ 8 4-Bromofluorobenzene (Surr)	10.0	9.49	94.86

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-437463/5

Matrix: Water | Lab File ID: G1690.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 20(mL) | Date Analyzed: 11/14/2018 00:30

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 437463 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	5.13		1.0	0.40	0.16
79-34-5	1,1,2,2-Tetrachloroethane	5.15		1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	5.42		1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	5.30		1.0	0.80	0.22
75-35-4	1,1-Dichloroethene	5.26		1.0	0.80	0.23
106-93-4	1,2-Dibromoethane	5.48		1.0	0.40	0.18
107-06-2	1,2-Dichloroethane	5.72		1.0	0.40	0.13
540-59-0	1,2-Dichloroethene, Total	10.5		1.0	0.20	0.24
78-87-5	1,2-Dichloropropane	5.58		1.0	0.40	0.18
78-93-3	2-Butanone (MEK)	22.1		6.0	4.0	2.0
591-78-6	2-Hexanone	20.5		5.0	4.0	1.7
108-10-1	4-Methyl-2-pentanone (MIBK)	20.9		5.0	3.2	0.98
67-64-1	Acetone	20.1		10	6.4	1.9
71-43-2	Benzene	5.19		1.0	0.40	0.16
108-86-1	Bromobenzene	5.15		1.0	0.40	0.17
74-97-5	Bromochloromethane	5.31		1.0	0.20	0.10
75-27-4	Bromodichloromethane	5.42		1.0	0.40	0.17
75-25-2	Bromoform	5.50		1.0	0.40	0.19
74-83-9	Bromomethane	4.95		2.0	0.80	0.21
75-15-0	Carbon disulfide	5.10		2.0	1.6	0.45
56-23-5	Carbon tetrachloride	5.03		2.0	0.40	0.19
108-90-7	Chlorobenzene	5.43		1.0	0.40	0.17
75-00-3	Chloroethane	5.06		2.0	1.6	0.41
67-66-3	Chloroform	5.34		1.0	0.40	0.16
74-87-3	Chloromethane	4.58		2.0	0.80	0.30
10061-01-5	cis-1,3-Dichloropropene	5.71		1.0	0.40	0.16
124-48-1	Dibromochloromethane	5.68		1.0	0.40	0.17
100-41-4	Ethylbenzene	5.23		1.0	0.40	0.16
75-09-2	Methylene Chloride	4.93	J	5.0	0.80	0.32
100-42-5	Styrene	5.66		1.0	0.40	0.17
127-18-4	Tetrachloroethene	5.03		1.0	0.40	0.20
108-88-3	Toluene	5.17		1.0	0.40	0.17
10061-02-6	trans-1,3-Dichloropropene	5.37		1.0	0.40	0.19
79-01-6	Trichloroethene	5.33		1.0	0.40	0.16
75-01-4	Vinyl chloride	4.68		1.5	0.20	0.10
1330-20-7	Xylenes, Total	11.0		1.0	0.80	0.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 280-437463/5

Matrix: Water Lab File ID: G1690.D

Analysis Method: 8260B Date Collected:

Sample wt/vol: 20(mL) Date Analyzed: 11/14/2018 00:30

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 437463 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		81-118
460-00-4	4-Bromofluorobenzene (Surr)	95		85-114
1868-53-7	Dibromofluoromethane (Surr)	99		80-119
2037-26-5	Toluene-d8 (Surr)	103		89-112

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1690.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 14-Nov-2018 00:30:30 ALS Bottle#: 24 Worklist Smp#: 5
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: LCS
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:44:19 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 14-Nov-2018 01:10:00

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.433	4.437	-0.004	0	74767	250.0	250.0	
* 1 Fluorobenzene	96	6.442	6.436	0.006	97	581353	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.140	9.134	0.006	91	105434	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.267	11.261	0.006	96	151078	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.851	5.855	-0.004	91	163239	10.0	9.95	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.157	6.151	0.006	0	125136	10.0	10.2	
$ 7 Toluene-d8 (Surr)	98	7.791	7.785	0.006	96	492053	10.0	10.3	
$ 8 4-Bromofluorobenzene (Surr	95	10.243	10.247	-0.004	85	153447	10.0	9.52	
25 Dichlorodifluoromethane	85	2.868	2.872	-0.004	99	92144	5.00	3.78	
27 Chloromethane	50	3.075	3.079	-0.003	100	128140	5.00	4.58	
28 Vinyl chloride	62	3.193	3.187	0.006	77	103227	5.00	4.68	
31 Bromomethane	94	3.498	3.502	-0.004	93	74440	5.00	4.95	
32 Chloroethane	64	3.547	3.551	-0.004	97	53626	5.00	5.06	
33 Dichlorofluoromethane	67	3.695	3.699	-0.004	98	174192	5.00	5.85	
35 Trichlorofluoromethane	101	3.803	3.797	0.006	99	140652	5.00	4.96	
38 Ethyl ether	59	3.931	3.925	0.006	93	43029	5.00	5.69	
41 Acrolein	56	4.059	4.053	0.006	98	45412	50.0	48.7	
42 Acetone	43	4.148	4.142	0.006	97	45564	20.0	20.1	
44 1,1,2-Trichloro-1,2,2-trif	151	4.177	4.171	0.006	95	66913	5.00	5.04	
45 1,1-Dichloroethene	96	4.187	4.181	0.006	93	91968	5.00	5.26	
47 Iodomethane	142	4.345	4.339	0.006	98	179949	5.00	5.20	
48 Methyl acetate	43	4.394	4.388	0.006	100	54972	10.0	10.2	
50 Carbon disulfide	76	4.433	4.428	0.005	99	466635	5.00	5.10	
49 3-Chloro-1-propene	41	4.433	4.428	0.005	87	223428	5.00	5.00	
51 2-Methyl-2-propanol	59	4.502	4.496	0.006	28	22388	50.0	48.4	
52 Methylene Chloride	84	4.522	4.516	0.006	96	86675	5.00	4.93	
53 Acrylonitrile	53	4.670	4.664	0.006	98	110217	50.0	52.0	
54 Methyl tert-butyl ether	73	4.719	4.713	0.006	97	101095	5.00	5.31	
55 trans-1,2-Dichloroethene	96	4.748	4.743	0.005	92	98055	5.00	5.29	
56 Hexane	57	4.936	4.930	0.006	93	167792	5.00	5.05	
57 Vinyl acetate	43	5.024	5.018	0.006	96	139251	10.0	6.81	
59 1,1-Dichloroethane	63	5.064	5.058	0.006	97	196598	5.00	5.30	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
62 2-Butanone (MEK)	43	5.457	5.461	-0.004	96	65730	20.0	22.1	
66 cis-1,2-Dichloroethene	96	5.507	5.501	0.006	89	93462	5.00	5.20	
67 2,2-Dichloropropane	77	5.536	5.530	0.006	90	127464	5.00	4.89	
69 Chlorobromomethane	128	5.704	5.698	0.006	90	32225	5.00	5.31	
70 Chloroform	83	5.723	5.727	-0.004	98	165522	5.00	5.34	
71 Tetrahydrofuran	42	5.743	5.737	0.006	91	17609	10.0	10.8	
73 1,1,1-Trichloroethane	97	5.950	5.944	0.006	96	139008	5.00	5.13	
72 Isobutyl alcohol	41	5.969	5.964	0.005	47	22044	125.0	117.9	
74 Cyclohexane	56	6.029	6.033	-0.004	95	198801	5.00	4.89	
75 1,1-Dichloropropene	75	6.058	6.062	-0.004	91	145390	5.00	5.14	
76 Carbon tetrachloride	117	6.097	6.092	0.005	96	119822	5.00	5.03	
77 1,2-Dichloroethane	62	6.216	6.220	-0.004	96	83194	5.00	5.72	
79 Benzene	78	6.245	6.239	0.006	97	355055	5.00	5.19	
13 n-Heptane	43	6.383	6.377	0.006	96	225511	5.00	4.89	
81 Trichloroethene	95	6.747	6.741	0.006	93	98930	5.00	5.33	
84 1,2-Dichloropropane	63	6.934	6.938	-0.004	94	95931	5.00	5.58	
85 Methylcyclohexane	55	6.954	6.958	-0.004	95	164762	5.00	4.91	
86 1,4-Dioxane	88	7.003	7.007	-0.004	83	3876	100.0	99.9	
87 Dibromomethane	93	7.043	7.037	0.006	88	36953	5.00	5.49	
88 Dichlorobromomethane	83	7.141	7.135	0.006	97	100696	5.00	5.42	
90 2-Chloroethyl vinyl ether	63	7.338	7.332	0.006	90	11357	5.00	7.18	
91 cis-1,3-Dichloropropene	75	7.515	7.519	-0.004	89	101793	5.00	5.71	
92 4-Methyl-2-pentanone (MIBK	43	7.604	7.598	0.006	96	130962	20.0	20.9	
93 Toluene	91	7.850	7.854	-0.004	96	319245	5.00	5.17	
95 trans-1,3-Dichloropropene	75	7.988	7.982	0.006	99	71445	5.00	5.37	
94 Ethyl methacrylate	69	8.008	8.002	0.006	95	36792	5.00	5.21	
96 1,1,2-Trichloroethane	97	8.165	8.169	-0.004	91	37682	5.00	5.42	
98 1,3-Dichloropropane	76	8.333	8.337	-0.004	96	67793	5.00	5.52	
97 2-Hexanone	43	8.343	8.346	-0.004	97	79447	20.0	20.5	
99 Tetrachloroethene	164	8.372	8.376	-0.004	91	63492	5.00	5.03	
100 Chlorodibromomethane	129	8.569	8.563	0.006	89	51902	5.00	5.68	
102 Ethylene Dibromide	107	8.717	8.711	0.006	99	36405	5.00	5.48	
104 Chlorobenzene	112	9.170	9.164	0.006	90	179985	5.00	5.43	
105 1,1,1,2-Tetrachloroethane	131	9.219	9.213	0.006	95	59497	5.00	5.48	
106 Ethylbenzene	106	9.239	9.233	0.006	99	95122	5.00	5.23	
107 m-Xylene & p-Xylene	106	9.347	9.341	0.006	0	121144	5.00	5.58	
109 Styrene	104	9.741	9.735	0.006	80	159666	5.00	5.66	
108 o-Xylene	106	9.741	9.735	0.006	88	108008	5.00	5.45	
110 Bromoform	173	9.957	9.952	0.005	90	23775	5.00	5.50	
111 Isopropylbenzene	105	10.085	10.080	0.005	98	311662	5.00	5.16	
113 Cyclohexanone	55	10.194	10.188	0.006	98	68552	200.0	214.1	
114 1,1,2,2-Tetrachloroethane	83	10.322	10.316	0.006	93	41218	5.00	5.15	
115 trans-1,4-Dichloro-2-buten	53	10.371	10.375	-0.004	74	8919	5.00	5.25	
116 1,2,3-Trichloropropane	110	10.391	10.395	-0.004	86	8174	5.00	5.69	
117 Bromobenzene	156	10.420	10.424	-0.004	96	62715	5.00	5.15	
118 N-Propylbenzene	120	10.469	10.464	0.005	99	79323	5.00	5.34	
120 2-Chlorotoluene	126	10.578	10.572	0.006	95	71577	5.00	5.31	
119 1,3,5-Trimethylbenzene	105	10.607	10.611	-0.004	93	250237	5.00	5.13	
121 4-Chlorotoluene	126	10.666	10.660	0.006	99	70592	5.00	5.37	
122 tert-Butylbenzene	119	10.903	10.907	-0.004	93	243639	5.00	5.42	
123 1,2,4-Trimethylbenzene	105	10.942	10.936	0.006	96	251276	5.00	5.29	
124 sec-Butylbenzene	134	11.090	11.084	0.006	97	60738	5.00	5.38	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
125 4-Isopropyltoluene	119	11.198	11.192	0.006	97	287951	5.00	5.46	
126 1,3-Dichlorobenzene	146	11.218	11.212	0.006	96	136144	5.00	5.40	
127 1,4-Dichlorobenzene	146	11.287	11.281	0.006	91	134891	5.00	5.24	
129 n-Butylbenzene	91	11.553	11.547	0.006	99	329199	5.00	5.22	
130 1,2-Dichlorobenzene	146	11.621	11.625	-0.004	95	108684	5.00	5.37	
131 1,2-Dibromo-3-Chloropropan	157	12.311	12.315	-0.004	70	4120	5.00	4.70	
132 1,2,4-Trichlorobenzene	180	13.158	13.162	-0.004	94	64322	5.00	4.96	
133 Hexachlorobutadiene	225	13.325	13.319	0.006	95	57864	5.00	5.21	
134 Naphthalene	128	13.453	13.447	0.006	97	72221	5.00	4.91	
135 1,2,3-Trichlorobenzene	180	13.729	13.723	0.006	95	53038	5.00	4.87	
S 142 1,2-Dichloroethene, Total	96				0		10.0	10.5	
S 136 Trihalomethanes, Total	1				0		20.0	21.9	
S 139 1,3-Dichloropropene, Total	1				0		10.0	11.1	
S 140 1,2-Dichloroethene, Total	1				0		10.0	10.5	
S 137 Xylenes, Total (URS)	1				0		10.0	11.0	
S 141 Xylenes, Total	106				0		10.0	11.0	

Reagents:

MV-MegaMain B_00003	Amount Added:	2.00	Units: uL	
MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

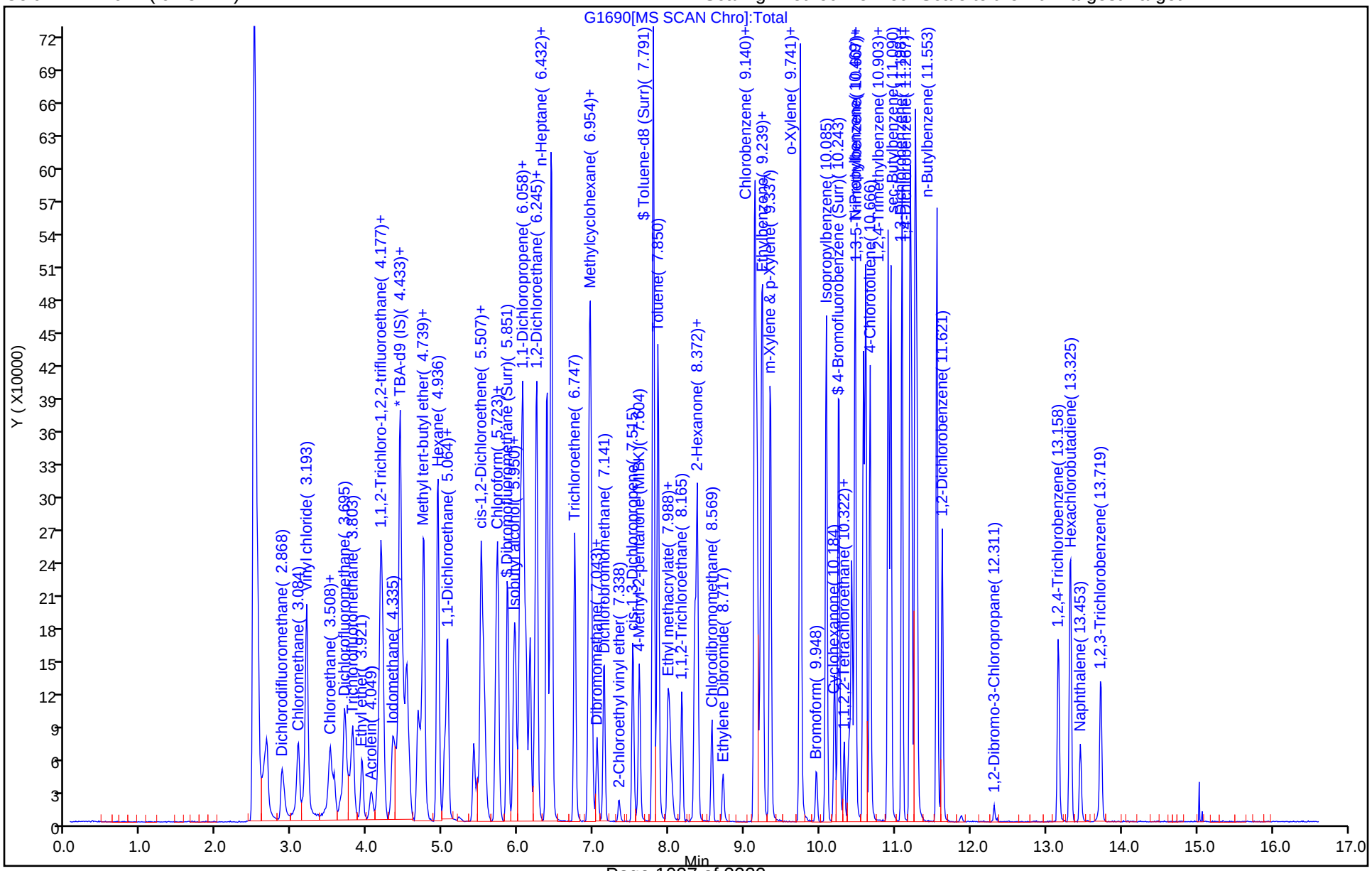
Report Date: 14-Nov-2018 23:44:22 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1690.D

Injection Date:	14-Nov-2018 00:30:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	LCS			Worklist Smp#:	5
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1690.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 14-Nov-2018 00:30:30 ALS Bottle#: 24 Worklist Smp#: 5
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: LCS
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:44:19 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 14-Nov-2018 01:10:00

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	10.0	9.95	99.48
$ 6 1,2-Dichloroethane-d4 (Surr)	10.0	10.2	102.22
$ 7 Toluene-d8 (Surr)	10.0	10.3	102.98
$ 8 4-Bromofluorobenzene (Surr)	10.0	9.52	95.16

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW MS | Lab Sample ID: 280-116020-1 MS

Matrix: Water | Lab File ID: G1694.D

Analysis Method: 8260B | Date Collected: 10/24/2018 10:05

Sample wt/vol: 20(mL) | Date Analyzed: 11/14/2018 01:51

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 437463 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	5.19	H	1.0	0.40	0.16
79-34-5	1,1,2,2-Tetrachloroethane	5.50	H	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	5.36	H	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	5.32	H	1.0	0.80	0.22
75-35-4	1,1-Dichloroethene	4.79	H	1.0	0.80	0.23
106-93-4	1,2-Dibromoethane	5.53	H	1.0	0.40	0.18
107-06-2	1,2-Dichloroethane	5.52	H	1.0	0.40	0.13
540-59-0	1,2-Dichloroethene, Total	10.3	H	1.0	0.20	0.24
78-87-5	1,2-Dichloropropane	5.43	H	1.0	0.40	0.18
78-93-3	2-Butanone (MEK)	19.4	H	6.0	4.0	2.0
591-78-6	2-Hexanone	20.8	H	5.0	4.0	1.7
108-10-1	4-Methyl-2-pentanone (MIBK)	21.4	H	5.0	3.2	0.98
67-64-1	Acetone	20.3	H	10	6.4	1.9
71-43-2	Benzene	5.11	H	1.0	0.40	0.16
108-86-1	Bromobenzene	5.33	H	1.0	0.40	0.17
74-97-5	Bromochloromethane	5.25	H	1.0	0.20	0.10
75-27-4	Bromodichloromethane	5.30	H	1.0	0.40	0.17
75-25-2	Bromoform	5.48	H	1.0	0.40	0.19
74-83-9	Bromomethane	4.83	H	2.0	0.80	0.21
75-15-0	Carbon disulfide	5.19	H	2.0	1.6	0.45
56-23-5	Carbon tetrachloride	5.12	H	2.0	0.40	0.19
108-90-7	Chlorobenzene	5.26	H	1.0	0.40	0.17
75-00-3	Chloroethane	5.03	H	2.0	1.6	0.41
67-66-3	Chloroform	5.35	H	1.0	0.40	0.16
74-87-3	Chloromethane	4.64	H	2.0	0.80	0.30
10061-01-5	cis-1,3-Dichloropropene	5.47	H	1.0	0.40	0.16
124-48-1	Dibromochloromethane	5.60	H	1.0	0.40	0.17
100-41-4	Ethylbenzene	5.18	H	1.0	0.40	0.16
75-09-2	Methylene Chloride	4.94	J H	5.0	0.80	0.32
100-42-5	Styrene	5.54	H	1.0	0.40	0.17
127-18-4	Tetrachloroethene	5.08	H	1.0	0.40	0.20
108-88-3	Toluene	5.20	H	1.0	0.40	0.17
10061-02-6	trans-1,3-Dichloropropene	5.30	H	1.0	0.40	0.19
79-01-6	Trichloroethene	5.08	H	1.0	0.40	0.16
75-01-4	Vinyl chloride	4.90	H	1.5	0.20	0.10
1330-20-7	Xylenes, Total	10.7	H	1.0	0.80	0.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW MS Lab Sample ID: 280-116020-1 MS

Matrix: Water Lab File ID: G1694.D

Analysis Method: 8260B Date Collected: 10/24/2018 10:05

Sample wt/vol: 20(mL) Date Analyzed: 11/14/2018 01:51

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 437463 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		81-118
460-00-4	4-Bromofluorobenzene (Surr)	98		85-114
1868-53-7	Dibromofluoromethane (Surr)	99		80-119
2037-26-5	Toluene-d8 (Surr)	103		89-112

Report Date: 14-Nov-2018 23:44:45 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1694.D
Lims ID: 280-116020-E-1 MS
Client ID: DET-003-181001-GW
Sample Type: MS
Inject. Date: 14-Nov-2018 01:51:30 ALS Bottle#: 28 Worklist Smp#: 23
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: 280-116020-E-1 MS pH<2 HS
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:44:19 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 14-Nov-2018 18:30:29

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.437	4.437	0.000	0	74784	250.0	250.0	
* 149 1,4-Dioxane-d8	96		4.687					ND	
* 1 Fluorobenzene	96	6.436	6.436	0.000	97	580477	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.134	9.134	0.000	92	104651	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.260	11.261	-0.001	96	149099	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.855	5.855	0.000	91	162648	10.0	9.93	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.160	6.151	0.009	0	126688	10.0	10.4	
$ 7 Toluene-d8 (Surr)	98	7.794	7.785	0.009	96	490049	10.0	10.3	
$ 8 4-Bromofluorobenzene (Surr	95	10.246	10.247	-0.001	83	156631	10.0	9.84	
$ 151 Trifluorotoluene (Surr)	1		0.000					ND	
$ 4 BFB	95	3.501	3.608	-0.107	0	8394		NR	
25 Dichlorodifluoromethane	85	2.871	2.872	-0.001	99	87429	5.00	3.59	
27 Chloromethane	50	3.078	3.079	0.000	100	129692	5.00	4.64	
28 Vinyl chloride	62	3.196	3.187	0.009	83	107968	5.00	4.90	
30 Ethylene oxide	43		3.443					ND	
31 Bromomethane	94	3.501	3.502	-0.001	94	72499	5.00	4.83	
32 Chloroethane	64	3.550	3.551	-0.001	97	53201	5.00	5.03	
33 Dichlorofluoromethane	67	3.698	3.699	-0.001	98	163684	5.00	5.51	
35 Trichlorofluoromethane	101	3.797	3.797	0.000	99	131374	5.00	4.64	
34 Ethanol	45		3.807					ND	
38 Ethyl ether	59	3.925	3.925	0.000	92	37581	5.00	4.98	
24 Chlorotrifluoroethene	116		3.956					ND	
39 Propene oxide	58		4.004					ND	
41 Acrolein	56	4.043	4.053	-0.010	98	43364	50.0	46.5	
42 Acetone	43	4.151	4.142	0.009	97	45870	20.0	20.3	
44 1,1,2-Trichloro-1,2,2-trif	151	4.181	4.171	0.010	95	62575	5.00	4.72	
26 1,2-Dichloro-1,1,2,2-tetra	85	4.171	4.173	-0.002	40	48019		NC	
45 1,1-Dichloroethene	96	4.181	4.181	0.000	93	83592	5.00	4.79	
43 Isopropyl alcohol	45		4.182					ND	U
47 Iodomethane	142	4.348	4.339	0.009	97	177625	5.00	5.14	
46 Acetonitrile	41		4.369					ND	U
48 Methyl acetate	43	4.387	4.388	-0.001	99	54285	10.0	10.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
50 Carbon disulfide	76	4.437	4.428	0.009	98	474228	5.00	5.19	
49 3-Chloro-1-propene	41	4.427	4.428	-0.001	87	211570	5.00	4.74	
29 2-Chloro-1,1,1-Trifluoroet	118		4.429					ND	
51 2-Methyl-2-propanol	59	4.496	4.496	0.000	94	24421	50.0	52.8	
52 Methylene Chloride	84	4.525	4.516	0.009	97	86620	5.00	4.94	
53 Acrylonitrile	53	4.673	4.664	0.009	96	112505	50.0	53.1	
54 Methyl tert-butyl ether	73	4.722	4.713	0.009	96	99103	5.00	5.21	
55 trans-1,2-Dichloroethene	96	4.742	4.743	-0.001	92	96586	5.00	5.22	
56 Hexane	57	4.929	4.930	-0.001	93	169295	5.00	5.13	
57 Vinyl acetate	43	5.027	5.018	0.009	96	204818	10.0	10.0	
58 Isopropyl ether	87		5.048					ND	
59 1,1-Dichloroethane	63	5.057	5.058	-0.001	96	197187	5.00	5.32	
60 2-Chloro-1,3-butadiene	53		5.137					ND	
36 1,2-Dichloro-1,1,2-trifluo	117		5.267					ND	
37 1,1,1-Trifluoro-2,2-dichlo	83		5.297					ND	
61 Tert-butyl ethyl ether	59		5.334					ND	
62 2-Butanone (MEK)	43	5.461	5.461	0.000	97	57646	20.0	19.4	
63 Ethyl acetate	43		5.471					ND	U
66 cis-1,2-Dichloroethene	96	5.510	5.501	0.009	89	91198	5.00	5.08	
64 Propionitrile	54		5.501					ND	
67 2,2-Dichloropropane	77	5.539	5.530	0.009	90	128312	5.00	4.93	
65 sec-Butyl Alcohol	45		5.550					ND	
68 Methacrylonitrile	41		5.639					ND	
69 Chlorobromomethane	128	5.707	5.698	0.009	90	31799	5.00	5.25	
70 Chloroform	83	5.727	5.727	0.000	98	165505	5.00	5.35	
71 Tetrahydrofuran	42	5.746	5.737	0.009	95	16933	10.0	10.4	
73 1,1,1-Trichloroethane	97	5.953	5.944	0.009	97	140603	5.00	5.19	
72 Isobutyl alcohol	41	5.963	5.964	-0.001	31	22365	125.0	119.6	
74 Cyclohexane	56	6.032	6.033	-0.001	95	205065	5.00	5.05	
75 1,1-Dichloropropene	75	6.061	6.062	-0.001	92	148953	5.00	5.28	
76 Carbon tetrachloride	117	6.101	6.092	0.009	97	121861	5.00	5.12	
77 1,2-Dichloroethane	62	6.219	6.220	-0.001	97	80151	5.00	5.52	
79 Benzene	78	6.248	6.239	0.009	98	349183	5.00	5.11	
78 Tert-amyl methyl ether	73		6.269					ND	
13 n-Heptane	43	6.376	6.377	-0.001	96	225803	5.00	4.90	
80 n-Butanol	56		6.505					ND	U
81 Trichloroethene	95	6.751	6.741	0.010	94	94157	5.00	5.08	
82 2-Pentanone	43		6.830					ND	
83 Methyl methacrylate	100		6.929					ND	
84 1,2-Dichloropropane	63	6.938	6.938	0.000	90	93186	5.00	5.43	
85 Methylcyclohexane	55	6.957	6.958	-0.001	95	163166	5.00	4.87	
86 1,4-Dioxane	88	7.007	7.007	0.000	85	3745	100.0	97.1	
87 Dibromomethane	93	7.046	7.037	0.009	86	34619	5.00	5.15	
88 Dichlorobromomethane	83	7.135	7.135	0.000	97	98199	5.00	5.30	
89 2-Nitropropane	41		7.293					ND	
90 2-Chloroethyl vinyl ether	63		7.332				ND	ND	
91 cis-1,3-Dichloropropene	75	7.519	7.519	0.000	89	96733	5.00	5.47	
92 4-Methyl-2-pentanone (MIBK	43	7.607	7.598	0.009	96	133847	20.0	21.4	
93 Toluene	91	7.853	7.854	-0.001	96	320206	5.00	5.20	
95 trans-1,3-Dichloropropene	75	7.981	7.982	-0.001	99	70433	5.00	5.30	
94 Ethyl methacrylate	69	8.011	8.002	0.009	96	35557	5.00	5.08	
96 1,1,2-Trichloroethane	97	8.169	8.169	0.000	93	37207	5.00	5.36	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
98 1,3-Dichloropropane	76	8.336	8.337	-0.001	97	68660	5.00	5.63	
97 2-Hexanone	43	8.346	8.346	0.000	96	79974	20.0	20.8	
99 Tetrachloroethene	164	8.375	8.376	-0.001	92	63658	5.00	5.08	
100 Chlorodibromomethane	129	8.572	8.563	0.009	89	50803	5.00	5.60	
101 Tetrahydrothiophene	60		8.613					ND	
102 Ethylene Dibromide	107	8.720	8.711	0.009	98	36464	5.00	5.53	
103 1-Chlorohexane	91		9.094					ND	
104 Chlorobenzene	112	9.163	9.164	-0.001	89	173085	5.00	5.26	
105 1,1,1,2-Tetrachloroethane	131	9.212	9.213	-0.001	94	58237	5.00	5.40	
106 Ethylbenzene	106	9.242	9.233	0.009	99	93362	5.00	5.18	
107 m-Xylene & p-Xylene	106	9.340	9.341	-0.001	0	114287	5.00	5.30	
109 Styrene	104	9.744	9.735	0.009	80	155190	5.00	5.54	
108 o-Xylene	106	9.734	9.735	-0.001	88	106394	5.00	5.41	
110 Bromoform	173	9.951	9.952	-0.001	92	23529	5.00	5.48	
111 Isopropylbenzene	105	10.089	10.080	0.009	97	310440	5.00	5.21	
112 cis-1,4-Dichloro-2-butene	53		10.109					ND	U
113 Cyclohexanone	55	10.197	10.188	0.009	97	32485	200.0	102.2	
114 1,1,2,2-Tetrachloroethane	83	10.325	10.316	0.009	93	43434	5.00	5.50	
115 trans-1,4-Dichloro-2-buten	53	10.374	10.375	-0.001	75	8199	5.00	4.92	
116 1,2,3-Trichloropropane	110	10.394	10.395	-0.001	86	8076	5.00	5.69	
117 Bromobenzene	156	10.423	10.424	-0.001	96	63991	5.00	5.33	
118 N-Propylbenzene	120	10.473	10.464	0.009	99	73354	5.00	5.00	
120 2-Chlorotoluene	126	10.581	10.572	0.009	95	69295	5.00	5.21	
119 1,3,5-Trimethylbenzene	105	10.611	10.611	0.000	93	244483	5.00	5.08	
121 4-Chlorotoluene	126	10.670	10.660	0.010	99	68785	5.00	5.30	
122 tert-Butylbenzene	119	10.906	10.907	-0.001	93	229539	5.00	5.17	
123 1,2,4-Trimethylbenzene	105	10.945	10.936	0.009	98	240831	5.00	5.13	
124 sec-Butylbenzene	134	11.093	11.084	0.009	97	58221	5.00	5.22	
125 4-Isopropyltoluene	119	11.191	11.192	-0.001	97	263051	5.00	5.05	
126 1,3-Dichlorobenzene	146	11.221	11.212	0.009	96	125610	5.00	5.05	
127 1,4-Dichlorobenzene	146	11.290	11.281	0.009	94	129867	5.00	5.11	
128 1,2,3-Trimethylbenzene	105		11.311					ND	
129 n-Butylbenzene	91	11.546	11.547	-0.001	99	310097	5.00	4.98	
130 1,2-Dichlorobenzene	146	11.625	11.625	0.000	95	104290	5.00	5.22	
131 1,2-Dibromo-3-Chloropropan	157	12.314	12.315	-0.001	73	4276	5.00	4.90	
11 1,3,5-Trichlorobenzene	180		12.522					ND	
132 1,2,4-Trichlorobenzene	180	13.161	13.162	-0.001	94	60469	5.00	4.73	
133 Hexachlorobutadiene	225	13.318	13.319	-0.001	96	52068	5.00	4.75	
134 Naphthalene	128	13.456	13.447	0.009	97	71937	5.00	4.96	
135 1,2,3-Trichlorobenzene	180	13.722	13.723	-0.001	92	50685	5.00	4.72	
161 1-Chloro-1-fluoroethane TI	1		0.000					ND	
160 Cyclohexane TIC	1		0.000					ND	
15 3-Ethylpentane	1		0.000					ND	
16 3-Methylhexane	1		0.000					ND	
10 2,2-Dimethylpentane	1		0.000					ND	
21 2-Methylhexane	1		0.000					ND	
158 1-Chlorohexane TIC	1		0.000					ND	
9 2,2,3-Trimethylbutane	1		0.000					ND	
14 2,3-Dimethylpentane	1		0.000					ND	
18 3,3-Dimethylpentane	1		0.000					ND	
17 Dimethyl disulfide	1		0.000					ND	
143 Pentachloroethane	167		0.000					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
19 2,4-Dimethylpentane	1		0.000					ND	
12 n-Nonyl Aldehyde	1		0.000					ND	
159 Methyl cyclohexane TIC	1		0.000					ND	
S 142 1,2-Dichloroethene, Total	96				0		10.0	10.3	
S 156 TAH	1				0			0	7
S 136 Trihalomethanes, Total	1				0		20.0	21.7	
S 139 1,3-Dichloropropene, Total	1				0		10.0	10.8	
S 140 1,2-Dichloroethene, Total	1				0		10.0	10.3	
S 137 Xylenes, Total (URS)	1				0		10.0	10.7	
S 141 Xylenes, Total	106				0		10.0	10.7	
S 138 Total BTEX	1				0			26.2	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- NC - Not Calibrated
- ND - Not Detected or Marked ND
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

MV-MegaMain B_00003	Amount Added:	2.00	Units: uL	
MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

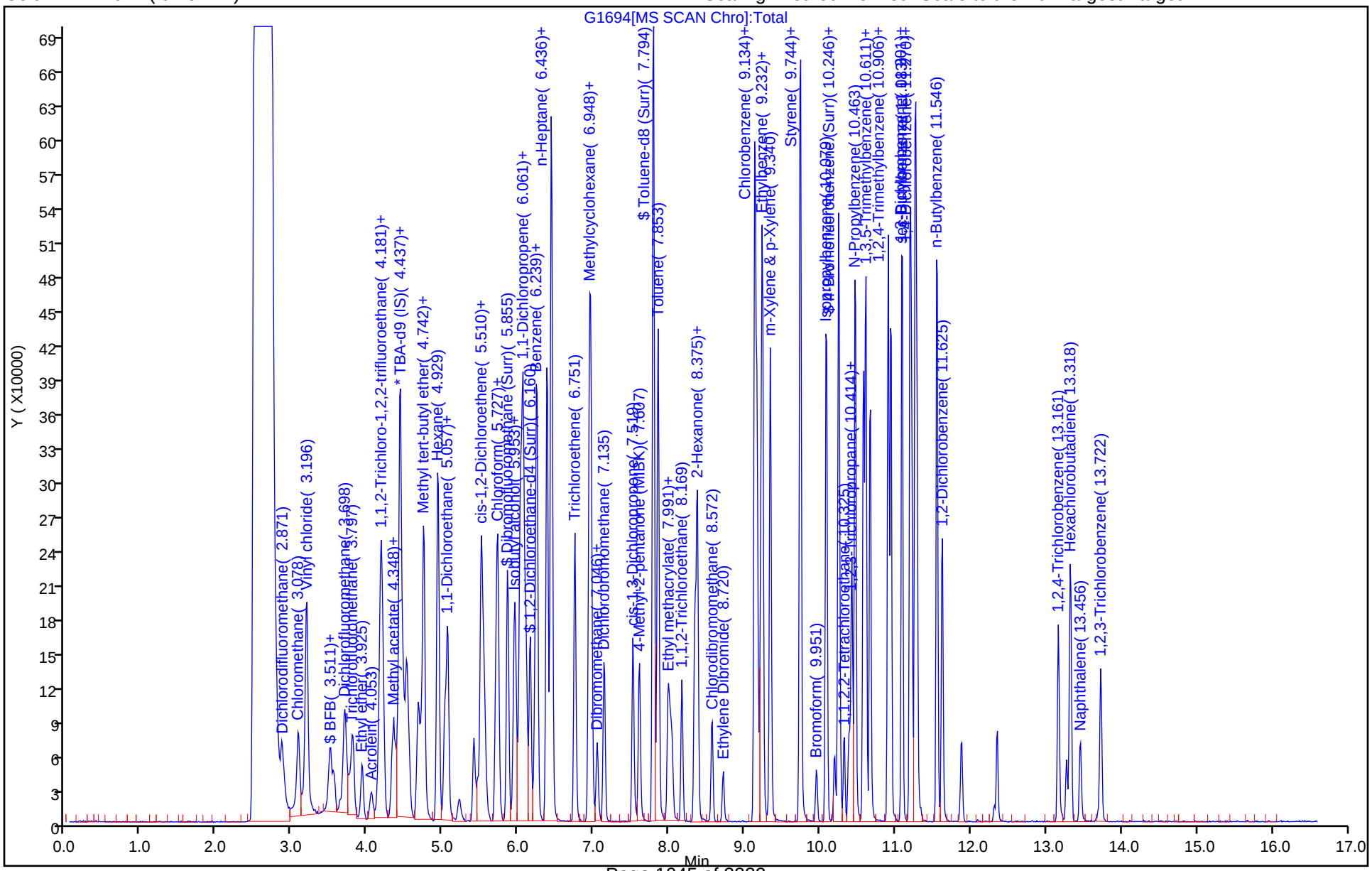
Report Date: 14-Nov-2018 23:44:45 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1694.D

Injection Date:	14-Nov-2018 01:51:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	280-116020-E-1 MS			Worklist Smp#:	23
Client ID:	DET-003-181001-GW				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1694.D				
Lims ID:	280-116020-E-1 MS				
Client ID:	DET-003-181001-GW				
Sample Type:	MS				
Inject. Date:	14-Nov-2018 01:51:30	ALS Bottle#:	28	Worklist Smp#:	23
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-116020-E-1 MS pH<2 HS				
Operator ID:	newcomer	Instrument ID:	VMS_G		
Method:	\\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	14-Nov-2018 23:44:19	Calib Date:	29-Oct-2018 22:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D				
Column 1 :	DB-624 (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0332				

First Level Reviewer: newcomer Date: 14-Nov-2018 18:30:29

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	10.0	9.93	99.27
$ 6 1,2-Dichloroethane-d4 (Surr)	10.0	10.4	103.65
$ 7 Toluene-d8 (Surr)	10.0	10.3	103.33
$ 8 4-Bromofluorobenzene (Surr)	10.0	9.84	98.42
$ 4 BFB	0	0	0.00

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW MSD | Lab Sample ID: 280-116020-1 MSD

Matrix: Water | Lab File ID: G1695.D

Analysis Method: 8260B | Date Collected: 10/24/2018 10:05

Sample wt/vol: 20(mL) | Date Analyzed: 11/14/2018 02:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 437463 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	5.29	H	1.0	0.40	0.16
79-34-5	1,1,2,2-Tetrachloroethane	5.68	H	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	5.71	H	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	4.92	H	1.0	0.80	0.22
75-35-4	1,1-Dichloroethene	4.65	H	1.0	0.80	0.23
106-93-4	1,2-Dibromoethane	5.79	H	1.0	0.40	0.18
107-06-2	1,2-Dichloroethane	5.81	H	1.0	0.40	0.13
540-59-0	1,2-Dichloroethene, Total	9.55	H	1.0	0.20	0.24
78-87-5	1,2-Dichloropropane	5.55	H	1.0	0.40	0.18
78-93-3	2-Butanone (MEK)	18.2	H	6.0	4.0	2.0
591-78-6	2-Hexanone	21.2	H	5.0	4.0	1.7
108-10-1	4-Methyl-2-pentanone (MIBK)	21.9	H	5.0	3.2	0.98
67-64-1	Acetone	19.8	H	10	6.4	1.9
71-43-2	Benzene	5.34	H	1.0	0.40	0.16
108-86-1	Bromobenzene	5.50	H	1.0	0.40	0.17
74-97-5	Bromochloromethane	4.92	H	1.0	0.20	0.10
75-27-4	Bromodichloromethane	5.51	H	1.0	0.40	0.17
75-25-2	Bromoform	5.53	H	1.0	0.40	0.19
74-83-9	Bromomethane	4.90	H	2.0	0.80	0.21
75-15-0	Carbon disulfide	4.64	H	2.0	1.6	0.45
56-23-5	Carbon tetrachloride	5.24	H	2.0	0.40	0.19
108-90-7	Chlorobenzene	5.55	H	1.0	0.40	0.17
75-00-3	Chloroethane	5.15	H	2.0	1.6	0.41
67-66-3	Chloroform	5.33	H	1.0	0.40	0.16
74-87-3	Chloromethane	4.77	H	2.0	0.80	0.30
10061-01-5	cis-1,3-Dichloropropene	5.73	H	1.0	0.40	0.16
124-48-1	Dibromochloromethane	5.45	H	1.0	0.40	0.17
100-41-4	Ethylbenzene	5.43	H	1.0	0.40	0.16
75-09-2	Methylene Chloride	4.48	J H	5.0	0.80	0.32
100-42-5	Styrene	5.90	H	1.0	0.40	0.17
127-18-4	Tetrachloroethene	5.21	H	1.0	0.40	0.20
108-88-3	Toluene	5.34	H	1.0	0.40	0.17
10061-02-6	trans-1,3-Dichloropropene	5.46	H	1.0	0.40	0.19
79-01-6	Trichloroethene	5.11	H	1.0	0.40	0.16
75-01-4	Vinyl chloride	4.89	H	1.5	0.20	0.10
1330-20-7	Xylenes, Total	11.5	H	1.0	0.80	0.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW MSD Lab Sample ID: 280-116020-1 MSD

Matrix: Water Lab File ID: G1695.D

Analysis Method: 8260B Date Collected: 10/24/2018 10:05

Sample wt/vol: 20(mL) Date Analyzed: 11/14/2018 02:12

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 437463 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		81-118
460-00-4	4-Bromofluorobenzene (Surr)	98		85-114
1868-53-7	Dibromofluoromethane (Surr)	95		80-119
2037-26-5	Toluene-d8 (Surr)	102		89-112

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1695.D
Lims ID: 280-116020-E-1 MSD
Client ID: DET-003-181001-GW
Sample Type: MSD
Inject. Date: 14-Nov-2018 02:12:30 ALS Bottle#: 29 Worklist Smp#: 24
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: 280-116020-E-1 MSD pH<2 HS
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 14-Nov-2018 23:44:19 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0332

First Level Reviewer: newcomer Date: 14-Nov-2018 18:31:09

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.436	4.437	-0.001	0	68961	250.0	250.0	
* 149 1,4-Dioxane-d8	96	4.751	4.687	0.064	0	92677		0	
* 1 Fluorobenzene	96	6.435	6.436	-0.001	97	621908	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.133	9.134	-0.001	91	111059	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.270	11.261	0.009	96	156518	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.854	5.855	-0.001	91	166150	10.0	9.46	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.159	6.151	0.008	0	132821	10.0	10.1	
$ 7 Toluene-d8 (Surr)	98	7.794	7.785	0.009	96	513262	10.0	10.2	
$ 8 4-Bromofluorobenzene (Surr	95	10.246	10.247	-0.001	84	163951	10.0	9.81	
$ 151 Trifluorotoluene (Surr)	1		0.000					ND	
$ 4 BFB	95	3.501	3.608	-0.107	0	9770		NR	
25 Dichlorodifluoromethane	85	2.871	2.872	-0.001	99	94438	5.00	3.62	
27 Chloromethane	50	3.087	3.079	0.009	100	142708	5.00	4.77	
28 Vinyl chloride	62	3.195	3.187	0.008	78	115572	5.00	4.89	
30 Ethylene oxide	43		3.443					ND	
31 Bromomethane	94	3.511	3.502	0.009	94	78802	5.00	4.90	
32 Chloroethane	64	3.550	3.551	-0.001	97	58438	5.00	5.15	
33 Dichlorofluoromethane	67	3.698	3.699	-0.001	98	177048	5.00	5.56	
35 Trichlorofluoromethane	101	3.806	3.797	0.009	99	147819	5.00	4.88	
34 Ethanol	45		3.807					ND	
38 Ethyl ether	59	3.924	3.925	-0.001	91	39696	5.00	4.91	
24 Chlorotrifluoroethene	116		3.956					ND	
39 Propene oxide	58		4.004					ND	
41 Acrolein	56	4.052	4.053	-0.001	99	45255	50.0	45.3	
42 Acetone	43	4.151	4.142	0.009	97	48193	20.0	19.8	
44 1,1,2-Trichloro-1,2,2-trif	151	4.180	4.171	0.009	95	61795	5.00	4.35	
26 1,2-Dichloro-1,1,2,2-tetra	85	4.180	4.173	0.007	39	47797		NC	
45 1,1-Dichloroethene	96	4.180	4.181	-0.001	93	86985	5.00	4.65	
43 Isopropyl alcohol	45		4.182					ND	U
47 Iodomethane	142	4.348	4.339	0.009	97	167413	5.00	4.53	
46 Acetonitrile	41		4.369					ND	U
48 Methyl acetate	43	4.387	4.388	-0.001	98	53699	10.0	9.23	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
50 Carbon disulfide	76	4.436	4.428	0.008	99	454259	5.00	4.64	
49 3-Chloro-1-propene	41	4.436	4.428	0.008	87	224597	5.00	4.70	
29 2-Chloro-1,1,1-Trifluoroet	118		4.429					ND	
51 2-Methyl-2-propanol	59	4.505	4.496	0.009	97	22995	50.0	53.9	
52 Methylene Chloride	84	4.525	4.516	0.009	96	84186	5.00	4.48	
53 Acrylonitrile	53	4.672	4.664	0.008	99	108743	50.0	47.9	
54 Methyl tert-butyl ether	73	4.722	4.713	0.009	97	98713	5.00	4.85	
55 trans-1,2-Dichloroethene	96	4.751	4.743	0.008	92	93073	5.00	4.69	
56 Hexane	57	4.938	4.930	0.008	93	167569	5.00	4.79	
57 Vinyl acetate	43	5.027	5.018	0.009	96	204818	10.0	9.36	
58 Isopropyl ether	87		5.048					ND	
59 1,1-Dichloroethane	63	5.057	5.058	-0.002	97	195419	5.00	4.92	
60 2-Chloro-1,3-butadiene	53		5.137					ND	
36 1,2-Dichloro-1,1,2-trifluo	117		5.267					ND	
37 1,1,1-Trifluoro-2,2-dichlo	83		5.297					ND	
61 Tert-butyl ethyl ether	59		5.334					ND	
62 2-Butanone (MEK)	43	5.460	5.461	-0.001	96	58083	20.0	18.2	
63 Ethyl acetate	43		5.471					ND	U
66 cis-1,2-Dichloroethene	96	5.509	5.501	0.008	89	93427	5.00	4.86	
64 Propionitrile	54		5.501					ND	
67 2,2-Dichloropropane	77	5.539	5.530	0.009	90	130051	5.00	4.66	
65 sec-Butyl Alcohol	45		5.550					ND	
68 Methacrylonitrile	41		5.639					ND	
69 Chlorobromomethane	128	5.706	5.698	0.008	88	31909	5.00	4.92	
70 Chloroform	83	5.726	5.727	-0.001	98	176650	5.00	5.33	
71 Tetrahydrofuran	42	5.746	5.737	0.009	91	18436	10.0	10.6	
73 1,1,1-Trichloroethane	97	5.953	5.944	0.009	97	153357	5.00	5.29	
72 Isobutyl alcohol	41	5.962	5.964	-0.002	34	24276	125.0	140.8	
74 Cyclohexane	56	6.031	6.033	-0.002	97	225583	5.00	5.19	
75 1,1-Dichloropropene	75	6.061	6.062	-0.001	90	160636	5.00	5.31	
76 Carbon tetrachloride	117	6.100	6.092	0.008	96	133631	5.00	5.24	
77 1,2-Dichloroethane	62	6.218	6.220	-0.002	96	90418	5.00	5.81	
79 Benzene	78	6.248	6.239	0.009	98	390493	5.00	5.34	
78 Tert-amyl methyl ether	73		6.269					ND	
13 n-Heptane	43	6.376	6.377	-0.001	96	254560	5.00	5.16	
80 n-Butanol	56		6.505					ND	U
81 Trichloroethene	95	6.750	6.741	0.009	95	101513	5.00	5.11	
82 2-Pentanone	43		6.830					ND	
83 Methyl methacrylate	100		6.929					ND	
84 1,2-Dichloropropane	63	6.937	6.938	-0.001	91	102034	5.00	5.55	
85 Methylcyclohexane	55	6.957	6.958	-0.001	97	183286	5.00	5.11	
86 1,4-Dioxane	88	7.006	7.007	-0.001	88	4876	100.0	114.8	
87 Dibromomethane	93	7.046	7.037	0.009	88	38259	5.00	5.31	
88 Dichlorobromomethane	83	7.134	7.135	-0.001	97	109422	5.00	5.51	
89 2-Nitropropane	41		7.293					ND	
90 2-Chloroethyl vinyl ether	63		7.332				ND	ND	
91 cis-1,3-Dichloropropene	75	7.518	7.519	-0.001	89	107545	5.00	5.73	
92 4-Methyl-2-pentanone (MIBK	43	7.607	7.598	0.009	96	147175	20.0	21.9	
93 Toluene	91	7.853	7.854	-0.001	97	352503	5.00	5.34	
95 trans-1,3-Dichloropropene	75	7.981	7.982	-0.001	99	77748	5.00	5.46	
94 Ethyl methacrylate	69	8.011	8.002	0.009	95	38876	5.00	5.23	
96 1,1,2-Trichloroethane	97	8.168	8.169	-0.001	92	42470	5.00	5.71	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
98 1,3-Dichloropropane	76	8.335	8.337	-0.002	96	74256	5.00	5.74	
97 2-Hexanone	43	8.345	8.346	-0.001	95	86645	20.0	21.2	
99 Tetrachloroethene	164	8.375	8.376	-0.001	90	69325	5.00	5.21	
100 Chlorodibromomethane	129	8.572	8.563	0.009	90	52476	5.00	5.45	
101 Tetrahydrothiophene	60		8.613					ND	
102 Ethylene Dibromide	107	8.719	8.711	0.008	96	40482	5.00	5.79	
103 1-Chlorohexane	91		9.094					ND	
104 Chlorobenzene	112	9.163	9.164	-0.001	90	193823	5.00	5.55	
105 1,1,1,2-Tetrachloroethane	131	9.222	9.213	0.009	96	65923	5.00	5.76	
106 Ethylbenzene	106	9.241	9.233	0.008	99	104031	5.00	5.43	
107 m-Xylene & p-Xylene	106	9.340	9.341	-0.001	0	131438	5.00	5.75	
109 Styrene	104	9.744	9.735	0.009	80	175500	5.00	5.90	
108 o-Xylene	106	9.744	9.735	0.009	87	119204	5.00	5.71	
110 Bromoform	173	9.950	9.952	-0.002	90	25174	5.00	5.53	
111 Isopropylbenzene	105	10.088	10.080	0.008	98	338176	5.00	5.41	
112 cis-1,4-Dichloro-2-butene	53		10.109					ND	U
113 Cyclohexanone	55	10.196	10.188	0.008	97	35727	200.0	105.9	
114 1,1,2,2-Tetrachloroethane	83	10.324	10.316	0.008	94	47123	5.00	5.68	
115 trans-1,4-Dichloro-2-buten	53	10.374	10.375	-0.001	80	8613	5.00	4.92	
116 1,2,3-Trichloropropane	110	10.393	10.395	-0.002	86	8610	5.00	5.78	
117 Bromobenzene	156	10.423	10.424	-0.001	96	69319	5.00	5.50	
118 N-Propylbenzene	120	10.472	10.464	0.008	99	87490	5.00	5.68	
120 2-Chlorotoluene	126	10.581	10.572	0.008	95	78016	5.00	5.59	
119 1,3,5-Trimethylbenzene	105	10.610	10.611	-0.001	93	273990	5.00	5.42	
121 4-Chlorotoluene	126	10.669	10.660	0.009	99	77551	5.00	5.69	
122 tert-Butylbenzene	119	10.905	10.907	-0.002	94	257453	5.00	5.52	
123 1,2,4-Trimethylbenzene	105	10.945	10.936	0.009	96	262184	5.00	5.32	
124 sec-Butylbenzene	134	11.093	11.084	0.009	96	65012	5.00	5.56	
125 4-Isopropyltoluene	119	11.191	11.192	-0.001	97	305000	5.00	5.58	
126 1,3-Dichlorobenzene	146	11.221	11.212	0.009	96	147654	5.00	5.65	
127 1,4-Dichlorobenzene	146	11.289	11.281	0.008	94	141453	5.00	5.31	
128 1,2,3-Trimethylbenzene	105		11.311					ND	
129 n-Butylbenzene	91	11.555	11.547	0.008	100	359420	5.00	5.50	
130 1,2-Dichlorobenzene	146	11.624	11.625	-0.001	95	118099	5.00	5.63	
131 1,2-Dibromo-3-Chloropropan	157	12.314	12.315	-0.001	77	4705	5.00	5.11	
11 1,3,5-Trichlorobenzene	180		12.522					ND	
132 1,2,4-Trichlorobenzene	180	13.160	13.162	-0.002	93	72948	5.00	5.43	
133 Hexachlorobutadiene	225	13.318	13.319	-0.001	96	62056	5.00	5.39	
134 Naphthalene	128	13.456	13.447	0.009	97	83689	5.00	5.49	
135 1,2,3-Trichlorobenzene	180	13.722	13.723	-0.001	94	59869	5.00	5.31	
161 1-Chloro-1-fluoroethane TI	1		0.000					ND	
160 Cyclohexane TIC	1		0.000					ND	
15 3-Ethylpentane	1		0.000					ND	
16 3-Methylhexane	1		0.000					ND	
10 2,2-Dimethylpentane	1		0.000					ND	
21 2-Methylhexane	1		0.000					ND	
158 1-Chlorohexane TIC	1		0.000					ND	
9 2,2,3-Trimethylbutane	1		0.000					ND	
14 2,3-Dimethylpentane	1		0.000					ND	
18 3,3-Dimethylpentane	1		0.000					ND	
17 Dimethyl disulfide	1		0.000					ND	
143 Pentachloroethane	167		0.000					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
19 2,4-Dimethylpentane	1		0.000					ND	
12 n-Nonyl Aldehyde	1		0.000					ND	
159 Methyl cyclohexane TIC	1		0.000					ND	
S 142 1,2-Dichloroethene, Total	96				0		10.0	9.55	
S 156 TAH	1				0			0	7
S 136 Trihalomethanes, Total	1				0		20.0	21.8	
S 139 1,3-Dichloropropene, Total	1				0		10.0	11.2	
S 140 1,2-Dichloroethene, Total	1				0		10.0	9.55	
S 137 Xylenes, Total (URS)	1				0		10.0	11.5	
S 141 Xylenes, Total	106				0		10.0	11.5	
S 138 Total BTEX	1				0			27.6	

QC Flag Legend

Processing Flags
- NR - Missing Quant Standard
- NC - Not Calibrated
- ND - Not Detected or Marked ND
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected

Reagents:

MV-MegaMain B_00003	Amount Added:	2.00	Units: uL	
MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

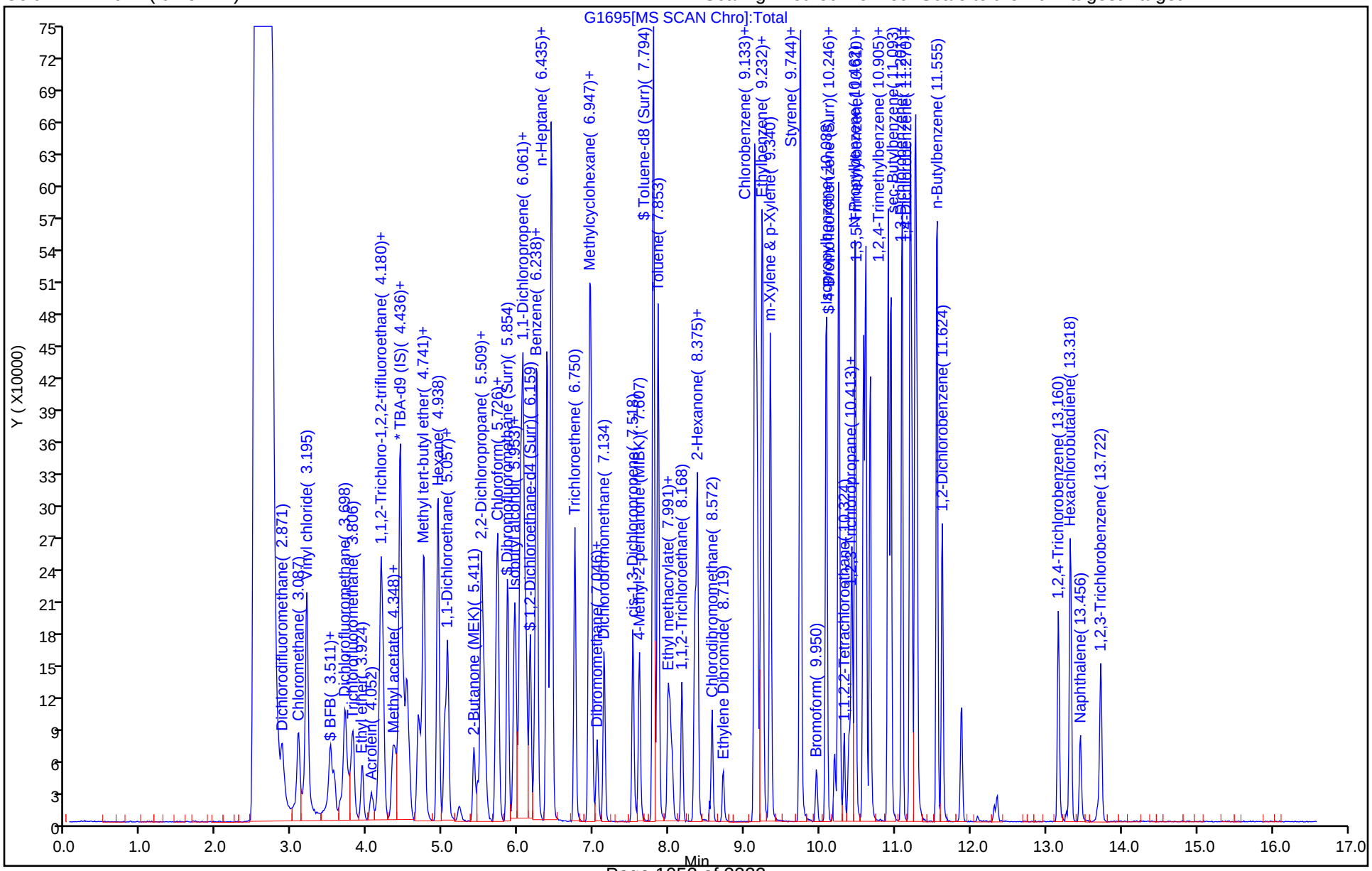
Report Date: 14-Nov-2018 23:44:47 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1695.D

Injection Date:	14-Nov-2018 02:12:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	280-116020-E-1 MSD			Worklist Smp#:	24
Client ID:	DET-003-181001-GW				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\G1695.D				
Lims ID:	280-116020-E-1 MSD				
Client ID:	DET-003-181001-GW				
Sample Type:	MSD				
Inject. Date:	14-Nov-2018 02:12:30	ALS Bottle#:	29	Worklist Smp#:	24
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-116020-E-1 MSD pH<2 HS				
Operator ID:	newcomer	Instrument ID:	VMS_G		
Method:	\\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b\AQ_VMSG_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	14-Nov-2018 23:44:19	Calib Date:	29-Oct-2018 22:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D				
Column 1 :	DB-624 (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0332				

First Level Reviewer: newcomer Date: 14-Nov-2018 18:31:09

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	10.0	9.46	94.65
$ 6 1,2-Dichloroethane-d4 (Surr)	10.0	10.1	101.42
$ 7 Toluene-d8 (Surr)	10.0	10.2	101.98
$ 8 4-Bromofluorobenzene (Surr)	10.0	9.81	98.14
$ 4 BFB	0	0	0.00

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: VMS_G Start Date: 09/28/2018 10:25

Analysis Batch Number: 431341 End Date: 09/28/2018 17:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-431341/1		09/28/2018 10:25	1	G9554.D	DB-624 v1 32(um)
STD050 280-431341/10 IC		09/28/2018 11:33	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 11:33	1		DB-624 v1 32(um)
STD010 280-431341/11 IC		09/28/2018 11:54	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 11:54	1		DB-624 v1 32(um)
STD020 280-431341/12 IC		09/28/2018 12:14	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 12:14	1		DB-624 v1 32(um)
STD050 280-431341/13 IC		09/28/2018 12:35	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 12:35	1		DB-624 v1 32(um)
STD10 280-431341/14 IC		09/28/2018 12:55	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 12:55	1		DB-624 v1 32(um)
STD25 280-431341/15 IC		09/28/2018 13:15	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 13:15	1		DB-624 v1 32(um)
STD60 280-431341/16 IC		09/28/2018 13:36	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 13:36	1		DB-624 v1 32(um)
ICV 280-431341/17		09/28/2018 14:17	1		DB-624 v1 32(um)
STD010 280-431341/18 IC		09/28/2018 14:37	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 14:37	1		DB-624 v1 32(um)
STD020 280-431341/19 IC		09/28/2018 14:57	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 14:57	1		DB-624 v1 32(um)
STD050 280-431341/20 IC		09/28/2018 15:18	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 15:18	1		DB-624 v1 32(um)
ICIS 280-431341/21		09/28/2018 15:38	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 15:38	1		DB-624 v1 32(um)
STD30 280-431341/22 IC		09/28/2018 15:58	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 15:58	1		DB-624 v1 32(um)
STD60 280-431341/23 IC		09/28/2018 16:19	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 16:19	1		DB-624 v1 32(um)
ICV 280-431341/24		09/28/2018 17:00	1	G9573.D	DB-624 v1 32(um)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: VMS_G Start Date: 10/29/2018 19:13

Analysis Batch Number: 435406 End Date: 10/30/2018 06:49

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-435406/1		10/29/2018 19:13	1	G0940.D	DB-624 v1 32(um)
STD005 280-435406/10 IC		10/29/2018 20:00	1	G0942.D	DB-624 v1 32(um)
STD01 280-435406/11 IC		10/29/2018 20:20	1	G0943.D	DB-624 v1 32(um)
STD02 280-435406/12 IC		10/29/2018 20:40	1	G0944.D	DB-624 v1 32(um)
STD05 280-435406/13 IC		10/29/2018 21:01	1	G0945.D	DB-624 v1 32(um)
ICIS 280-435406/14		10/29/2018 21:21	1	G0946.D	DB-624 v1 32(um)
STD25 280-435406/15 IC		10/29/2018 21:42	1	G0947.D	DB-624 v1 32(um)
STD60 280-435406/16 IC		10/29/2018 22:02	1	G0948.D	DB-624 v1 32(um)
CCV 280-435406/3		10/29/2018 22:22	1		DB-624 v1 32(um)
ICV 280-435406/17		10/29/2018 22:43	1	G0950.D	DB-624 v1 32(um)
ZZZZZ		10/29/2018 23:03	1		DB-624 v1 32(um)
ZZZZZ		10/29/2018 23:23	40		DB-624 v1 32(um)
ZZZZZ		10/29/2018 23:43	20		DB-624 v1 32(um)
ZZZZZ		10/30/2018 00:04	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 00:24	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 00:44	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 01:05	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 01:25	20		DB-624 v1 32(um)
ZZZZZ		10/30/2018 01:45	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 02:06	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 02:26	4		DB-624 v1 32(um)
ZZZZZ		10/30/2018 02:46	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 03:06	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 03:27	2		DB-624 v1 32(um)
ZZZZZ		10/30/2018 03:47	2		DB-624 v1 32(um)
ZZZZZ		10/30/2018 04:07	2		DB-624 v1 32(um)
ZZZZZ		10/30/2018 04:27	20		DB-624 v1 32(um)
ZZZZZ		10/30/2018 04:48	2		DB-624 v1 32(um)
ZZZZZ		10/30/2018 05:08	20		DB-624 v1 32(um)
ZZZZZ		10/30/2018 05:28	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 05:48	2		DB-624 v1 32(um)
ZZZZZ		10/30/2018 06:09	20		DB-624 v1 32(um)
CCVC 280-435406/40		10/30/2018 06:29	1		DB-624 v1 32(um)
CCVC 280-435406/41		10/30/2018 06:49	1		DB-624 v1 32(um)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: VMS_G Start Date: 11/13/2018 19:24

Analysis Batch Number: 437463 End Date: 11/14/2018 06:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-437463/1		11/13/2018 19:24	1	G1675.D	DB-624 v1 32(um)
CCV 280-437463/2		11/13/2018 20:08	1	G1677.D	DB-624 v1 32(um)
CCV 280-437463/3		11/13/2018 20:28	1		DB-624 v1 32(um)
MB 280-437463/4		11/13/2018 20:48	1	G1679.D	DB-624 v1 32(um)
ZZZZZ		11/13/2018 21:09	1		DB-624 v1 32(um)
ZZZZZ		11/13/2018 21:29	1		DB-624 v1 32(um)
ZZZZZ		11/13/2018 21:49	1		DB-624 v1 32(um)
ZZZZZ		11/13/2018 22:09	5		DB-624 v1 32(um)
ZZZZZ		11/13/2018 22:29	1		DB-624 v1 32(um)
ZZZZZ		11/13/2018 22:50	1		DB-624 v1 32(um)
ZZZZZ		11/13/2018 23:10	1		DB-624 v1 32(um)
ZZZZZ		11/13/2018 23:30	1		DB-624 v1 32(um)
ZZZZZ		11/13/2018 23:50	1		DB-624 v1 32(um)
ZZZZZ		11/14/2018 00:10	2		DB-624 v1 32(um)
LCS 280-437463/5		11/14/2018 00:30	1	G1690.D	DB-624 v1 32(um)
ZZZZZ		11/14/2018 00:51	1		DB-624 v1 32(um)
ZZZZZ		11/14/2018 01:11	1		DB-624 v1 32(um)
280-116020-1		11/14/2018 01:31	1	G1693.D	DB-624 v1 32(um)
280-116020-1 MS		11/14/2018 01:51	1	G1694.D	DB-624 v1 32(um)
280-116020-1 MSD		11/14/2018 02:12	1	G1695.D	DB-624 v1 32(um)
280-116020-2		11/14/2018 02:32	1	G1696.D	DB-624 v1 32(um)
280-116020-3		11/14/2018 02:52	1	G1697.D	DB-624 v1 32(um)
280-116020-12		11/14/2018 03:12	1	G1698.D	DB-624 v1 32(um)
ZZZZZ		11/14/2018 03:32	1		DB-624 v1 32(um)
ZZZZZ		11/14/2018 03:52	1		DB-624 v1 32(um)
ZZZZZ		11/14/2018 04:12	1		DB-624 v1 32(um)
ZZZZZ		11/14/2018 04:33	1		DB-624 v1 32(um)
ZZZZZ		11/14/2018 04:53	1		DB-624 v1 32(um)
ZZZZZ		11/14/2018 05:13	1		DB-624 v1 32(um)
ZZZZZ		11/14/2018 05:33	1		DB-624 v1 32(um)
ZZZZZ		11/14/2018 05:53	1		DB-624 v1 32(um)
CCVC 280-437463/36		11/14/2018 06:14	1	G1707.D	DB-624 v1 32(um)
CCVC 280-437463/37		11/14/2018 06:34	1	G1708.D	DB-624 v1 32(um)

Sequence Name: C:\HPCHEM\1\SEQUENCE\111318pm.S
Comment:
Operator: newcomer
Data Path: C:\HPCHEM\1\DATA\111318pm\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Test America Denver
Instrument: G
OV-MS-0010 (8260B/624) (Circle)
Purge Volume: (20mL/5mL/5g)
(Circle)
Tune Time: 1924 - 0634
Tune Date: 437463
WL 76170

RSN
11/14/18

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	100	G1675	BFBTUN	BFB
2	Sample	10	G1676	8260	Blank
3	Sample	11	G1677	8260	CCV
4	Sample	12	G1678	8260	CCV
5	Sample	13	G1679	8260	MB
6	Sample	14	G1680	8260	280-116341-A-4 pH<2
7	Sample	15	G1681	8260	280-116341-B-5 pH<2
8	Sample	16	G1682	8260	280-116341-A-6 pH<2 E
9	Sample	17	G1683	8260	280-116341-A-6 pH<2 4mL
10	Sample	18	G1684	8260	280-116397-A-10 pH<2
11	Sample	19	G1685	8260	280-116506-C-1 pH<2 HS
12	Sample	20	G1686	8260	280-116506-C-2 pH<2
13	Sample	21	G1687	8260	280-116506-C-3 pH<2
14	Sample	22	G1688	8260	280-116506-D-4 pH<2 HS
15	Sample	23	G1689	8260	280-116506-C-3 pH<2 10mL - not needed
16	Sample	24	G1690	8260	LCS
17	Sample	25	G1691	8260	LCS supp
18	Sample	26	G1692	8260	LCSD supp
19	Sample	27	G1693	8260	280-116020-K-1 pH<2 HS
20	Sample	28	G1694	8260	280-116020-E-1 MS pH<2 HS
21	Sample	29	G1695	8260	280-116020-E-1 MSD pH<2 HS
22	Sample	30	G1696	8260	280-116020-G-2 pH<2 HS
23	Sample	31	G1697	8260	280-116020-A-3 pH<2
24	Sample	32	G1698	8260	280-116020-K-12 pH<2 HS
25	Sample	33	G1699	8260	280-116397-F-1 pH<2
26	Sample	34	G1700	8260	280-116397-F-2 pH<2
27	Sample	35	G1701	8260	280-116397-D-3 pH<2
28	Sample	36	G1702	8260	280-116397-E-4 pH<2
29	Sample	37	G1703	8260	280-116397-E-6 pH<2
30	Sample	38	G1704	8260	280-116397-F-7 pH<2
31	Sample	39	G1705	8260	280-116397-C-8 pH<2
32	Sample	40	G1706	8260	280-116397-E-9 pH<2
33	Sample	41	G1707	8260	CCVC
34	Sample	42	G1708	8260	CCVC

Preliminary Report

TestAmerica Laboratories
Qc Batch Report

Data Path: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b

Worklist Name:	111318pm	Worklist Num:	76170
Instrument:	VMS_G	Method:	AQ_VMSG_8260
Analysis Type:	VOA	Creator:	Newcome, Robin S
Inj Volume:	20	Inj Vol Units:	mL
QC Batching:	Disabled	Limit Group Batching:	Disabled

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 437463
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 MB	# 4 MB
# 5 LCS	# 5 LCS
# 6 LCSD	# 6 LCSD
# 7 280-108595-A-1	# 7 280-108595-A-1
# 8 280-108595-A-2	# 8 280-108595-A-2
# 9 280-108595-A-3	# 9 280-108595-A-3
# 10 LCS	# 10 LCS
# 11 LCSD	# 11 LCSD
# 12 280-116341-A-4	# 12 280-116341-A-4
# 13 280-116341-B-5	# 13 280-116341-B-5
# 14 280-116341-A-6	# 14 280-116341-A-6
# 15 280-116341-A-6	# 15 280-116341-A-6
# 16 280-116397-A-10	# 16 280-116397-A-10
# 17 280-116506-C-1	# 17 280-116506-C-1
# 18 280-116506-C-2	# 18 280-116506-C-2
# 19 280-116506-C-3	# 19 280-116506-C-3
# 20 280-116506-C-3	# 20 280-116506-C-3
# 21 280-116506-D-4	# 21 280-116506-D-4
# 22 280-116020-K-1	# 22 280-116020-K-1
# 23 280-116020-E-1 MS	# 23 280-116020-E-1 MS
# 24 280-116020-E-1 MSD	# 24 280-116020-E-1 MSD
# 25 280-116020-G-2	# 25 280-116020-G-2

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 437463
# 26 280-116020-A-3	# 26 280-116020-A-3
# 27 280-116020-K-12	# 27 280-116020-K-12
# 28 280-116397-F-1	# 28 280-116397-F-1
# 29 280-116397-F-2	# 29 280-116397-F-2
# 30 280-116397-D-3	# 30 280-116397-D-3
# 31 280-116397-E-4	# 31 280-116397-E-4
# 32 280-116397-E-6	# 32 280-116397-E-6
# 33 280-116397-F-7	# 33 280-116397-F-7
# 34 280-116397-C-8	# 34 280-116397-C-8
# 35 280-116397-E-9	# 35 280-116397-E-9
# 36 CCVC	# 36 CCVC
# 37 CCVC	# 37 CCVC
# 38 Samp 38	# 38 Samp 38

TestAmerica Laboratories
Worklist Report

Worklist Name: 111318pm
Instrument Name: VMS_G
Purge Volume: 20.00
Analysis Type: VOA
Batch Directory: \\ChromNA\Denver\ChromData\VMS_G\20181113-76170.b
Upload Directory: \\Corptalsapp16\280-DN-RawData\Organics\MS\VMS_G_T
Run Reagent: MV-568718-D_00014
Run Reagent: MV-ARCH SS A_00107

Worklist Number: 76170
Chrom Method: AQ_VMSG_8260
Units: mL
Amount Added: 1.000, Units: uL
Amount Added: 0.800, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0076170-001	# 1 BFB	MV-BFB_00027	BFB	voaWater	1.000	uL	1.000
280-0076170-002	# 2 CCV	MV-MegaMainA_00005	CCV	voaWater	20.00	mL	1.000
280-0076170-003	# 3 CCV	MV-568718-D_00014 MV-Supp A_00031	CCV	voaWater	20.00	mL	1.000
280-0076170-004	# 4 MB		MB	voaWater	20.00	mL	1.000
280-0076170-005	# 5 LCS	MV-MegaMain B_00003	LCS	voaWater	20.00	mL	1.000
280-0076170-006	# 6 LCSD	MV-MegaMain B_00003	LCSD	voaWater	20.00	mL	1.000
280-0076170-007	# 7 280-108595-A-1		Client	voaWater	20.00	mL	1.000
280-0076170-008	# 8 280-108595-A-2		Client	voaWater	20.00	mL	1.000
280-0076170-009	# 9 280-108595-A-3		Client	voaWater	20.00	mL	1.000
280-0076170-010	#10 LCS	MV-Supp B_00022	LCS	voaWater	20.00	mL	1.000
280-0076170-011	#11 LCSD	MV-Supp B_00022	LCSD	voaWater	20.00	mL	1.000
280-0076170-012	#12 280-116341-A-4		Client	voaWater	20.00	mL	1.000
280-0076170-013	#13 280-116341-B-5		Client	voaWater	20.00	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0076170-014	#14 280-116341-A-6		Client	voaWater	20.00	mL	1.000
280-0076170-015	#15 280-116341-A-6		Client	voaWater	20.00	mL	5.000
280-0076170-016	#16 280-116397-A-10		Client	voaWater	20.00	mL	1.000
280-0076170-017	#17 280-116506-C-1		Client	voaWater	20.00	mL	1.000
280-0076170-018	#18 280-116506-C-2		Client	voaWater	20.00	mL	1.000
280-0076170-019	#19 280-116506-C-3		Client	voaWater	20.00	mL	1.000
280-0076170-020	#20 280-116506-C-3		Client	voaWater	20.00	mL	2.000
280-0076170-021	#21 280-116506-D-4		Client	voaWater	20.00	mL	1.000
280-0076170-022	#22 280-116020-K-1		Client	voaWater	20.00	mL	1.000
280-0076170-023	#23 280-116020-E-1 MS	MV-MegaMain B_00003	MS	voaWater	20.00	mL	1.000
280-0076170-024	#24 280-116020-E-1 MSD	MV-MegaMain B_00003	MSD	voaWater	20.00	mL	1.000
280-0076170-025	#25 280-116020-G-2		Client	voaWater	20.00	mL	1.000
280-0076170-026	#26 280-116020-A-3		Client	voaWater	20.00	mL	1.000
280-0076170-027	#27 280-116020-K-12		Client	voaWater	20.00	mL	1.000
280-0076170-028	#28 280-116397-F-1		Client	voaWater	20.00	mL	1.000
280-0076170-029	#29 280-116397-F-2		Client	voaWater	20.00	mL	1.000
280-0076170-030	#30 280-116397-D-3		Client	voaWater	20.00	mL	1.000
280-0076170-031	#31 280-116397-E-4		Client	voaWater	20.00	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0076170-032	#32 280-116397-E-6		Client	voaWater	20.00	mL	1.000
280-0076170-033	#33 280-116397-F-7		Client	voaWater	20.00	mL	1.000
280-0076170-034	#34 280-116397-C-8		Client	voaWater	20.00	mL	1.000
280-0076170-035	#35 280-116397-E-9		Client	voaWater	20.00	mL	1.000
280-0076170-036	#36 CCVC	MV-MegaMainA_00005	CCVC	voaWater	20.00	mL	1.000
280-0076170-037	#37 CCVC	MV-Supp A_00031	CCVC	voaWater	20.00	mL	1.000
280-0076170-038	#38 Samp 38		Client	voaWater	20.00	mL	1.000

Sample Request Form: 51688

RSN 11/13/18 G

den_msvoa_totalbacklog 11/13/2018 8:34:20 PM Assigned to:Newcome, Robin S

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-116341-4	FTCH-MW10-GW04	20 VOC	8260B_DOD5	8260B_DOD5 PH <2	11/13 23:59	11/16/18	DTB	AR	MS-Strge	Unconfirmed
M DIL1, use DF, Q5										
280-116341-5	FTCH-MW11-GW04	20	8260B_DOD5	8260B_DOD5 <2	11/13 23:59	11/16/18	DTB	AR	MS-Strge	Unconfirmed
M DIL1, use DF, Q5										
280-116341-6	FTCH-MW12-GW04	20/4	8260B_DOD5	8260B_DOD5 <2	11/13 23:59	11/16/18	DTB	AR	MS-Strge	Unconfirmed
M DIL1, use DF, Q5										
280-116397-10	TB103118	20	8260B_DOD5	8260B_DOD5 <2	11/13 23:59	11/19/18	JNI	NE	MS-Strge	Unconfirmed
M Q5_DIL2										

Sample Request Form: 51717

den_msvoa_totalbacklog 11/14/2018 4:47:30 PM Assigned to:Newcome, Robin S

RSN 11/14/18

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-116506-1 HS	LAWMW9_1018	VOC 20	8260B_DOD5	8260B_DOD5 PH <2	11/13 23:59	11/20/18	JNI	NY	MS-Strge & 49 & GC-Strge	Unconfirmed
M Q5 / DIL3 / non-standard spike compounds needed (Diisopropyl Ether)										
280-116506-2	WSA-MW9_1018	20	8260B_DOD5	8260B_DOD5 <2	11/13 23:59	11/20/18	JNI	NY	GC-Strge & MS-Strge & 49	Unconfirmed
M Q5 / DIL3 / non-standard spike compounds needed (Diisopropyl Ether)										
280-116506-3	WSA-VMW17_1018	20/10	8260B_DOD5	8260B_DOD5 <2	11/13 23:59	11/20/18	JNI	NY	GC-Strge & MS-Strge & 49	Unconfirmed
M Q5 / DIL3 / non-standard spike compounds needed (Diisopropyl Ether)										
280-116506-4 HS	WSA-MW19_1018	20	8260B_DOD5	8260B_DOD5 <2	11/13 23:59	11/20/18	JNI	NY	MS-Strge & 49 & GC-Strge	Unconfirmed
M Q5 / DIL3 / non-standard spike compounds needed (Diisopropyl Ether)										

Sample Request Form: 51690

RSN 11/13/18

G

den_msvoa_totalbacklog 11/13/2018 9:28:31 PM Assigned to:Newcome, Robin S

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-116020-1	DET-003-181001-GW	26	8260B_DOD5	8260B_DOD5	11/07 23:59	11/09/18	DRR	OH	Mtls-Strge & MS-Strge & 3	Unconfirmed
M Q5.0_DIL1										
L 10/31/18 data not sent waiting on ADR eQap from client. took to final for end of month										
280-116020-1MS	DET-003-181001-GW	20	8260B_DOD5	8260B_DOD5	11/07 23:59	11/09/18	DRR	OH	MS-Strge & 3	Unconfirmed
M Q5.0_DIL1										
280-116020-1MSD	DET-003-181001-GW	20	8260B_DOD5	8260B_DOD5	11/07 23:59	11/09/18	DRR	OH	3 & MS-Strge	Unconfirmed
M Q5.0_DIL1										
280-116020-2	DET-003-181002-GW	20	8260B_DOD5	8260B_DOD5	11/07 23:59	11/09/18	DRR	OH	MS-Strge & 3	Unconfirmed
M Q5.0_DIL1										
280-116020-3	FWGTB-181002-TB	20	8260B_DOD5	8260B_DOD5	11/07 23:59	11/09/18	DRR	OH	MS-Strge	Unconfirmed
M Q5.0_DIL1										
280-116020-12	DET-004-181001-GW	20	8260B_DOD5	8260B_DOD5	11/07 23:59	11/09/18	DRR	OH	MS-Strge & Mtls-Strge & 3	Unconfirmed
M Q5.0_DIL1										

MS 10/30

Sample Request Form: 51689

RSN 11/13/18

G

den_msvoa_totalbacklog 11/13/2018 8:34:53 PM Assigned to:Newcome, Robin S

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-116397-1	MW128-GW03	20	8260B_DOD5	8260B_DOD5	11/14 23:59	11/19/18	JNI	NE	39 & MS-Strge & Mtls-Strge	Unconfirmed
M Q5_DIL2										
280-116397-2	MW106-GW03	20	8260B_DOD5	8260B_DOD5	11/14 23:59	11/19/18	JNI	NE	Mtls-Strge & MS-Strge & 39	Unconfirmed
M Q5_DIL2										
280-116397-3	MW127-GW03	20	8260B_DOD5	8260B_DOD5	11/14 23:59	11/19/18	JNI	NE	39 & Mtls-Strge & MS-Strge	Unconfirmed
M Q5_DIL2										
280-116397-4	MW117-GW03	20	8260B_DOD5	8260B_DOD5	11/14 23:59	11/19/18	JNI	NE	39 & MS-Strge & Mtls-Strge	Unconfirmed
M Q5_DIL2										
280-116397-6	MW126-GW03	20	8260B_DOD5	8260B_DOD5	11/14 23:59	11/19/18	JNI	NE	39 & MS-Strge & Mtls-Strge	Unconfirmed
M Q5_DIL2										
280-116397-7	MW108-GW03	20	8260B_DOD5	8260B_DOD5	11/14 23:59	11/19/18	JNI	NE	39 & MS-Strge & Mtls-Strge	Unconfirmed
M Q5_DIL2										
280-116397-8	MW97-GW03	20	8260B_DOD5	8260B_DOD5	11/14 23:59	11/19/18	JNI	NE	MS-Strge	Unconfirmed
M Q5_DIL2										
280-116397-9	MW107-GW03	20	8260B_DOD5	8260B_DOD5	11/14 23:59	11/19/18	JNI	NE	39 & MS-Strge & Mtls-Strge	Unconfirmed
M Q5_DIL2										

Sequence Name: C:\HPCHEM\1\SEQUENCE\092818PM.S
Comment:
Operator: SEIFERTJ
Data Path: C:\HPCHEM\1\DATA\092818I\
Pre-Seq Cmd:
Post-Seq Cmd:

Main / Supp

Test America Denver
Instrument: G - Water
DV-MS-0010 (8260B/624) (Circle)
Purge Volume: (20mL/5mL/5g) (Circle)
Tune Time: 10:25 - 18:41
Lims Batch: 431341

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

WL 74500

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	100	G9551	BFBTUN	BFB
2	Sample	100	G9552	BFBTUN	BFB
3	Sample	100	G9553	BFBTUN	BFB
4	Sample	100	G9554	BFBTUN	BFB 10:25
5	Sample	10	G9555	8260	BLK
6	Sample	11	G9556	8260	CCV
7	Sample	12	G9557	8260	STD005
8	Sample	13	G9558	8260	STD010
9	Sample	14	G9559	8260	STD020
10	Sample	15	G9560	8260	STD050
11	Sample	16	G9561	8260	ICIS
12	Sample	17	G9562	8260	STD25
13	Sample	18	G9563	8260	STD60
14	Sample	19	G9564	8260	BLK
15	Sample	20	G9565	8260	ICV
16	Sample	21	G9566	8260	STD010
17	Sample	22	G9567	8260	STD020
18	Sample	23	G9568	8260	STD050
19	Sample	24	G9569	8260	ICIS
20	Sample	25	G9570	8260	STD30
21	Sample	26	G9571	8260	STD60
22	Sample	27	G9572	8260	BLK
23	Sample	28	G9573	8260	ICV
24	Sample	29	G9574	8260	MDLV .2
25	Sample	30	G9575	8260	MDLV .4
26	Sample	31	G9576	8260	MDLV .8
27	Sample	32	G9577	8260	MDLV 1.6
28	Sample	33	G9578	8260	MDLV 3.2 18:41
29	Sample	34	G9579	8260	BLK

Main Calib: 33838
ICV: 17

Supp Calib: 33839
ICIS: 21 ICV: 24

9/29/18

RSN 9/29/18

2. Clene -24.2%

High Point Hexachlorobutadiene
to 25 ppb

n-Butylbenzene
4-Isopropyl toluene
sec-Butyl benzene

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 092818I Worklist Number: 74500
Instrument Name: VMS_G Chrom Method: AQ_VMSG_8260
Data Directory: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b
QC Batching: Disabled Limit Group Batching: Disabled

QC Batch: 1	All Limit Groups Raw Batch: 431341
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
# 7 280-108595-A-1	# 7 280-108595-A-1
# 8 280-108595-A-2	# 8 280-108595-A-2
# 9 280-108595-A-3	# 9 280-108595-A-3
#10 STD050	#10 STD050
#11 STD010	#11 STD010
#12 STD020	#12 STD020
#13 STD050	#13 STD050
#14 STD10	#14 STD10
#15 STD25	#15 STD25
#16 STD60	#16 STD60
#17 ICV	#17 ICV
#18 STD010	#18 STD010
#19 STD020	#19 STD020
#20 STD050	#20 STD050
#21 ICIS	#21 ICIS
#22 STD30	#22 STD30
#23 STD60	#23 STD60
#24 ICV	#24 ICV
#25 MDLV	#25 MDLV
#26 MDLV	#26 MDLV
#27 MDLV	#27 MDLV
#28 MDLV	#28 MDLV
#29 MDLV	#29 MDLV

TestAmerica Laboratories
Worklist Report

Worklist Name: 092818I
Instrument Name: VMS_G
Purge Volume: 20.00
Analysis Type: VOA
Batch Directory: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b
Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS_G
Run Reagent: MV-568718-D_00014
Run Reagent: MV-ARCH SS A_00097

Worklist Number: 74500
Chrom Method: AQ_VMSG_8260
Units: mL
Amount Added: 1.000, Units: uL
Amount Added: 0.800, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0074500-001	# 1 BFB	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0074500-002	# 2 CCV	MV-MegaMainA_00001	CCV		voaWater	20.00	mL	1.000
280-0074500-003	# 3 CCV	MV-568718-D_00014 MV-Supp A_00031	CCV		voaWater	20.00	mL	1.000
280-0074500-004	# 4 LCS	MV-MegaMain B_00001	LCS		voaWater	20.00	mL	1.000
280-0074500-005	# 5 LCSD	MV-MegaMain B_00001	LCSD		voaWater	20.00	mL	1.000
280-0074500-006	# 6 MB		MB		voaWater	20.00	mL	1.000
280-0074500-007	# 7 280-108595-A-1		Client		voaWater	20.00	mL	1.000
280-0074500-008	# 8 280-108595-A-2		Client		voaWater	20.00	mL	1.000
280-0074500-009	# 9 280-108595-A-3		Client		voaWater	20.00	mL	1.000
280-0074500-010	#10 STD050	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00105	IC	1	voaWater	20.00	mL	1.000
280-0074500-011	#11 STD010	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00105	IC	2	voaWater	20.00	mL	1.000
280-0074500-012	#12 STD020	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00105	IC	3	voaWater	20.00	mL	1.000
280-0074500-013	#13 STD050	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00105	IC	4	voaWater	20.00	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0074500-014	#14 STD10	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00105	IC	5	voaWater	20.00	mL	1.000
280-0074500-015	#15 STD25	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00105	IC	6	voaWater	20.00	mL	1.000
280-0074500-016	#16 STD60	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00105	IC	7	voaWater	20.00	mL	1.000
280-0074500-017	#17 ICV	MV-568718-D_00014 MV-MegaMain B_00001 MV-ARCH SS A_00105	ICV		voaWater	20.00	mL	1.000
280-0074500-018	#18 STD010	MV-Supp A_00031 MV-568718-D_00014	IC	2	voaWater	20.00	mL	1.000
280-0074500-019	#19 STD020	MV-Supp A_00031 MV-568718-D_00014	IC	3	voaWater	20.00	mL	1.000
280-0074500-020	#20 STD050	MV-Supp A_00031 MV-568718-D_00014	IC	4	voaWater	20.00	mL	1.000
280-0074500-021	#21 ICIS	MV-Supp A_00031 MV-568718-D_00014	ICIS	5	voaWater	20.00	mL	1.000
280-0074500-022	#22 STD30	MV-Supp A_00031 MV-568718-D_00014	IC	6	voaWater	20.00	mL	1.000
280-0074500-023	#23 STD60	MV-Supp A_00031 MV-568718-D_00014	IC	7	voaWater	20.00	mL	1.000
280-0074500-024	#24 ICV	MV-Supp B_00021 MV-568718-D_00014	ICV		voaWater	20.00	mL	1.000
280-0074500-025	#25 MDLV	MV-Supp A_00031 MV-568718-D_00014	MDLV		voaWater	20.00	mL	1.000
280-0074500-026	#26 MDLV	MV-Supp A_00031 MV-568718-D_00014	MDLV		voaWater	20.00	mL	1.000
280-0074500-027	#27 MDLV	MV-Supp A_00031 MV-568718-D_00014	MDLV		voaWater	20.00	mL	1.000
280-0074500-028	#28 MDLV	MV-Supp A_00031 MV-568718-D_00014	MDLV		voaWater	20.00	mL	1.000
280-0074500-029	#29 MDLV	MV-Supp A_00031 MV-568718-D_00014	MDLV		voaWater	20.00	mL	1.000

Sequence Name: C:\HPCHEM\1\SEQUENCE\102918pm.S
Comment:
Operator: newcomer
Data Path: C:\HPCHEM\1\DATA\102918pm\
Pre-Seq Cmd:
Post-Seq Cmd:

Test America Denver
Instrument: G
DV-MS-0010 (8260B/624) (Circle)
Purge Volume: (20mL/5mL/5g) (Circle)
Tune Time: A13-0649
Lims Batch: 435406

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	100	G0940	BFBTUN	BFB 0713pm
2	Sample	10	G0941	8260	Blank
3	Sample	11	G0942	8260	STD005
4	Sample	12	G0943	8260	STD01
5	Sample	13	G0944	8260	STD02
6	Sample	14	G0945	8260	STD05
7	Sample	15	G0946	8260	STD10
8	Sample	16	G0947	8260	STD25
9	Sample	17	G0948	8260	STD60
10	Sample	18	G0949	8260	CCV
11	Sample	19	G0950	8260	ICV
12	Sample	20	G0951	8260	280-115635-A-11 pH<2
13	Sample	21	G0952	8260	280-115606-R-1 pH 7! 0.5mL
14	Sample	22	G0953	8260	280-115606-R-2 pH 7! 1mL
15	Sample	23	G0954	8260	LCS
16	Sample	24	G0955	8260	MB
17	Sample	25	G0956	8260	LCS Supp
18	Sample	26	G0957	8260	LCSD Supp
19	Sample	27	G0958	8260	280-115658-D-1 pH<2 1mL E
20	Sample	28	G0959	8260	280-115658-D-2 pH<2
21	Sample	29	G0960	8260	280-115658-C-3 pH<2 E
22	Sample	30	G0961	8260	280-115658-G-7 pH<2 5mL
23	Sample	31	G0962	8260	280-115705-B-1 pH<2 HS
24	Sample	32	G0963	8260	280-115705-A-2 pH<2
25	Sample	33	G0964	8260	280-115705-B-3 pH<2 10mL E
26	Sample	34	G0965	8260	280-115705-B-3 MS pH<2 10mL E
27	Sample	35	G0966	8260	280-115705-B-3 MSD pH<2 10mL
28	Sample	36	G0967	8260	280-115705-B-3 pH<2 1mL
29	Sample	37	G0968	8260	280-115705-A-4 pH<2 10mL E
30	Sample	38	G0969	8260	280-115705-A-4 pH<2 1mL
31	Sample	39	G0970	8260	280-115705-A-5 pH<2
32	Sample	40	G0971	8260	280-115705-A-6 pH<2 10mL E
~~33~~	~~Sample~~	~~41~~	~~G0972~~	~~8260~~	~~280-115705-A-6 pH<2 1mL~~
34	Sample	42	G0973	8260	CCVC
35	Sample	43	G0974	8260	CCVC 0649am

RSN 10/30/18

Main. Surr ICAL

WL: 75598

Calib ID: 34172

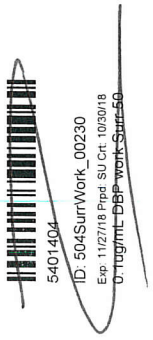
ICIS: 14

ICV: 17

10/31/18

Last Modified: Tue Oct 30 00:28:59 2018

Page: 1



Preliminary Report

TestAmerica Laboratories
Qc Batch Report

Data Path: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b

Worklist Name:	102918pm	Worklist Num:	75598
Instrument:	VMS_G	Method:	AQ_VMSG_8260
Analysis Type:	VOA	Creator:	Newcome, Robin S
Inj Volume:	20	Inj Vol Units:	mL
QC Batching:	Disabled	Limit Group Batching:	Disabled

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 435406
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
# 7 280-108595-A-1	# 7 280-108595-A-1
# 8 280-108595-A-2	# 8 280-108595-A-2
# 9 280-108595-A-3	# 9 280-108595-A-3
# 10 STD005	# 10 STD005
# 11 STD01	# 11 STD01
# 12 STD02	# 12 STD02
# 13 STD05	# 13 STD05
# 14 ICIS	# 14 ICIS
# 15 STD25	# 15 STD25
# 16 STD60	# 16 STD60
# 17 ICV	# 17 ICV
# 18 LCS	# 18 LCS
# 19 MB	# 19 MB
# 20 LCS	# 20 LCS
# 21 LCSD	# 21 LCSD
# 22 280-115635-A-11	# 22 280-115635-A-11
# 23 280-115606-R-1	# 23 280-115606-R-1
# 24 280-115606-R-2	# 24 280-115606-R-2
# 25 280-115658-D-1	# 25 280-115658-D-1

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 435406
# 26 280-115658-D-2	# 26 280-115658-D-2
# 27 280-115658-C-3	# 27 280-115658-C-3
# 28 280-115658-G-7	# 28 280-115658-G-7
# 29 280-115705-B-1	# 29 280-115705-B-1
# 30 280-115705-A-2	# 30 280-115705-A-2
# 31 280-115705-B-3	# 31 280-115705-B-3
# 32 280-115705-B-3 MS	# 32 280-115705-B-3 MS
# 33 280-115705-B-3 MSD	# 33 280-115705-B-3 MSD
# 34 280-115705-B-3	# 34 280-115705-B-3
# 35 280-115705-A-4	# 35 280-115705-A-4
# 36 280-115705-A-4	# 36 280-115705-A-4
# 37 280-115705-A-5	# 37 280-115705-A-5
# 38 280-115705-A-6	# 38 280-115705-A-6
# 39 280-115705-A-6	# 39 280-115705-A-6
# 40 CCVC	# 40 CCVC
# 41 CCVC	# 41 CCVC
# 42 Samp 42	# 42 Samp 42

TestAmerica Laboratories
Worklist Report

Worklist Name: 102918pm Worklist Number: 75598
Instrument Name: VMS_G Chrom Method: AQ_VMSG_8260
Purge Volume: 20.00 Units: mL
Analysis Type: VOA
Batch Directory: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b
Upload Directory: \\Corptalsapp16\280-DN-RawData\Organics\MS\VMS_G_T
Run Reagent: MV-568718-D_00014 Amount Added: 1.000, Units: uL
Run Reagent: MV-ARCH SS A_00107 Amount Added: 0.800, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0075598-001	# 1 BFB	MV-BFB_00027	BFB		voaWater	1.000	uL	1.000
280-0075598-002	# 2 CCV	MV-MegaMainA_00002	CCV		voaWater	20.00	mL	1.000
280-0075598-003	# 3 CCV	MV-568718-D_00014 MV-Supp A_00031	CCV		voaWater	20.00	mL	1.000
280-0075598-004	# 4 LCS	MV-MegaMain B_00002	LCS		voaWater	20.00	mL	1.000
280-0075598-005	# 5 LCSD	MV-MegaMain B_00002	LCSD		voaWater	20.00	mL	1.000
280-0075598-006	# 6 MB		MB		voaWater	20.00	mL	1.000
280-0075598-007	# 7 280-108595-A-1		Client		voaWater	20.00	mL	1.000
280-0075598-008	# 8 280-108595-A-2		Client		voaWater	20.00	mL	1.000
280-0075598-009	# 9 280-108595-A-3		Client		voaWater	20.00	mL	1.000
280-0075598-010	#10 STD005	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	1	voaWater	20.00	mL	1.000
280-0075598-011	#11 STD01	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	2	voaWater	20.00	mL	1.000
280-0075598-012	#12 STD02	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	3	voaWater	20.00	mL	1.000
280-0075598-013	#13 STD05	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	4	voaWater	20.00	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0075598-014	#14 ICIS	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	ICIS	5	voaWater	20.00	mL	1.000
280-0075598-015	#15 STD25	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	6	voaWater	20.00	mL	1.000
280-0075598-016	#16 STD60	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	7	voaWater	20.00	mL	1.000
280-0075598-017	#17 ICV	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMain B_00002 MV-MainBaddon_00001	ICV		voaWater	20.00	mL	1.000
280-0075598-018	#18 LCS	MV-MegaMain B_00002 MV-MainBaddon_00001	LCS		voaWater	20.00	mL	1.000
280-0075598-019	#19 MB		MB		voaWater	20.00	mL	1.000
280-0075598-020	#20 LCS	MV-Supp B_00022	LCS		voaWater	20.00	mL	1.000
280-0075598-021	#21 LCSD	MV-Supp B_00022	LCSD		voaWater	20.00	mL	1.000
280-0075598-022	#22 280-115635-A-11		Client		voaWater	20.00	mL	1.000
280-0075598-023	#23 280-115606-R-1		Client		voaWater	20.00	mL	40.00
280-0075598-024	#24 280-115606-R-2		Client		voaWater	20.00	mL	20.00
280-0075598-025	#25 280-115658-D-1		Client		voaWater	20.00	mL	20.00
280-0075598-026	#26 280-115658-D-2		Client		voaWater	20.00	mL	1.000
280-0075598-027	#27 280-115658-C-3		Client		voaWater	20.00	mL	1.000
280-0075598-028	#28 280-115658-G-7		Client		voaWater	20.00	mL	4.000
280-0075598-029	#29 280-115705-B-1		Client		voaWater	20.00	mL	1.000
280-0075598-030	#30 280-115705-A-2		Client		voaWater	20.00	mL	1.000
280-0075598-031	#31 280-115705-B-3		Client		voaWater	20.00	mL	2.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0075598-032	#32 280-115705-B-3 MS	MV-MegaMain B_00002 MV-MainBaddon_00001	MS		voaWater	20.00	mL	2.000
280-0075598-033	#33 280-115705-B-3 MSD	MV-MegaMain B_00002 MV-MainBaddon_00001	MSD		voaWater	20.00	mL	2.000
280-0075598-034	#34 280-115705-B-3		Client		voaWater	20.00	mL	20.00
280-0075598-035	#35 280-115705-A-4		Client		voaWater	20.00	mL	2.000
280-0075598-036	#36 280-115705-A-4		Client		voaWater	20.00	mL	20.00
280-0075598-037	#37 280-115705-A-5		Client		voaWater	20.00	mL	1.000
280-0075598-038	#38 280-115705-A-6		Client		voaWater	20.00	mL	2.000
280-0075598-039	#39 280-115705-A-6		Client		voaWater	20.00	mL	20.00
280-0075598-040	#40 CCVC	MV-MegaMainA_00002	CCVC		voaWater	20.00	mL	1.000
280-0075598-041	#41 CCVC	MV-Supp A_00031	CCVC		voaWater	20.00	mL	1.000
280-0075598-042	#42 Samp 42		Client		voaWater	20.00	mL	1.000

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 431341 Batch Start Date: 09/28/18 10:25 Batch Analyst: Seifert, Judy L

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-BFB 00026	MV-Supp B 00021	
BFB 280-431341/1		8260B		1 uL	1 uL		1 uL		
ICV 280-431341/24		8260B		20 mL	20 mL	1 uL		5 uL	

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435406 Batch Start Date: 10/29/18 19:13 Batch Analyst: Newcome, Robin S

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-ARCH SS A 00107	MV-BFB 00027	MV-MainBaddon 00001
BFB 280-435406/1		8260B		1 uL	1 uL			1 uL	
STD005 280-435406/10 IC		8260B		20 mL	20 mL	1 uL	0.04 uL		
STD01 280-435406/11 IC		8260B		20 mL	20 mL	1 uL	0.08 uL		
STD02 280-435406/12 IC		8260B		20 mL	20 mL	1 uL	0.16 uL		
STD05 280-435406/13 IC		8260B		20 mL	20 mL	1 uL	0.4 uL		
ICIS 280-435406/14		8260B		20 mL	20 mL	1 uL	0.8 uL		
STD25 280-435406/15 IC		8260B		20 mL	20 mL	1 uL	2 uL		
STD60 280-435406/16 IC		8260B		20 mL	20 mL	1 uL	4.8 uL		
ICV 280-435406/17		8260B		20 mL	20 mL	1 uL	0.8 uL		4 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-MegaMain B 00002	MV-MegaMainA 00002				
BFB 280-435406/1		8260B							
STD005 280-435406/10 IC		8260B			0.2 uL				
STD01 280-435406/11 IC		8260B			0.4 uL				
STD02 280-435406/12 IC		8260B			0.8 uL				
STD05 280-435406/13 IC		8260B			2 uL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435406 Batch Start Date: 10/29/18 19:13 Batch Analyst: Newcome, Robin S

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-MegaMain B 00002	MV-MegaMainA 00002				
ICIS 280-435406/14		8260B			4 uL				
STD25 280-435406/15 IC		8260B			10 uL				
STD60 280-435406/16 IC		8260B			24 uL				
ICV 280-435406/17		8260B		4 uL					

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 437463 Batch Start Date: 11/13/18 19:24 Batch Analyst: Newcome, Robin S

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-ARCH SS A 00107	MV-BFB 00027	MV-MegaMain B 00003
BFB 280-437463/1		8260B		1 uL	1 uL			1 uL	
CCV 280-437463/2		8260B		20 mL	20 mL	1 uL	0.8 uL		
MB 280-437463/4		8260B		20 mL	20 mL	1 uL	0.8 uL		
LCS 280-437463/5		8260B		20 mL	20 mL	1 uL	0.8 uL		2 uL
280-116020-K-1	DET-003-181001-GW	8260B	T	20 mL	20 mL	1 uL	0.8 uL		
280-116020-E-1 MS	DET-003-181001-GW	8260B	T	20 mL	20 mL	1 uL	0.8 uL		2 uL
280-116020-E-1 MSD	DET-003-181001-GW	8260B	T	20 mL	20 mL	1 uL	0.8 uL		2 uL
280-116020-G-2	DET-003-181002-GW	8260B	T	20 mL	20 mL	1 uL	0.8 uL		
280-116020-A-3	FWGTB-181002-TB	8260B	T	20 mL	20 mL	1 uL	0.8 uL		
280-116020-K-12	DET-004-181001-GW	8260B	T	20 mL	20 mL	1 uL	0.8 uL		
CCVC 280-437463/36		8260B		20 mL	20 mL	1 uL	0.8 uL		
CCVC 280-437463/37		8260B		20 mL	20 mL	1 uL	0.8 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-MegaMainA 00005	MV-Supp A 00031				
BFB 280-437463/1		8260B							
CCV 280-437463/2		8260B		4 uL					
MB 280-437463/4		8260B							
LCS 280-437463/5		8260B							
280-116020-K-1	DET-003-181001-GW	8260B	T						
280-116020-E-1 MS	DET-003-181001-GW	8260B	T						
280-116020-E-1 MSD	DET-003-181001-GW	8260B	T						
280-116020-G-2	DET-003-181002-GW	8260B	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 437463 Batch Start Date: 11/13/18 19:24 Batch Analyst: Newcome, Robin S

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-MegaMainA 00005	MV-Supp A 00031				
280-116020-A-3	FWGTB-181002-TB	8260B	T						
280-116020-K-12	DET-004-181001-GW	8260B	T						
CCVC 280-437463/36		8260B		4 uL					
CCVC 280-437463/37		8260B			5 uL				

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8270D_DOD5

Semivolatile Organic Compounds (GC/MS)

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Rxi-5Sil MS ID: 0.25(mm)

Client Sample ID	Lab Sample ID	2FP #	PHL #	NBZ #	FBP #	TBP #	TPHL #
DET-003-181001-GW	280-116020-1	83	82	79	77	83	76
DET-003-181002-GW	280-116020-2	56	59	54	57	78	80
WBGmw-009-181001-GW	280-116020-4	87	89	81	77	85	80
LL1mw-083-181001-GW	280-116020-5	77	78	73	70	80	76
LL1mw-084-181001-GW	280-116020-6	76	77	72	73	87	79
DA2mw-115-181001-GW	280-116020-8	66	68	63	62	79	81
DET-004-181001-GW	280-116020-12	88	89	79	76	86	79
	MB 280-435328/1-A	58	58	55	56	71	82
	LCS 280-435328/2-A	91	93	85	85	96	84
DET-003-181001-GW MS	280-116020-1 MS	90	93	86	85	93	81
DET-003-181001-GW MSD	280-116020-1 MSD	54	66	60	76	91	81

	QC LIMITS
2FP = 2-Fluorophenol (Surr)	19-119
PHL = Phenol-d5 (Surr)	10-115
NBZ = Nitrobenzene-d5 (Surr)	44-120
FBP = 2-Fluorobiphenyl	44-119
TBP = 2,4,6-Tribromophenol (Surr)	43-140
TPHL = Terphenyl-d14 (Surr)	50-134

Column to be used to flag recovery values

FORM II 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Y21932.D

Lab ID: LCS 280-435328/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
2,4,5-Trichlorophenol	80.0	70.5	88	53-123	
2,4,6-Trichlorophenol	80.0	73.7	92	50-125	
2,4-Dichlorophenol	80.0	70.1	88	47-121	
2,4-Dimethylphenol	80.0	59.3	74	31-124	
2,4-Dinitrophenol	160	134	84	23-143	
2,4-Dinitrotoluene	80.0	72.3	90	57-128	
2,6-Dinitrotoluene	80.0	71.9	90	57-124	
2-Chlorophenol	80.0	70.0	87	38-117	
2-Methylphenol	80.0	71.3	89	30-117	
2-Nitrophenol	80.0	69.0	86	47-123	
3 & 4 Methylphenol	80.0	71.0	89	29-110	
4,6-Dinitro-2-methylphenol	160	161	100	44-137	
4-Chloro-3-methylphenol	80.0	72.1	90	52-119	
4-Nitrophenol	160	142	89	59-129	
Bis(2-ethylhexyl) phthalate	80.0	71.7	90	55-135	
Butyl benzyl phthalate	80.0	69.2	86	53-134	
Diethyl phthalate	80.0	72.1	90	56-125	
Dimethyl phthalate	80.0	71.5	89	45-127	
Di-n-butyl phthalate	80.0	71.1	89	59-127	
Di-n-octyl phthalate	80.0	71.6	90	51-140	
Nitrobenzene	80.0	66.8	84	45-121	
Pentachlorophenol	160	134	84	35-138	
Phenol	80.0	72.8	91	61-120	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Y21937.D

Lab ID: 280-116020-1 MS Client ID: DET-003-181001-GW MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
2,4,5-Trichlorophenol	78.1	0.99 U	65.5	84	53-123	
2,4,6-Trichlorophenol	78.1	0.99 U	71.0	91	50-125	
2,4-Dichlorophenol	78.1	2.0 U	67.8	87	47-121	
2,4-Dimethylphenol	78.1	2.0 U	60.3	77	31-124	
2,4-Dinitrophenol	156	30 U	132	85	23-143	
2,4-Dinitrotoluene	78.1	4.3 U	68.9	88	57-128	
2,6-Dinitrotoluene	78.1	4.3 U	68.0	87	57-124	
2-Chlorophenol	78.1	4.3 U	67.8	87	38-117	
2-Methylphenol	78.1	2.0 U	69.9	89	30-117	
2-Nitrophenol	78.1	0.99 U	66.7	85	47-123	
3 & 4 Methylphenol	78.1	0.49 U	68.6	88	29-110	
4,6-Dinitro-2-methylphenol	156	8.7 U	151	97	44-137	
4-Chloro-3-methylphenol	78.1	4.9 U	69.8	89	52-119	
4-Nitrophenol	156	3.9 U	134	86	59-129	
Bis(2-ethylhexyl) phthalate	78.1	2.0 U	65.4	84	55-135	
Butyl benzyl phthalate	78.1	2.0 U	63.9	82	53-134	
Diethyl phthalate	78.1	0.99 U	68.1	87	56-125	
Dimethyl phthalate	78.1	0.49 U	68.1	87	45-127	
Di-n-butyl phthalate	78.1	4.3 U	66.4	85	59-127	
Di-n-octyl phthalate	78.1	0.99 U	65.5	84	51-140	
Nitrobenzene	78.1	2.0 U	66.3	85	45-121	
Pentachlorophenol	156	59 U	127	81	35-138	
Phenol	78.1	4.3 U	71.0	91	61-120	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Y21938.D

Lab ID: 280-116020-1 MSD Client ID: DET-003-181001-GW MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,4,5-Trichlorophenol	78.8	65.9	84	1	20	53-123	
2,4,6-Trichlorophenol	78.8	68.7	87	3	20	50-125	
2,4-Dichlorophenol	78.8	58.4	74	15	20	47-121	
2,4-Dimethylphenol	78.8	54.5	69	10	20	31-124	
2,4-Dinitrophenol	158	138	87	4	20	23-143	
2,4-Dinitrotoluene	78.8	69.6	88	1	20	57-128	
2,6-Dinitrotoluene	78.8	68.1	86	0	20	57-124	
2-Chlorophenol	78.8	43.5	55	44	20	38-117	J1
2-Methylphenol	78.8	53.5	68	27	20	30-117	J1
2-Nitrophenol	78.8	51.0	65	27	20	47-123	J1
3 & 4 Methylphenol	78.8	57.0	72	18	20	29-110	
4,6-Dinitro-2-methylphenol	158	152	97	1	20	44-137	
4-Chloro-3-methylphenol	78.8	68.2	87	2	20	52-119	
4-Nitrophenol	158	132	84	1	20	59-129	
Bis(2-ethylhexyl) phthalate	78.8	67.0	85	3	20	55-135	
Butyl benzyl phthalate	78.8	64.8	82	1	20	53-134	
Diethyl phthalate	78.8	67.6	86	1	20	56-125	
Dimethyl phthalate	78.8	67.7	86	1	20	45-127	
Di-n-butyl phthalate	78.8	66.8	85	1	20	59-127	
Di-n-octyl phthalate	78.8	66.3	84	1	20	51-140	
Nitrobenzene	78.8	47.7	61	32	20	45-121	J1
Pentachlorophenol	158	134	85	5	20	35-138	
Phenol	78.8	50.1	64	35	20	61-120	J1

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab File ID: Y21931.D Lab Sample ID: MB 280-435328/1-A

Matrix: Water Date Extracted: 10/29/2018 12:36

Instrument ID: SMS_Y Date Analyzed: 11/07/2018 14:03

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-435328/2-A	Y21932.D	11/07/2018 14:32
DET-003-181001-GW	280-116020-1	Y21936.D	11/07/2018 16:26
DET-003-181001-GW MS	280-116020-1 MS	Y21937.D	11/07/2018 16:55
DET-003-181001-GW MSD	280-116020-1 MSD	Y21938.D	11/07/2018 17:24
DET-003-181002-GW	280-116020-2	Y21939.D	11/07/2018 17:53
WBGmw-009-181001-GW	280-116020-4	Y21940.D	11/07/2018 18:21
LL1mw-083-181001-GW	280-116020-5	Y21941.D	11/07/2018 18:50
LL1mw-084-181001-GW	280-116020-6	Y21942.D	11/07/2018 19:18
DA2mw-115-181001-GW	280-116020-8	Y21943.D	11/07/2018 19:47
DET-004-181001-GW	280-116020-12	Y21944.D	11/07/2018 20:16

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab File ID: Y21614.D DFTPP Injection Date: 10/17/2018

Instrument ID: SMS_Y DFTPP Injection Time: 10:47

Analysis Batch No.: 433769

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	33.1	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	42.0	
70	Less than 2.0 % of mass 69	0.1	(0.2) 1
127	40.0 - 60.0 % of mass 198	52.7	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.8	
275	10.0 - 30.0 % of mass 198	23.2	
365	Greater than 1.0 % of mass 198	2.5	
441	Present but less than mass 443	7.4	(77.6) 3
442	Greater than 40.0 % of mass 198	50.1	
443	17.0 - 23.0 % of mass 442	9.5	(18.9) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICIS 280-433769/3	Y21615.D	10/17/2018	10:59
	STD004 280-433769/4	Y21616.D	10/17/2018	11:27
	STD010 280-433769/5	Y21617.D	10/17/2018	11:56
	STD020 280-433769/6	Y21618.D	10/17/2018	12:24
	STD050 280-433769/7	Y21619.D	10/17/2018	12:53
	STD120 280-433769/8	Y21620.D	10/17/2018	13:22
	STD160 280-433769/9	Y21621.D	10/17/2018	13:50
	STD200 280-433769/10	Y21622.D	10/17/2018	14:19
	ICV 280-433769/11	Y21623.D	10/17/2018	14:47
	ICV 280-433769/12	Y21624.D	10/17/2018	15:16
	ICV 280-433769/13	Y21625.D	10/17/2018	15:45

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab File ID: Y21927.D DFTPP Injection Date: 11/07/2018

Instrument ID: SMS_Y DFTPP Injection Time: 12:29

Analysis Batch No.: 436671

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	34.0	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	43.9	
70	Less than 2.0 % of mass 69	0.1	(0.3) 1
127	40.0 - 60.0 % of mass 198	54.0	
197	Less than 1.0 % of mass 198	0.3	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.9	
275	10.0 - 30.0 % of mass 198	24.8	
365	Greater than 1.0 % of mass 198	2.7	
441	Present but less than mass 443	9.1	(75.8) 3
442	Greater than 40.0 % of mass 198	59.8	
443	17.0 - 23.0 % of mass 442	11.9	(20.0) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-436671/3	Y21928.D	11/07/2018	12:42
	MB 280-435328/1-A	Y21931.D	11/07/2018	14:03
	LCS 280-435328/2-A	Y21932.D	11/07/2018	14:32
DET-003-181001-GW	280-116020-1	Y21936.D	11/07/2018	16:26
DET-003-181001-GW MS	280-116020-1 MS	Y21937.D	11/07/2018	16:55
DET-003-181001-GW MSD	280-116020-1 MSD	Y21938.D	11/07/2018	17:24
DET-003-181002-GW	280-116020-2	Y21939.D	11/07/2018	17:53
WBGmw-009-181001-GW	280-116020-4	Y21940.D	11/07/2018	18:21
LL1mw-083-181001-GW	280-116020-5	Y21941.D	11/07/2018	18:50
LL1mw-084-181001-GW	280-116020-6	Y21942.D	11/07/2018	19:18
DA2mw-115-181001-GW	280-116020-8	Y21943.D	11/07/2018	19:47
DET-004-181001-GW	280-116020-12	Y21944.D	11/07/2018	20:16
	CCVC 280-436671/42	Y21950.D	11/07/2018	23:07

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: ICIS 280-433769/3 Date Analyzed: 10/17/2018 10:59

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): Y21615.D Heated Purge: (Y/N) N

Calibration ID: 34049

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		131096	4.68	546199	5.90	297646	7.65
UPPER LIMIT		262192	5.18	1092398	6.40	595292	8.15
LOWER LIMIT		65548	4.18	273100	5.40	148823	7.15
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-433769/11		133508	4.68	567169	5.90	301891	7.65
ICV 280-433769/12		134767	4.68	555625	5.90	296343	7.64
ICV 280-433769/13		151706	4.69	638461	5.90	323757	7.65
CCV 280-436671/3		110417	4.65	462578	5.88	251664	7.63
MB 280-435328/1-A		109648	4.64	456956	5.88	252799	7.63
LCS 280-435328/2-A		109213	4.65	470743	5.88	265444	7.63
280-116020-1	DET-003-181001-GW	116304	4.65	480560	5.88	264130	7.63
280-116020-1 MS	DET-003-181001-GW MS	114331	4.65	496134	5.88	277384	7.63
280-116020-1 MSD	DET-003-181001-GW MSD	120076	4.65	516958	5.88	287777	7.63
280-116020-2	DET-003-181002-GW	118701	4.65	495655	5.88	273700	7.63
280-116020-4	WBGmw-009-181001-GW	114920	4.64	486531	5.88	274893	7.63
280-116020-5	LL1mw-083-181001-GW	118473	4.65	498245	5.88	282749	7.63
280-116020-6	LL1mw-084-181001-GW	117637	4.65	493312	5.88	274240	7.63
280-116020-8	DA2mw-115-181001-GW	119335	4.65	497403	5.88	278954	7.63
280-116020-12	DET-004-181001-GW	113293	4.65	498891	5.88	280825	7.63
CCVC 280-436671/42		114128	4.65	476520	5.88	261239	7.63

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: ICIS 280-433769/3 Date Analyzed: 10/17/2018 10:59

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): Y21615.D Heated Purge: (Y/N) N

Calibration ID: 34049

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		605925	9.14	643809	13.24	682196	17.19
UPPER LIMIT		1211850	9.64	1287618	13.74	1364392	17.69
LOWER LIMIT		302963	8.64	321905	12.74	341098	16.69
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-433769/11		611862	9.14	650241	13.24	689537	17.18
ICV 280-433769/12		605071	9.14	670939	13.23	707576	17.17
ICV 280-433769/13		656723	9.14	678740	13.23	679465	17.18
CCV 280-436671/3		506416	9.12	546676	13.19	574411	17.12
MB 280-435328/1-A		523171	9.12	568122	13.17	594749	17.11
LCS 280-435328/2-A		541238	9.12	584531	13.19	621666	17.11
280-116020-1	DET-003-181001-GW	550133	9.12	590578	13.17	630107	17.11
280-116020-1 MS	DET-003-181001-GW MS	567713	9.12	607006	13.19	646885	17.11
280-116020-1 MSD	DET-003-181001-GW MSD	584389	9.12	623775	13.19	664327	17.11
280-116020-2	DET-003-181002-GW	569488	9.12	613314	13.17	651215	17.10
280-116020-4	WBGmw-009-181001-GW	569145	9.12	618403	13.17	650926	17.11
280-116020-5	LL1mw-083-181001-GW	578805	9.12	628734	13.17	660884	17.11
280-116020-6	LL1mw-084-181001-GW	567319	9.12	616016	13.17	652353	17.10
280-116020-8	DA2mw-115-181001-GW	569664	9.11	624442	13.17	665600	17.10
280-116020-12	DET-004-181001-GW	571627	9.12	622075	13.17	665698	17.10
CCVC 280-436671/42		528491	9.12	558750	13.18	579909	17.11

PHN = Phenanthrene-d10
CRY = Chrysene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW | Lab Sample ID: 280-116020-1

Matrix: Water | Lab File ID: Y21936.D

Analysis Method: 8270D | Date Collected: 10/24/2018 10:05

Extract. Method: 3520C | Date Extracted: 10/29/2018 12:36

Sample wt/vol: 1015.2(mL) | Date Analyzed: 11/07/2018 16:26

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436671 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
95-95-4	2,4,5-Trichlorophenol	0.99	U	20	0.99	0.44
88-06-2	2,4,6-Trichlorophenol	0.99	U	20	0.99	0.29
120-83-2	2,4-Dichlorophenol	2.0	U	9.9	2.0	0.63
105-67-9	2,4-Dimethylphenol	2.0	U	9.9	2.0	0.57
51-28-5	2,4-Dinitrophenol	30	U	79	30	9.9
121-14-2	2,4-Dinitrotoluene	4.3	U	20	4.3	1.6
606-20-2	2,6-Dinitrotoluene	4.3	U	20	4.3	1.9
95-57-8	2-Chlorophenol	4.3	U J1	9.9	4.3	2.0
95-48-7	2-Methylphenol	2.0	U J1	9.9	2.0	0.97
88-75-5	2-Nitrophenol	0.99	U J1	20	0.99	0.38
15831-10-4	3 & 4 Methylphenol	0.49	U	20	0.49	0.25
534-52-1	4,6-Dinitro-2-methylphenol	8.7	U	79	8.7	3.9
59-50-7	4-Chloro-3-methylphenol	4.9	U	20	4.9	2.4
100-02-7	4-Nitrophenol	3.9	U	49	3.9	1.2
117-81-7	Bis(2-ethylhexyl) phthalate	2.0	U	9.9	2.0	0.55
85-68-7	Butyl benzyl phthalate	2.0	U	20	2.0	0.99
84-66-2	Diethyl phthalate	0.99	U	20	0.99	0.37
131-11-3	Dimethyl phthalate	0.49	U	20	0.49	0.21
84-74-2	Di-n-butyl phthalate	4.3	U	20	4.3	1.1
117-84-0	Di-n-octyl phthalate	0.99	U	20	0.99	0.34
98-95-3	Nitrobenzene	2.0	U J1	20	2.0	0.80
87-86-5	Pentachlorophenol	59	U	79	59	20
108-95-2	Phenol	4.3	U J1	9.9	4.3	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	83		43-140
321-60-8	2-Fluorobiphenyl	77		44-119
367-12-4	2-Fluorophenol (Surr)	83		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	79		44-120
4165-62-2	Phenol-d5 (Surr)	82		10-115
1718-51-0	Terphenyl-d14 (Surr)	76		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21936.D
Lims ID: 280-116020-A-1-A
Client ID: DET-003-181001-GW
Sample Type: Client
Inject. Date: 07-Nov-2018 16:26:30 ALS Bottle#: 10 Worklist Smp#: 14
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-1-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 07-Nov-2018 16:21:05

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.645	4.649	-0.004	95	116304	40.0	
* 2 Naphthalene-d8	136	5.879	5.877	0.002	99	480560	40.0	
* 3 Acenaphthene-d10	164	7.630	7.628	0.002	96	264130	40.0	
* 4 Phenanthrene-d10	188	9.116	9.120	-0.004	98	550133	40.0	
* 5 Chrysene-d12	240	13.170	13.174	-0.004	98	590578	40.0	
* 6 Perylene-d12	264	17.107	17.105	0.002	97	630107	40.0	
$ 7 2-Fluorophenol	112	3.470	3.465	0.005	89	330381	82.6	
$ 8 Phenol-d5	99	4.292	4.294	-0.002	95	417118	82.2	
$ 9 Nitrobenzene-d5	82	5.162	5.169	-0.007	84	348540	78.6	
$ 10 2,4,6-Trichlorophenol-d2	198		6.864				ND	
$ 11 2-Fluorobiphenyl	172	6.936	6.944	-0.008	100	721882	76.5	
$ 12 2,4,6-Tribromophenol	330	8.417	8.424	-0.007	93	100590	83.3	
$ 13 Terphenyl-d14	244	11.061	11.068	-0.007	99	1029816	76.4	
14 Triethyl amine	86		1.894				ND	
15 1,4-Dioxane	88		2.049				ND	
16 2-Ethoxyethanol	59		2.070				ND	
17 N-Nitrosodimethylamine	74		2.284				ND	
18 Pyridine	79		2.331				ND	
19 Dimethylformamide	73		2.616				ND	
20 2-Picoline	93		2.980				ND	
21 N-Nitrosomethylethylamine	88		3.051				ND	
22 Acrylamide	71		3.292				ND	
23 Methyl methanesulfonate	80		3.304				ND	
24 N-Nitrosodiethylamine	102		3.668				ND	
25 Pentachlorophenol_T	266		3.785				ND	
26 Ethyl methanesulfonate	79		3.915				ND	
27 Benzaldehyde	106		4.243				ND	
28 Phenol	94		4.305				ND	
29 Phenylmercaptan	110		4.280				ND	
30 Aniline	93		4.335				ND	
31 Bis(2-chloroethyl)ether	93		4.376				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
32 Alpha Methyl Styrene	118		4.382				ND	
33 Pentachloroethane	117		4.402				ND	
34 2-Chlorophenol	128		4.458				ND	
35 n-Decane	43		4.482				ND	
36 Methyl styrene	118	4.645	4.500	0.145	42	1443		NC
37 1,3-Dichlorobenzene	146		4.599				ND	
38 1,4-Dichlorobenzene	146		4.664				ND	
39 Benzyl alcohol	108		4.764				ND	
40 1,2-Dichlorobenzene	146		4.817				ND	
41 2-Methylphenol	108		4.875				ND	
42 Benzidine_T	184		4.865				ND	
43 2,2'-oxybis[1-chloropropan	45		4.887				ND	
44 Indene	116		4.899				ND	
45 N-Nitrosopyrrolidine	100		4.996				ND	
46 3-Methylphenol	108		5.016				ND	
47 4-Methylphenol	108		5.016				ND	
48 3 & 4 Methylphenol	108		5.016				ND	
49 N-Nitrosomorpholine	116		5.031				ND	
50 N-Nitrosodi-n-propylamine	70		5.011				ND	
51 Acetophenone	105		5.016				ND	
52 2-Toluidine	106		5.066				ND	
53 Hexachloroethane	117		5.140				ND	
54 Nitrobenzene	77		5.187				ND	
55 Triethyl phosphate	99		5.290				ND	
56 N-Nitrosopiperidine	114		5.336				ND	
57 Isophorone	82		5.416				ND	
58 2-Nitrophenol	139		5.498				ND	
59 2,4-Dimethylphenol	107		5.533				ND	
60 Benzyl dichloride	125		5.542				ND	
61 o,o',o''-Triethylphosphoro	198		5.589				ND	
62 2,4-Xylidine	121		5.637				ND	
63 Bis(2-chloroethoxy)methane	93		5.610				ND	
64 Benzoic acid	105		5.657				ND	
65 o-Anisidine	80		5.678				ND	
66 3,5-Dimethylphenol	107		5.663				ND	
67 alpha,alpha-Dimethyl phene	58		5.736				ND	
68 2,4-Dichlorophenol	162		5.745				ND	
69 1,2,4-Trichlorobenzene	180		5.821				ND	
70 Alpha-Terpineol	59		5.890				ND	
71 Naphthalene	128		5.904				ND	
72 4-Chloroaniline	127		5.939				ND	
73 2,6-Dichlorophenol	162		5.956				ND	
74 Hexachloropropene	213		6.006				ND	
75 Hexachlorobutadiene	225		6.027				ND	
76 4-chlorobenzenethiol	144		6.086				ND	
77 Quinoline	129		6.235				ND	
78 5-Methyl-o-Anisidine	122		6.289				ND	
79 Caprolactam	55		6.280				ND	
80 N-Nitrosodi-n-butylamine	84		6.277				ND	
81 p-Phenylene diamine	108		6.294				ND	
82 1,3-phenylenediamine	108		6.407				ND	
83 4-Chloro-3-methylphenol	107		6.427				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
84 Safrole, Total	162		6.494				ND	
85 Carbofuran phenol	164		6.512				ND	
86 2-Methylnaphthalene	142		6.585				ND	
87 Phthalic anhydride	76		6.619				ND	
88 1-Methylnaphthalene	142		6.685				ND	
89 1,2,4,5-Tetrachlorobenzene	216		6.756				ND	
90 Hexachlorocyclopentadiene	237		6.750				ND	
91 Isosafrole Peak 1	162		6.782				ND	
92 2,4,6-Trichlorophenol	196		6.867				ND	
93 2,3-Dichlorobenzenamine	161		6.861				ND	
94 2,4,5-Trichlorophenol	196		6.914				ND	
95 Methyl 4-chlorophenyl sulf	158	6.936	6.893	0.043	48	1186	NC	
96 Isosafrole Peak 2	104		7.011				ND	U
97 Toluene diamine (2,4- + 2,	122		7.035				ND	
98 1,1'-Biphenyl	154		7.043				ND	
99 2-Chloronaphthalene	162		7.073				ND	
100 1-Chloronaphthalene	162		7.111				ND	
101 2-Nitroaniline	65		7.161				ND	
102 1,4-Naphthoquinone	158		7.246				ND	
103 1,4-Dinitrobenzene	168		7.293				ND	
104 Dimethyl phthalate	163		7.331				ND	
105 1,3-Dinitrobenzene	168		7.367				ND	
106 2,6-Dinitrotoluene	165		7.396				ND	
107 Acenaphthylene	152		7.490				ND	
108 3-Nitroaniline	138		7.572				ND	
109 Acenaphthene	153		7.666				ND	
110 1,3-Dimethyl-2,4-Dinitrobe	77		7.635				ND	
111 2,4-Dinitrophenol	184		7.678				ND	
112 4-Nitrophenol	109		7.760				ND	
113 1,3-Dimethyl-2,5-Dinitrobe	179		7.879				ND	
114 2,4-Dinitrotoluene	165		7.801				ND	
115 Pentachlorobenzene	250		7.816				ND	
116 Dibenzofuran	168		7.837				ND	
117 1,4-Dimethyl-2,3-Dinitrobe	77		7.885				ND	
118 1-Naphthylamine	143		7.922				ND	
119 2,3,4,6-Tetrachlorophenol	232		7.960				ND	
120 1,4-Dimethyl-2,6-Dinitrobe	179		8.020				ND	
121 2-Naphthylamine	143		7.998				ND	
122 1,4-Dimethyl-2,5-Dinitrobe	179		7.970				ND	
123 Diethyl phthalate	149		8.036				ND	
124 Hexadecane	57		8.048				ND	
125 1,2-Dimethyl-3,6-Dinitrobe	179		8.020				ND	
126 Thionazin	97		8.127				ND	
127 4-Chlorophenyl phenyl ethe	204		8.166				ND	
128 N-Nitro-o-toluidine	152		8.192				ND	
129 Fluorene	166		8.177				ND	
130 4-Nitroaniline	138		8.189				ND	
131 4,6-Dinitro-2-methylphenol	198		8.219				ND	
132 1,5-Dimethyl-2,4-Dinitrobe	179		8.020				ND	
133 Tributyl phosphate	99		8.239				ND	
134 Diphenylamine	169		8.283				ND	
135 N-Nitrosodiphenylamine	169		8.283				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
136 1,2-Diphenylhydrazine	77		8.324				ND	
137 Azobenzene	77		8.324				ND	
138 1,5-Dimethyl-2,3-Dinitrobe	179		8.299				ND	
139 2,4,6 - Tribromophenol	330		8.424				ND	U
140 Sulfotepp	97		8.433				ND	
141 1,2-Dimethyl-3,5-Dinitrobe	179		8.520				ND	
142 1,3,5-Trinitrobenzene	213		8.539				ND	
143 Diallate Peak 1	86		8.580				ND	
144 Phorate	121		8.586				ND	
145 Phenacetin	108		8.597				ND	
146 1,2-Dimethyl-3,4-Dinitrobe	179		8.557				ND	
147 Phenyl sulfide	186		8.615				ND	
148 4-Bromophenyl phenyl ether	248		8.653				ND	
149 Diallate Peak 2	86		8.668				ND	
150 Dimethoate	87		8.756				ND	
151 Hexachlorobenzene	284		8.747				ND	
152 Atrazine	200		8.800				ND	
153 1,2-Dimethyl-4,5-Dinitrobe	91		8.784				ND	
154 4-Aminobiphenyl	169		8.932				ND	
155 Pentachlorophenol	266		8.941				ND	
156 Pentachloronitrobenzene	237		8.962				ND	
157 Pronamide	173		8.985				ND	
158 n-Octadecane	85		8.971				ND	
159 Disulfoton	88		9.108				ND	U
160 Dinoseb	211		9.120				ND	
161 Phenanthrene	178		9.147				ND	
162 Anthracene	178		9.200				ND	
163 n-hydroxymethylphthalimide	147	9.116	9.177	-0.061	38	760	NC	
164 Carbazole	167		9.352				ND	
165 Methyl parathion	109		9.490				ND	
166 Alachlor	188		9.482				ND	
167 Phenyl disulfide	109		9.589				ND	
168 Di-n-butyl phthalate	149		9.682				ND	
169 Ethyl Parathion	109		9.919				ND	
170 4-Nitroquinoline-1-oxide	190		9.978				ND	
171 Diphenylsulfone	125		9.984				ND	
172 Methapyrilene	97		10.060				ND	
173 Isodrin	193		10.336				ND	
174 Octachlorostyrene	308		10.360				ND	
175 Fluoranthene	202		10.516				ND	
176 Benzidine	184		10.672				ND	
177 4,4-Dichlorobenzil	139		10.529				ND	
178 Pyrene	202		10.851				ND	
180 Aramite Peak 1	185		11.042				ND	U
181 p-chlorophenyl sulfone	159	11.061	11.036	0.025	43	13216	NC	
182 Aramite Peak 2	185		11.165				ND	U
183 p-Dimethylamino azobenzene	120		11.329				ND	
184 Chlorobenzilate	251		11.412				ND	
185 Famphur	218		11.826				ND	
186 3,3'-Dimethylbenzidine	212		11.952				ND	
187 Butyl benzyl phthalate	149		11.949				ND	
188 2-Acetylaminofluorene	181		12.487				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
189 3,3'-Dichlorobenzidine	252		13.113				ND	
190 4,4'-Methylene bis(2-chlor	231		13.151				ND	U
191 Benzo[a]anthracene	228		13.166				ND	
192 Chrysene	228		13.254				ND	
193 Bis(2-ethylhexyl) phthalat	149		13.307				ND	
194 6-Methylchrysene	242		14.449				ND	
195 Di-n-octyl phthalate	149		15.105				ND	
196 Benzo[b]fluoranthene	252		16.027				ND	
197 7,12-Dimethylbenz(a)anthra	256		16.065				ND	
198 Benzo[k]fluoranthene	252		16.109				ND	
199 Hexachlorophene	196		16.589				ND	
200 Benzo[e]pyrene	252		16.814				ND	
201 Benzo[a]pyrene	252		16.961				ND	
202 Perylene	252		17.235				ND	
203 3-Methylcholanthrene	268		18.080				ND	
204 Tris(2,3-dibromopropyl)pho	119		18.680				ND	
205 Dibenz[a,h]acridine	279		19.661				ND	
206 Dibenz[a,j]acridine	279		19.814				ND	
207 Indeno[1,2,3-cd]pyrene	276		20.240				ND	
208 Dibenz(a,h)anthracene	278		20.334				ND	
209 Benzo[g,h,i]perylene	276		20.986				ND	
210 Dibenzo[a,e]pyrene	302		24.834				ND	
S 219 Total Cresols	108		15.636				ND	
S 220 Methyl Phenols,Total	108		15.636				ND	
S 221 Isosafrole	162		15.636				ND	
S 222 Diallate	86		15.636				ND	
S 223 Aramite, Total	185		15.636				ND	
S 224 Phthalic acid	148		19.829				ND	
211 2-Phenoxyethanol	1		0.140				ND	
212 1,2,3,4-Tetrahydronaphthal	1		0.140				ND	
213 4-Methylacetophenone	1		0.140				ND	
214 2-Butoxyethanol	1		0.140				ND	
216 4,4'-DDE	246		4.997				ND	
217 4,4'-DDD	235		5.283				ND	
218 4,4'-DDT	235		5.500				ND	
S 225 TPAH	1		0.000				ND	
T 226 Pentachlorodibenzofurans T	1		0.140				ND	
T 227 Octadecane (TIC)	1		0.140				ND	
T 228 Pentachlorodibenzo-p-dioxi	1		0.140				ND	
T 229 2,6-Dimethylphenol	1		0.140				ND	
T 230 Tetrachlorodibenzo-p-dioxi	1		0.140				ND	
T 231 Tetrachlorodibenzofurans T	1		0.140				ND	
T 232 Hexachlorodibenzofurans TI	1		0.140				ND	
T 233 Hexachlorodibenzo-p-dioxin	1		0.140				ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags
U - Marked Undetected

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

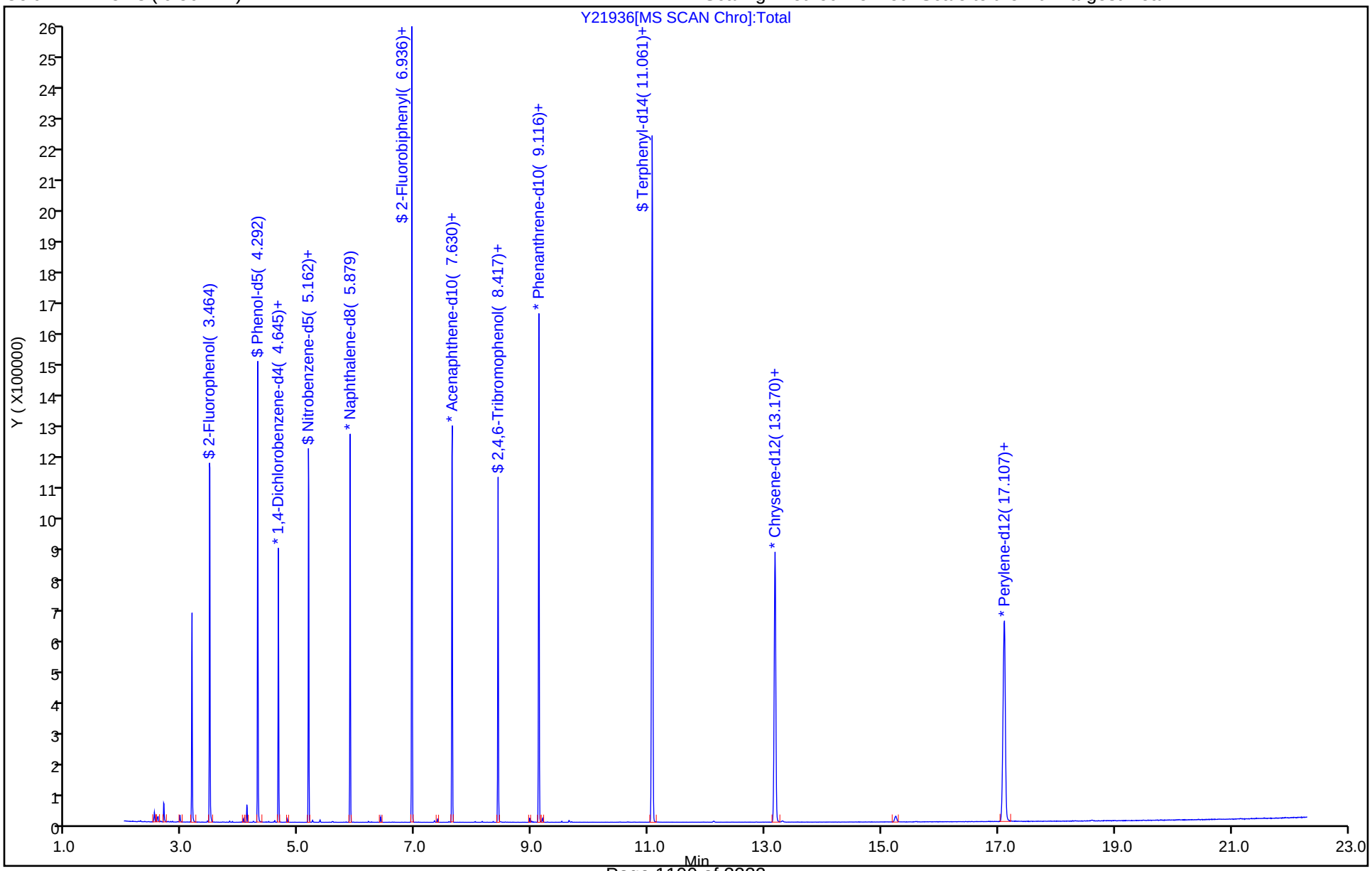
Report Date: 08-Nov-2018 09:55:52 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21936.D

Injection Date:	07-Nov-2018 16:26:30	Instrument ID:	SMS_Y	Operator ID:	HOEFLERA
Lims ID:	280-116020-A-1-A	Lab Sample ID:	280-116020-1	Worklist Smp#:	14
Client ID:	DET-003-181001-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21936.D
Lims ID: 280-116020-A-1-A
Client ID: DET-003-181001-GW
Sample Type: Client
Inject. Date: 07-Nov-2018 16:26:30 ALS Bottle#: 10 Worklist Smp#: 14
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-1-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 07-Nov-2018 16:21:05

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	82.6	82.59
$ 8 Phenol-d5	100.0	82.2	82.24
$ 9 Nitrobenzene-d5	100.0	78.6	78.64
$ 11 2-Fluorobiphenyl	100.0	76.5	76.53
$ 12 2,4,6-Tribromophenol	100.0	83.3	83.30
$ 13 Terphenyl-d14	100.0	76.4	76.42

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181002-GW | Lab Sample ID: 280-116020-2

Matrix: Water | Lab File ID: Y21939.D

Analysis Method: 8270D | Date Collected: 10/24/2018 10:05

Extract. Method: 3520C | Date Extracted: 10/29/2018 12:36

Sample wt/vol: 1022.5(mL) | Date Analyzed: 11/07/2018 17:53

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436671 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
117-81-7	Bis(2-ethylhexyl) phthalate	2.0	U	9.8	2.0	0.55
85-68-7	Butyl benzyl phthalate	2.0	U	20	2.0	0.98
84-66-2	Diethyl phthalate	0.98	U	20	0.98	0.37
131-11-3	Dimethyl phthalate	0.49	U	20	0.49	0.21
84-74-2	Di-n-butyl phthalate	4.3	U	20	4.3	1.1
117-84-0	Di-n-octyl phthalate	0.98	U	20	0.98	0.34

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	78		43-140
321-60-8	2-Fluorobiphenyl	57		44-119
367-12-4	2-Fluorophenol (Surr)	56		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	54		44-120
4165-62-2	Phenol-d5 (Surr)	59		10-115
1718-51-0	Terphenyl-d14 (Surr)	80		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21939.D
Lims ID: 280-116020-D-2-A
Client ID: DET-003-181002-GW
Sample Type: Client
Inject. Date: 07-Nov-2018 17:53:30 ALS Bottle#: 13 Worklist Smp#: 17
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-D-2-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:48:56

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.646	4.649	-0.003	94	118701	40.0	
* 2 Naphthalene-d8	136	5.880	5.877	0.003	99	495655	40.0	
* 3 Acenaphthene-d10	164	7.625	7.628	-0.003	96	273700	40.0	
* 4 Phenanthrene-d10	188	9.117	9.120	-0.003	97	569488	40.0	
* 5 Chrysene-d12	240	13.172	13.174	-0.002	99	613314	40.0	
* 6 Perylene-d12	264	17.102	17.105	-0.003	96	651215	40.0	
$ 7 2-Fluorophenol	112	3.465	3.465	0.000	90	227532	55.7	
$ 8 Phenol-d5	99	4.294	4.294	0.000	95	305379	59.0	
$ 9 Nitrobenzene-d5	82	5.163	5.169	-0.006	84	246801	54.0	
$ 11 2-Fluorobiphenyl	172	6.938	6.944	-0.006	99	553812	56.7	
$ 12 2,4,6-Tribromophenol	330	8.418	8.424	-0.006	92	97005	77.5	
$ 13 Terphenyl-d14	244	11.062	11.068	-0.006	99	1118437	79.9	
104 Dimethyl phthalate	163		7.331				ND	
123 Diethyl phthalate	149		8.036				ND	
168 Di-n-butyl phthalate	149		9.682				ND	
187 Butyl benzyl phthalate	149		11.949				ND	
193 Bis(2-ethylhexyl) phthalat	149		13.307				ND	
195 Di-n-octyl phthalate	149		15.105				ND	

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

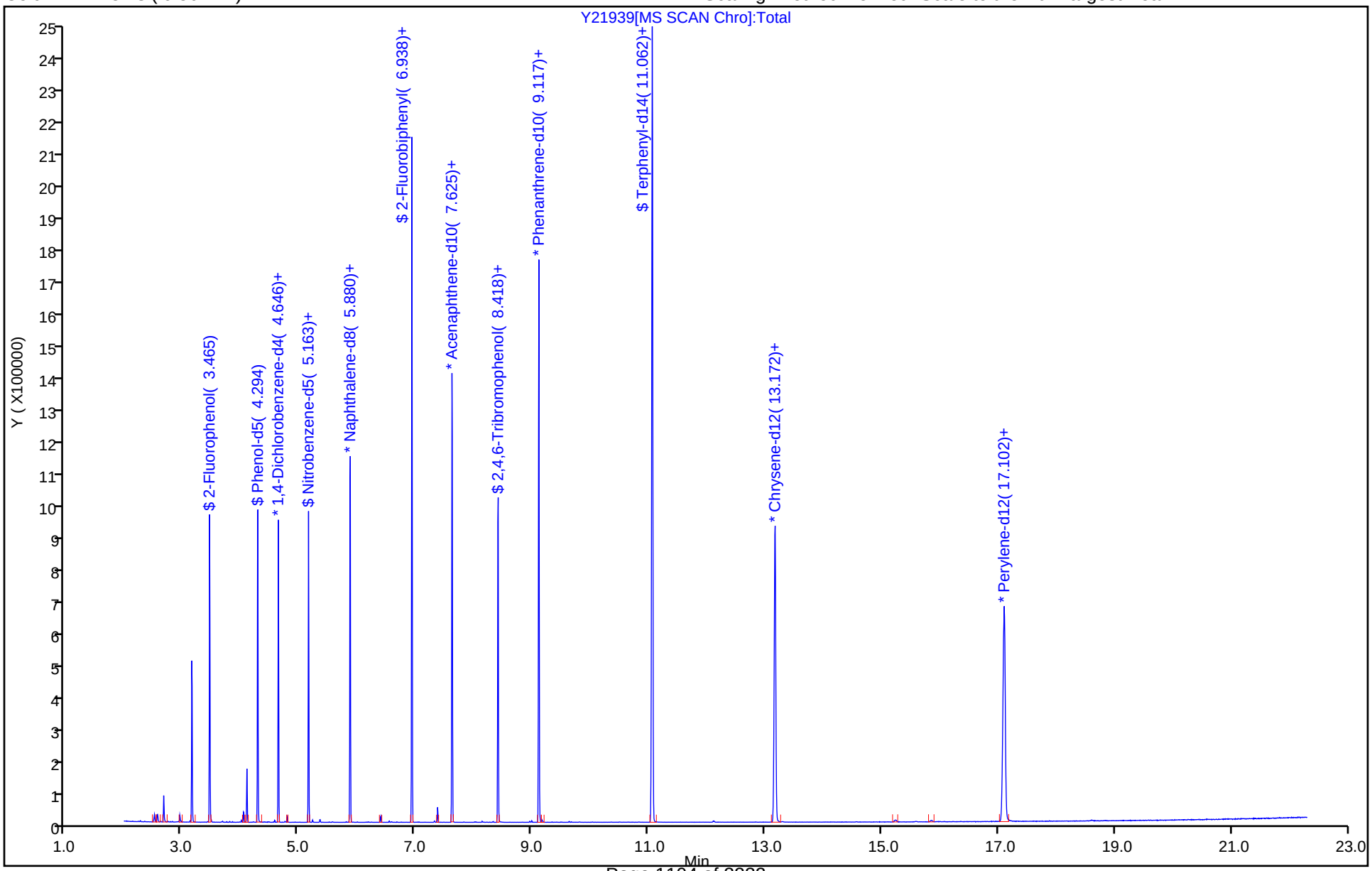
Report Date: 08-Nov-2018 09:56:03 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21939.D

Injection Date:	07-Nov-2018 17:53:30	Instrument ID:	SMS_Y	Operator ID:	HOEFLERA
Lims ID:	280-116020-D-2-A	Lab Sample ID:	280-116020-2	Worklist Smp#:	17
Client ID:	DET-003-181002-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21939.D
Lims ID: 280-116020-D-2-A
Client ID: DET-003-181002-GW
Sample Type: Client
Inject. Date: 07-Nov-2018 17:53:30 ALS Bottle#: 13 Worklist Smp#: 17
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-D-2-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:48:56

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	55.7	55.73
$ 8 Phenol-d5	100.0	59.0	58.99
$ 9 Nitrobenzene-d5	100.0	54.0	53.99
$ 11 2-Fluorobiphenyl	100.0	56.7	56.66
$ 12 2,4,6-Tribromophenol	100.0	77.5	77.53
$ 13 Terphenyl-d14	100.0	79.9	79.92

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: WBGmw-009-181001-GW | Lab Sample ID: 280-116020-4

Matrix: Water | Lab File ID: Y21940.D

Analysis Method: 8270D | Date Collected: 10/23/2018 14:35

Extract. Method: 3520C | Date Extracted: 10/29/2018 12:36

Sample wt/vol: 921.8(mL) | Date Analyzed: 11/07/2018 18:21

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436671 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
117-81-7	Bis(2-ethylhexyl) phthalate	2.2	U	11	2.2	0.61
85-68-7	Butyl benzyl phthalate	2.2	U	22	2.2	1.1
84-66-2	Diethyl phthalate	1.1	U	22	1.1	0.41
131-11-3	Dimethyl phthalate	0.54	U	22	0.54	0.23
84-74-2	Di-n-butyl phthalate	4.8	U	22	4.8	1.3
117-84-0	Di-n-octyl phthalate	1.1	U	22	1.1	0.38

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	85		43-140
321-60-8	2-Fluorobiphenyl	77		44-119
367-12-4	2-Fluorophenol (Surr)	87		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	81		44-120
4165-62-2	Phenol-d5 (Surr)	89		10-115
1718-51-0	Terphenyl-d14 (Surr)	80		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21940.D
Lims ID: 280-116020-A-4-A
Client ID: WBGmw-009-181001-GW
Sample Type: Client
Inject. Date: 07-Nov-2018 18:21:30 ALS Bottle#: 14 Worklist Smp#: 18
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-4-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:49:12

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.644	4.649	-0.005	95	114920	40.0	
* 2 Naphthalene-d8	136	5.878	5.877	0.001	99	486531	40.0	
* 3 Acenaphthene-d10	164	7.629	7.628	0.001	96	274893	40.0	
* 4 Phenanthrene-d10	188	9.115	9.120	-0.005	98	569145	40.0	
* 5 Chrysene-d12	240	13.169	13.174	-0.005	99	618403	40.0	
* 6 Perylene-d12	264	17.106	17.105	0.001	97	650926	40.0	
$ 7 2-Fluorophenol	112	3.469	3.465	0.004	90	343901	87.0	
$ 8 Phenol-d5	99	4.291	4.294	-0.003	95	443826	88.6	
$ 9 Nitrobenzene-d5	82	5.167	5.169	-0.002	84	364792	81.3	
$ 11 2-Fluorobiphenyl	172	6.941	6.944	-0.003	100	756878	77.1	
$ 12 2,4,6-Tribromophenol	330	8.416	8.424	-0.008	92	107330	85.4	
$ 13 Terphenyl-d14	244	11.066	11.068	-0.002	99	1123066	79.6	
104 Dimethyl phthalate	163		7.331				ND	
123 Diethyl phthalate	149		8.036				ND	
168 Di-n-butyl phthalate	149		9.682				ND	
187 Butyl benzyl phthalate	149		11.949				ND	
193 Bis(2-ethylhexyl) phthalat	149		13.307				ND	
195 Di-n-octyl phthalate	149		15.105				ND	

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

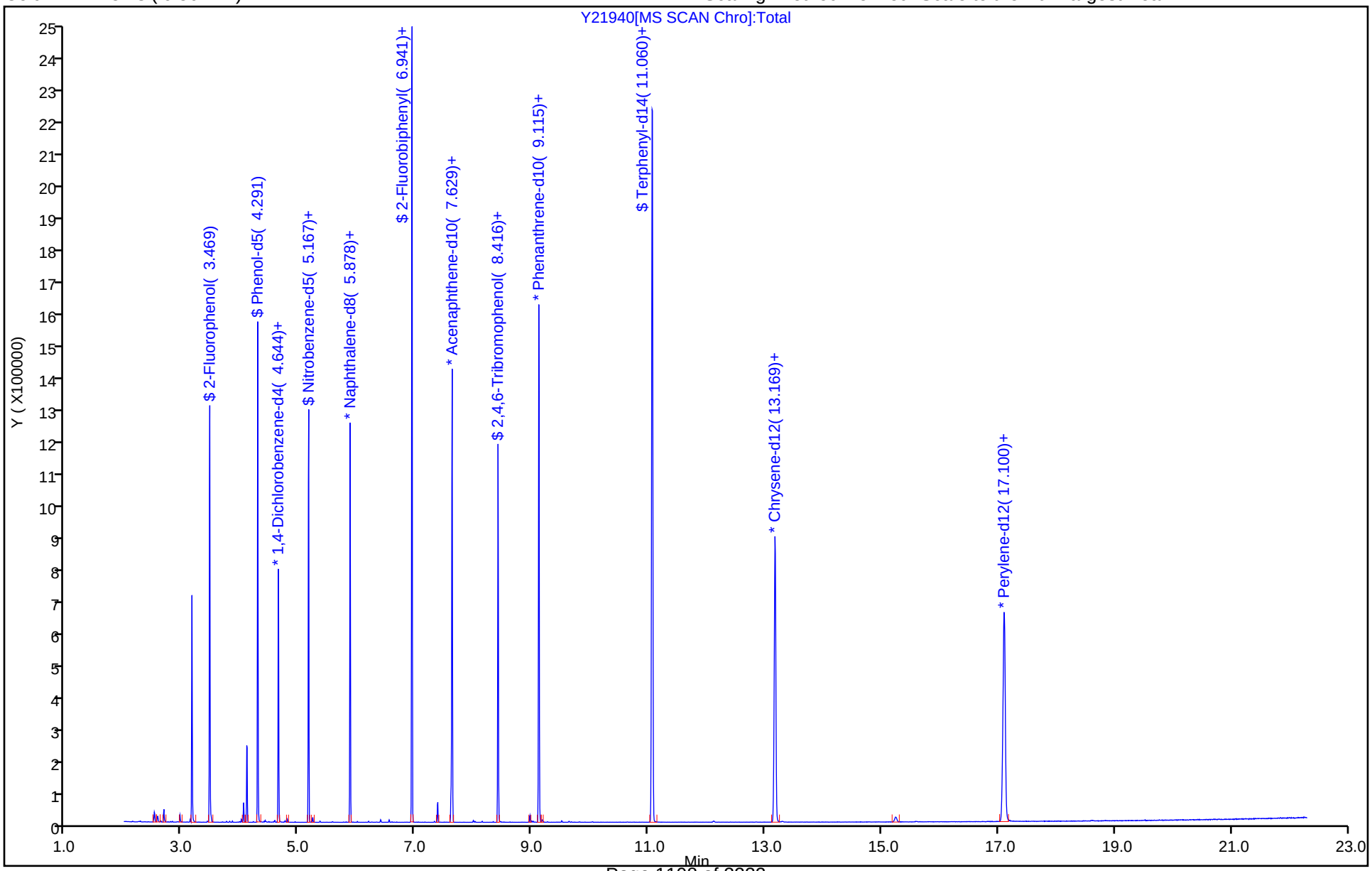
Report Date: 08-Nov-2018 09:56:05 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21940.D

Injection Date:	07-Nov-2018 18:21:30	Instrument ID:	SMS_Y	Operator ID:	HOEFLERA
Lims ID:	280-116020-A-4-A	Lab Sample ID:	280-116020-4	Worklist Smp#:	18
Client ID:	WBGmw-009-181001-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21940.D
Lims ID: 280-116020-A-4-A
Client ID: WBGmw-009-181001-GW
Sample Type: Client
Inject. Date: 07-Nov-2018 18:21:30 ALS Bottle#: 14 Worklist Smp#: 18
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-4-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:49:12

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	87.0	87.00
$ 8 Phenol-d5	100.0	88.6	88.56
$ 9 Nitrobenzene-d5	100.0	81.3	81.30
$ 11 2-Fluorobiphenyl	100.0	77.1	77.10
$ 12 2,4,6-Tribromophenol	100.0	85.4	85.41
$ 13 Terphenyl-d14	100.0	79.6	79.59

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: LL1mw-083-181001-GW | Lab Sample ID: 280-116020-5

Matrix: Water | Lab File ID: Y21941.D

Analysis Method: 8270D | Date Collected: 10/24/2018 13:25

Extract. Method: 3520C | Date Extracted: 10/29/2018 12:36

Sample wt/vol: 956.5(mL) | Date Analyzed: 11/07/2018 18:50

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436671 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
117-81-7	Bis(2-ethylhexyl) phthalate	2.1	U	10	2.1	0.59
85-68-7	Butyl benzyl phthalate	2.1	U	21	2.1	1.0
84-66-2	Diethyl phthalate	1.0	U	21	1.0	0.40
131-11-3	Dimethyl phthalate	0.52	U	21	0.52	0.22
84-74-2	Di-n-butyl phthalate	4.6	U	21	4.6	1.2
117-84-0	Di-n-octyl phthalate	1.0	U	21	1.0	0.37

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	80		43-140
321-60-8	2-Fluorobiphenyl	70		44-119
367-12-4	2-Fluorophenol (Surr)	77		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	73		44-120
4165-62-2	Phenol-d5 (Surr)	78		10-115
1718-51-0	Terphenyl-d14 (Surr)	76		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21941.D
Lims ID: 280-116020-C-5-A
Client ID: LL1mw-083-181001-GW
Sample Type: Client
Inject. Date: 07-Nov-2018 18:50:30 ALS Bottle#: 15 Worklist Smp#: 19
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-C-5-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:49:26

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.649	4.649	0.000	94	118473	40.0	
* 2 Naphthalene-d8	136	5.877	5.877	0.000	99	498245	40.0	
* 3 Acenaphthene-d10	164	7.627	7.628	-0.001	96	282749	40.0	
* 4 Phenanthrene-d10	188	9.120	9.120	0.000	97	578805	40.0	
* 5 Chrysene-d12	240	13.168	13.174	-0.006	98	628734	40.0	
* 6 Perylene-d12	264	17.105	17.105	0.000	96	660884	40.0	
$ 7 2-Fluorophenol	112	3.468	3.465	0.003	88	311848	76.5	
$ 8 Phenol-d5	99	4.290	4.294	-0.004	95	401434	77.7	
$ 9 Nitrobenzene-d5	82	5.166	5.169	-0.003	84	334557	72.8	
$ 11 2-Fluorobiphenyl	172	6.940	6.944	-0.004	100	703100	69.6	
$ 12 2,4,6-Tribromophenol	330	8.421	8.424	-0.003	93	103995	80.5	
$ 13 Terphenyl-d14	244	11.065	11.068	-0.003	99	1088216	75.9	
104 Dimethyl phthalate	163		7.331				ND	
123 Diethyl phthalate	149		8.036				ND	
168 Di-n-butyl phthalate	149		9.682				ND	
187 Butyl benzyl phthalate	149		11.949				ND	
193 Bis(2-ethylhexyl) phthalat	149		13.307				ND	
195 Di-n-octyl phthalate	149		15.105				ND	

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

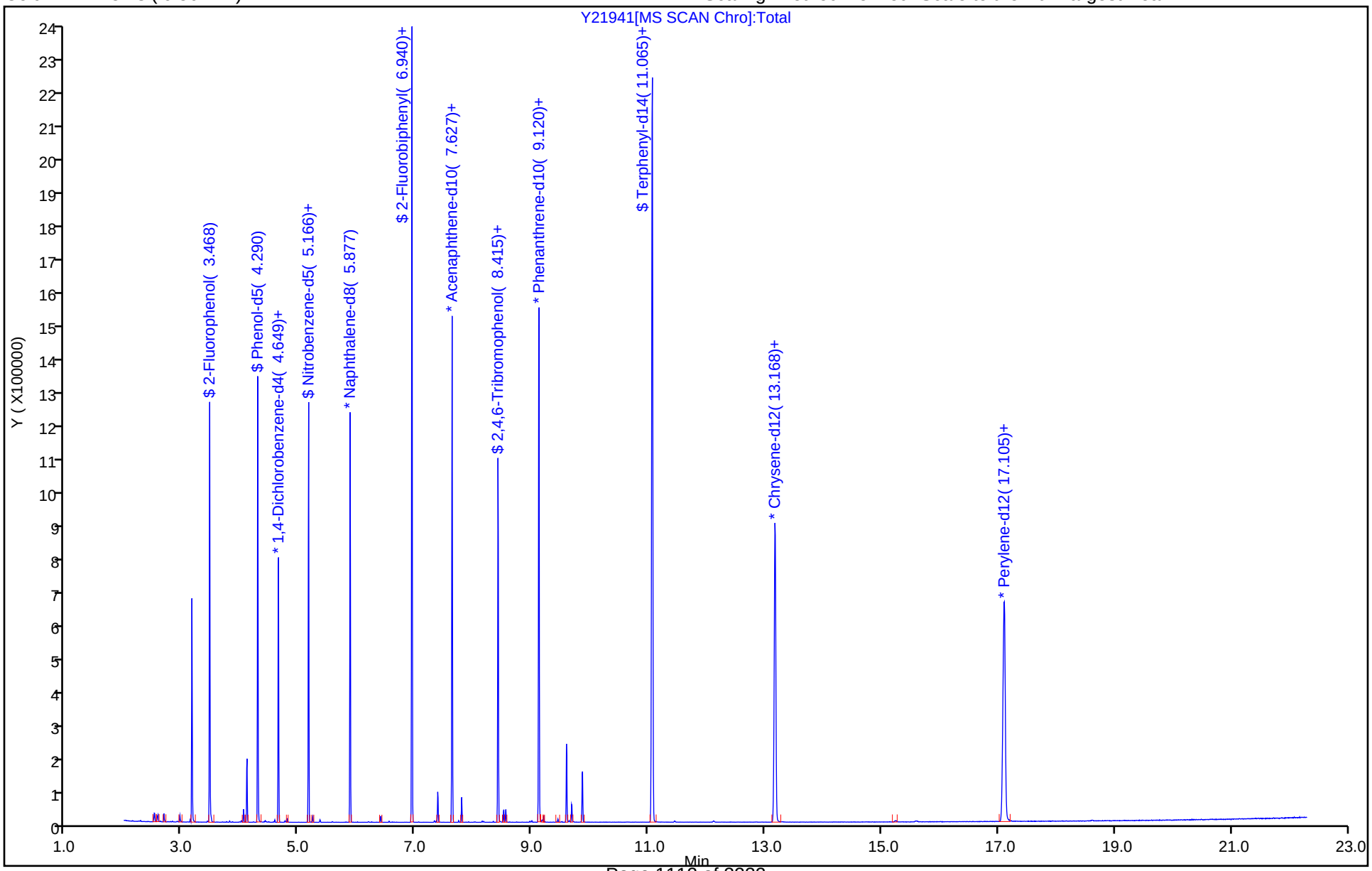
Report Date: 08-Nov-2018 09:56:08 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21941.D

Injection Date:	07-Nov-2018 18:50:30	Instrument ID:	SMS_Y	Operator ID:	HOEFLERA
Lims ID:	280-116020-C-5-A	Lab Sample ID:	280-116020-5	Worklist Smp#:	19
Client ID:	LL1mw-083-181001-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21941.D
Lims ID: 280-116020-C-5-A
Client ID: LL1mw-083-181001-GW
Sample Type: Client
Inject. Date: 07-Nov-2018 18:50:30 ALS Bottle#: 15 Worklist Smp#: 19
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-C-5-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:49:26

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	76.5	76.53
$ 8 Phenol-d5	100.0	77.7	77.70
$ 9 Nitrobenzene-d5	100.0	72.8	72.81
$ 11 2-Fluorobiphenyl	100.0	69.6	69.63
$ 12 2,4,6-Tribromophenol	100.0	80.5	80.45
$ 13 Terphenyl-d14	100.0	75.9	75.85

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: LL1mw-084-181001-GW | Lab Sample ID: 280-116020-6

Matrix: Water | Lab File ID: Y21942.D

Analysis Method: 8270D | Date Collected: 10/24/2018 09:30

Extract. Method: 3520C | Date Extracted: 10/29/2018 12:36

Sample wt/vol: 1052.7(mL) | Date Analyzed: 11/07/2018 19:18

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436671 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
117-81-7	Bis(2-ethylhexyl) phthalate	1.9	U	9.5	1.9	0.53
85-68-7	Butyl benzyl phthalate	1.9	U	19	1.9	0.95
84-66-2	Diethyl phthalate	0.95	U	19	0.95	0.36
131-11-3	Dimethyl phthalate	0.47	U	19	0.47	0.20
84-74-2	Di-n-butyl phthalate	4.2	U	19	4.2	1.1
117-84-0	Di-n-octyl phthalate	0.95	U	19	0.95	0.33

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	87		43-140
321-60-8	2-Fluorobiphenyl	73		44-119
367-12-4	2-Fluorophenol (Surr)	76		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	72		44-120
4165-62-2	Phenol-d5 (Surr)	77		10-115
1718-51-0	Terphenyl-d14 (Surr)	79		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21942.D
Lims ID: 280-116020-B-6-A
Client ID: LL1mw-084-181001-GW
Sample Type: Client
Inject. Date: 07-Nov-2018 19:18:30 ALS Bottle#: 16 Worklist Smp#: 20
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-B-6-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:49:49

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.645	4.649	-0.004	95	117637	40.0	
* 2 Naphthalene-d8	136	5.879	5.877	0.002	99	493312	40.0	
* 3 Acenaphthene-d10	164	7.630	7.628	0.002	96	274240	40.0	
* 4 Phenanthrene-d10	188	9.116	9.120	-0.004	97	567319	40.0	
* 5 Chrysene-d12	240	13.170	13.174	-0.004	98	616016	40.0	
* 6 Perylene-d12	264	17.101	17.105	-0.004	97	652353	40.0	
$ 7 2-Fluorophenol	112	3.464	3.465	-0.001	91	306667	75.8	
$ 8 Phenol-d5	99	4.292	4.294	-0.002	95	395786	77.2	
$ 9 Nitrobenzene-d5	82	5.162	5.169	-0.007	84	328226	72.1	
$ 11 2-Fluorobiphenyl	172	6.936	6.944	-0.008	100	711197	72.6	
$ 12 2,4,6-Tribromophenol	330	8.417	8.424	-0.007	92	109199	87.1	
$ 13 Terphenyl-d14	244	11.061	11.068	-0.007	99	1112750	79.2	
104 Dimethyl phthalate	163		7.331				ND	
123 Diethyl phthalate	149		8.036				ND	
168 Di-n-butyl phthalate	149		9.682				ND	
187 Butyl benzyl phthalate	149		11.949				ND	
193 Bis(2-ethylhexyl) phthalat	149		13.307				ND	
195 Di-n-octyl phthalate	149		15.105				ND	

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

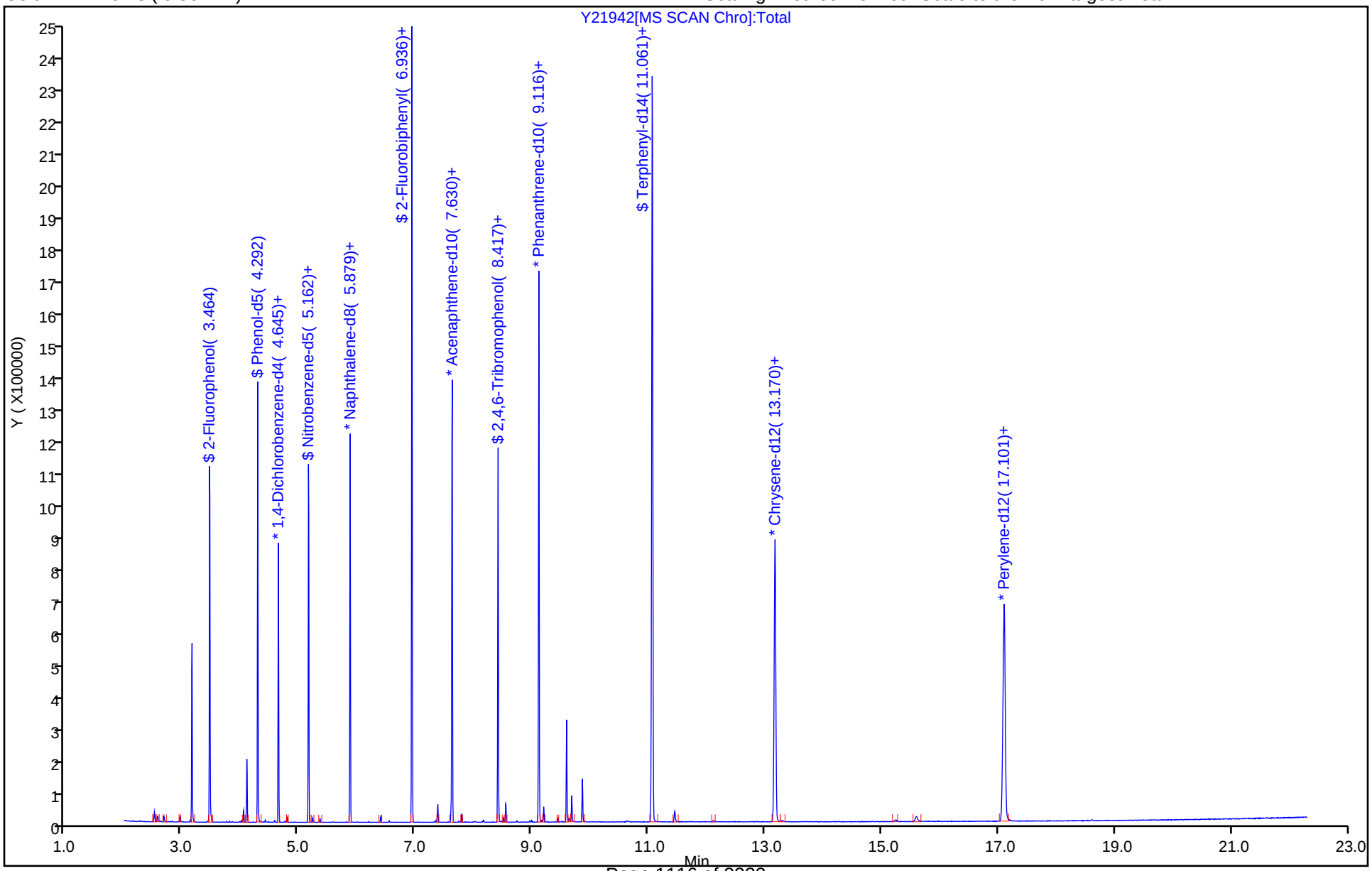
Report Date: 08-Nov-2018 09:56:09 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21942.D

Injection Date:	07-Nov-2018 19:18:30	Instrument ID:	SMS_Y	Operator ID:	HOEFLERA
Lims ID:	280-116020-B-6-A	Lab Sample ID:	280-116020-6	Worklist Smp#:	20
Client ID:	LL1mw-084-181001-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21942.D
Lims ID: 280-116020-B-6-A
Client ID: LL1mw-084-181001-GW
Sample Type: Client
Inject. Date: 07-Nov-2018 19:18:30 ALS Bottle#: 16 Worklist Smp#: 20
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-B-6-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:49:49

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	75.8	75.79
$ 8 Phenol-d5	100.0	77.2	77.15
$ 9 Nitrobenzene-d5	100.0	72.1	72.15
$ 11 2-Fluorobiphenyl	100.0	72.6	72.62
$ 12 2,4,6-Tribromophenol	100.0	87.1	87.10
$ 13 Terphenyl-d14	100.0	79.2	79.16

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DA2mw-115-181001-GW | Lab Sample ID: 280-116020-8

Matrix: Water | Lab File ID: Y21943.D

Analysis Method: 8270D | Date Collected: 10/24/2018 12:45

Extract. Method: 3520C | Date Extracted: 10/29/2018 12:36

Sample wt/vol: 970.4(mL) | Date Analyzed: 11/07/2018 19:47

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436671 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
117-81-7	Bis(2-ethylhexyl) phthalate	2.1	U	10	2.1	0.58
85-68-7	Butyl benzyl phthalate	2.1	U	21	2.1	1.0
84-66-2	Diethyl phthalate	1.0	U	21	1.0	0.39
131-11-3	Dimethyl phthalate	0.52	U	21	0.52	0.22
84-74-2	Di-n-butyl phthalate	4.5	U	21	4.5	1.2
117-84-0	Di-n-octyl phthalate	1.0	U	21	1.0	0.36

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	79		43-140
321-60-8	2-Fluorobiphenyl	62		44-119
367-12-4	2-Fluorophenol (Surr)	66		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	63		44-120
4165-62-2	Phenol-d5 (Surr)	68		10-115
1718-51-0	Terphenyl-d14 (Surr)	81		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21943.D
Lims ID: 280-116020-A-8-A
Client ID: DA2mw-115-181001-GW
Sample Type: Client
Inject. Date: 07-Nov-2018 19:47:30 ALS Bottle#: 17 Worklist Smp#: 21
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-8-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:50:28

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.649	4.649	0.000	94	119335	40.0	
* 2 Naphthalene-d8	136	5.877	5.877	0.000	99	497403	40.0	
* 3 Acenaphthene-d10	164	7.628	7.628	0.000	97	278954	40.0	
* 4 Phenanthrene-d10	188	9.114	9.120	-0.006	98	569664	40.0	
* 5 Chrysene-d12	240	13.168	13.174	-0.006	98	624442	40.0	
* 6 Perylene-d12	264	17.099	17.105	-0.006	96	665600	40.0	
$ 7 2-Fluorophenol	112	3.468	3.465	0.003	88	269814	65.7	
$ 8 Phenol-d5	99	4.290	4.294	-0.004	95	352366	67.7	
$ 9 Nitrobenzene-d5	82	5.166	5.169	-0.003	84	288957	63.0	
$ 11 2-Fluorobiphenyl	172	6.940	6.944	-0.004	100	613945	61.6	
$ 12 2,4,6-Tribromophenol	330	8.415	8.424	-0.009	93	101347	79.5	
$ 13 Terphenyl-d14	244	11.065	11.068	-0.003	99	1153300	80.9	
104 Dimethyl phthalate	163		7.331				ND	
123 Diethyl phthalate	149		8.036				ND	
168 Di-n-butyl phthalate	149		9.682				ND	
187 Butyl benzyl phthalate	149		11.949				ND	
193 Bis(2-ethylhexyl) phthalat	149		13.307				ND	
195 Di-n-octyl phthalate	149		15.105				ND	

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

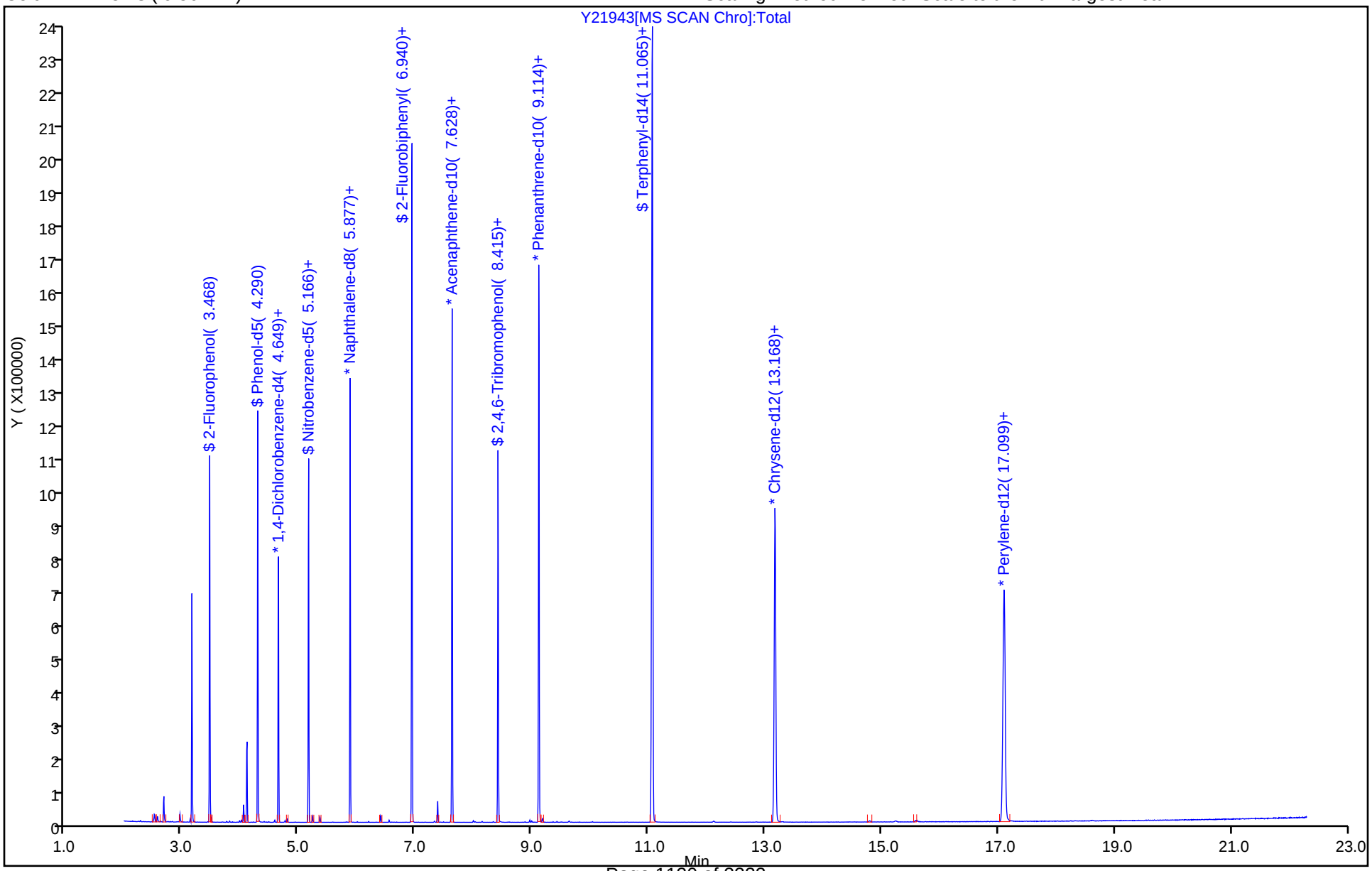
Report Date: 08-Nov-2018 09:56:11 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21943.D

Injection Date:	07-Nov-2018 19:47:30	Instrument ID:	SMS_Y	Operator ID:	HOEFLERA
Lims ID:	280-116020-A-8-A	Lab Sample ID:	280-116020-8	Worklist Smp#:	21
Client ID:	DA2mw-115-181001-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21943.D
Lims ID: 280-116020-A-8-A
Client ID: DA2mw-115-181001-GW
Sample Type: Client
Inject. Date: 07-Nov-2018 19:47:30 ALS Bottle#: 17 Worklist Smp#: 21
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-8-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:50:28

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	65.7	65.74
$ 8 Phenol-d5	100.0	67.7	67.71
$ 9 Nitrobenzene-d5	100.0	63.0	62.99
$ 11 2-Fluorobiphenyl	100.0	61.6	61.63
$ 12 2,4,6-Tribromophenol	100.0	79.5	79.47
$ 13 Terphenyl-d14	100.0	80.9	80.94

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-004-181001-GW | Lab Sample ID: 280-116020-12

Matrix: Water | Lab File ID: Y21944.D

Analysis Method: 8270D | Date Collected: 10/24/2018 11:20

Extract. Method: 3520C | Date Extracted: 10/29/2018 12:36

Sample wt/vol: 939(mL) | Date Analyzed: 11/07/2018 20:16

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436671 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
95-95-4	2,4,5-Trichlorophenol	1.1	U	21	1.1	0.48
88-06-2	2,4,6-Trichlorophenol	1.1	U	21	1.1	0.31
120-83-2	2,4-Dichlorophenol	2.1	U	11	2.1	0.68
105-67-9	2,4-Dimethylphenol	2.1	U	11	2.1	0.62
51-28-5	2,4-Dinitrophenol	32	U	85	32	11
121-14-2	2,4-Dinitrotoluene	4.7	U	21	4.7	1.8
606-20-2	2,6-Dinitrotoluene	4.7	U	21	4.7	2.0
95-57-8	2-Chlorophenol	4.7	U	11	4.7	2.1
95-48-7	2-Methylphenol	2.1	U	11	2.1	1.0
88-75-5	2-Nitrophenol	1.1	U	21	1.1	0.42
15831-10-4	3 & 4 Methylphenol	0.53	U	21	0.53	0.27
534-52-1	4,6-Dinitro-2-methylphenol	9.4	U	85	9.4	4.3
59-50-7	4-Chloro-3-methylphenol	5.3	U	21	5.3	2.6
100-02-7	4-Nitrophenol	4.3	U	53	4.3	1.3
117-81-7	Bis(2-ethylhexyl) phthalate	2.1	U	11	2.1	0.60
85-68-7	Butyl benzyl phthalate	2.1	U	21	2.1	1.1
84-66-2	Diethyl phthalate	1.1	U	21	1.1	0.40
131-11-3	Dimethyl phthalate	0.53	U	21	0.53	0.22
84-74-2	Di-n-butyl phthalate	4.7	U	21	4.7	1.2
117-84-0	Di-n-octyl phthalate	1.1	U	21	1.1	0.37
98-95-3	Nitrobenzene	2.1	U	21	2.1	0.86
87-86-5	Pentachlorophenol	64	U	85	64	21
108-95-2	Phenol	4.7	U	11	4.7	2.1

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	86		43-140
321-60-8	2-Fluorobiphenyl	76		44-119
367-12-4	2-Fluorophenol (Surr)	88		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	79		44-120
4165-62-2	Phenol-d5 (Surr)	89		10-115
1718-51-0	Terphenyl-d14 (Surr)	79		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21944.D
Lims ID: 280-116020-C-12-A
Client ID: DET-004-181001-GW
Sample Type: Client
Inject. Date: 07-Nov-2018 20:16:30 ALS Bottle#: 18 Worklist Smp#: 22
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-C-12-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:50:46

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.646	4.649	-0.003	94	113293	40.0	
* 2 Naphthalene-d8	136	5.880	5.877	0.003	99	498891	40.0	
* 3 Acenaphthene-d10	164	7.625	7.628	-0.003	96	280825	40.0	
* 4 Phenanthrene-d10	188	9.117	9.120	-0.003	97	571627	40.0	
* 5 Chrysene-d12	240	13.171	13.174	-0.003	98	622075	40.0	
* 6 Perylene-d12	264	17.102	17.105	-0.003	97	665698	40.0	
$ 7 2-Fluorophenol	112	3.465	3.465	0.000	89	342518	87.9	
$ 8 Phenol-d5	99	4.293	4.294	-0.001	95	441377	89.3	
$ 9 Nitrobenzene-d5	82	5.163	5.169	-0.006	84	362610	78.8	
$ 11 2-Fluorobiphenyl	172	6.937	6.944	-0.007	100	764117	76.2	
$ 12 2,4,6-Tribromophenol	330	8.418	8.424	-0.006	92	110516	86.1	
$ 13 Terphenyl-d14	244	11.062	11.068	-0.006	99	1125809	79.3	
28 Phenol	94		4.305				ND	
34 2-Chlorophenol	128		4.458				ND	
41 2-Methylphenol	108		4.875				ND	
48 3 & 4 Methylphenol	108		5.016				ND	
54 Nitrobenzene	77		5.187				ND	
58 2-Nitrophenol	139		5.498				ND	
59 2,4-Dimethylphenol	107		5.533				ND	
68 2,4-Dichlorophenol	162		5.745				ND	
83 4-Chloro-3-methylphenol	107		6.427				ND	
92 2,4,6-Trichlorophenol	196		6.867				ND	
94 2,4,5-Trichlorophenol	196		6.914				ND	
104 Dimethyl phthalate	163		7.331				ND	
106 2,6-Dinitrotoluene	165		7.396				ND	
111 2,4-Dinitrophenol	184		7.678				ND	
112 4-Nitrophenol	109		7.760				ND	
114 2,4-Dinitrotoluene	165		7.801				ND	
123 Diethyl phthalate	149		8.036				ND	
131 4,6-Dinitro-2-methylphenol	198		8.219				ND	
155 Pentachlorophenol	266		8.941				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
168 Di-n-butyl phthalate	149		9.682				ND	
187 Butyl benzyl phthalate	149		11.949				ND	
193 Bis(2-ethylhexyl) phthalat	149		13.307				ND	
195 Di-n-octyl phthalate	149		15.105				ND	

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

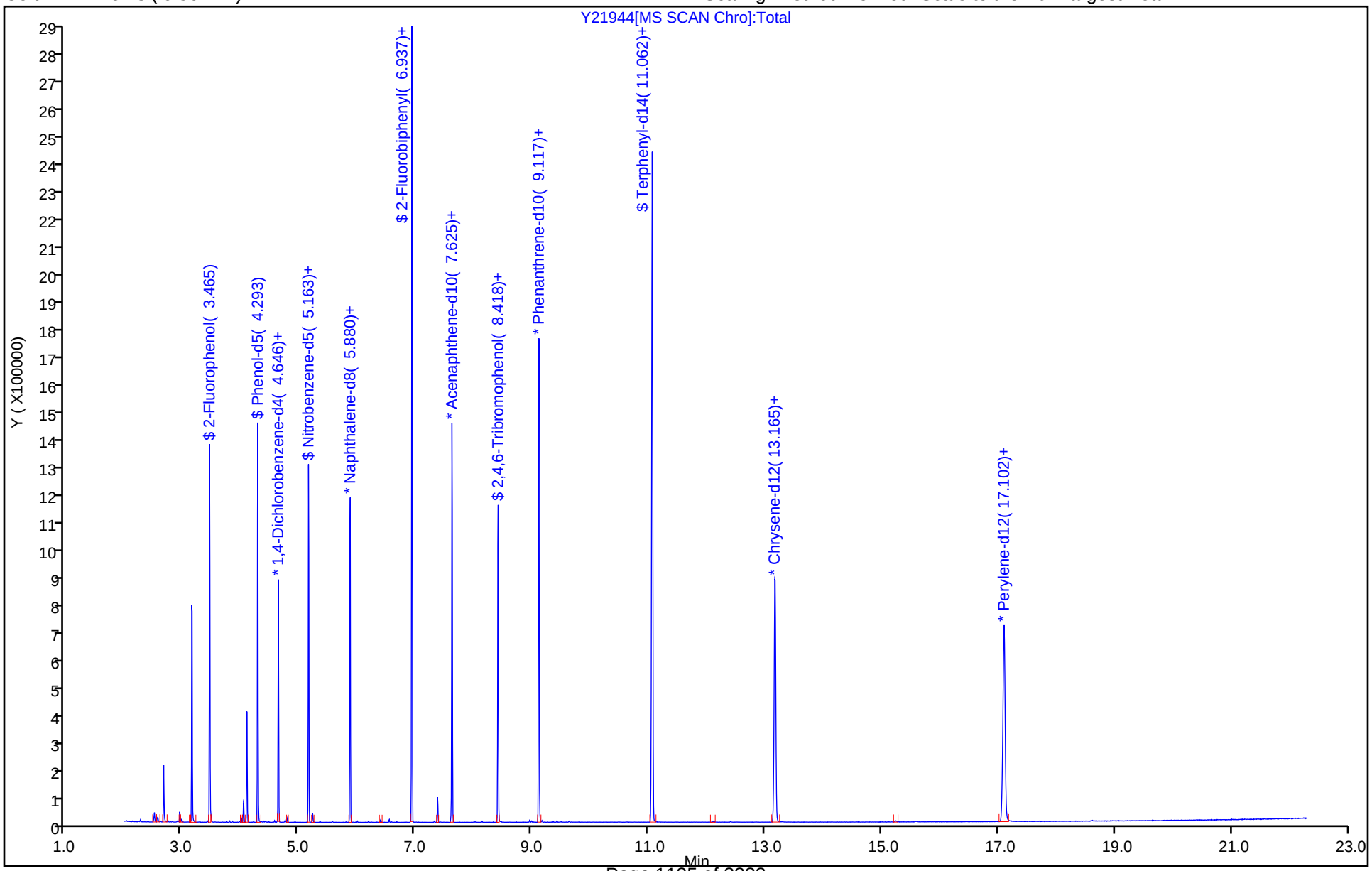
Report Date: 08-Nov-2018 09:56:13 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21944.D

Injection Date:	07-Nov-2018 20:16:30	Instrument ID:	SMS_Y	Operator ID:	HOEFLERA
Lims ID:	280-116020-C-12-A	Lab Sample ID:	280-116020-12	Worklist Smp#:	22
Client ID:	DET-004-181001-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21944.D
Lims ID: 280-116020-C-12-A
Client ID: DET-004-181001-GW
Sample Type: Client
Inject. Date: 07-Nov-2018 20:16:30 ALS Bottle#: 18 Worklist Smp#: 22
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-C-12-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:50:46

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	87.9	87.90
$ 8 Phenol-d5	100.0	89.3	89.34
$ 9 Nitrobenzene-d5	100.0	78.8	78.81
$ 11 2-Fluorobiphenyl	100.0	76.2	76.19
$ 12 2,4,6-Tribromophenol	100.0	86.1	86.08
$ 13 Terphenyl-d14	100.0	79.3	79.31

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433769

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/17/2018 10:59 Calibration End Date: 10/17/2018 14:19 Calibration ID: 34049

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD004 280-433769/4	Y21616.D
Level 2	STD010 280-433769/5	Y21617.D
Level 3	STD020 280-433769/6	Y21618.D
Level 4	STD050 280-433769/7	Y21619.D
Level 5	ICIS 280-433769/3	Y21615.D
Level 6	STD120 280-433769/8	Y21620.D
Level 7	STD160 280-433769/9	Y21621.D
Level 8	STD200 280-433769/10	Y21622.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,4-Dioxane	0.6236 0.5507	0.5489 0.5442	0.5526 0.5333	0.5309	0.5618	Ave		0.5557				5.3		15.0			
N-Nitrosodimethylamine	0.8956 0.8455	0.8469 0.8388	0.8642 0.8194	0.8200	0.8721	Ave		0.8503				3.1		15.0			
Pyridine	1.5255 1.4028	1.4186 1.3888	1.4097 1.3600	1.3886	1.4412	Ave		1.4169				3.5		15.0			
Phenol	1.9111 1.7552	1.7971 1.7230	1.7831 1.7008	1.7350	1.8034	Ave		1.7761				3.7		15.0			
Aniline	2.3873 2.2079	2.2383 2.2037	2.2301 2.1803	2.1830	2.2915	Ave		2.2403				3.1		15.0			
Bis(2-chloroethyl)ether	1.3584 1.2937	1.3267 1.2769	1.3121 1.2412	1.2922	1.3525	Ave		1.3067				3.0		15.0			
2-Chlorophenol	1.6175 1.4682	1.5229 1.4530	1.4892 1.4313	1.4451	1.5252	Ave		1.4940				4.1		15.0			
1,3-Dichlorobenzene	1.7212 1.5200	1.5957 1.5100	1.5731 1.4535	1.5285	1.5847	Ave		1.5608				5.1		15.0			
1,4-Dichlorobenzene	1.7207 1.5406	1.6694 1.5137	1.5939 1.4791	1.5421	1.6108	Ave		1.5838				5.1		15.0			
Benzyl alcohol	1.0733 1.0049	1.0147 0.9960	0.9984 0.9760	0.9792	1.0182	Ave		1.0076				3.0		15.0			
1,2-Dichlorobenzene	1.6368 1.4852	1.5521 1.4554	1.5406 1.4033	1.4835	1.5407	Ave		1.5122				4.7		15.0			
2-Methylphenol	1.4394 1.3474	1.3487 1.3360	1.3688 1.3024	1.3368	1.3926	Ave		1.3590				3.1		15.0			
2,2'-oxybis[1-chloropropane]	1.5262 1.4097	1.4650 1.3852	1.4248 1.3489	1.3911	1.4555	Ave		1.4258				3.9		15.0			
3 & 4 Methylphenol	1.5132 1.4178	1.4489 1.3917	1.4528 1.3503	1.4079	1.4860	Ave		1.4336				3.7		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433769

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/17/2018 10:59 Calibration End Date: 10/17/2018 14:19 Calibration ID: 34049

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
N-Nitrosodi-n-propylamine	1.0921 0.9856	1.0502 0.9663	1.0334 0.9395	0.9946	1.0321	Ave		1.0117			0.0500	4.9		15.0			
Acetophenone	2.1040 1.8298	1.9750 1.7903	1.9591 1.7230	1.8759	1.9440	Ave		1.9001				6.3		15.0			
Hexachloroethane	0.6362 0.5865	0.5956 0.5782	0.5941 0.5683	0.5809	0.6090	Ave		0.5936				3.6		15.0			
Nitrobenzene	0.3789 0.3447	0.3549 0.3390	0.3524 0.3329	0.3439	0.3610	Ave		0.3510				4.1		15.0			
Isophorone	0.6873 0.6375	0.6555 0.6245	0.6508 0.6223	0.6401	0.6612	Ave		0.6474				3.3		15.0			
2-Nitrophenol	0.1987 0.1968	0.1931 0.1939	0.1922 0.1927	0.1939	0.2028	Ave		0.1955				1.9		15.0			
2,4-Dimethylphenol	0.3725 0.3263	0.3490 0.3216	0.3365 0.3185	0.3328	0.3478	Ave		0.3381				5.3		15.0			
Bis(2-chloroethoxy)methane	0.4402 0.3890	0.4020 0.3836	0.4012 0.3770	0.3900	0.4053	Ave		0.3985				4.9		15.0			
Benzoic acid	+++++ 0.3049	0.2364 0.3125	0.2605 0.3130	0.2847	0.3058	Lin2	-1.633	0.3118							0.9990		0.9900
2,4-Dichlorophenol	0.3159 0.2869	0.3052 0.2817	0.2918 0.2785	0.2880	0.3009	Ave		0.2936				4.3		15.0			
1,2,4-Trichlorobenzene	0.3554 0.2945	0.3189 0.2870	0.3099 0.2802	0.2987	0.3083	Ave		0.3066				7.6		15.0			
Naphthalene	1.1767 0.9989	1.0783 0.9622	1.0562 0.9332	1.0265	1.0552	Ave		1.0359				7.3		15.0			
4-Chloroaniline	0.5197 0.4533	0.4781 0.4446	0.4780 0.4345	0.4677	0.4795	Ave		0.4694				5.6		15.0			
2,6-Dichlorophenol	0.3168 0.2838	0.3012 0.2798	0.2887 0.2726	0.2852	0.2974	Ave		0.2907				4.8		15.0			
Hexachlorobutadiene	0.1758 0.1523	0.1611 0.1483	0.1623 0.1439	0.1564	0.1617	Ave		0.1577				6.3		15.0			
Caprolactam	0.1411 0.1347	0.1356 0.1387	0.1351 0.1376	0.1304	0.1350	Ave		0.1360				2.3		15.0			
4-Chloro-3-methylphenol	0.3187 0.3007	0.3040 0.2924	0.3027 0.2944	0.2958	0.3107	Ave		0.3024				2.9		15.0			
2-Methylnaphthalene	0.8444 0.7046	0.7698 0.6785	0.7480 0.6635	0.7261	0.7454	Ave		0.7350				7.8		15.0			
1-Methylnaphthalene	0.7597 0.6544	0.7199 0.6388	0.7052 0.6230	0.6741	0.7029	Ave		0.6847				6.7		15.0			
Hexachlorocyclopentadiene	0.4025 0.3560	0.3756 0.3435	0.3751 0.3342	0.3676	0.3884	Ave		0.3679			0.0500	6.2		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433769

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/17/2018 10:59 Calibration End Date: 10/17/2018 14:19 Calibration ID: 34049

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,2,4,5-Tetrachlorobenzene	0.3511 0.2878	0.3343 0.2732	0.3118 0.2653	0.3010	0.3045	Ave		0.3036				9.6		15.0			
2,4,6-Trichlorophenol	0.4186 0.3641	0.3894 0.3415	0.3933 0.3293	0.3737	0.3858	Ave		0.3745				7.7		15.0			
2,4,5-Trichlorophenol	0.4573 0.4216	0.4349 0.4103	0.4353 0.4040	0.4258	0.4445	Ave		0.4292				4.1		15.0			
1,1'-Biphenyl	1.8069 1.5264	1.6409 1.4642	1.6501 1.4068	1.5795	1.5896	Ave		1.5830				7.8		15.0			
2-Chloronaphthalene	1.3628 1.1955	1.2747 1.1482	1.2597 1.1022	1.1995	1.2472	Ave		1.2237				6.6		15.0			
2-Nitroaniline	0.3614 0.3516	0.3520 0.3469	0.3552 0.3416	0.3520	0.3626	Ave		0.3529				2.0		15.0			
Dimethyl phthalate	1.5751 1.3723	1.4707 1.3328	1.4760 1.3138	1.3845	1.4493	Ave		1.4218				6.1		15.0			
1,3-Dinitrobenzene	0.2327 0.2666	0.2391 0.2613	0.2567 0.2673	0.2585	0.2703	Ave		0.2566				5.3		15.0			
2,6-Dinitrotoluene	0.3575 0.3427	0.3555 0.3345	0.3487 0.3301	0.3388	0.3491	Ave		0.3446				2.8		15.0			
Acenaphthylene	2.3275 1.9683	2.1478 1.8898	2.1236 1.8457	2.0312	2.0862	Ave		2.0525				7.5		15.0			
3-Nitroaniline	0.4541 0.4159	0.4078 0.4097	0.4204 0.4079	0.4096	0.4259	Ave		0.4189				3.7		15.0			
Acenaphthene	1.4585 1.1831	1.3478 1.1387	1.3154 1.1088	1.2388	1.2634	Ave		1.2568				9.2		15.0			
2,4-Dinitrophenol	+++++ 0.2400	0.1921 0.2398	0.2189 0.2408	0.2272	0.2421	Lin2	-1.029	0.2436			0.0500				1.0000		0.9900
4-Nitrophenol	0.2037 0.2057	0.2047 0.2069	0.2087 0.2031	0.2048	0.2123	Ave		0.2062			0.0500	1.5		15.0			
2,4-Dinitrotoluene	0.4890 0.4667	0.4677 0.4629	0.4766 0.4586	0.4629	0.4838	Ave		0.4710				2.3		15.0			
Dibenzofuran	2.0611 1.7421	1.9063 1.6779	1.9016 1.6376	1.7974	1.8515	Ave		1.8219				7.6		15.0			
2,3,4,6-Tetrachlorophenol	0.3608 0.3539	0.3590 0.3507	0.3627 0.3364	0.3580	0.3682	Ave		0.3562				2.7		15.0			
Diethyl phthalate	1.6152 1.4086	1.5000 1.3351	1.4999 1.2624	1.4377	1.4730	Ave		1.4415				7.5		15.0			
4-Chlorophenyl phenyl ether	0.7865 0.6629	0.7232 0.6385	0.7107 0.6071	0.6840	0.6968	Ave		0.6887				8.0		15.0			
Fluorene	1.6872 1.3825	1.5421 1.3375	1.5341 1.2998	1.4335	1.4776	Ave		1.4618				8.6		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433769

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/17/2018 10:59 Calibration End Date: 10/17/2018 14:19 Calibration ID: 34049

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
4-Nitroaniline	0.4719 0.4504	0.4387 0.4417	0.4594 0.4356	0.4419	0.4597	Ave		0.4499				2.8		15.0			
4,6-Dinitro-2-methylphenol	+++++ 0.1367	0.1190 0.1332	0.1280 0.1295	0.1301	0.1373	Lin2	-0.310	0.1350							0.9990		0.9900
Diphenylamine	1.5271 1.2965	1.3727 1.2408	1.3931 1.2011	1.3330	1.3483	Ave		1.3391				7.5		15.0			
N-Nitrosodiphenylamine	0.6457 0.5467	0.5877 0.5266	0.5837 0.5033	0.5633	0.5630	Ave		0.5650				7.6		15.0			
1,2-Diphenylhydrazine	1.5493 1.3652	1.4253 1.3239	1.4223 1.3124	1.3768	1.4106	Ave		1.3982				5.3		15.0			
Azobenzene	1.5663 1.3802	1.4410 1.3385	1.4379 1.3268	1.3919	1.4261	Ave		1.4136				5.3		15.0			
4-Bromophenyl phenyl ether	0.2311 0.2004	0.2204 0.1933	0.2132 0.1825	0.2068	0.2075	Ave		0.2069				7.4		15.0			
Hexachlorobenzene	0.2332 0.1880	0.2111 0.1816	0.2113 0.1745	0.1950	0.1976	Ave		0.1990				9.5		15.0			
Atrazine	0.2336 0.2038	0.2233 0.1945	0.2174 0.1822	0.2096	0.2132	Ave		0.2097				7.7		15.0			
Pentachlorophenol	+++++ 0.1315	0.1350 0.1278	0.1425 0.1212	0.1368	0.1368	Ave		0.1331				5.2		15.0			
Phenanthrene	1.2890 1.0567	1.1842 0.9999	1.1571 0.9532	1.0994	1.1191	Ave		1.1073				9.6		15.0			
Anthracene	1.3433 1.0952	1.2465 1.0505	1.2044 0.9930	1.1467	1.1460	Ave		1.1532				9.7		15.0			
Carbazole	1.2927 1.0563	1.1596 1.0158	1.1574 0.9687	1.1033	1.1173	Ave		1.1089				9.0		15.0			
Alachlor	0.1684 0.1476	0.1539 0.1446	0.1555 0.1399	0.1535	0.1559	Ave		0.1524				5.7		15.0			
Di-n-butyl phthalate	1.4188 1.2265	1.3315 1.1945	1.3221 1.1394	1.2758	1.3022	Ave		1.2763				6.9		15.0			
Fluoranthene	1.4763 1.2570	1.3705 1.2063	1.3441 1.1426	1.3000	1.3105	Ave		1.3009				7.9		15.0			
Pyrene	1.3855 1.2230	1.2883 1.1990	1.2743 1.1864	1.2148	1.2675	Ave		1.2549				5.1		15.0			
Famphur	+++++ 0.2751	0.4437 0.2346	0.4245 +++++	0.3582	0.3314	Qua	0.6433	0.4048	-0.001095						0.9990		0.9900
Butyl benzyl phthalate	0.6010 0.5831	0.5733 0.5843	0.5763 0.5786	0.5628	0.5960	Ave		0.5819				2.1		15.0			
3,3'-Dichlorobenzidine	0.4429 0.4306	0.4386 0.4219	0.4499 0.4080	0.4366	0.4580	Ave		0.4358				3.6		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433769

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/17/2018 10:59 Calibration End Date: 10/17/2018 14:19 Calibration ID: 34049

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Benzo[a]anthracene	1.3560 1.2119	1.2559 1.1917	1.2328 1.1804	1.1950	1.2550	Ave		1.2349				4.6		15.0			
Chrysene	1.2674 1.1358	1.1985 1.1267	1.1816 1.1051	1.1321	1.1894	Ave		1.1671				4.5		15.0			
Bis(2-ethylhexyl) phthalate	0.8179 0.7982	0.7811 0.7972	0.7787 0.7929	0.7618	0.8139	Ave		0.7927				2.3		15.0			
Di-n-octyl phthalate	1.3797 1.4058	1.3322 1.4038	1.3517 1.3971	1.3408	1.4499	Ave		1.3826				2.9		15.0			
Benzo[b]fluoranthene	1.1844 1.1337	1.1466 1.1331	1.1222 1.1514	1.1107	1.1735	Ave		1.1445				2.2		15.0			
Benzo[k]fluoranthene	1.2569 1.1850	1.1718 1.1374	1.1847 1.0909	1.1546	1.2011	Ave		1.1728				4.1		15.0			
Benzo[a]pyrene	1.1859 1.1431	1.1304 1.1229	1.1411 1.0963	1.1111	1.1635	Ave		1.1368				2.5		15.0			
Indeno[1,2,3-cd]pyrene	1.1289 1.1164	1.0673 1.1003	1.0513 1.1187	1.0540	1.1066	Ave		1.0929				2.8		15.0			
Dibenz(a,h)anthracene	1.0791 1.0489	1.0158 1.0330	0.9963 1.0146	1.0020	1.0457	Ave		1.0294				2.7		15.0			
Benzo[g,h,i]perylene	1.1251 1.0862	1.0893 1.0644	1.0673 1.0454	1.0471	1.0892	Ave		1.0768				2.4		15.0			
2-Fluorophenol (Surr)	1.5014 1.3602	1.3919 1.3485	1.3666 1.3054	1.3347	1.3977	Ave		1.3758				4.3		15.0			
Phenol-d5 (Surr)	1.8674 1.7207	1.7844 1.7138	1.7149 1.6798	1.6939	1.7798	Ave		1.7443				3.6		15.0			
Nitrobenzene-d5 (Surr)	0.3996 0.3529	0.3879 0.3528	0.3873 0.3475	0.3530	0.3701	Ave		0.3689				5.5		15.0			
2-Fluorobiphenyl	1.6319 1.3761	1.5052 1.3140	1.4829 1.2740	1.4079	1.4358	Ave		1.4285				8.0		15.0			
2,4,6-Tribromophenol (Surr)	0.1888 0.1792	0.1878 0.1774	0.1893 0.1704	0.1829	0.1871	Ave		0.1829				3.7		15.0			
Terphenyl-d14 (Surr)	1.0058 0.8873	0.9458 0.8668	0.9327 0.8553	0.8855	0.9226	Ave		0.9127				5.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433769

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/17/2018 10:59 Calibration End Date: 10/17/2018 14:19 Calibration ID: 34049

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
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Level 2	STD010 280-433769/5	Y21617.D
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Level 4	STD050 280-433769/7	Y21619.D
Level 5	ICIS 280-433769/3	Y21615.D
Level 6	STD120 280-433769/8	Y21620.D
Level 7	STD160 280-433769/9	Y21621.D
Level 8	STD200 280-433769/10	Y21622.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,4-Dioxane	DCBd 4	Ave	7960 228276	18230 301810	40942 380305	95124	147306	4.00 120	10.0 160	20.0 200	50.0	80.0
N-Nitrosodimethylamine	DCBd 4	Ave	11432 350438	28129 465225	64034 584331	146921	228660	4.00 120	10.0 160	20.0 200	50.0	80.0
Pyridine	DCBd 4	Ave	38944 1162874	94228 1540516	208904 1939664	497614	755741	8.00 240	20.0 320	40.0 400	100	160
Phenol	DCBd 4	Ave	24394 727497	59685 955592	132117 1212873	310875	472833	4.00 120	10.0 160	20.0 200	50.0	80.0
Aniline	DCBd 4	Ave	30473 915140	74340 1222225	165245 1554856	391148	600819	4.00 120	10.0 160	20.0 200	50.0	80.0
Bis(2-chloroethyl)ether	DCBd 4	Ave	17339 536229	44063 708211	97225 885149	231536	354612	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Chlorophenol	DCBd 4	Ave	20647 608552	50578 805852	110341 1020675	258939	399902	4.00 120	10.0 160	20.0 200	50.0	80.0
1,3-Dichlorobenzene	DCBd 4	Ave	21971 630027	52996 837463	116559 1036557	273881	415497	4.00 120	10.0 160	20.0 200	50.0	80.0
1,4-Dichlorobenzene	DCBd 4	Ave	21964 638576	55443 839517	118101 1054806	276312	422337	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzyl alcohol	DCBd 4	Ave	13700 416530	33701 552392	73974 696036	175456	266973	4.00 120	10.0 160	20.0 200	50.0	80.0
1,2-Dichlorobenzene	DCBd 4	Ave	20893 615618	51549 807161	114150 1000736	265815	403963	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Methylphenol	DCBd 4	Ave	18373 558495	44794 740942	101424 928746	239537	365138	4.00 120	10.0 160	20.0 200	50.0	80.0
2,2'-oxybis[1-chloropropane]	DCBd 4	Ave	19482 584300	48656 768222	105570 961913	249252	381622	4.00 120	10.0 160	20.0 200	50.0	80.0
3 & 4 Methylphenol	DCBd 4	Ave	19316 587668	48121 771864	107648 962914	252271	389609	4.00 120	10.0 160	20.0 200	50.0	80.0
N-Nitrosodi-n-propylamine	DCBd 4	Ave	13940 408539	34878 535943	76569 670002	178216	270602	4.00 120	10.0 160	20.0 200	50.0	80.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433769

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/17/2018 10:59 Calibration End Date: 10/17/2018 14:19 Calibration ID: 34049

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Acetophenone	DCBd 4	Ave	26857 758422	65594 992930	145159 1228715	336121	509710	4.00 120	10.0 160	20.0 200	50.0	80.0
Hexachloroethane	DCBd 4	Ave	8121 243107	19780 320693	44022 405282	104085	159667	4.00 120	10.0 160	20.0 200	50.0	80.0
Nitrobenzene	NPT	Ave	19711 599472	48539 793521	108786 997467	256190	394386	4.00 120	10.0 160	20.0 200	50.0	80.0
Isophorone	NPT	Ave	35751 1108780	89646 1461678	200912 1864707	476871	722280	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Nitrophenol	NPT	Ave	10336 342184	26407 453940	59337 577371	144428	221591	4.00 120	10.0 160	20.0 200	50.0	80.0
2,4-Dimethylphenol	NPT	Ave	19377 567406	47723 752819	103888 954429	247960	379885	4.00 120	10.0 160	20.0 200	50.0	80.0
Bis(2-chloroethoxy)methane	NPT	Ave	22898 676501	54976 897935	123839 1129574	290547	442724	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzoic acid	NPT	Lin2	+++++ 1060549	64670 1462644	160809 1875673	424138	668059	+++++ 240	20.0 320	40.0 400	100	160
2,4-Dichlorophenol	NPT	Ave	16434 498921	41745 659257	90093 834630	214546	328659	4.00 120	10.0 160	20.0 200	50.0	80.0
1,2,4-Trichlorobenzene	NPT	Ave	18487 512153	43619 671762	95653 839677	222556	336837	4.00 120	10.0 160	20.0 200	50.0	80.0
Naphthalene	NPT	Ave	61206 1737324	147472 2252136	326059 2796193	764762	1152696	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Chloroaniline	NPT	Ave	27031 788359	65384 1040633	147564 1301824	348447	523762	4.00 120	10.0 160	20.0 200	50.0	80.0
2,6-Dichlorophenol	NPT	Ave	16480 493658	41195 654871	89113 816823	212486	324877	4.00 120	10.0 160	20.0 200	50.0	80.0
Hexachlorobutadiene	NPT	Ave	9144 264822	22036 347039	50099 431300	116500	176602	4.00 120	10.0 160	20.0 200	50.0	80.0
Caprolactam	NPT	Ave	7337 234313	18546 324705	41704 412388	97153	147470	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Chloro-3-methylphenol	NPT	Ave	16579 523048	41569 684408	93439 882083	220381	339368	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Methylnaphthalene	NPT	Ave	43920 1225380	105273 1588181	230902 1988091	540934	814258	4.00 120	10.0 160	20.0 200	50.0	80.0
1-Methylnaphthalene	NPT	Ave	39514 1138031	98452 1495263	217681 1866655	502175	767839	4.00 120	10.0 160	20.0 200	50.0	80.0
Hexachlorocyclopentadiene	ANT	Ave	11344 335930	28002 437651	62573 543251	149416	231188	4.00 120	10.0 160	20.0 200	50.0	80.0
1,2,4,5-Tetrachlorobenzene	NPT	Ave	18262 500559	45721 639418	96252 794924	224275	332648	4.00 120	10.0 160	20.0 200	50.0	80.0
2,4,6-Trichlorophenol	ANT	Ave	11799 343541	29032 435060	65599 535354	151907	229679	4.00 120	10.0 160	20.0 200	50.0	80.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433769

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/17/2018 10:59 Calibration End Date: 10/17/2018 14:19 Calibration ID: 34049

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
2,4,5-Trichlorophenol	ANT	Ave	12888 397771	32425 522704	72610 656809	173088	264595	4.00 120	10.0 160	20.0 200	50.0	80.0
1,1'-Biphenyl	ANT	Ave	50927 1440159	122337 1865379	275232 2287067	642016	946247	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Chloronaphthalene	ANT	Ave	38410 1127998	95038 1462814	210123 1791806	487579	742422	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Nitroaniline	ANT	Ave	10185 331719	26241 441926	59250 555355	143062	215861	4.00 120	10.0 160	20.0 200	50.0	80.0
Dimethyl phthalate	ANT	Ave	44395 1294783	109645 1697949	246190 2135872	562746	862756	4.00 120	10.0 160	20.0 200	50.0	80.0
1,3-Dinitrobenzene	ANT	Ave	6560 251579	17823 332894	42810 434505	105077	160930	4.00 120	10.0 160	20.0 200	50.0	80.0
2,6-Dinitrotoluene	ANT	Ave	10077 323293	26503 426088	58161 536608	137721	207817	4.00 120	10.0 160	20.0 200	50.0	80.0
Acenaphthylene	ANT	Ave	65601 1857117	160130 2407548	354220 3000614	825631	1241871	4.00 120	10.0 160	20.0 200	50.0	80.0
3-Nitroaniline	ANT	Ave	12799 392383	30406 521919	70120 663047	166511	253552	4.00 120	10.0 160	20.0 200	50.0	80.0
Acenaphthene	ANT	Ave	41109 1116219	100486 1450647	219415 1802595	503526	752075	4.00 120	10.0 160	20.0 200	50.0	80.0
2,4-Dinitrophenol	ANT	Lin2	+++++ 452906	28650 610890	73022 782993	184736	288186	+++++ 240	20.0 320	40.0 400	100	160
4-Nitrophenol	ANT	Ave	11480 388087	30517 527217	69622 660504	166469	252787	8.00 240	20.0 320	40.0 400	100	160
2,4-Dinitrotoluene	ANT	Ave	13782 440362	34873 589785	79493 745593	188161	288011	4.00 120	10.0 160	20.0 200	50.0	80.0
Dibenzofuran	ANT	Ave	58092 1643634	142122 2137548	317195 2662216	730603	1102160	4.00 120	10.0 160	20.0 200	50.0	80.0
2,3,4,6-Tetrachlorophenol	ANT	Ave	10168 333930	26763 446827	60500 546928	145528	219198	4.00 120	10.0 160	20.0 200	50.0	80.0
Diethyl phthalate	ANT	Ave	45526 1329006	111830 1700842	250177 2052254	584402	876865	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Chlorophenyl phenyl ether	ANT	Ave	22169 625458	53918 813476	118550 987047	278035	414809	4.00 120	10.0 160	20.0 200	50.0	80.0
Fluorene	ANT	Ave	47553 1304345	114970 1703971	255883 2113153	582668	879589	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Nitroaniline	ANT	Ave	13300 424907	32710 562707	76629 708120	179626	273679	4.00 120	10.0 160	20.0 200	50.0	80.0
4,6-Dinitro-2-methylphenol	PHN	Lin2	+++++ 519854	35234 679477	86616 853901	212741	332764	+++++ 240	20.0 320	40.0 400	100	160
Diphenylamine	ANT	Ave	36585 1039781	86993 1343659	197510 1659803	460560	682226	3.40 102	8.50 136	17.0 170	42.5	68.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433769

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/17/2018 10:59 Calibration End Date: 10/17/2018 14:19 Calibration ID: 34049

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
N-Nitrosodiphenylamine	PHN	Ave	36585 1039781	86993 1343659	197510 1659803	460560	682226	4.00 120	10.0 160	20.0 200	50.0	80.0
1,2-Diphenylhydrazine	ANT	Ave	44148 1302194	107431 1705176	239850 2156960	565756	848944	4.04 121	10.1 162	20.2 202	50.5	80.9
Azobenzene	ANT	Ave	44148 1302194	107431 1705176	239850 2156960	565756	848944	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Bromophenyl phenyl ether	PHN	Ave	13092 381135	32619 493202	72151 602040	169100	251488	4.00 120	10.0 160	20.0 200	50.0	80.0
Hexachlorobenzene	PHN	Ave	13214 357601	31255 463438	71480 575358	159434	239420	4.00 120	10.0 160	20.0 200	50.0	80.0
Atrazine	PHN	Ave	13234 387596	33055 496206	73560 600892	171391	258314	4.00 120	10.0 160	20.0 200	50.0	80.0
Pentachlorophenol	PHN	Ave	+++++ 500207	39955 652149	96430 799768	223726	331594	+++++ 240	20.0 320	40.0 400	100	160
Phenanthrene	PHN	Ave	73040 2009729	175304 2551040	391512 3143882	898854	1356131	4.00 120	10.0 160	20.0 200	50.0	80.0
Anthracene	PHN	Ave	76117 2082886	184528 2680306	407529 3274877	937517	1388828	4.00 120	10.0 160	20.0 200	50.0	80.0
Carbazole	PHN	Ave	73248 2008912	171665 2591609	391608 3194820	901993	1354056	4.00 120	10.0 160	20.0 200	50.0	80.0
Alachlor	PHN	Ave	9541 280753	22789 369042	52625 461524	125510	188971	4.00 120	10.0 160	20.0 200	50.0	80.0
Di-n-butyl phthalate	PHN	Ave	80393 2332660	197098 3047518	447347 3757798	1043002	1578012	4.00 120	10.0 160	20.0 200	50.0	80.0
Fluoranthene	PHN	Ave	83650 2390678	202877 3077726	454781 3768235	1062825	1588168	4.00 120	10.0 160	20.0 200	50.0	80.0
Pyrene	CRY	Ave	85871 2463216	208788 3179111	473314 3923736	1093946	1632034	4.00 120	10.0 160	20.0 200	50.0	80.0
Famphur	CRY	Qua	+++++ 554080	71916 622100	157679 +++++	322571	426714	+++++ 120	10.0 160	20.0 +++++	50.0	80.0
Butyl benzyl phthalate	CRY	Ave	37246 1174376	92915 1549277	214035 1913596	506799	767415	4.00 120	10.0 160	20.0 200	50.0	80.0
3,3'-Dichlorobenzidine	CRY	Ave	27449 867174	71086 1118553	167102 1349331	393191	589778	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzo[a]anthracene	CRY	Ave	84043 2440842	203541 3159612	457901 3903813	1076094	1616021	4.00 120	10.0 160	20.0 200	50.0	80.0
Chrysene	CRY	Ave	78552 2287612	194239 2987374	438887 3654645	1019476	1531498	4.00 120	10.0 160	20.0 200	50.0	80.0
Bis(2-ethylhexyl) phthalate	CRY	Ave	50689 1607597	126594 2113778	289215 2622259	685989	1047966	4.00 120	10.0 160	20.0 200	50.0	80.0
Di-n-octyl phthalate	CRY	Ave	85509 2831355	215901 3722164	502034 4620590	1207417	1866915	4.00 120	10.0 160	20.0 200	50.0	80.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433769

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/17/2018 10:59 Calibration End Date: 10/17/2018 14:19 Calibration ID: 34049

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Benzo[b]fluoranthene	PRY	Ave	79492 2399302	199992 3198333	443635 4075967	1059571	1601180	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzo[k]fluoranthene	PRY	Ave	84354 2507894	204392 3210325	468345 3861829	1101441	1638835	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzo[a]pyrene	PRY	Ave	79592 2419119	197161 3169337	451096 3880930	1059958	1587492	4.00 120	10.0 160	20.0 200	50.0	80.0
Indeno[1,2,3-cd]pyrene	CRY	Ave	69966 2248406	172979 2917463	390475 3699746	949090	1424898	4.00 120	10.0 160	20.0 200	50.0	80.0
Dibenz(a,h)anthracene	PRY	Ave	72425 2219831	177184 2915555	393846 3591959	955838	1426741	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzo[g,h,i]perylene	PRY	Ave	75508 2298680	190004 3004419	421943 3700841	998884	1486157	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Fluorophenol (Surr)	DCBd 4	Ave	19165 563807	46229 747903	101256 930926	239152	366456	4.00 120	10.0 160	20.0 200	50.0	80.0
Phenol-d5 (Surr)	DCBd 4	Ave	23837 713224	59263 950468	127070 1197908	303510	466659	4.00 120	10.0 160	20.0 200	50.0	80.0
Nitrobenzene-d5 (Surr)	NPT	Ave	20785 613781	53053 825706	119555 1041233	262977	404350	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Fluorobiphenyl	ANT	Ave	45997 1298380	112223 1674067	247351 2071109	572257	854737	4.00 120	10.0 160	20.0 200	50.0	80.0
2,4,6-Tribromophenol (Surr)	ANT	Ave	5321 169103	14005 225993	31569 276966	74352	111385	4.00 120	10.0 160	20.0 200	50.0	80.0
Terphenyl-d14 (Surr)	CRY	Ave	62337 1787107	153283 2298169	346407 2828786	797420	1187944	4.00 120	10.0 160	20.0 200	50.0	80.0

Curve Type Legend:

Ave = Average ISTD
Lin2 = Linear 1/conc^2 ISTD
Qua = Quadratic ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Lims ID: ICIS HSL
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 17-Oct-2018 10:59:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: ICIS HSL
Operator ID: KIEKELD Instrument ID: SMS_Y
Sublist: chrom-SMSY_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 18-Oct-2018 09:36:11 Calib Date: 17-Oct-2018 19:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21632.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: kiekeld Date: 17-Oct-2018 11:51:12

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.684	4.684	0.000	94	131096	40.0	40.0	
* 2 Naphthalene-d8	136	5.900	5.900	0.000	98	546199	40.0	40.0	a
* 3 Acenaphthene-d10	164	7.645	7.645	0.000	96	297646	40.0	40.0	
* 4 Phenanthrene-d10	188	9.143	9.143	0.000	98	605925	40.0	40.0	a
* 5 Chrysene-d12	240	13.244	13.244	0.000	99	643809	40.0	40.0	
* 6 Perylene-d12	264	17.192	17.192	0.000	97	682196	40.0	40.0	
$ 7 2-Fluorophenol	112	3.514	3.514	0.000	89	366456	80.0	81.3	
$ 8 Phenol-d5	99	4.308	4.308	0.000	97	466659	80.0	81.6	
$ 9 Nitrobenzene-d5	82	5.189	5.189	0.000	84	404350	80.0	80.3	
$ 11 2-Fluorobiphenyl	172	6.957	6.957	0.000	100	854737	80.0	80.4	
$ 12 2,4,6-Tribromophenol	330	8.438	8.438	0.000	92	111385	80.0	81.9	
$ 13 Terphenyl-d14	244	11.111	11.111	0.000	98	1187944	80.0	80.9	
15 1,4-Dioxane	88	2.222	2.222	0.000	89	147306	80.0	80.9	
17 N-Nitrosodimethylamine	74	2.427	2.427	0.000	94	228660	80.0	82.1	
18 Pyridine	79	2.480	2.480	0.000	95	755741	160.0	162.7	a
28 Phenol	94	4.319	4.319	0.000	97	472833	80.0	81.2	
30 Aniline	93	4.372	4.372	0.000	99	600819	80.0	81.8	
31 Bis(2-chloroethyl)ether	93	4.407	4.407	0.000	99	354612	80.0	82.8	
32 Alpha Methyl Styrene	118	4.425	4.425	0.000	89	394433	80.0	82.2	
34 2-Chlorophenol	128	4.490	4.490	0.000	95	399902	80.0	81.7	
35 n-Decane	43	4.519	4.519	0.000	87	278675	80.0	81.0	
37 1,3-Dichlorobenzene	146	4.637	4.637	0.000	98	415497	80.0	81.2	
38 1,4-Dichlorobenzene	146	4.695	4.695	0.000	95	422337	80.0	81.4	
39 Benzyl alcohol	108	4.789	4.789	0.000	95	266973	80.0	80.8	
40 1,2-Dichlorobenzene	146	4.842	4.842	0.000	98	403963	80.0	81.5	
41 2-Methylphenol	108	4.883	4.883	0.000	92	365138	80.0	82.0	
43 2,2'-oxybis[1-chloropropan	45	4.913	4.913	0.000	92	381622	80.0	81.7	
44 Indene	116	4.930	4.930	0.000	90	1272869	160.0	162.6	
46 3-Methylphenol	108	5.024	5.024	0.000	91	389609	80.0	82.9	
47 4-Methylphenol	108	5.024	5.024	0.000	97	389609	80.0	82.9	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
48 3 & 4 Methylphenol	108	5.024	5.024	0.000	99	389609	80.0	82.9	
50 N-Nitrosodi-n-propylamine	70	5.036	5.036	0.000	86	270602	80.0	81.6	
51 Acetophenone	105	5.042	5.042	0.000	96	509710	80.0	81.8	
53 Hexachloroethane	117	5.171	5.171	0.000	98	159667	80.0	82.1	
54 Nitrobenzene	77	5.212	5.212	0.000	82	394386	80.0	82.3	
57 Isophorone	82	5.436	5.436	0.000	98	722280	80.0	81.7	a
58 2-Nitrophenol	139	5.518	5.518	0.000	87	221591	80.0	83.0	a
59 2,4-Dimethylphenol	107	5.541	5.541	0.000	92	379885	80.0	82.3	a
63 Bis(2-chloroethoxy)methane	93	5.630	5.630	0.000	96	442724	80.0	81.4	a
64 Benzoic acid	105	5.653	5.653	0.000	85	668059	160.0	162.1	a
66 3,5-Dimethylphenol	107	5.665	5.665	0.000	86	387988	80.0	81.3	a
68 2,4-Dichlorophenol	162	5.753	5.753	0.000	91	328659	80.0	82.0	a
69 1,2,4-Trichlorobenzene	180	5.841	5.841	0.000	94	336837	80.0	80.4	
71 Naphthalene	128	5.923	5.923	0.000	97	1152696	80.0	81.5	a
72 4-Chloroaniline	127	5.953	5.953	0.000	98	523762	80.0	81.7	
73 2,6-Dichlorophenol	162	5.970	5.970	0.000	98	324877	80.0	81.8	a
75 Hexachlorobutadiene	225	6.047	6.047	0.000	97	176602	80.0	82.0	
79 Caprolactam	55	6.282	6.282	0.000	83	147470	80.0	79.4	M
83 4-Chloro-3-methylphenol	107	6.423	6.423	0.000	94	339368	80.0	82.2	
86 2-Methylnaphthalene	142	6.599	6.599	0.000	93	814258	80.0	81.1	a
88 1-Methylnaphthalene	142	6.705	6.705	0.000	93	767839	80.0	82.1	a
89 1,2,4,5-Tetrachlorobenzene	216	6.775	6.775	0.000	97	332648	80.0	80.2	
90 Hexachlorocyclopentadiene	237	6.769	6.769	0.000	96	231188	80.0	84.5	
92 2,4,6-Trichlorophenol	196	6.875	6.875	0.000	78	229679	80.0	82.4	
93 2,3-Dichlorobenzenamine	161	6.875	6.875	0.000	92	403557	80.0	81.1	
94 2,4,5-Trichlorophenol	196	6.916	6.916	0.000	96	264595	80.0	82.8	
98 1,1'-Biphenyl	154	7.063	7.063	0.000	95	946247	80.0	80.3	
99 2-Chloronaphthalene	162	7.087	7.087	0.000	97	742422	80.0	81.5	
101 2-Nitroaniline	65	7.175	7.175	0.000	90	215861	80.0	82.2	
104 Dimethyl phthalate	163	7.351	7.351	0.000	99	862756	80.0	81.5	
105 1,3-Dinitrobenzene	168	7.380	7.380	0.000	94	160930	80.0	84.3	
106 2,6-Dinitrotoluene	165	7.410	7.410	0.000	96	207817	80.0	81.0	
107 Acenaphthylene	152	7.510	7.510	0.000	98	1241871	80.0	81.3	
108 3-Nitroaniline	138	7.586	7.586	0.000	96	253552	80.0	81.3	
109 Acenaphthene	153	7.680	7.680	0.000	92	752075	80.0	80.4	
111 2,4-Dinitrophenol	184	7.686	7.686	0.000	85	288186	160.0	163.2	
112 4-Nitrophenol	109	7.745	7.745	0.000	86	252787	160.0	164.7	
114 2,4-Dinitrotoluene	165	7.815	7.815	0.000	96	288011	80.0	82.2	
116 Dibenzofuran	168	7.850	7.850	0.000	97	1102160	80.0	81.3	
119 2,3,4,6-Tetrachlorophenol	232	7.974	7.974	0.000	73	219198	80.0	82.7	
123 Diethyl phthalate	149	8.056	8.056	0.000	99	876865	80.0	81.7	
124 Hexadecane	57	8.074	8.074	0.000	94	390061	80.0	82.0	
127 4-Chlorophenyl phenyl ethe	204	8.185	8.185	0.000	89	414809	80.0	80.9	
129 Fluorene	166	8.197	8.197	0.000	94	879589	80.0	80.9	
130 4-Nitroaniline	138	8.203	8.203	0.000	92	273679	80.0	81.7	
131 4,6-Dinitro-2-methylphenol	198	8.238	8.238	0.000	94	332764	160.0	165.0	a
134 Diphenylamine	169	8.297	8.297	0.000	94	682226	68.0	68.5	
135 N-Nitrosodiphenylamine	169	8.297	8.297	0.000	60	682226	80.0	79.7	a
136 1,2-Diphenylhydrazine	77	8.344	8.344	0.000	98	848944	80.9	81.6	
137 Azobenzene	77	8.344	8.344	0.000	97	848944	80.0	80.7	
139 2,4,6 - Tribromophenol	330	8.438	8.438	0.000	92	111385	80.0	81.8	
148 4-Bromophenyl phenyl ether	248	8.679	8.679	0.000	63	251488	80.0	80.2	a

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
151 Hexachlorobenzene	284	8.767	8.767	0.000	93	239420	80.0	79.4	
152 Atrazine	200	8.820	8.820	0.000	95	258314	80.0	81.3	
155 Pentachlorophenol	266	8.955	8.955	0.000	93	331594	160.0	164.5	a
158 n-Octadecane	85	8.996	8.996	0.000	97	226870	80.0	80.2	
161 Phenanthrene	178	9.167	9.167	0.000	97	1356131	80.0	80.8	a
162 Anthracene	178	9.219	9.219	0.000	97	1388828	80.0	79.5	a
164 Carbazole	167	9.366	9.366	0.000	95	1354056	80.0	80.6	a
166 Alachlor	188	9.507	9.507	0.000	92	188971	80.0	81.8	
168 Di-n-butyl phthalate	149	9.713	9.713	0.000	99	1578012	80.0	81.6	a
175 Fluoranthene	202	10.547	10.547	0.000	98	1588168	80.0	80.6	
178 Pyrene	202	10.882	10.882	0.000	97	1632034	80.0	80.8	
185 Famphur	218	11.875	11.875	0.000	83	426714	80.0	82.2	
187 Butyl benzyl phthalate	149	11.999	11.999	0.000	95	767415	80.0	81.9	
189 3,3'-Dichlorobenzidine	252	13.168	13.168	0.000	74	589778	80.0	84.1	
191 Benzo[a]anthracene	228	13.221	13.221	0.000	99	1616021	80.0	81.3	
192 Chrysene	228	13.309	13.309	0.000	98	1531498	80.0	81.5	
193 Bis(2-ethylhexyl) phthalat	149	13.379	13.379	0.000	95	1047966	80.0	82.1	
195 Di-n-octyl phthalate	149	15.183	15.183	0.000	98	1866915	80.0	83.9	
196 Benzo[b]fluoranthene	252	16.094	16.094	0.000	98	1601180	80.0	82.0	
198 Benzo[k]fluoranthene	252	16.182	16.182	0.000	99	1638835	80.0	81.9	
200 Benzo[e]pyrene	252	16.887	16.887	0.000	98	1499550	80.0	81.6	
201 Benzo[a]pyrene	252	17.034	17.034	0.000	79	1587492	80.0	81.9	
207 Indeno[1,2,3-cd]pyrene	276	20.330	20.330	0.000	97	1424898	80.0	81.0	
208 Dibenz(a,h)anthracene	278	20.418	20.418	0.000	96	1426741	80.0	81.3	
209 Benzo[g,h,i]perylene	276	21.070	21.070	0.000	97	1486157	80.0	80.9	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

MS-HSLA080_00038 Amount Added: 200.00 Units: uL

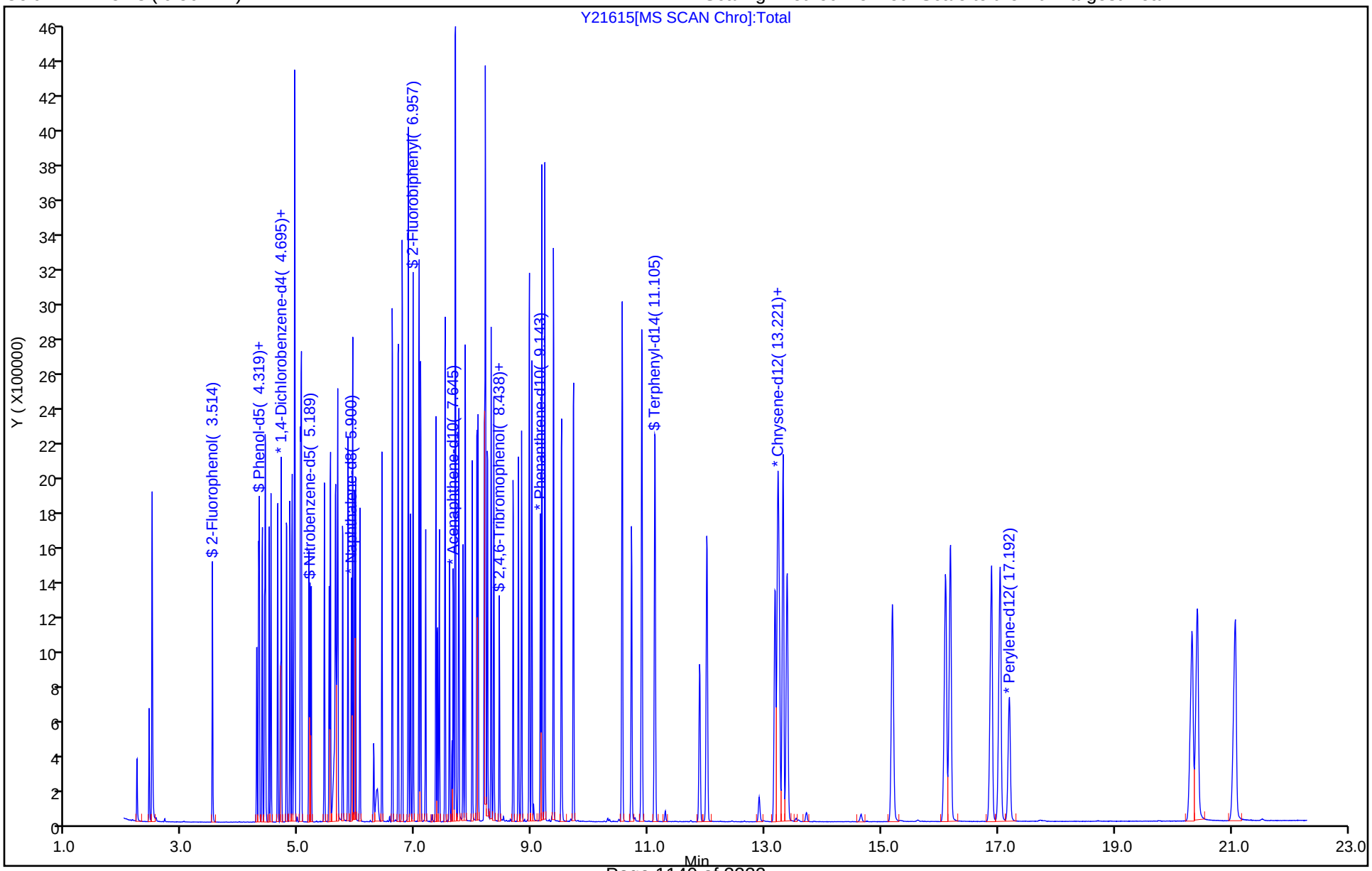
Report Date: 18-Oct-2018 09:36:12 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D

Injection Date:	17-Oct-2018 10:59:30	Instrument ID:	SMS_Y	Operator ID:	KIEKELD
Lims ID:	ICIS HSL			Worklist Smp#:	3
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

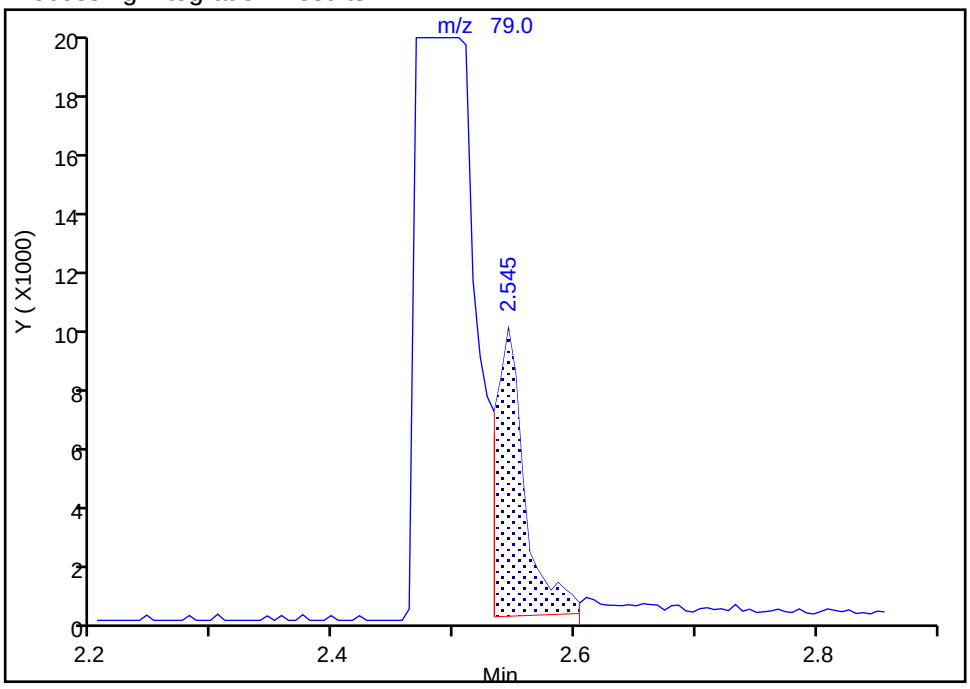
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

18 Pyridine, CAS: 110-86-1

Signal: 1

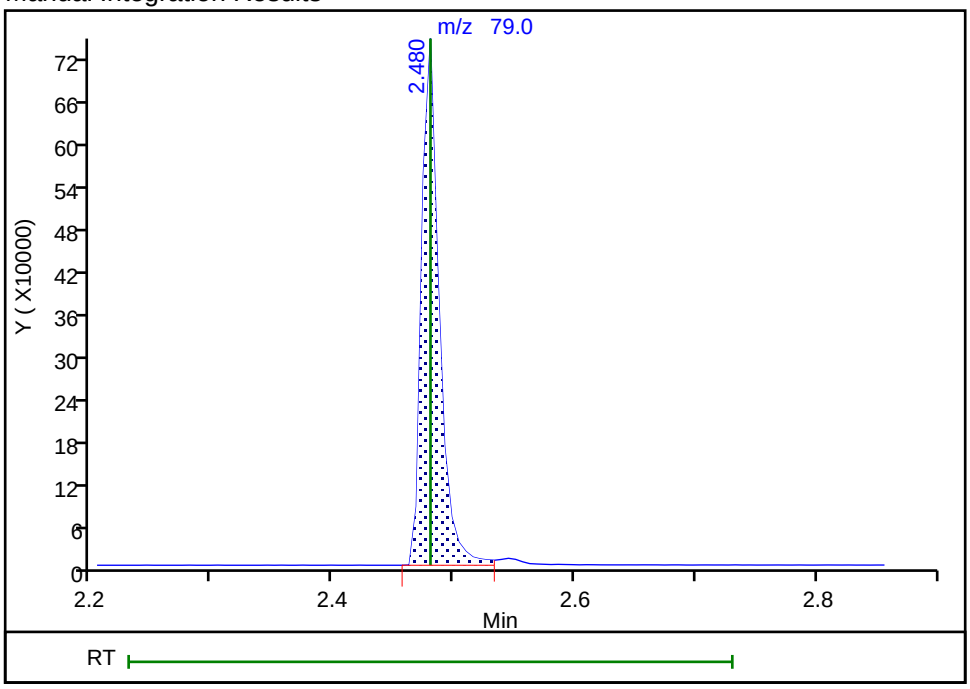
Processing Integration Results

RT: 2.54
Area: 16403
Amount: 160.0000
Amount Units: ug/ml



Manual Integration Results

RT: 2.48
Area: 755741
Amount: 162.7461
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:37:52
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

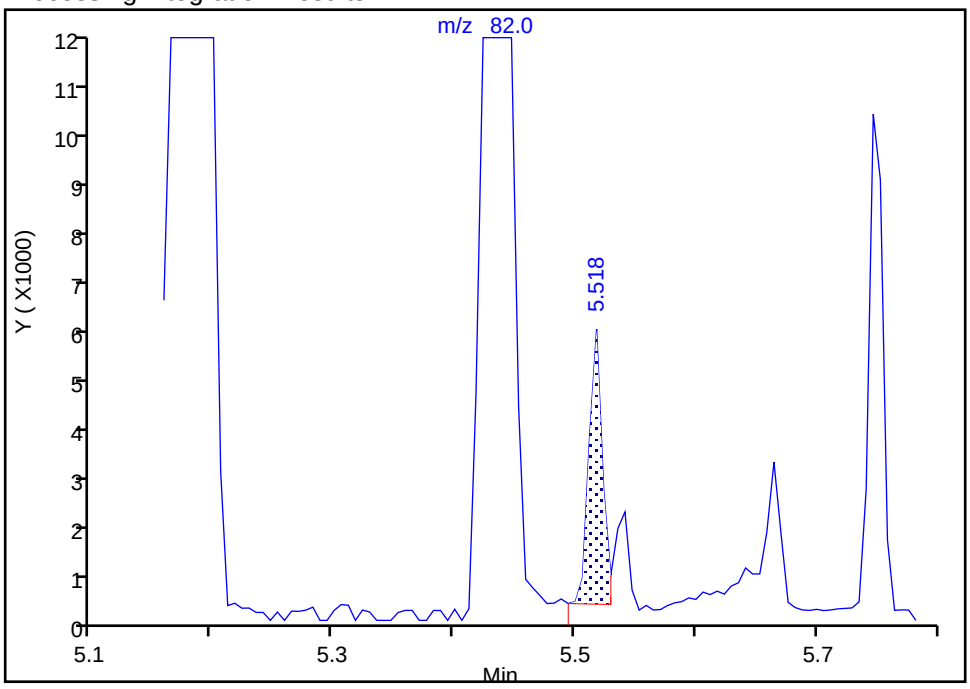
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

57 Isophorone, CAS: 78-59-1

Signal: 1

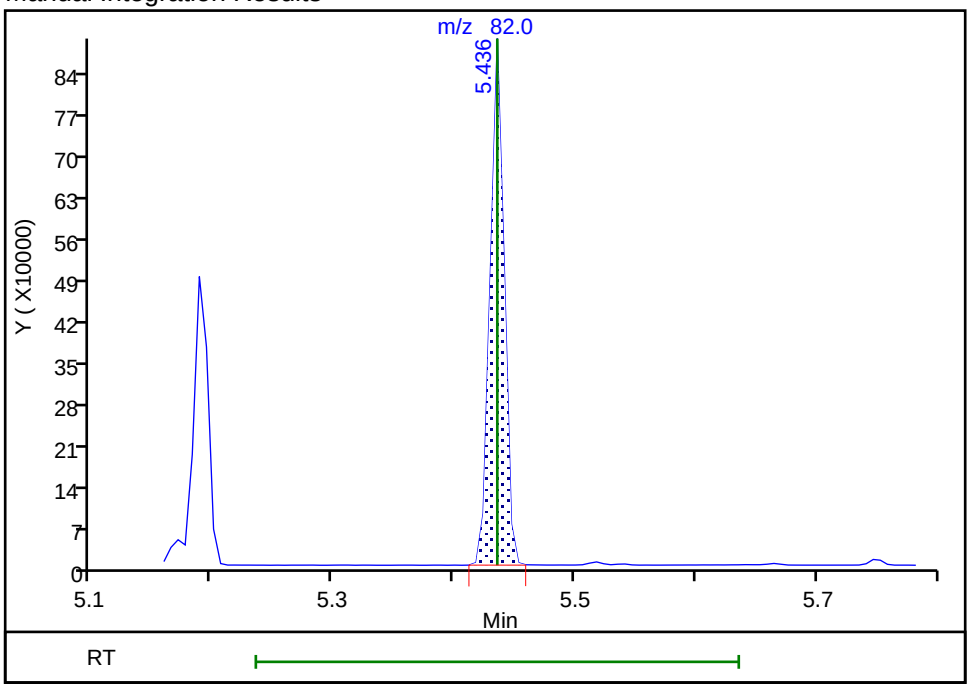
Processing Integration Results

RT: 5.52
Area: 4189
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 5.44
Area: 722280
Amount: 81.702338
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:38:15
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

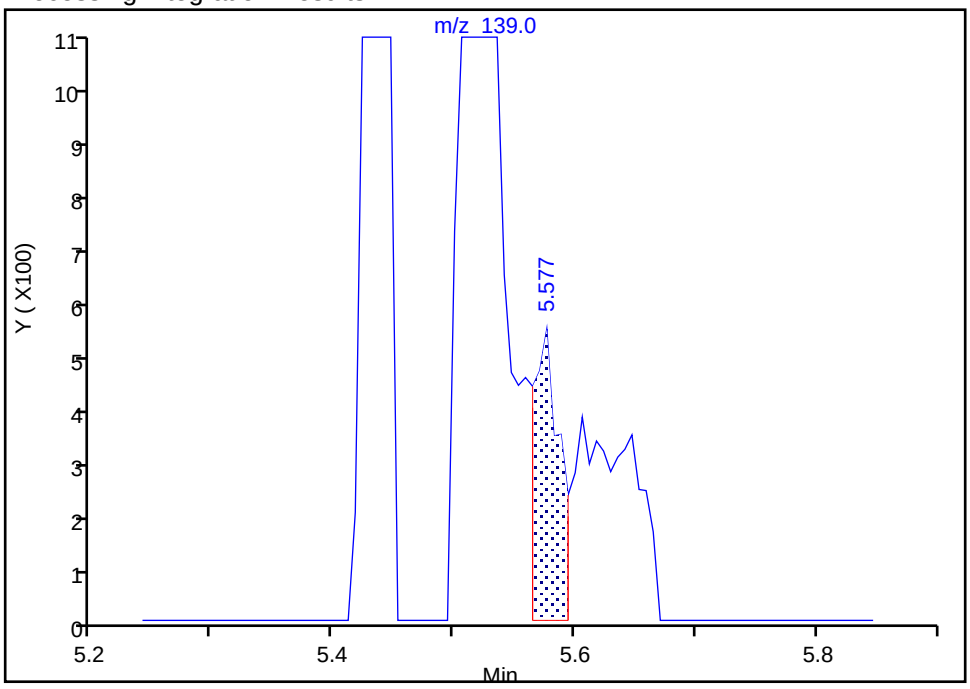
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

58 2-Nitrophenol, CAS: 88-75-5

Signal: 1

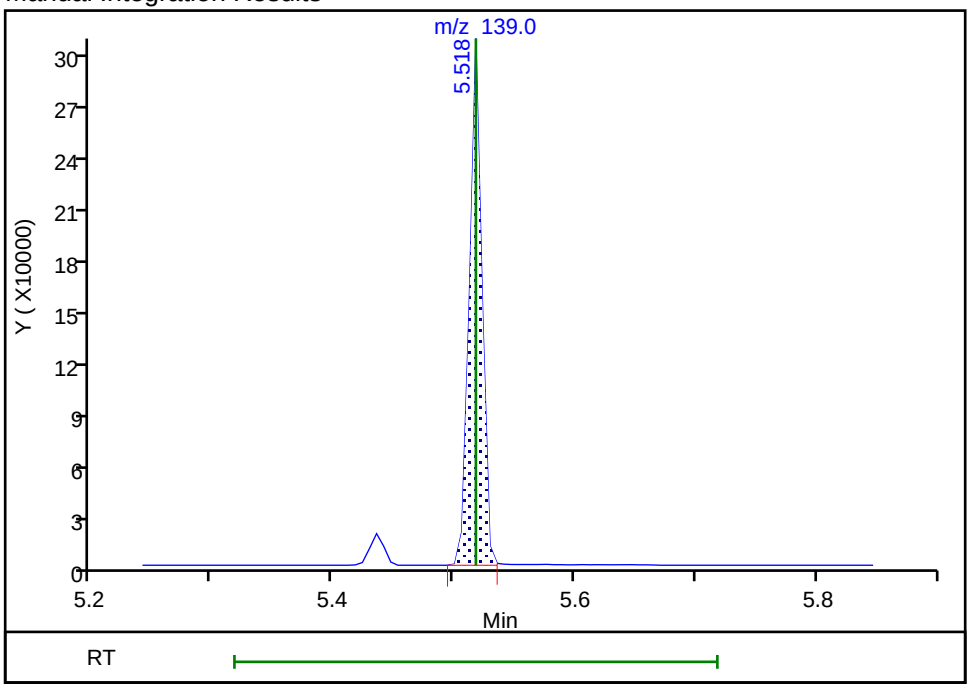
Processing Integration Results

RT: 5.58
Area: 804
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 5.52
Area: 221591
Amount: 83.000831
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:38:22
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

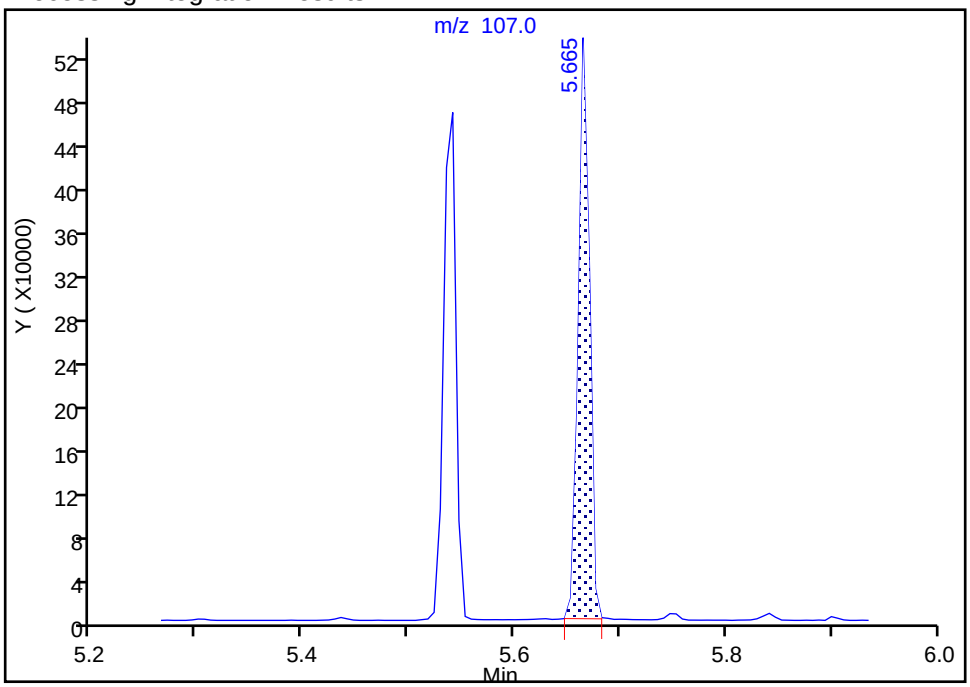
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

59 2,4-Dimethylphenol, CAS: 105-67-9

Signal: 1

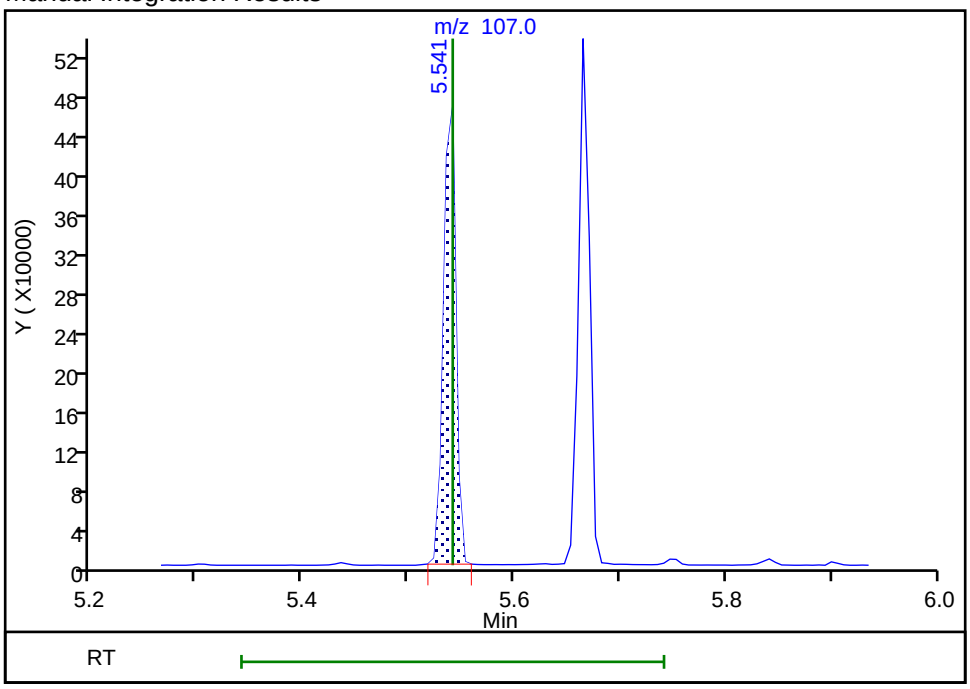
Processing Integration Results

RT: 5.66
Area: 388118
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 5.54
Area: 379885
Amount: 82.277420
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:38:27
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

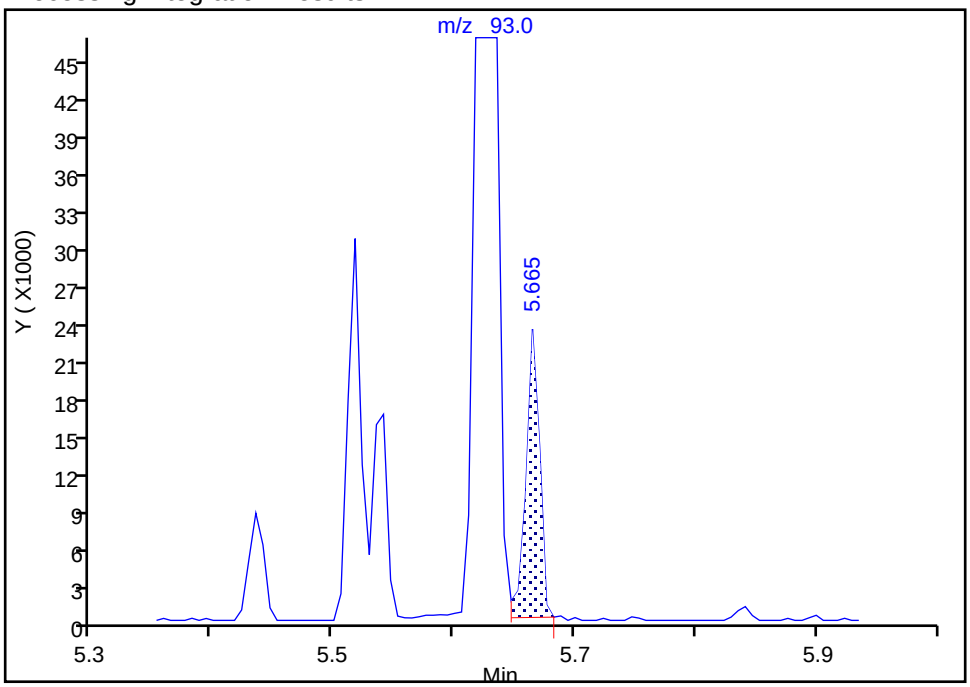
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

63 Bis(2-chloroethoxy)methane, CAS: 111-91-1

Signal: 1

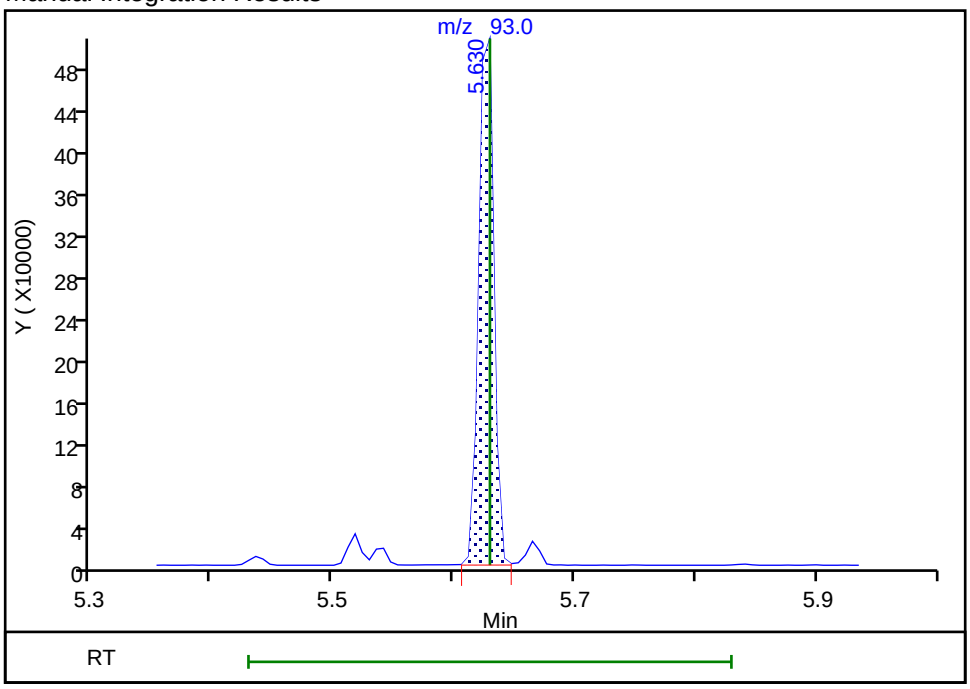
Processing Integration Results

RT: 5.66
Area: 17853
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 5.63
Area: 442724
Amount: 81.354299
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:38:31
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

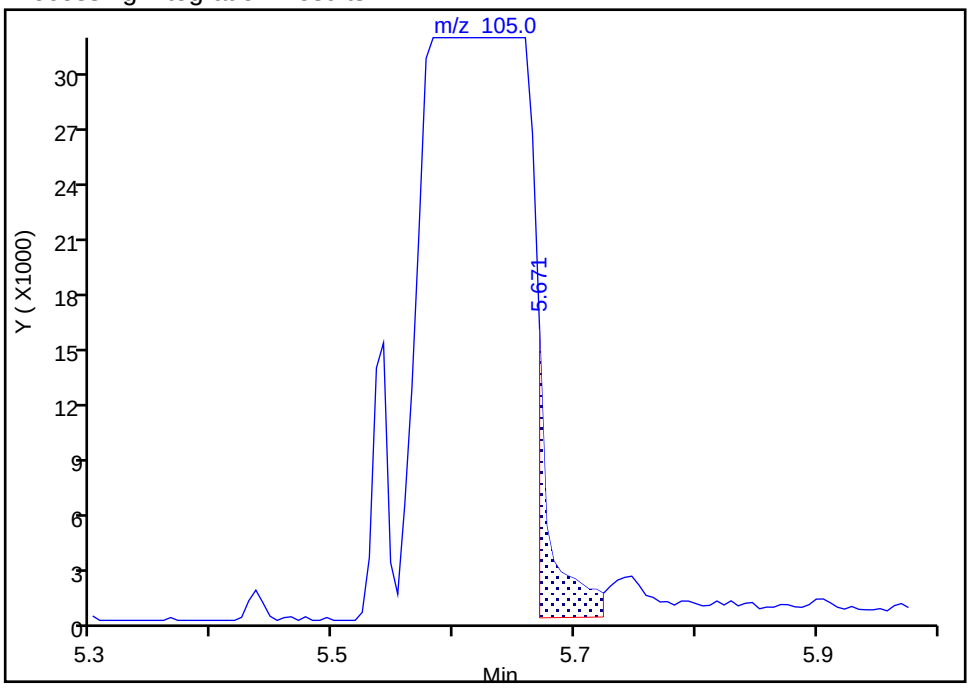
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

64 Benzoic acid, CAS: 65-85-0

Signal: 1

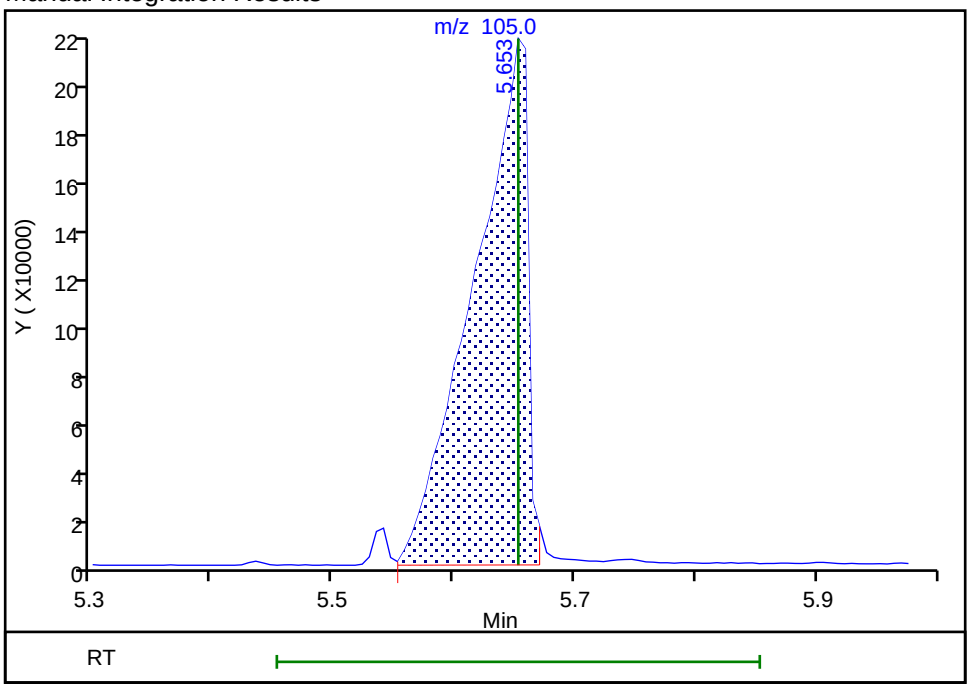
Processing Integration Results

RT: 5.67
Area: 12995
Amount: 160.0000
Amount Units: ug/ml



Manual Integration Results

RT: 5.65
Area: 668059
Amount: 162.1385
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:38:35
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

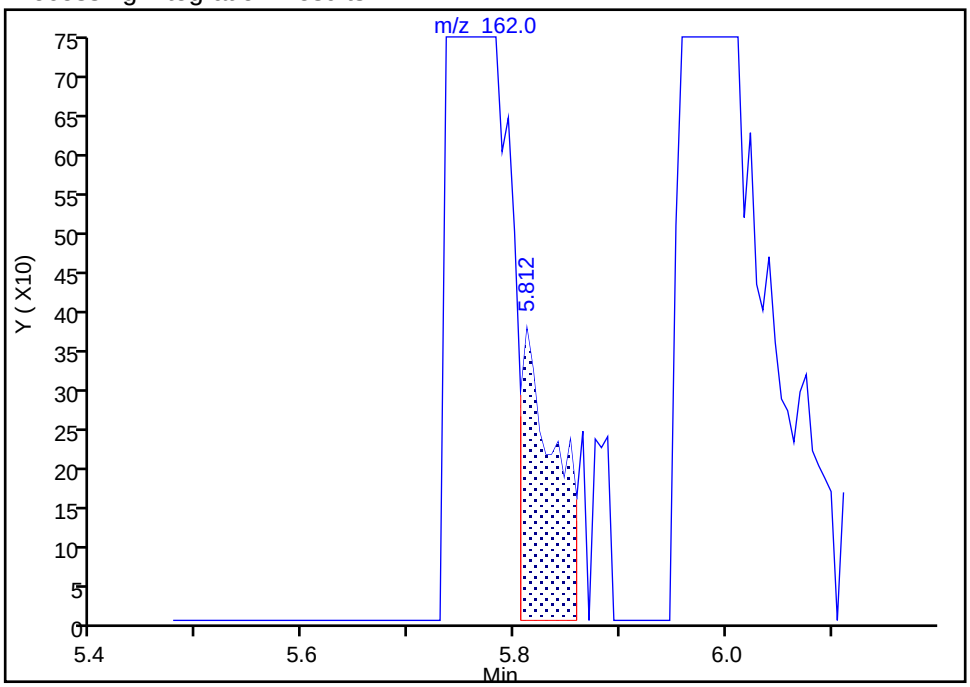
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

68 2,4-Dichlorophenol, CAS: 120-83-2

Signal: 1

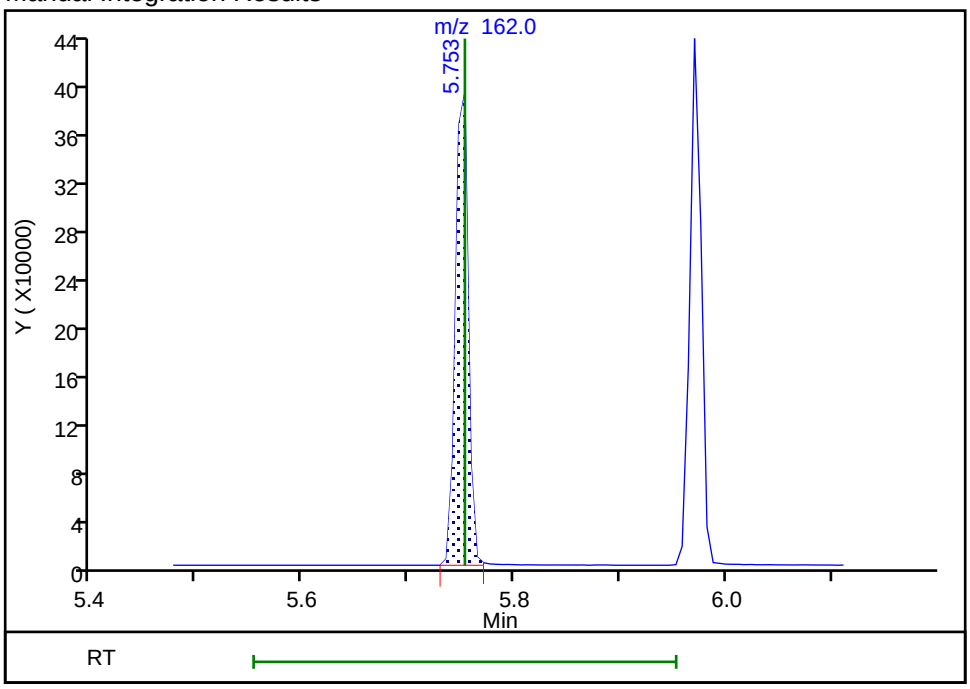
Processing Integration Results

RT: 5.81
Area: 856
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 5.75
Area: 328659
Amount: 81.972514
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:38:43
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

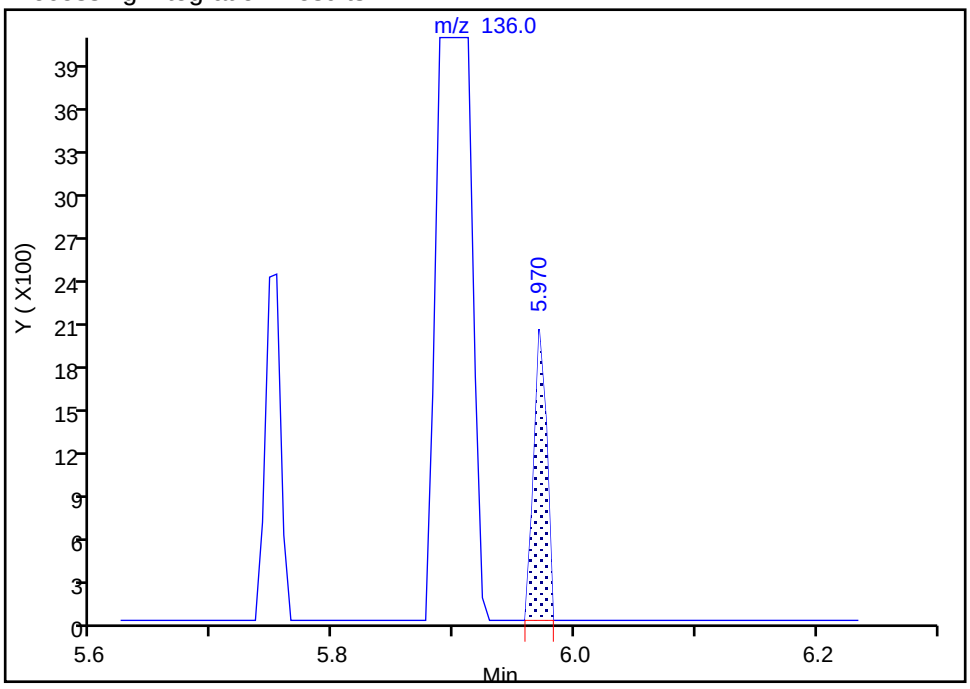
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

* 2 Naphthalene-d8, CAS: 1146-65-2

Signal: 1

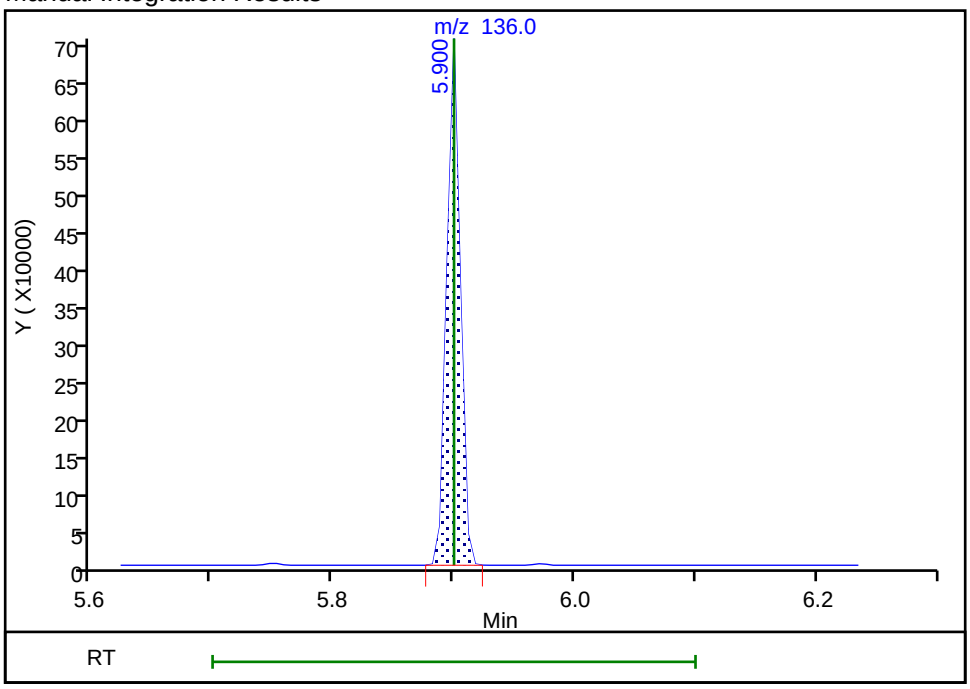
Processing Integration Results

RT: 5.97
Area: 1491
Amount: 40.000000
Amount Units: ug/ml



Manual Integration Results

RT: 5.90
Area: 546199
Amount: 40.000000
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:37:30
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

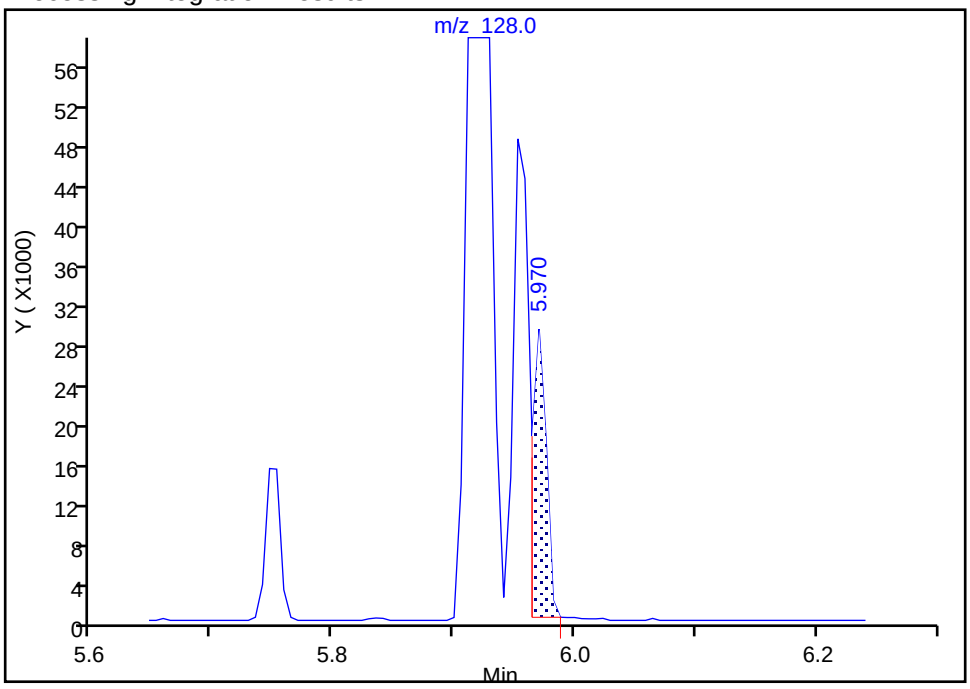
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

71 Naphthalene, CAS: 91-20-3

Signal: 1

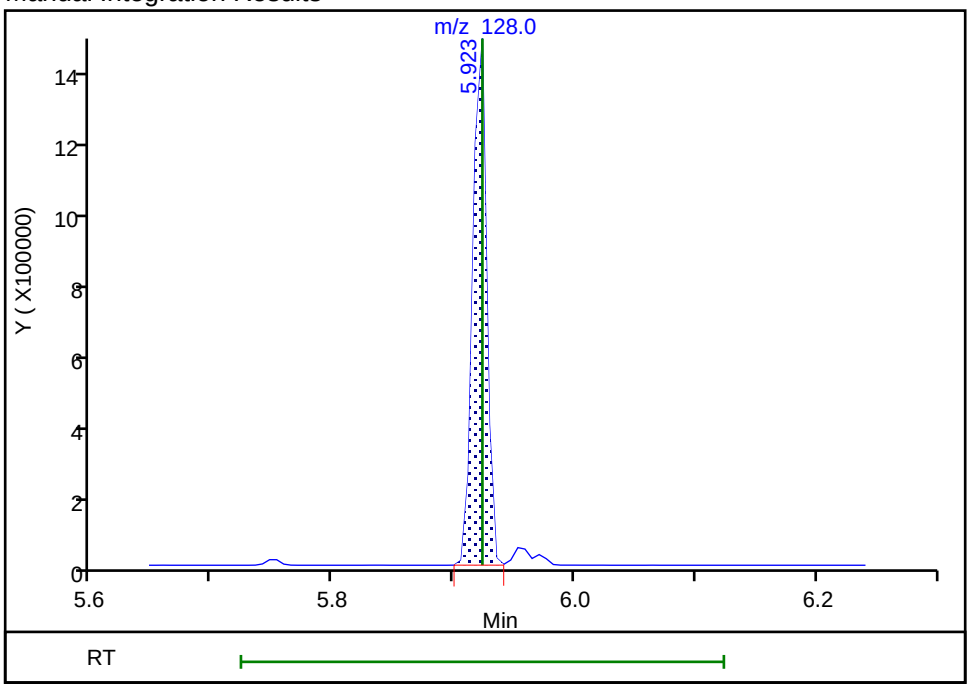
Processing Integration Results

RT: 5.97
Area: 23448
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 5.92
Area: 1152696
Amount: 81.488995
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:38:48
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

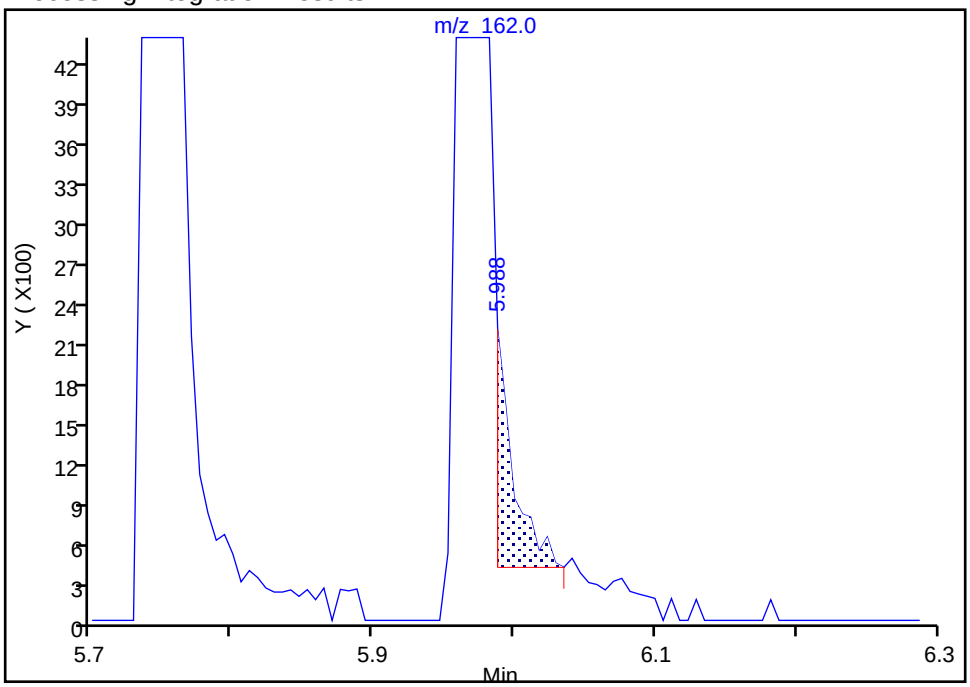
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

73 2,6-Dichlorophenol, CAS: 87-65-0

Signal: 1

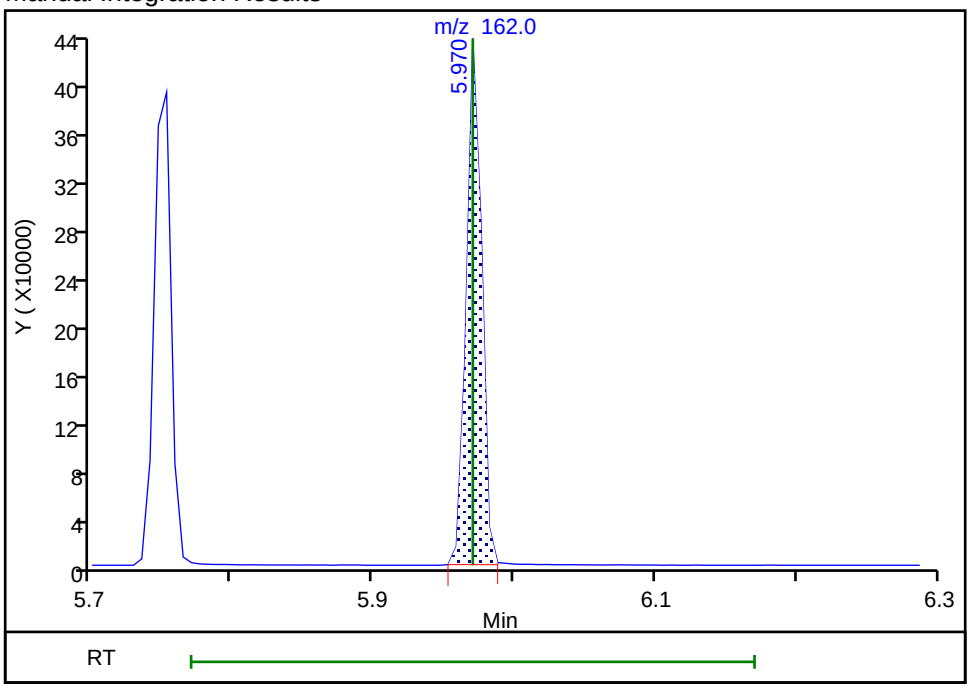
Processing Integration Results

RT: 5.99
Area: 1632
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 5.97
Area: 324877
Amount: 81.843915
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:38:54
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

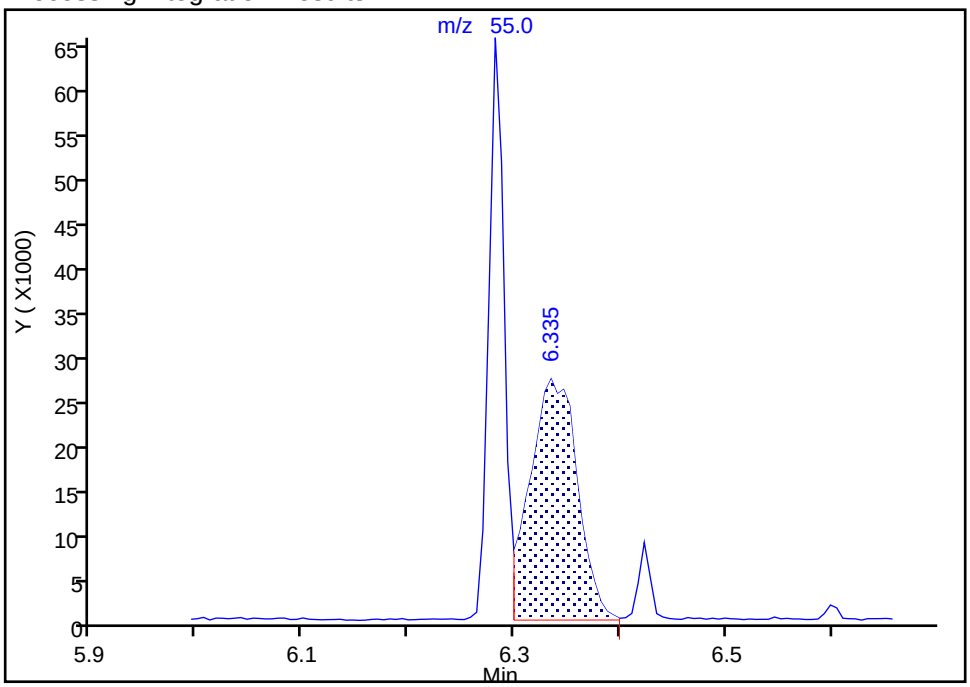
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

79 Caprolactam, CAS: 105-60-2

Signal: 1

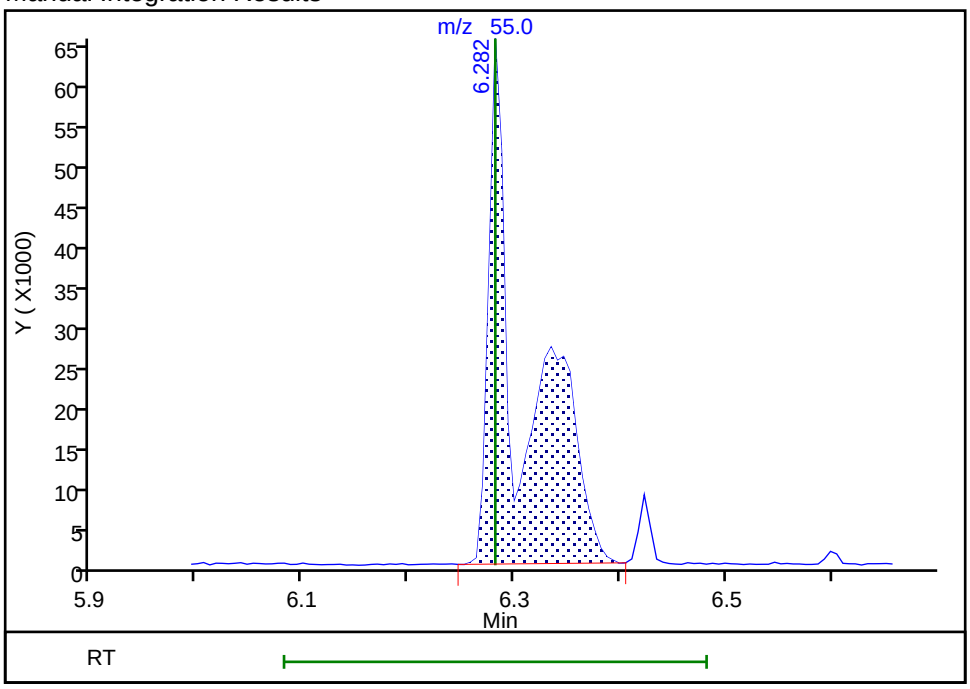
Processing Integration Results

RT: 6.33
Area: 84648
Amount: 49.304188
Amount Units: ug/ml



Manual Integration Results

RT: 6.28
Area: 147470
Amount: 79.391553
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 14:16:28
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

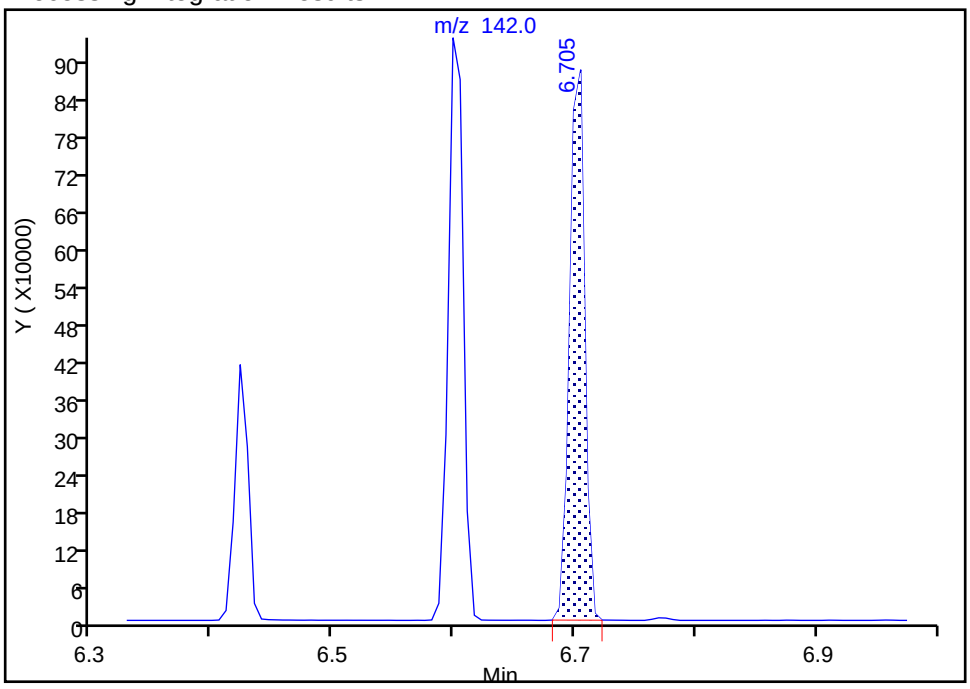
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

86 2-Methylnaphthalene, CAS: 91-57-6

Signal: 1

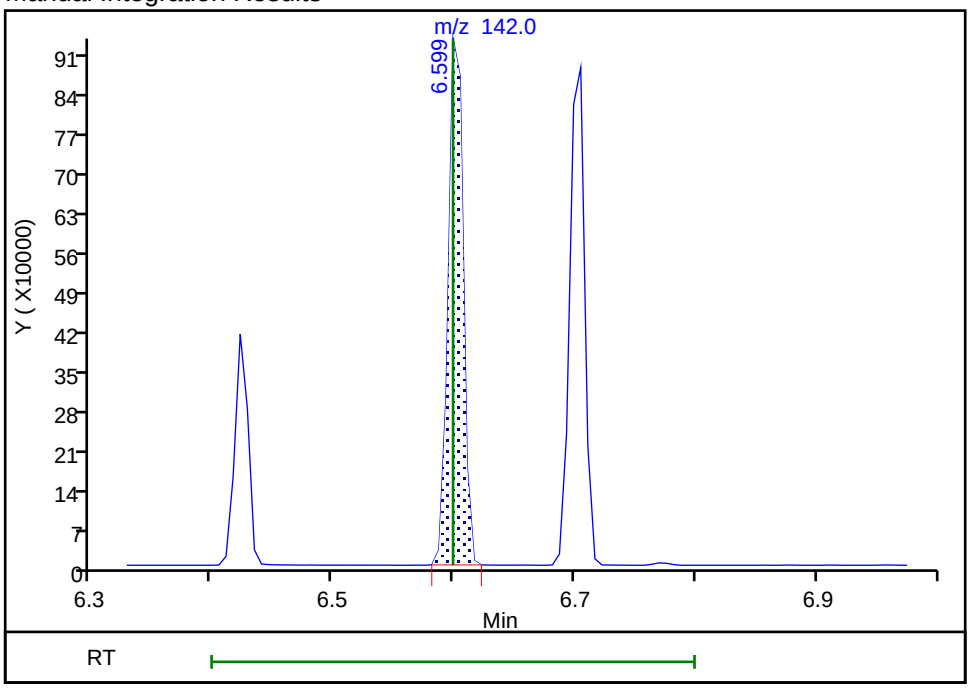
Processing Integration Results

RT: 6.70
Area: 767839
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 6.60
Area: 814258
Amount: 81.127476
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:39:10
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

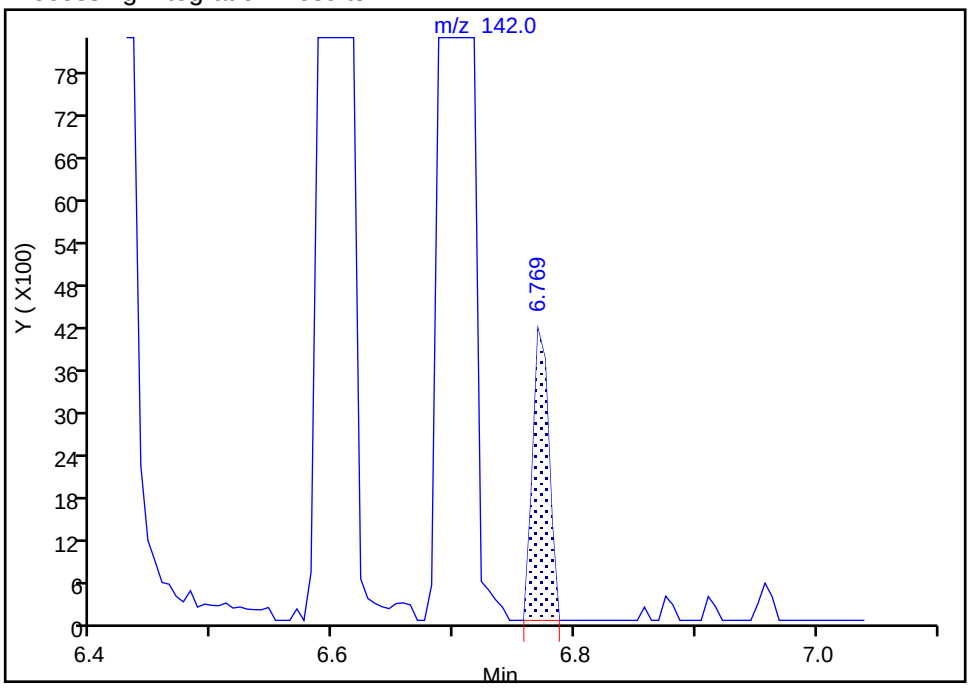
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

88 1-Methylnaphthalene, CAS: 90-12-0

Signal: 1

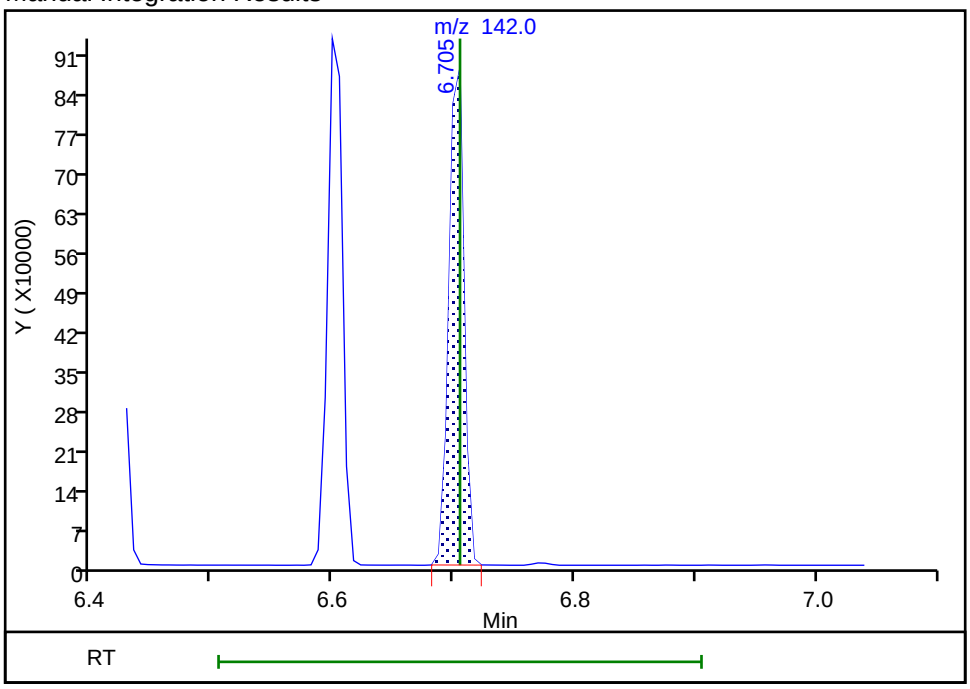
Processing Integration Results

RT: 6.77
Area: 3835
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 6.70
Area: 767839
Amount: 82.122151
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:39:14
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

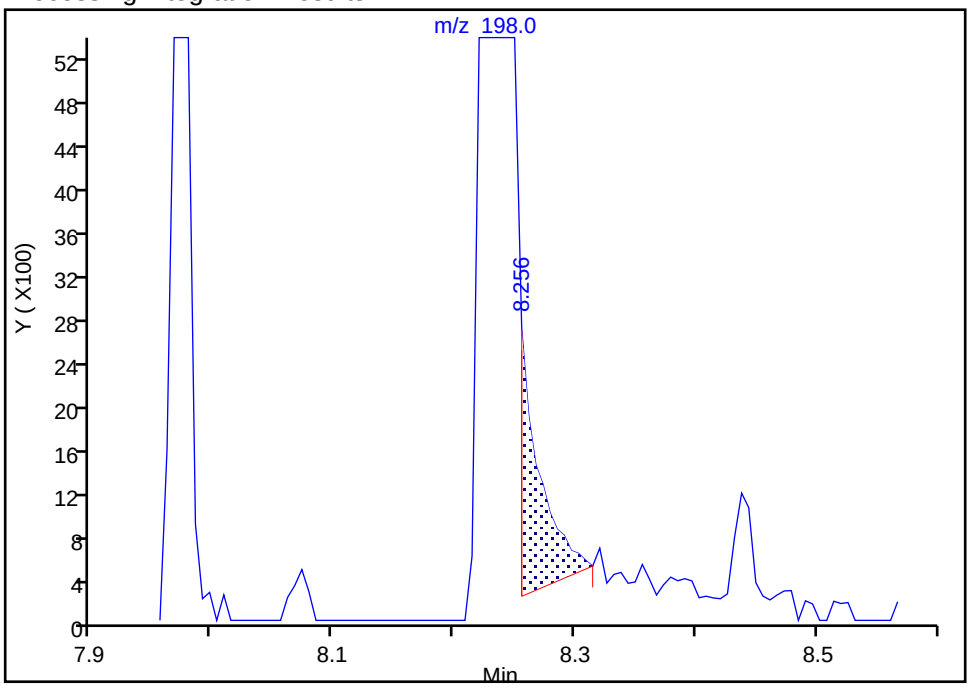
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

131 4,6-Dinitro-2-methylphenol, CAS: 534-52-1

Signal: 1

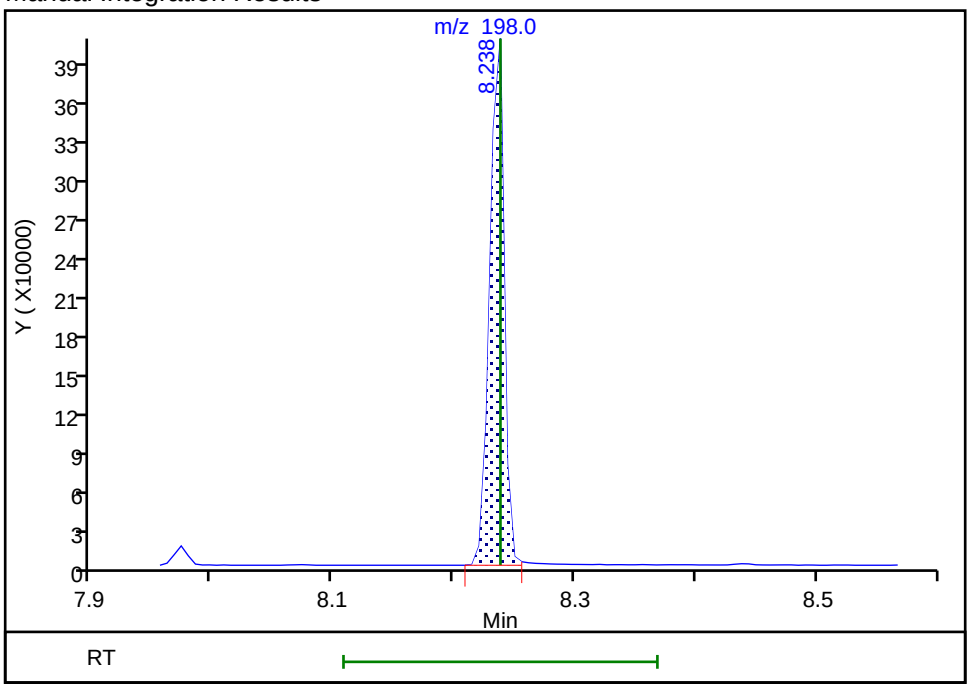
Processing Integration Results

RT: 8.26
Area: 2867
Amount: 160.0000
Amount Units: ug/ml



Manual Integration Results

RT: 8.24
Area: 332764
Amount: 165.0156
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:39:51
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

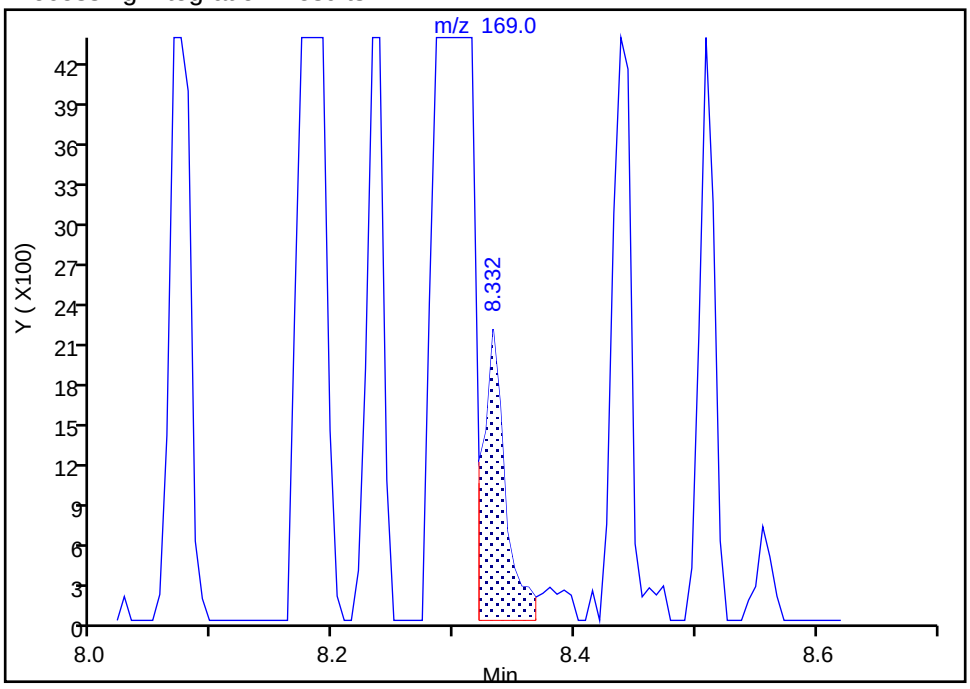
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

135 N-Nitrosodiphenylamine, CAS: 86-30-6

Signal: 1

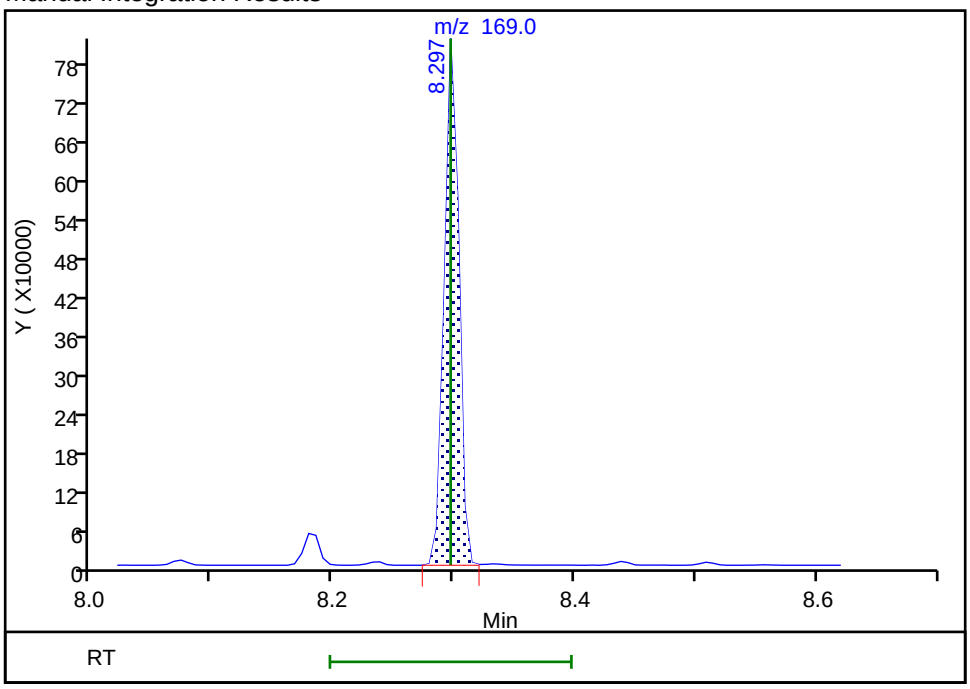
Processing Integration Results

RT: 8.33
Area: 2859
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 8.30
Area: 682226
Amount: 79.711924
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:40:08
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

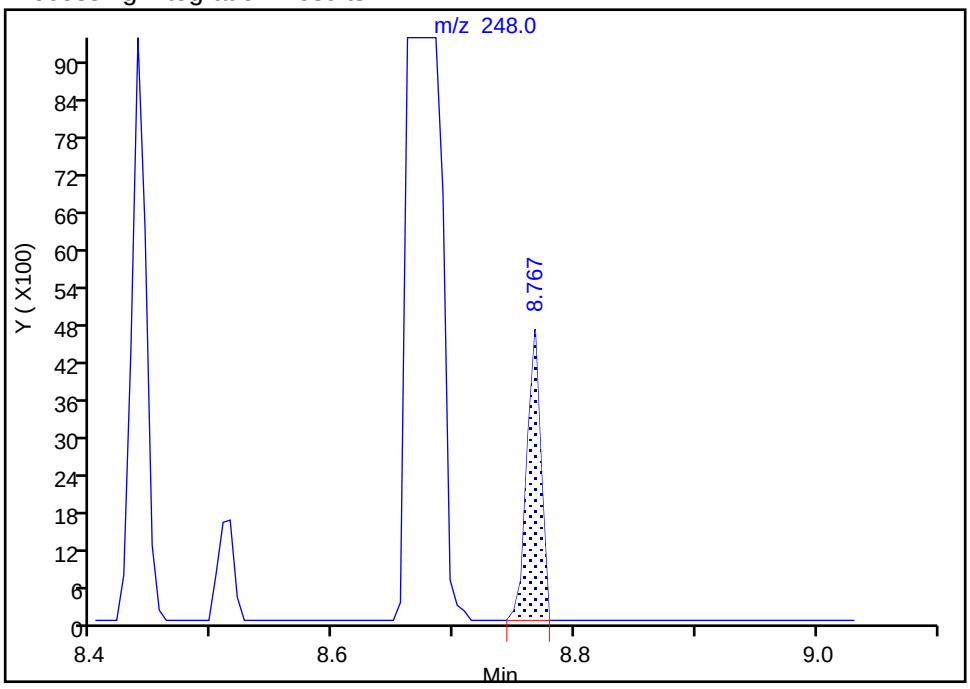
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

148 4-Bromophenyl phenyl ether, CAS: 101-55-3

Signal: 1

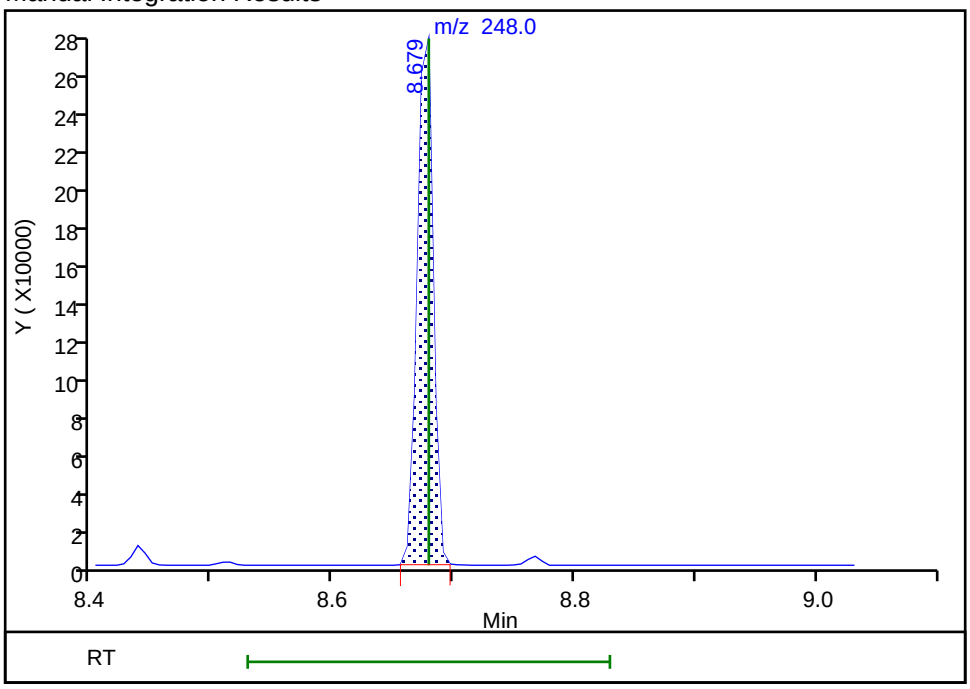
Processing Integration Results

RT: 8.77
Area: 3717
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 8.68
Area: 251488
Amount: 80.238782
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:40:25
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

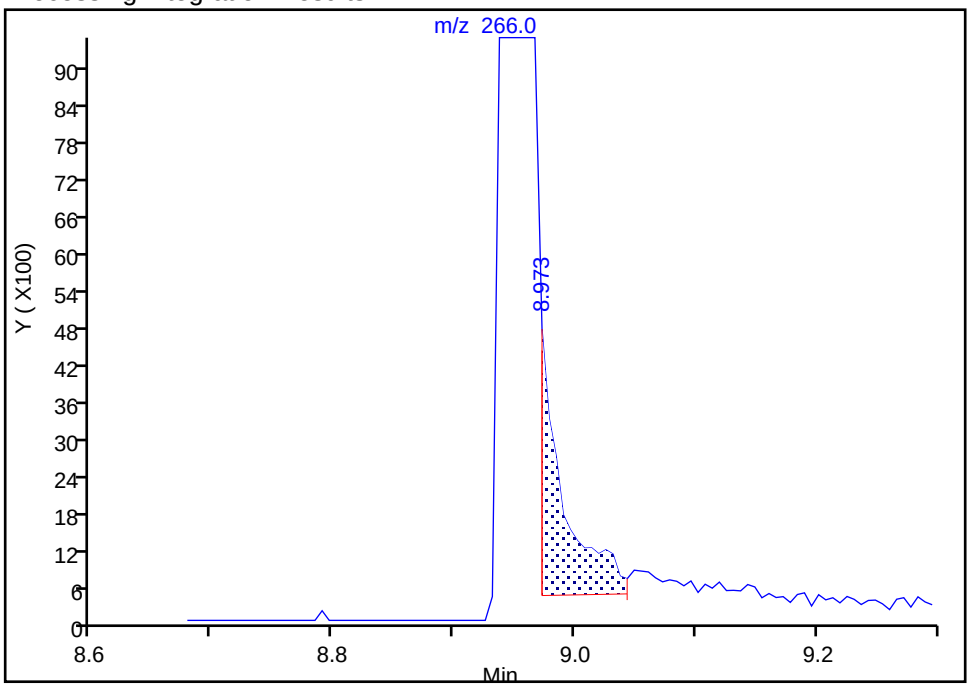
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

155 Pentachlorophenol, CAS: 87-86-5

Signal: 1

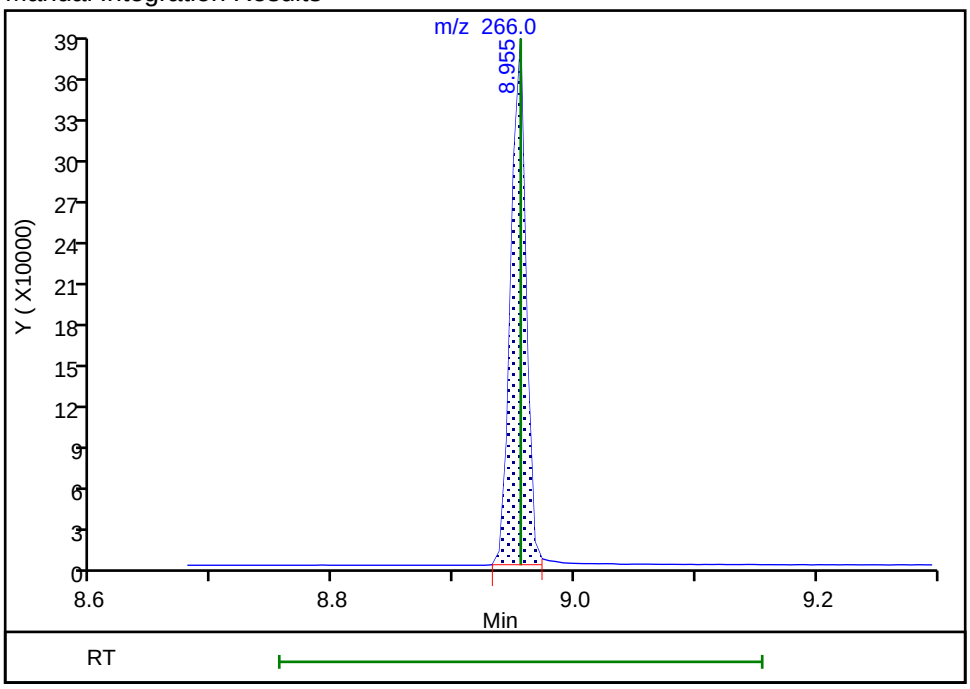
Processing Integration Results

RT: 8.97
Area: 5931
Amount: 160.0000
Amount Units: ug/ml



Manual Integration Results

RT: 8.96
Area: 331594
Amount: 164.4732
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:40:29
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

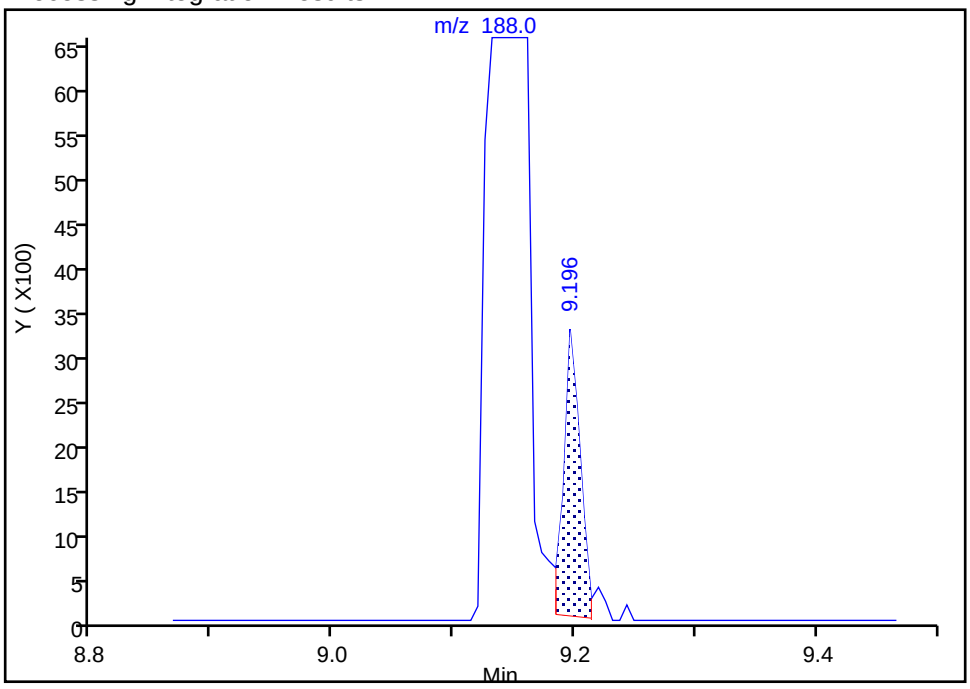
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

* 4 Phenanthrene-d10, CAS: 1517-22-2

Signal: 1

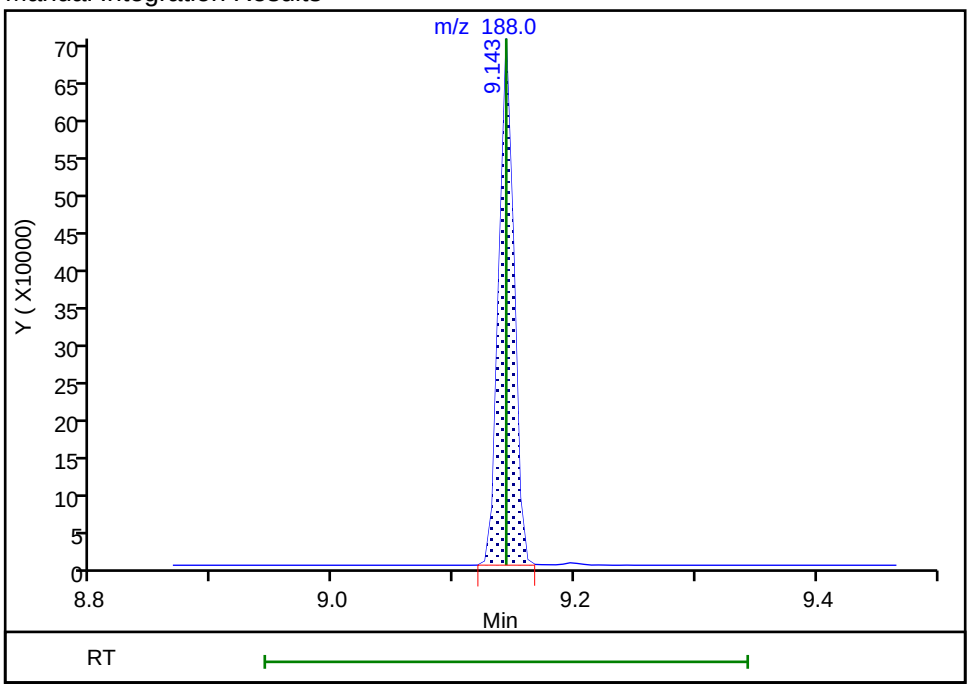
Processing Integration Results

RT: 9.20
Area: 3116
Amount: 40.000000
Amount Units: ug/ml



Manual Integration Results

RT: 9.14
Area: 605925
Amount: 40.000000
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:37:38
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

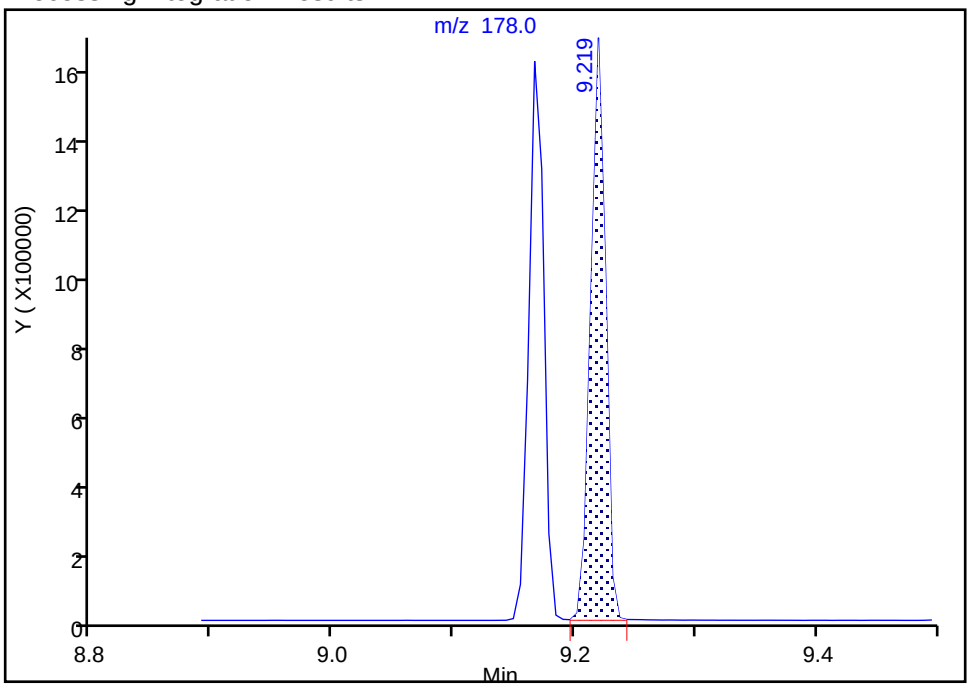
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

161 Phenanthrene, CAS: 85-01-8

Signal: 1

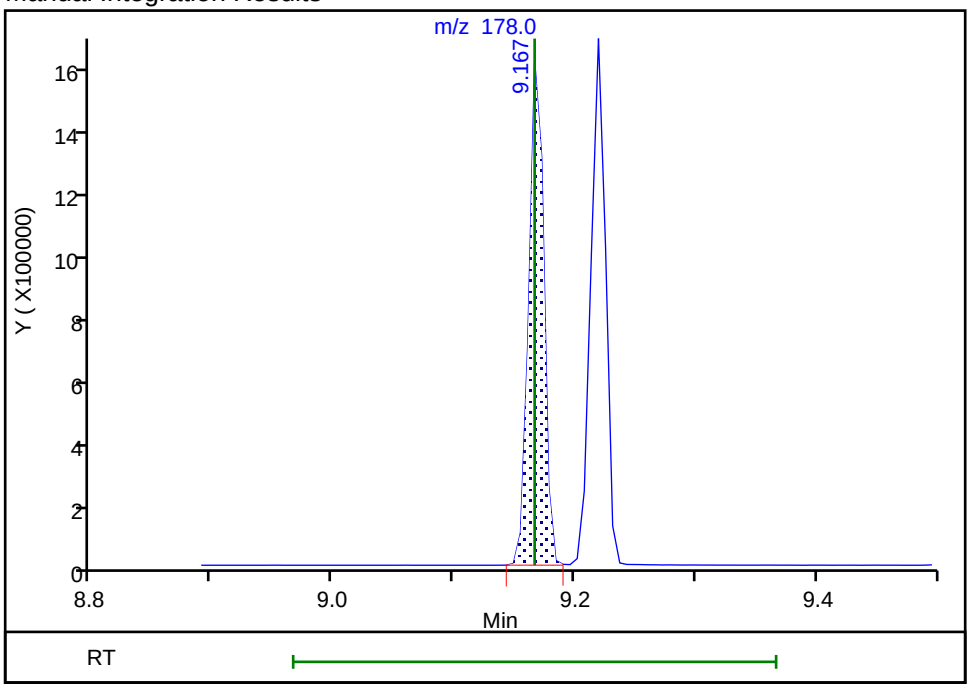
Processing Integration Results

RT: 9.22
Area: 1388828
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 9.17
Area: 1356131
Amount: 80.846977
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:40:35
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

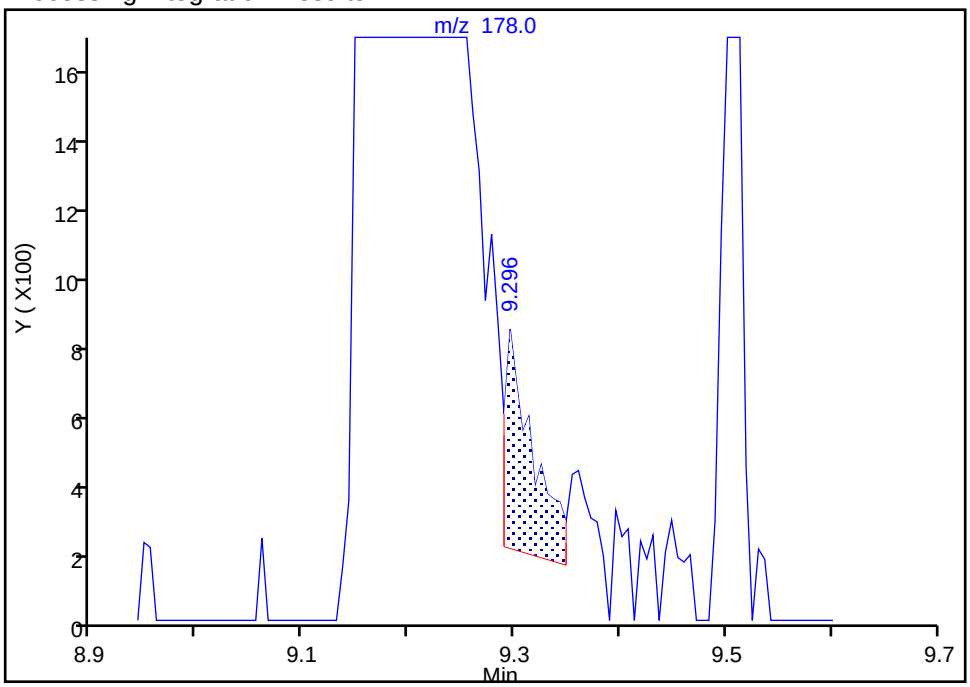
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

162 Anthracene, CAS: 120-12-7

Signal: 1

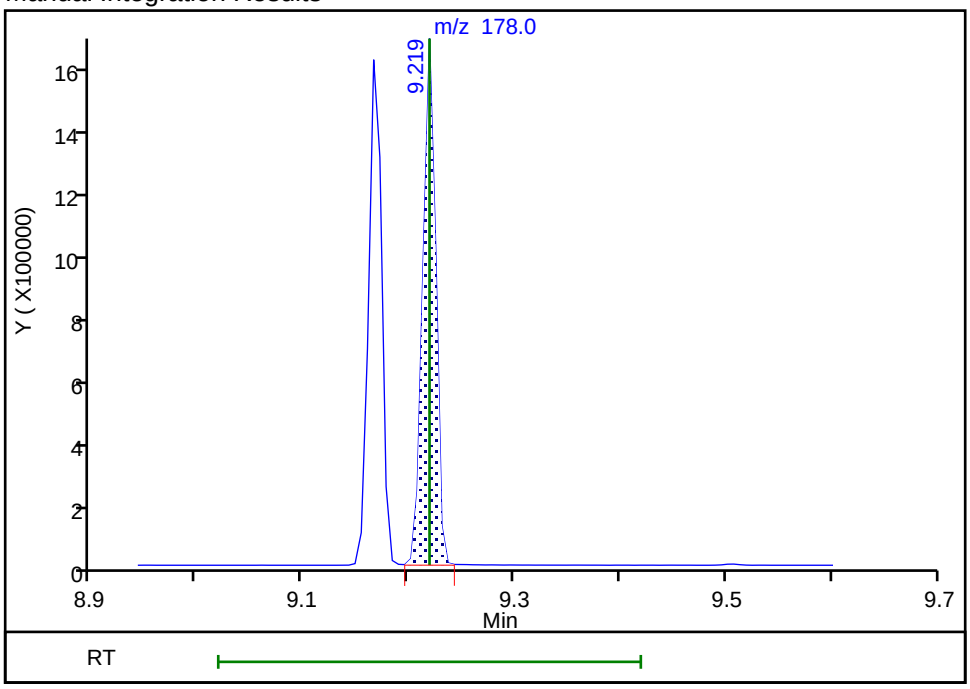
Processing Integration Results

RT: 9.30
Area: 1184
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 9.22
Area: 1388828
Amount: 79.501948
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:40:39
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

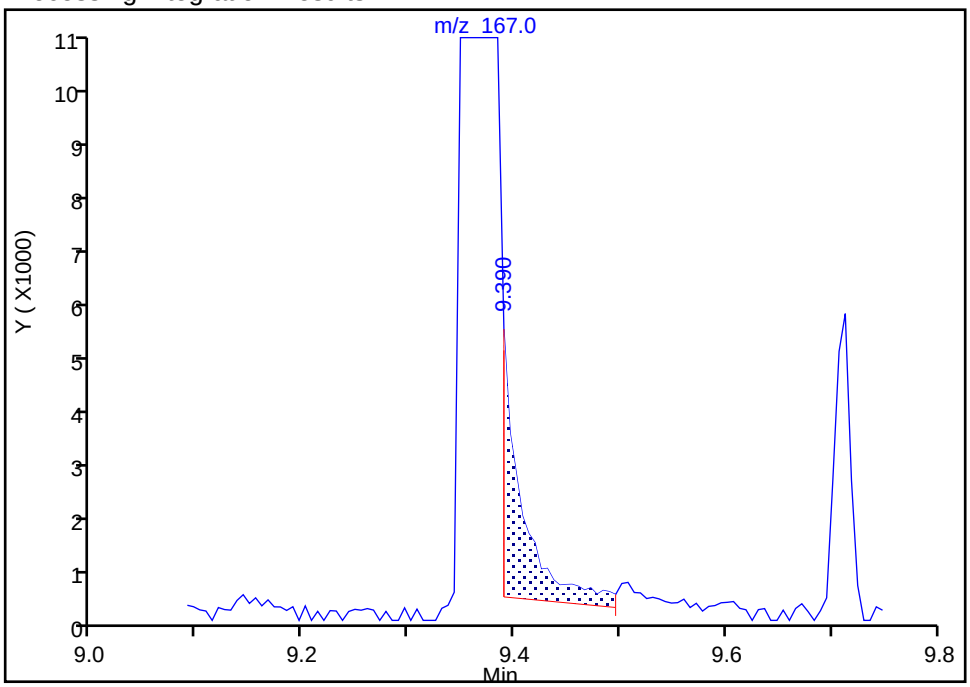
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

164 Carbazole, CAS: 86-74-8

Signal: 1

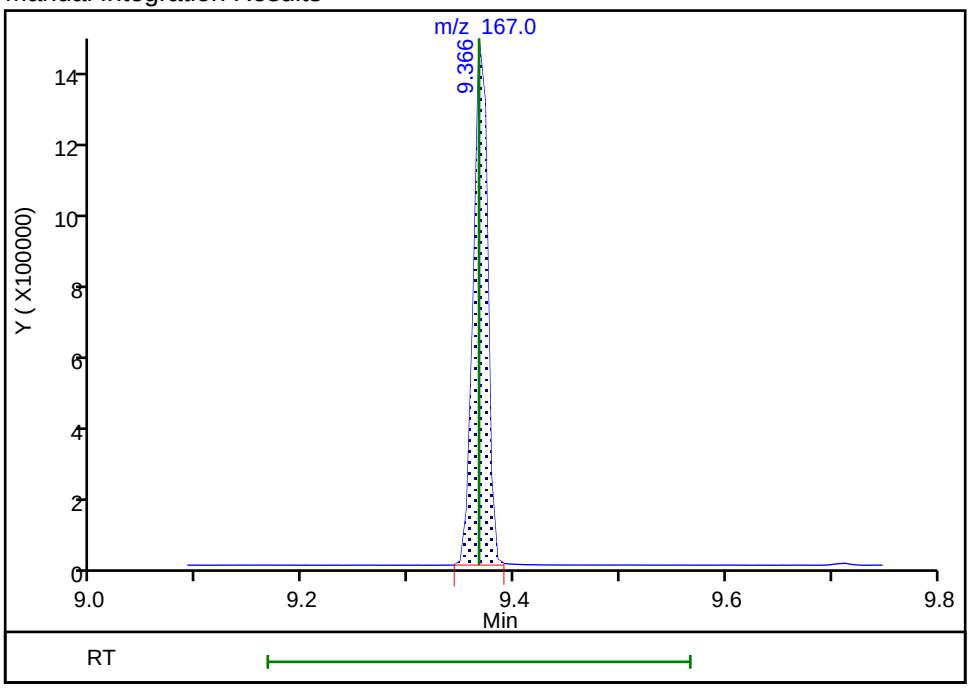
Processing Integration Results

RT: 9.39
Area: 6109
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 9.37
Area: 1354056
Amount: 80.610300
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:40:45
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

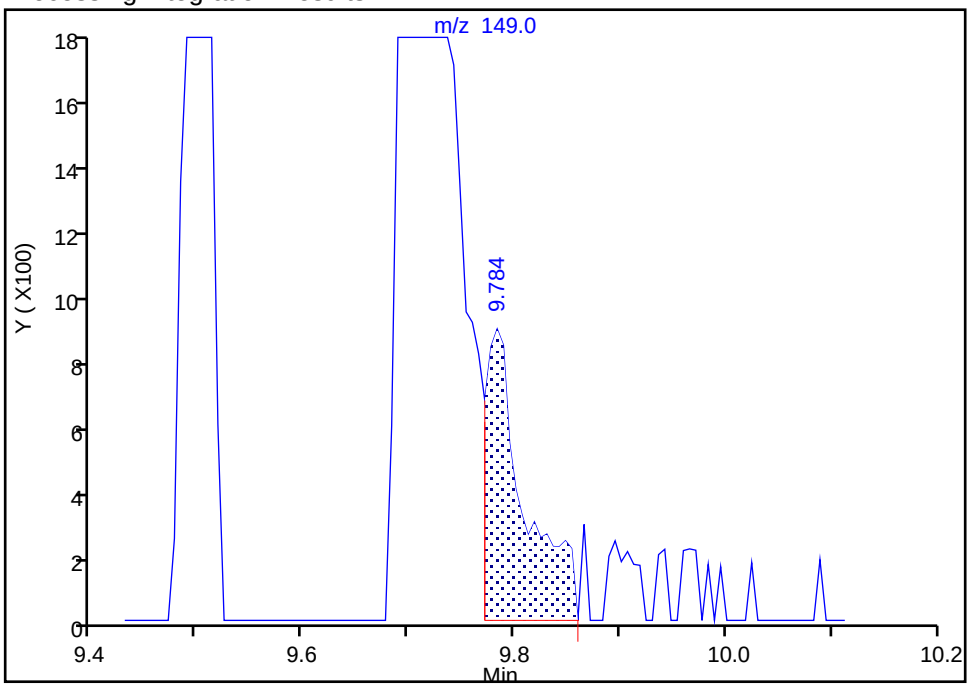
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21615.D
Injection Date: 17-Oct-2018 10:59:30 Instrument ID: SMS_Y
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

168 Di-n-butyl phthalate, CAS: 84-74-2

Signal: 1

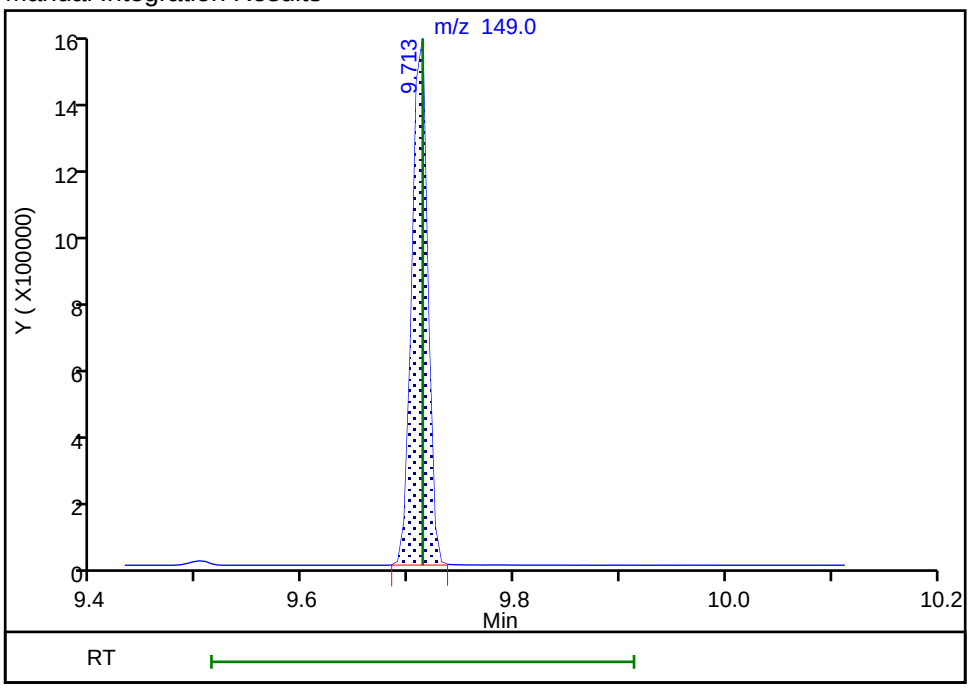
Processing Integration Results

RT: 9.78
Area: 2232
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 9.71
Area: 1578012
Amount: 81.618549
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:40:50
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21616.D
Lims ID: STD004 HSL
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 17-Oct-2018 11:27:30 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD004 HSL
Operator ID: KIEKELD Instrument ID: SMS_Y
Sublist: chrom-SMSY_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 18-Oct-2018 09:36:15 Calib Date: 17-Oct-2018 19:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21632.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: kiekeld Date: 17-Oct-2018 11:52:51

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.678	4.684	-0.006	95	127647	40.0	40.0	
* 2 Naphthalene-d8	136	5.900	5.900	0.000	99	520154	40.0	40.0	
* 3 Acenaphthene-d10	164	7.645	7.645	0.000	96	281854	40.0	40.0	
* 4 Phenanthrene-d10	188	9.137	9.143	-0.006	98	566629	40.0	40.0	
* 5 Chrysene-d12	240	13.233	13.244	-0.011	99	619781	40.0	40.0	
* 6 Perylene-d12	264	17.181	17.192	-0.011	97	671138	40.0	40.0	
$ 7 2-Fluorophenol	112	3.515	3.514	0.000	89	19165	4.00	4.37	
$ 8 Phenol-d5	99	4.302	4.308	-0.006	95	23837	4.00	4.28	
$ 9 Nitrobenzene-d5	82	5.189	5.189	0.000	84	20785	4.00	4.33	
$ 11 2-Fluorobiphenyl	172	6.958	6.957	0.001	100	45997	4.00	4.57	
$ 12 2,4,6-Tribromophenol	330	8.432	8.438	-0.006	91	5321	4.00	4.13	
$ 13 Terphenyl-d14	244	11.100	11.111	-0.011	98	62337	4.00	4.41	
15 1,4-Dioxane	88	2.222	2.222	0.000	89	7960	4.00	4.49	
17 N-Nitrosodimethylamine	74	2.428	2.427	0.001	94	11432	4.00	4.21	
18 Pyridine	79	2.480	2.480	0.000	95	38944	8.00	8.61	
28 Phenol	94	4.314	4.319	-0.005	96	24394	4.00	4.30	
30 Aniline	93	4.366	4.372	-0.006	100	30473	4.00	4.26	
31 Bis(2-chloroethyl)ether	93	4.408	4.407	0.001	98	17339	4.00	4.16	
32 Alpha Methyl Styrene	118	4.419	4.425	-0.006	89	19931	4.00	4.26	
34 2-Chlorophenol	128	4.484	4.490	-0.006	96	20647	4.00	4.33	
35 n-Decane	43	4.519	4.519	0.000	88	15197	4.00	4.54	
37 1,3-Dichlorobenzene	146	4.631	4.637	-0.006	97	21971	4.00	4.41	
38 1,4-Dichlorobenzene	146	4.695	4.695	0.000	95	21964	4.00	4.35	
39 Benzyl alcohol	108	4.784	4.789	-0.005	96	13700	4.00	4.26	
40 1,2-Dichlorobenzene	146	4.842	4.842	0.000	97	20893	4.00	4.33	
41 2-Methylphenol	108	4.878	4.883	-0.005	92	18373	4.00	4.24	
43 2,2'-oxybis[1-chloropropan	45	4.913	4.913	0.000	90	19482	4.00	4.28	
44 Indene	116	4.925	4.930	-0.005	90	69427	8.00	9.11	
46 3-Methylphenol	108	5.019	5.024	-0.005	93	19316	4.00	4.22	
47 4-Methylphenol	108	5.019	5.024	-0.005	97	19316	4.00	4.22	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
48 3 & 4 Methylphenol	108	5.019	5.024	-0.005	99	19316	4.00	4.22	
50 N-Nitrosodi-n-propylamine	70	5.030	5.036	-0.006	87	13940	4.00	4.32	
51 Acetophenone	105	5.036	5.042	-0.006	97	26857	4.00	4.43	
53 Hexachloroethane	117	5.171	5.171	0.000	94	8121	4.00	4.29	
54 Nitrobenzene	77	5.207	5.212	-0.005	83	19711	4.00	4.32	
57 Isophorone	82	5.430	5.436	-0.006	98	35751	4.00	4.25	
58 2-Nitrophenol	139	5.518	5.518	0.000	89	10336	4.00	4.07	
59 2,4-Dimethylphenol	107	5.536	5.541	-0.005	93	19377	4.00	4.41	
63 Bis(2-chloroethoxy)methane	93	5.624	5.630	-0.006	95	22898	4.00	4.42	
64 Benzoic acid	105	5.571	5.653	-0.082	85	24635	8.00	11.3	a
66 3,5-Dimethylphenol	107	5.659	5.665	-0.006	86	19838	4.00	4.36	
68 2,4-Dichlorophenol	162	5.747	5.753	-0.006	92	16434	4.00	4.30	
69 1,2,4-Trichlorobenzene	180	5.841	5.841	0.000	93	18487	4.00	4.64	
71 Naphthalene	128	5.918	5.923	-0.005	97	61206	4.00	4.54	
72 4-Chloroaniline	127	5.953	5.953	0.000	97	27031	4.00	4.43	
73 2,6-Dichlorophenol	162	5.970	5.970	0.000	96	16480	4.00	4.36	
75 Hexachlorobutadiene	225	6.047	6.047	0.000	98	9144	4.00	4.46	
79 Caprolactam	55	6.252	6.282	-0.030	90	7337	4.00	4.15	a
83 4-Chloro-3-methylphenol	107	6.417	6.423	-0.006	92	16579	4.00	4.22	
86 2-Methylnaphthalene	142	6.599	6.599	0.000	93	43920	4.00	4.60	
88 1-Methylnaphthalene	142	6.699	6.705	-0.006	94	39514	4.00	4.44	
89 1,2,4,5-Tetrachlorobenzene	216	6.770	6.775	-0.005	97	18262	4.00	4.63	
90 Hexachlorocyclopentadiene	237	6.770	6.769	0.001	95	11344	4.00	4.38	
92 2,4,6-Trichlorophenol	196	6.875	6.875	0.000	75	11799	4.00	4.47	
93 2,3-Dichlorobenzenamine	161	6.875	6.875	0.000	93	21365	4.00	4.54	
94 2,4,5-Trichlorophenol	196	6.911	6.916	-0.005	95	12888	4.00	4.26	
98 1,1'-Biphenyl	154	7.057	7.063	-0.006	94	50927	4.00	4.57	
99 2-Chloronaphthalene	162	7.087	7.087	0.000	96	38410	4.00	4.45	
101 2-Nitroaniline	65	7.169	7.175	-0.006	90	10185	4.00	4.10	
104 Dimethyl phthalate	163	7.345	7.351	-0.006	100	44395	4.00	4.43	
105 1,3-Dinitrobenzene	168	7.375	7.380	-0.005	90	6560	4.00	3.63	
106 2,6-Dinitrotoluene	165	7.404	7.410	-0.006	96	10077	4.00	4.15	
107 Acenaphthylene	152	7.504	7.510	-0.006	98	65601	4.00	4.54	
108 3-Nitroaniline	138	7.574	7.586	-0.012	96	12799	4.00	4.34	
109 Acenaphthene	153	7.680	7.680	0.000	90	41109	4.00	4.64	
111 2,4-Dinitrophenol	184	7.680	7.686	-0.006	64	9941	8.00	10.0	
112 4-Nitrophenol	109	7.727	7.745	-0.018	85	11480	8.00	7.90	
114 2,4-Dinitrotoluene	165	7.809	7.815	-0.006	95	13782	4.00	4.15	
116 Dibenzofuran	168	7.851	7.850	0.001	97	58092	4.00	4.53	
119 2,3,4,6-Tetrachlorophenol	232	7.968	7.974	-0.006	74	10168	4.00	4.05	
123 Diethyl phthalate	149	8.044	8.056	-0.012	99	45526	4.00	4.48	
124 Hexadecane	57	8.068	8.074	-0.006	95	19786	4.00	4.40	
127 4-Chlorophenyl phenyl ethe	204	8.180	8.185	-0.005	90	22169	4.00	4.57	
129 Fluorene	166	8.191	8.197	-0.006	95	47553	4.00	4.62	
130 4-Nitroaniline	138	8.191	8.203	-0.012	91	13300	4.00	4.20	
131 4,6-Dinitro-2-methylphenol	198	8.227	8.238	-0.011	92	12871	8.00	9.03	
134 Diphenylamine	169	8.291	8.297	-0.006	95	36585	3.40	3.88	
135 N-Nitrosodiphenylamine	169	8.291	8.297	-0.006	60	36585	4.00	4.57	
136 1,2-Diphenylhydrazine	77	8.338	8.344	-0.006	98	44148	4.04	4.48	
137 Azobenzene	77	8.338	8.344	-0.006	97	44148	4.00	4.43	
139 2,4,6 - Tribromophenol	330	8.432	8.438	-0.006	91	5321	4.00	4.13	
148 4-Bromophenyl phenyl ether	248	8.673	8.679	-0.006	63	13092	4.00	4.47	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
151 Hexachlorobenzene	284	8.761	8.767	-0.006	93	13214	4.00	4.69	
152 Atrazine	200	8.814	8.820	-0.006	95	13234	4.00	4.46	
155 Pentachlorophenol	266	8.949	8.955	-0.006	92	14839	8.00	7.87	
158 n-Octadecane	85	8.990	8.996	-0.006	97	12127	4.00	4.58	
161 Phenanthrene	178	9.161	9.167	-0.006	97	73040	4.00	4.66	
162 Anthracene	178	9.214	9.219	-0.005	97	76117	4.00	4.66	
164 Carbazole	167	9.361	9.366	-0.005	95	73248	4.00	4.66	
166 Alachlor	188	9.502	9.507	-0.005	91	9541	4.00	4.42	
168 Di-n-butyl phthalate	149	9.707	9.713	-0.006	99	80393	4.00	4.45	
175 Fluoranthene	202	10.542	10.547	-0.005	97	83650	4.00	4.54	
178 Pyrene	202	10.876	10.882	-0.006	97	85871	4.00	4.42	
185 Famphur	218	11.869	11.875	-0.006	83	29203	4.00	3.09	
187 Butyl benzyl phthalate	149	11.993	11.999	-0.006	96	37246	4.00	4.13	
189 3,3'-Dichlorobenzidine	252	13.150	13.168	-0.018	74	27449	4.00	4.06	
191 Benzo[a]anthracene	228	13.203	13.221	-0.018	98	84043	4.00	4.39	
192 Chrysene	228	13.291	13.309	-0.018	97	78552	4.00	4.34	
193 Bis(2-ethylhexyl) phthalat	149	13.368	13.379	-0.011	94	50689	4.00	4.13	
195 Di-n-octyl phthalate	149	15.171	15.183	-0.012	98	85509	4.00	3.99	
196 Benzo[b]fluoranthene	252	16.070	16.094	-0.024	98	79492	4.00	4.14	
198 Benzo[k]fluoranthene	252	16.147	16.182	-0.035	99	84354	4.00	4.29	
200 Benzo[e]pyrene	252	16.852	16.887	-0.035	98	77622	4.00	4.30	
201 Benzo[a]pyrene	252	16.999	17.034	-0.035	79	79592	4.00	4.17	
207 Indeno[1,2,3-cd]pyrene	276	20.289	20.330	-0.041	98	69966	4.00	4.13	
208 Dibenz(a,h)anthracene	278	20.377	20.418	-0.041	94	72425	4.00	4.19	
209 Benzo[g,h,i]perylene	276	21.018	21.070	-0.052	95	75508	4.00	4.18	
S 219 Total Cresols	108				0			8.46	
S 220 Methyl Phenols,Total	108				0			8.46	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

MS-HSLA004_00038 Amount Added: 200.00 Units: uL

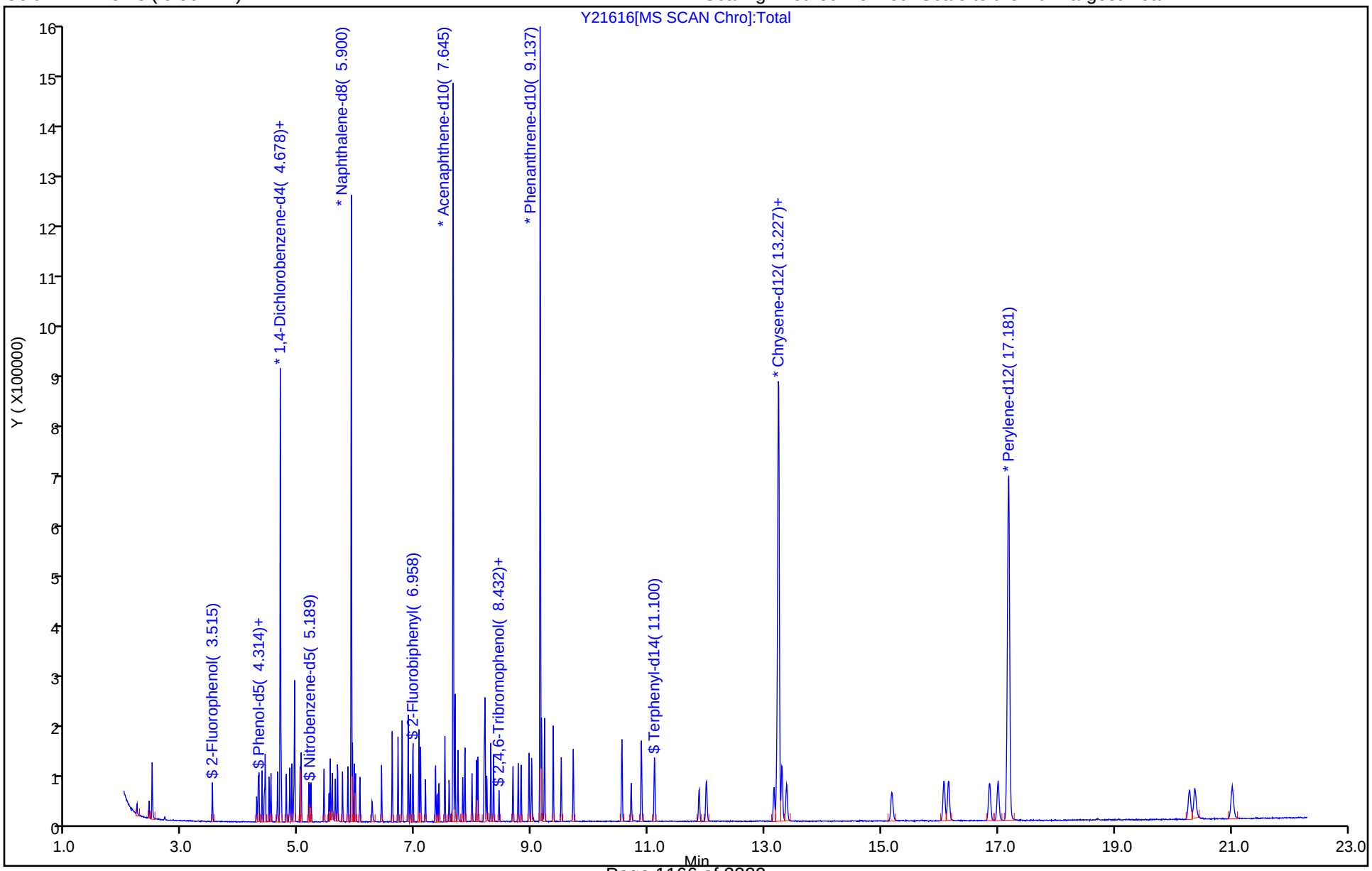
Report Date: 18-Oct-2018 09:36:15 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21616.D

Injection Date:	17-Oct-2018 11:27:30	Instrument ID:	SMS_Y	Operator ID:	KIEKELD
Lims ID:	STD004 HSL			Worklist Smp#:	4
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

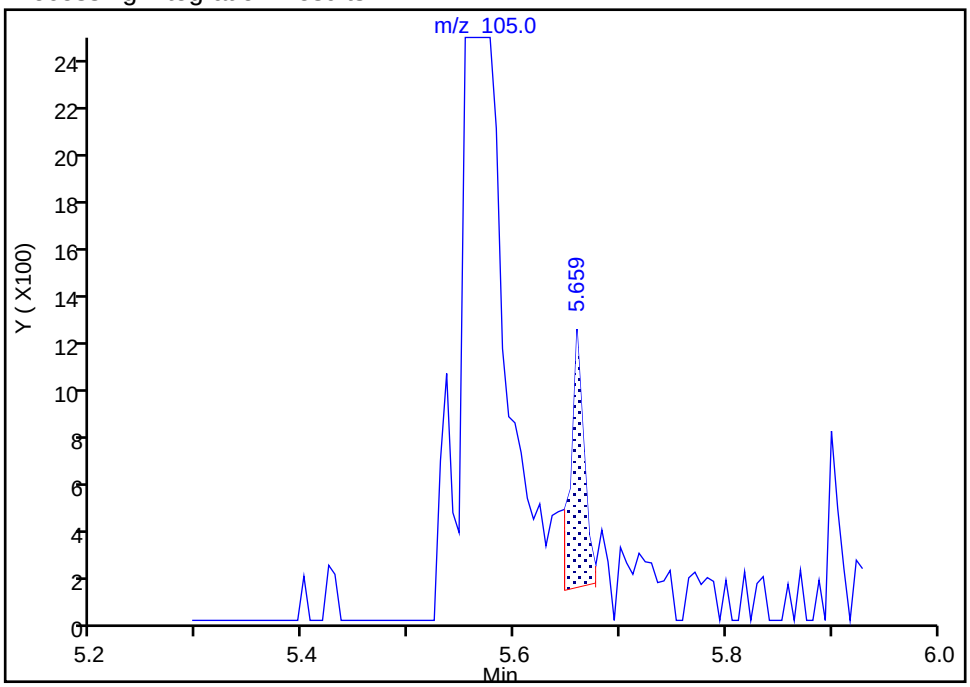
Data File:	\\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21616.D				
Injection Date:	17-Oct-2018 11:27:30	Instrument ID:	SMS_Y		
Lims ID:	STD004 HSL				
Client ID:					
Operator ID:	KIEKELD	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	0.5 ul	Dil. Factor:	1.0000		
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		
Column:	VF-5ms (0.50 mm)	Detector	MS SCAN		

64 Benzoic acid, CAS: 65-85-0

Signal: 1

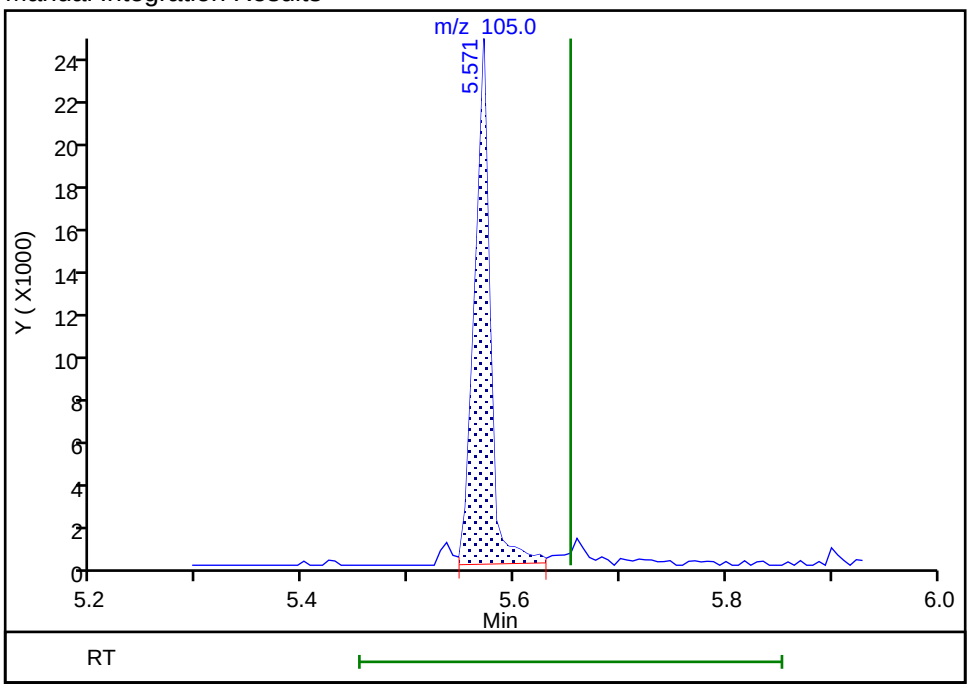
Processing Integration Results

RT: 5.66
Area: 979
Amount: 8.000000
Amount Units: ug/ml



Manual Integration Results

RT: 5.57
Area: 24635
Amount: 11.313864
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:52:09
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

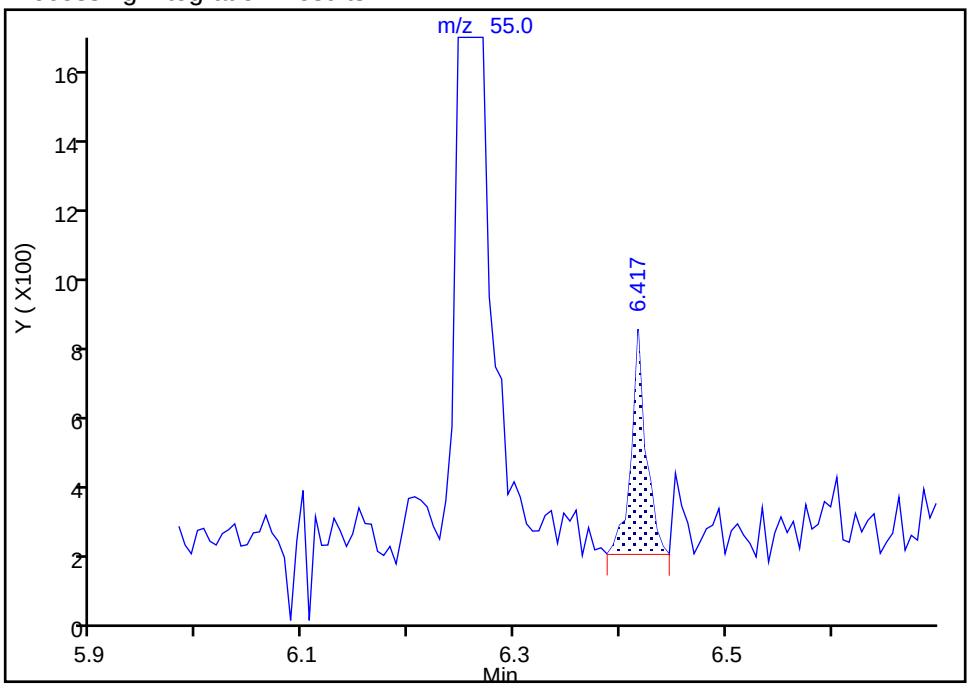
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21616.D
Injection Date: 17-Oct-2018 11:27:30 Instrument ID: SMS_Y
Lims ID: STD004 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

79 Caprolactam, CAS: 105-60-2

Signal: 1

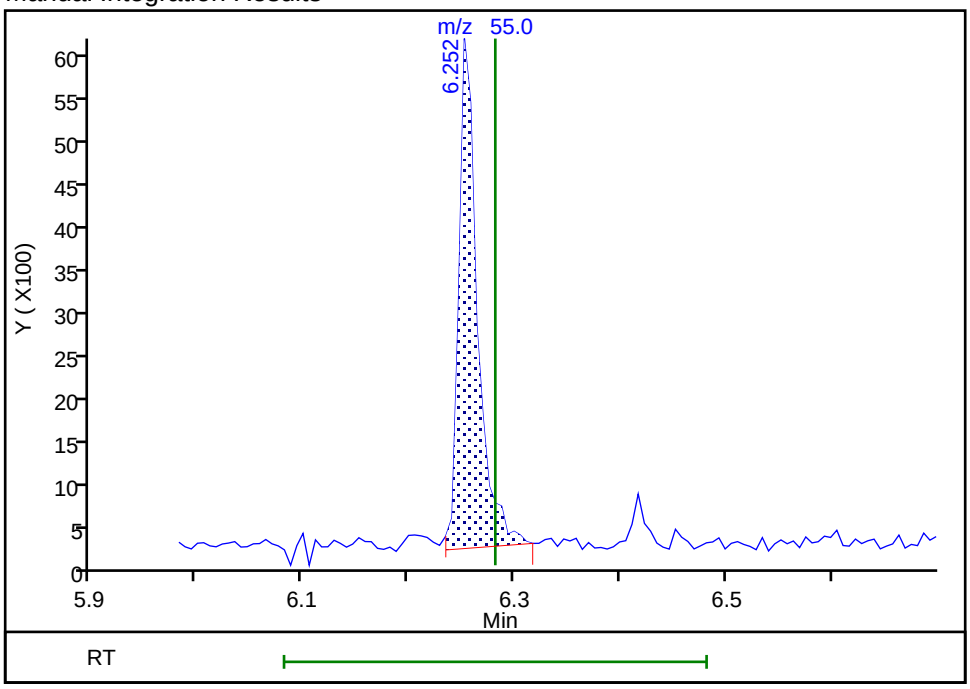
Processing Integration Results

RT: 6.42
Area: 621
Amount: 4.000000
Amount Units: ug/ml



Manual Integration Results

RT: 6.25
Area: 7337
Amount: 4.147707
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 11:52:21
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Report Date: 18-Oct-2018 09:36:18 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21617.D
Lims ID: STD010 HSL
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Oct-2018 11:56:30 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD010 HSL
Operator ID: KIEKELD Instrument ID: SMS_Y
Sublist: chrom-SMSY_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 18-Oct-2018 09:36:18 Calib Date: 17-Oct-2018 19:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21632.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: kiekeld Date: 17-Oct-2018 12:27:00

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.679	4.684	-0.005	95	132849	40.0	40.0	
* 2 Naphthalene-d8	136	5.895	5.900	-0.005	99	547036	40.0	40.0	
* 3 Acenaphthene-d10	164	7.646	7.645	0.001	96	298220	40.0	40.0	
* 4 Phenanthrene-d10	188	9.138	9.143	-0.005	98	592129	40.0	40.0	
* 5 Chrysene-d12	240	13.227	13.244	-0.017	99	648264	40.0	40.0	
* 6 Perylene-d12	264	17.182	17.192	-0.010	97	697691	40.0	40.0	
$ 7 2-Fluorophenol	112	3.515	3.514	0.001	90	46229	10.0	10.1	
$ 8 Phenol-d5	99	4.303	4.308	-0.005	96	59263	10.0	10.2	
$ 9 Nitrobenzene-d5	82	5.190	5.189	0.001	84	53053	10.0	10.5	
$ 11 2-Fluorobiphenyl	172	6.952	6.957	-0.005	99	112223	10.0	10.5	
$ 12 2,4,6-Tribromophenol	330	8.433	8.438	-0.005	93	14005	10.0	10.3	
$ 13 Terphenyl-d14	244	11.101	11.111	-0.011	98	153283	10.0	10.4	
15 1,4-Dioxane	88	2.223	2.222	0.001	90	18230	10.0	9.88	
17 N-Nitrosodimethylamine	74	2.428	2.427	0.001	94	28129	10.0	9.96	
18 Pyridine	79	2.481	2.480	0.001	95	94228	20.0	20.0	
28 Phenol	94	4.314	4.319	-0.005	96	59685	10.0	10.1	
30 Aniline	93	4.367	4.372	-0.005	99	74340	10.0	10.0	
31 Bis(2-chloroethyl)ether	93	4.408	4.407	0.001	97	44063	10.0	10.2	
32 Alpha Methyl Styrene	118	4.420	4.425	-0.005	88	50409	10.0	10.4	
34 2-Chlorophenol	128	4.485	4.490	-0.005	96	50578	10.0	10.2	
35 n-Decane	43	4.520	4.519	0.001	87	35496	10.0	10.2	
37 1,3-Dichlorobenzene	146	4.632	4.637	-0.005	98	52996	10.0	10.2	
38 1,4-Dichlorobenzene	146	4.696	4.695	0.001	96	55443	10.0	10.5	
39 Benzyl alcohol	108	4.784	4.789	-0.005	96	33701	10.0	10.1	
40 1,2-Dichlorobenzene	146	4.843	4.842	0.001	98	51549	10.0	10.3	
41 2-Methylphenol	108	4.878	4.883	-0.005	93	44794	10.0	9.92	
43 2,2'-oxybis[1-chloropropan	45	4.908	4.913	-0.005	91	48656	10.0	10.3	
44 Indene	116	4.925	4.930	-0.005	90	168886	20.0	21.3	
46 3-Methylphenol	108	5.019	5.024	-0.005	92	48121	10.0	10.1	
47 4-Methylphenol	108	5.019	5.024	-0.005	96	48121	10.0	10.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
48 3 & 4 Methylphenol	108	5.019	5.024	-0.005	99	48121	10.0	10.1	
50 N-Nitrosodi-n-propylamine	70	5.031	5.036	-0.005	84	34878	10.0	10.4	
51 Acetophenone	105	5.037	5.042	-0.005	98	65594	10.0	10.4	
53 Hexachloroethane	117	5.166	5.171	-0.005	95	19780	10.0	10.0	
54 Nitrobenzene	77	5.207	5.212	-0.005	83	48539	10.0	10.1	
57 Isophorone	82	5.431	5.436	-0.005	99	89646	10.0	10.1	
58 2-Nitrophenol	139	5.513	5.518	-0.005	92	26407	10.0	9.88	
59 2,4-Dimethylphenol	107	5.536	5.541	-0.005	93	47723	10.0	10.3	
63 Bis(2-chloroethoxy)methane	93	5.625	5.630	-0.005	97	54976	10.0	10.1	
64 Benzoic acid	105	5.583	5.653	-0.070	87	64670	20.0	20.4	a
66 3,5-Dimethylphenol	107	5.660	5.665	-0.005	85	49613	10.0	10.4	
68 2,4-Dichlorophenol	162	5.748	5.753	-0.005	90	41745	10.0	10.4	
69 1,2,4-Trichlorobenzene	180	5.842	5.841	0.001	95	43619	10.0	10.4	
71 Naphthalene	128	5.918	5.923	-0.005	97	147472	10.0	10.4	
72 4-Chloroaniline	127	5.954	5.953	0.001	98	65384	10.0	10.2	
73 2,6-Dichlorophenol	162	5.971	5.970	0.001	97	41195	10.0	10.4	
75 Hexachlorobutadiene	225	6.048	6.047	0.001	97	22036	10.0	10.2	
79 Caprolactam	55	6.253	6.282	-0.029	87	18546	10.0	9.97	
83 4-Chloro-3-methylphenol	107	6.418	6.423	-0.005	94	41569	10.0	10.1	
86 2-Methylnaphthalene	142	6.600	6.599	0.001	92	105273	10.0	10.5	
88 1-Methylnaphthalene	142	6.700	6.705	-0.005	94	98452	10.0	10.5	
89 1,2,4,5-Tetrachlorobenzene	216	6.770	6.775	-0.005	97	45721	10.0	11.0	
90 Hexachlorocyclopentadiene	237	6.770	6.769	0.001	95	28002	10.0	10.2	
92 2,4,6-Trichlorophenol	196	6.876	6.875	0.001	75	29032	10.0	10.4	
93 2,3-Dichlorobenzenamine	161	6.876	6.875	0.001	93	52122	10.0	10.5	
94 2,4,5-Trichlorophenol	196	6.911	6.916	-0.005	95	32425	10.0	10.1	
98 1,1'-Biphenyl	154	7.058	7.063	-0.005	95	122337	10.0	10.4	
99 2-Chloronaphthalene	162	7.088	7.087	0.001	95	95038	10.0	10.4	
101 2-Nitroaniline	65	7.170	7.175	-0.005	90	26241	10.0	9.97	
104 Dimethyl phthalate	163	7.340	7.351	-0.011	100	109645	10.0	10.3	
105 1,3-Dinitrobenzene	168	7.370	7.380	-0.010	90	17823	10.0	9.32	
106 2,6-Dinitrotoluene	165	7.405	7.410	-0.005	95	26503	10.0	10.3	
107 Acenaphthylene	152	7.505	7.510	-0.005	98	160130	10.0	10.5	
108 3-Nitroaniline	138	7.575	7.586	-0.011	98	30406	10.0	9.74	
109 Acenaphthene	153	7.675	7.680	-0.005	90	100486	10.0	10.7	
111 2,4-Dinitrophenol	184	7.681	7.686	-0.005	66	28650	20.0	20.0	
112 4-Nitrophenol	109	7.728	7.745	-0.017	85	30517	20.0	19.8	
114 2,4-Dinitrotoluene	165	7.810	7.815	-0.005	96	34873	10.0	9.93	
116 Dibenzofuran	168	7.851	7.850	0.001	97	142122	10.0	10.5	
119 2,3,4,6-Tetrachlorophenol	232	7.969	7.974	-0.005	72	26763	10.0	10.1	
123 Diethyl phthalate	149	8.045	8.056	-0.011	98	111830	10.0	10.4	
124 Hexadecane	57	8.069	8.074	-0.005	94	49279	10.0	10.3	
127 4-Chlorophenyl phenyl ethe	204	8.180	8.185	-0.005	90	53918	10.0	10.5	
129 Fluorene	166	8.192	8.197	-0.005	94	114970	10.0	10.5	
130 4-Nitroaniline	138	8.186	8.203	-0.017	90	32710	10.0	9.75	
131 4,6-Dinitro-2-methylphenol	198	8.222	8.238	-0.016	91	35234	20.0	19.9	
134 Diphenylamine	169	8.292	8.297	-0.005	94	86993	8.50	8.71	
135 N-Nitrosodiphenylamine	169	8.292	8.297	-0.005	61	86993	10.0	10.4	
136 1,2-Diphenylhydrazine	77	8.339	8.344	-0.005	98	107431	10.1	10.3	
137 Azobenzene	77	8.339	8.344	-0.005	96	107431	10.0	10.2	
139 2,4,6 - Tribromophenol	330	8.433	8.438	-0.005	93	14005	10.0	10.3	
148 4-Bromophenyl phenyl ether	248	8.674	8.679	-0.005	63	32619	10.0	10.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
151 Hexachlorobenzene	284	8.762	8.767	-0.005	93	31255	10.0	10.6	
152 Atrazine	200	8.809	8.820	-0.011	96	33055	10.0	10.6	
155 Pentachlorophenol	266	8.950	8.955	-0.005	93	39955	20.0	20.3	
158 n-Octadecane	85	8.991	8.996	-0.005	98	28481	10.0	10.3	
161 Phenanthrene	178	9.162	9.167	-0.005	97	175304	10.0	10.7	
162 Anthracene	178	9.214	9.219	-0.005	97	184528	10.0	10.8	
164 Carbazole	167	9.361	9.366	-0.005	95	171665	10.0	10.5	
166 Alachlor	188	9.502	9.507	-0.005	93	22789	10.0	10.1	
168 Di-n-butyl phthalate	149	9.708	9.713	-0.005	99	197098	10.0	10.4	
175 Fluoranthene	202	10.542	10.547	-0.005	98	202877	10.0	10.5	
178 Pyrene	202	10.877	10.882	-0.005	97	208788	10.0	10.3	
185 Famphur	218	11.870	11.875	-0.005	82	71916	10.0	9.62	
187 Butyl benzyl phthalate	149	11.994	11.999	-0.005	96	92915	10.0	9.85	
189 3,3'-Dichlorobenzidine	252	13.151	13.168	-0.017	74	71086	10.0	10.1	
191 Benzo[a]anthracene	228	13.204	13.221	-0.017	99	203541	10.0	10.2	
192 Chrysene	228	13.286	13.309	-0.023	98	194239	10.0	10.3	
193 Bis(2-ethylhexyl) phthalat	149	13.368	13.379	-0.011	95	126594	10.0	9.85	
195 Di-n-octyl phthalate	149	15.172	15.183	-0.011	98	215901	10.0	9.64	
196 Benzo[b]fluoranthene	252	16.071	16.094	-0.023	98	199992	10.0	10.0	
198 Benzo[k]fluoranthene	252	16.148	16.182	-0.034	99	204392	10.0	10.0	
200 Benzo[e]pyrene	252	16.853	16.887	-0.034	98	188552	10.0	10.0	
201 Benzo[a]pyrene	252	16.999	17.034	-0.035	79	197161	10.0	9.94	
207 Indeno[1,2,3-cd]pyrene	276	20.290	20.330	-0.040	98	172979	10.0	9.77	
208 Dibenz(a,h)anthracene	278	20.378	20.418	-0.040	94	177184	10.0	9.87	
209 Benzo[g,h,i]perylene	276	21.018	21.070	-0.052	96	190004	10.0	10.1	
S 219 Total Cresols	108				0			20.0	
S 220 Methyl Phenols,Total	108				0			20.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

MS-HSLA010_00038 Amount Added: 200.00 Units: uL

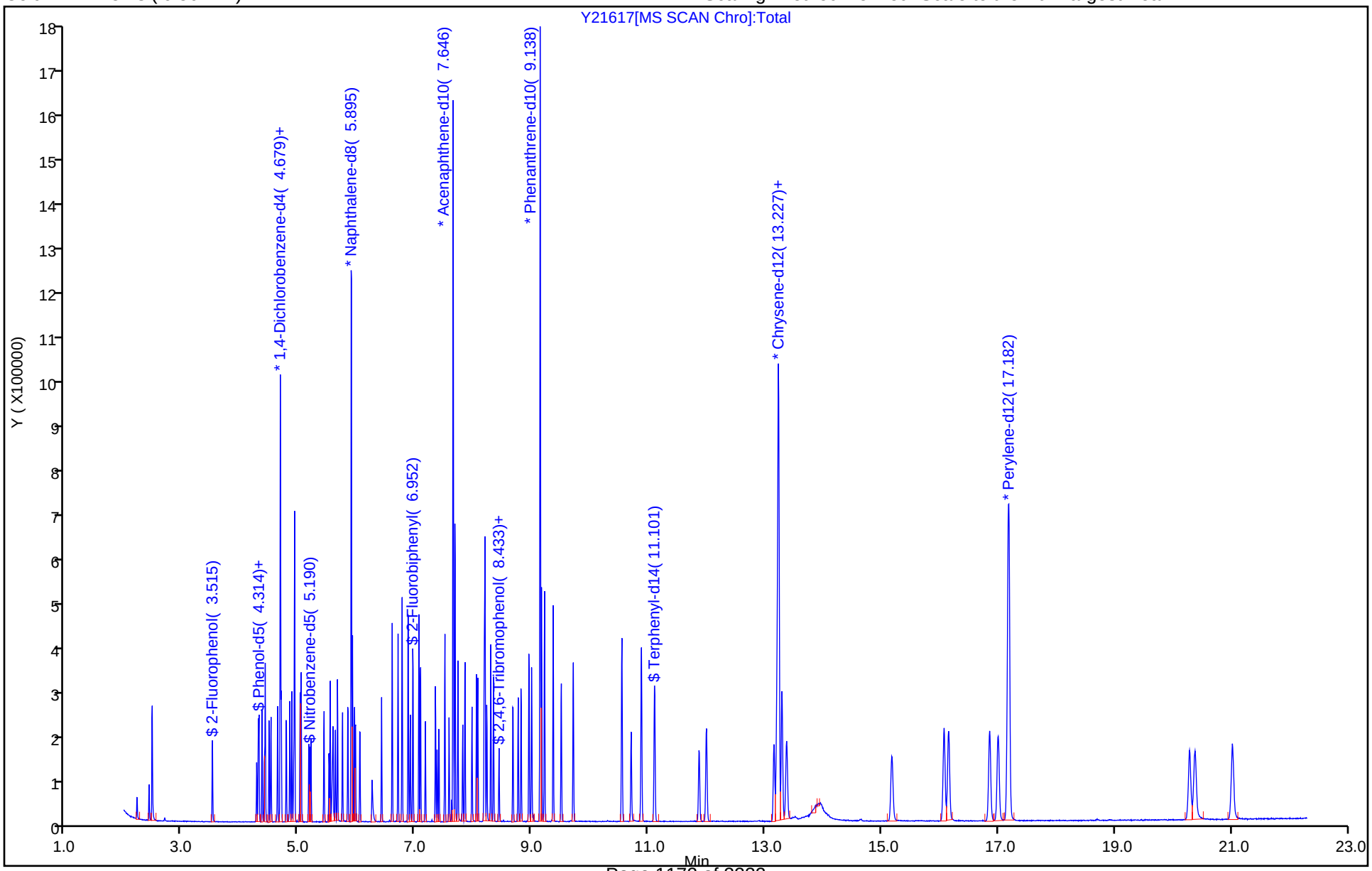
Report Date: 18-Oct-2018 09:36:19 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21617.D

Injection Date:	17-Oct-2018 11:56:30	Instrument ID:	SMS_Y	Operator ID:	KIEKELD
Lims ID:	STD010 HSL			Worklist Smp#:	5
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

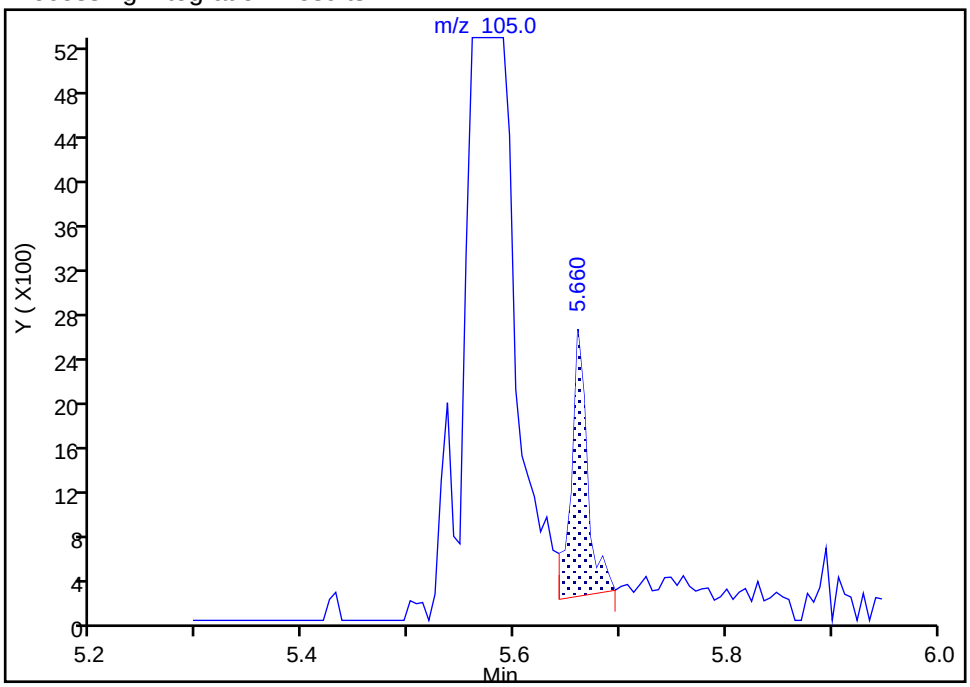
Data File:	\\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21617.D				
Injection Date:	17-Oct-2018 11:56:30	Instrument ID:	SMS_Y		
Lims ID:	STD010 HSL				
Client ID:					
Operator ID:	KIEKELD	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	0.5 ul	Dil. Factor:	1.0000		
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		
Column:	VF-5ms (0.50 mm)	Detector	MS SCAN		

64 Benzoic acid, CAS: 65-85-0

Signal: 1

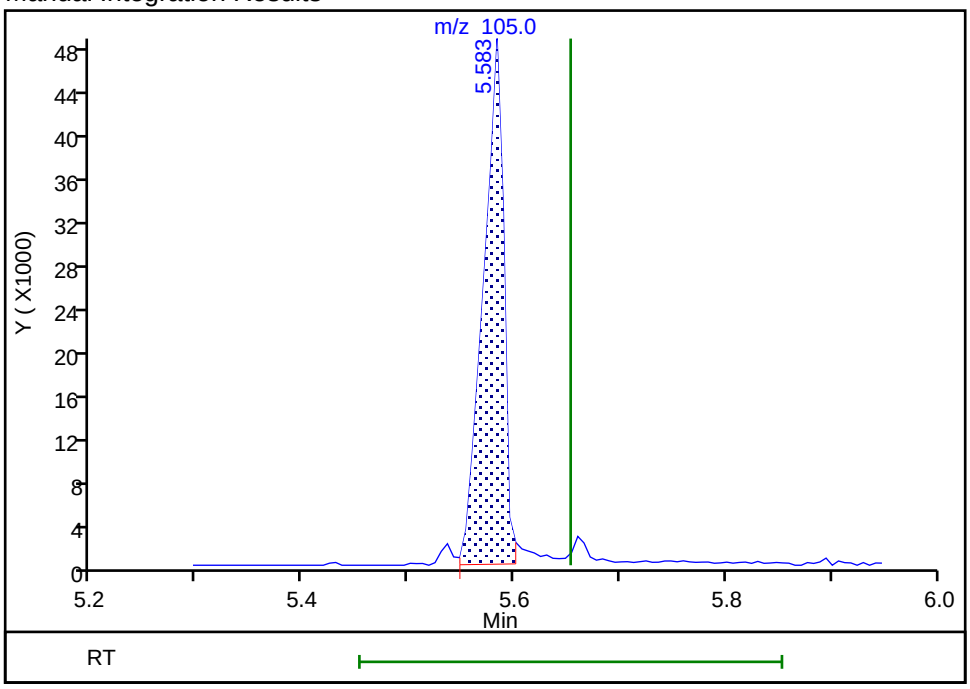
Processing Integration Results

RT: 5.66
Area: 2554
Amount: 11.023281
Amount Units: ug/ml



Manual Integration Results

RT: 5.58
Area: 64670
Amount: 20.403530
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 12:25:52
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21618.D
Lims ID: STD020 HSL
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Oct-2018 12:24:30 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD020 HSL
Operator ID: KIEKELD Instrument ID: SMS_Y
Sublist: chrom-SMSY_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 18-Oct-2018 09:36:21 Calib Date: 17-Oct-2018 19:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21632.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: kiekeld Date: 17-Oct-2018 14:12:23

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.678	4.684	-0.006	94	148192	40.0	40.0	
* 2 Naphthalene-d8	136	5.900	5.900	0.000	99	617401	40.0	40.0	
* 3 Acenaphthene-d10	164	7.645	7.645	0.000	96	333600	40.0	40.0	
* 4 Phenanthrene-d10	188	9.138	9.143	-0.005	98	676716	40.0	40.0	
* 5 Chrysene-d12	240	13.233	13.244	-0.011	99	742843	40.0	40.0	
* 6 Perylene-d12	264	17.181	17.192	-0.011	97	790647	40.0	40.0	
$ 7 2-Fluorophenol	112	3.515	3.514	0.001	89	101256	20.0	19.9	
$ 8 Phenol-d5	99	4.302	4.308	-0.006	96	127070	20.0	19.7	
$ 9 Nitrobenzene-d5	82	5.189	5.189	0.000	84	119555	20.0	21.0	
$ 11 2-Fluorobiphenyl	172	6.958	6.957	0.001	99	247351	20.0	20.8	
$ 12 2,4,6-Tribromophenol	330	8.433	8.438	-0.005	93	31569	20.0	20.7	
$ 13 Terphenyl-d14	244	11.100	11.111	-0.011	98	346407	20.0	20.4	
15 1,4-Dioxane	88	2.216	2.222	-0.006	90	40942	20.0	19.9	
17 N-Nitrosodimethylamine	74	2.428	2.427	0.001	94	64034	20.0	20.3	
18 Pyridine	79	2.481	2.480	0.001	96	208904	40.0	39.8	
28 Phenol	94	4.314	4.319	-0.005	96	132117	20.0	20.1	
30 Aniline	93	4.367	4.372	-0.005	99	165245	20.0	19.9	
31 Bis(2-chloroethyl)ether	93	4.408	4.407	0.001	98	97225	20.0	20.1	
32 Alpha Methyl Styrene	118	4.420	4.425	-0.005	89	111263	20.0	20.5	
34 2-Chlorophenol	128	4.484	4.490	-0.006	95	110341	20.0	19.9	
35 n-Decane	43	4.520	4.519	0.001	87	78282	20.0	20.1	
37 1,3-Dichlorobenzene	146	4.631	4.637	-0.006	97	116559	20.0	20.2	
38 1,4-Dichlorobenzene	146	4.696	4.695	0.001	95	118101	20.0	20.1	
39 Benzyl alcohol	108	4.784	4.789	-0.005	95	73974	20.0	19.8	
40 1,2-Dichlorobenzene	146	4.843	4.842	0.001	98	114150	20.0	20.4	
41 2-Methylphenol	108	4.878	4.883	-0.005	92	101424	20.0	20.1	
43 2,2'-oxybis[1-chloropropan	45	4.913	4.913	0.000	91	105570	20.0	20.0	
44 Indene	116	4.925	4.930	-0.005	90	367902	40.0	41.6	
46 3-Methylphenol	108	5.019	5.024	-0.005	92	107648	20.0	20.3	
47 4-Methylphenol	108	5.019	5.024	-0.005	96	107648	20.0	20.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
48 3 & 4 Methylphenol	108	5.019	5.024	-0.005	99	107648	20.0	20.3	
50 N-Nitrosodi-n-propylamine	70	5.031	5.036	-0.005	83	76569	20.0	20.4	
51 Acetophenone	105	5.037	5.042	-0.005	97	145159	20.0	20.6	
53 Hexachloroethane	117	5.172	5.171	0.001	95	44022	20.0	20.0	
54 Nitrobenzene	77	5.207	5.212	-0.005	82	108786	20.0	20.1	
57 Isophorone	82	5.430	5.436	-0.006	98	200912	20.0	20.1	
58 2-Nitrophenol	139	5.513	5.518	-0.005	92	59337	20.0	19.7	
59 2,4-Dimethylphenol	107	5.536	5.541	-0.005	93	103888	20.0	19.9	
63 Bis(2-chloroethoxy)methane	93	5.624	5.630	-0.006	97	123839	20.0	20.1	
64 Benzoic acid	105	5.607	5.653	-0.046	86	160809	40.0	38.7	a
66 3,5-Dimethylphenol	107	5.660	5.665	-0.005	87	109514	20.0	20.3	
68 2,4-Dichlorophenol	162	5.748	5.753	-0.005	91	90093	20.0	19.9	
69 1,2,4-Trichlorobenzene	180	5.842	5.841	0.001	94	95653	20.0	20.2	
71 Naphthalene	128	5.918	5.923	-0.005	97	326059	20.0	20.4	
72 4-Chloroaniline	127	5.953	5.953	0.000	98	147564	20.0	20.4	
73 2,6-Dichlorophenol	162	5.971	5.970	0.001	98	89113	20.0	19.9	
75 Hexachlorobutadiene	225	6.047	6.047	0.000	97	50099	20.0	20.6	
79 Caprolactam	55	6.259	6.282	-0.023	87	41704	20.0	19.9	
83 4-Chloro-3-methylphenol	107	6.417	6.423	-0.006	94	93439	20.0	20.0	
86 2-Methylnaphthalene	142	6.600	6.599	0.001	93	230902	20.0	20.4	
88 1-Methylnaphthalene	142	6.699	6.705	-0.006	94	217681	20.0	20.6	
89 1,2,4,5-Tetrachlorobenzene	216	6.770	6.775	-0.005	97	96252	20.0	20.5	
90 Hexachlorocyclopentadiene	237	6.770	6.769	0.001	95	62573	20.0	20.4	
92 2,4,6-Trichlorophenol	196	6.876	6.875	0.001	76	65599	20.0	21.0	
93 2,3-Dichlorobenzenamine	161	6.876	6.875	0.001	93	117751	20.0	21.1	
94 2,4,5-Trichlorophenol	196	6.911	6.916	-0.005	95	72610	20.0	20.3	
98 1,1'-Biphenyl	154	7.058	7.063	-0.005	94	275232	20.0	20.8	
99 2-Chloronaphthalene	162	7.087	7.087	0.000	95	210123	20.0	20.6	
101 2-Nitroaniline	65	7.170	7.175	-0.005	90	59250	20.0	20.1	
104 Dimethyl phthalate	163	7.346	7.351	-0.005	100	246190	20.0	20.8	
105 1,3-Dinitrobenzene	168	7.369	7.380	-0.011	92	42810	20.0	20.0	
106 2,6-Dinitrotoluene	165	7.405	7.410	-0.005	96	58161	20.0	20.2	
107 Acenaphthylene	152	7.504	7.510	-0.006	98	354220	20.0	20.7	
108 3-Nitroaniline	138	7.575	7.586	-0.011	97	70120	20.0	20.1	
109 Acenaphthene	153	7.681	7.680	0.001	89	219415	20.0	20.9	
111 2,4-Dinitrophenol	184	7.681	7.686	-0.005	68	73022	40.0	40.2	
112 4-Nitrophenol	109	7.734	7.745	-0.011	84	69622	40.0	40.5	a
114 2,4-Dinitrotoluene	165	7.810	7.815	-0.005	95	79493	20.0	20.2	
116 Dibenzofuran	168	7.851	7.850	0.001	97	317195	20.0	20.9	
119 2,3,4,6-Tetrachlorophenol	232	7.969	7.974	-0.005	73	60500	20.0	20.4	
123 Diethyl phthalate	149	8.045	8.056	-0.011	99	250177	20.0	20.8	
124 Hexadecane	57	8.068	8.074	-0.006	94	110192	20.0	20.7	
127 4-Chlorophenyl phenyl ethe	204	8.180	8.185	-0.005	91	118550	20.0	20.6	
129 Fluorene	166	8.192	8.197	-0.005	94	255883	20.0	21.0	
130 4-Nitroaniline	138	8.192	8.203	-0.011	93	76629	20.0	20.4	
131 4,6-Dinitro-2-methylphenol	198	8.227	8.238	-0.011	92	86616	40.0	40.2	
134 Diphenylamine	169	8.292	8.297	-0.005	95	197510	17.0	17.7	
135 N-Nitrosodiphenylamine	169	8.292	8.297	-0.005	60	197510	20.0	20.7	
136 1,2-Diphenylhydrazine	77	8.339	8.344	-0.005	98	239850	20.2	20.6	
137 Azobenzene	77	8.339	8.344	-0.005	96	239850	20.0	20.3	
139 2,4,6 - Tribromophenol	330	8.433	8.438	-0.005	93	31569	20.0	20.7	
148 4-Bromophenyl phenyl ether	248	8.674	8.679	-0.005	63	72151	20.0	20.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
151 Hexachlorobenzene	284	8.762	8.767	-0.005	94	71480	20.0	21.2	
152 Atrazine	200	8.815	8.820	-0.005	95	73560	20.0	20.7	
155 Pentachlorophenol	266	8.950	8.955	-0.005	93	96430	40.0	42.8	
158 n-Octadecane	85	8.991	8.996	-0.005	98	63923	20.0	20.2	
161 Phenanthrene	178	9.161	9.167	-0.006	98	391512	20.0	20.9	
162 Anthracene	178	9.214	9.219	-0.005	97	407529	20.0	20.9	
164 Carbazole	167	9.361	9.366	-0.005	95	391608	20.0	20.9	
166 Alachlor	188	9.502	9.507	-0.005	91	52625	20.0	20.4	
168 Di-n-butyl phthalate	149	9.708	9.713	-0.005	99	447347	20.0	20.7	
175 Fluoranthene	202	10.542	10.547	-0.005	98	454781	20.0	20.7	
178 Pyrene	202	10.877	10.882	-0.005	97	473314	20.0	20.3	
185 Famphur	218	11.870	11.875	-0.005	82	157679	20.0	20.5	
187 Butyl benzyl phthalate	149	11.993	11.999	-0.006	96	214035	20.0	19.8	
189 3,3'-Dichlorobenzidine	252	13.157	13.168	-0.011	74	167102	20.0	20.6	
191 Benzo[a]anthracene	228	13.204	13.221	-0.017	99	457901	20.0	20.0	
192 Chrysene	228	13.292	13.309	-0.017	99	438887	20.0	20.2	
193 Bis(2-ethylhexyl) phthalat	149	13.368	13.379	-0.011	95	289215	20.0	19.6	
195 Di-n-octyl phthalate	149	15.172	15.183	-0.011	98	502034	20.0	19.6	
196 Benzo[b]fluoranthene	252	16.077	16.094	-0.017	98	443635	20.0	19.6	
198 Benzo[k]fluoranthene	252	16.153	16.182	-0.029	99	468345	20.0	20.2	
200 Benzo[e]pyrene	252	16.858	16.887	-0.029	98	426737	20.0	20.0	
201 Benzo[a]pyrene	252	17.005	17.034	-0.029	79	451096	20.0	20.1	
207 Indeno[1,2,3-cd]pyrene	276	20.289	20.330	-0.041	98	390475	20.0	19.2	
208 Dibenz(a,h)anthracene	278	20.383	20.418	-0.035	94	393846	20.0	19.4	
209 Benzo[g,h,i]perylene	276	21.030	21.070	-0.040	96	421943	20.0	19.8	
S 219 Total Cresols	108				0			40.4	
S 220 Methyl Phenols,Total	108				0			40.4	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

MS-HSLA020_00038 Amount Added: 200.00 Units: uL

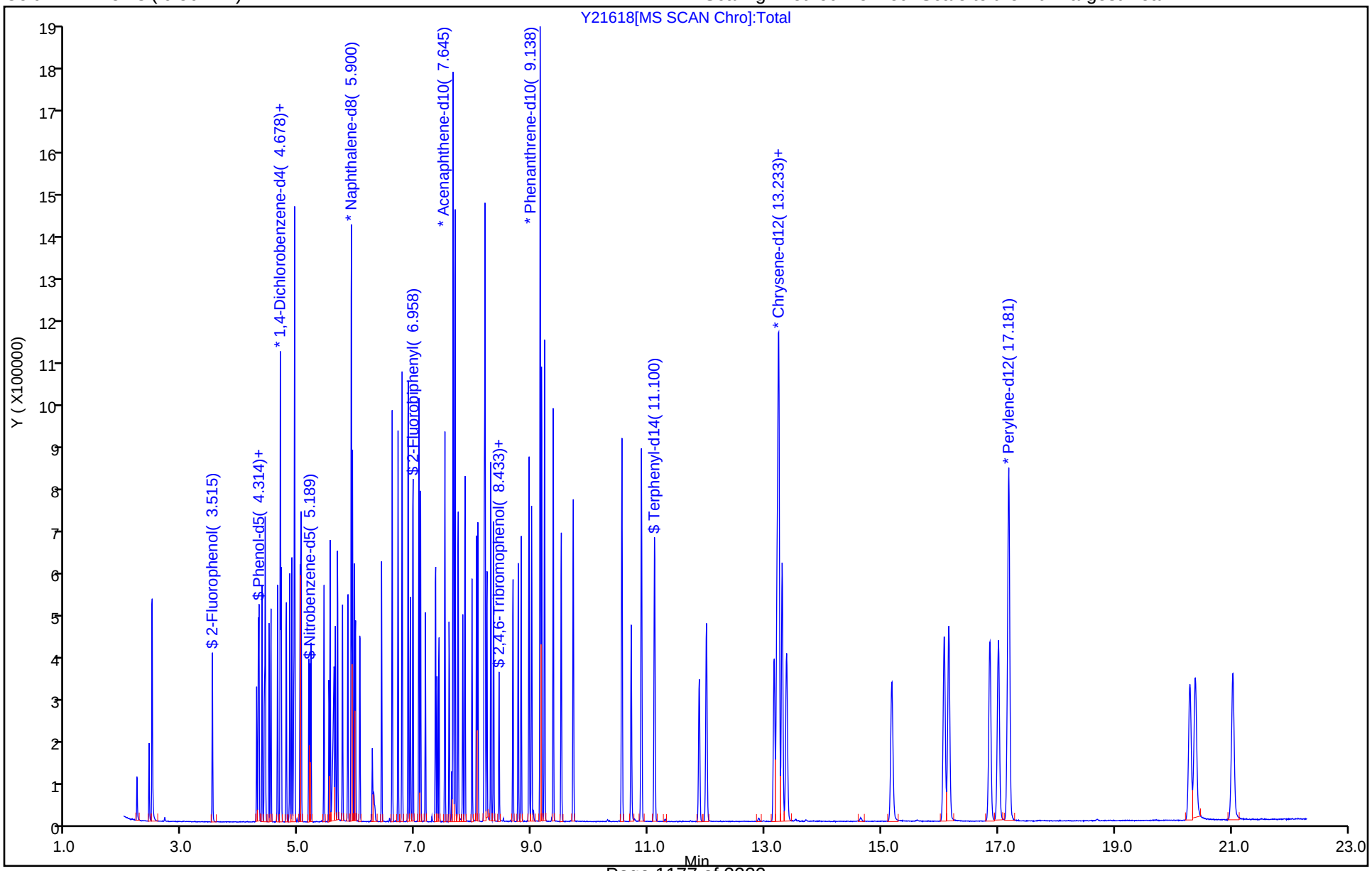
Report Date: 18-Oct-2018 09:36:22 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21618.D

Injection Date:	17-Oct-2018 12:24:30	Instrument ID:	SMS_Y	Operator ID:	KIEKELD
Lims ID:	STD020 HSL			Worklist Smp#:	6
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

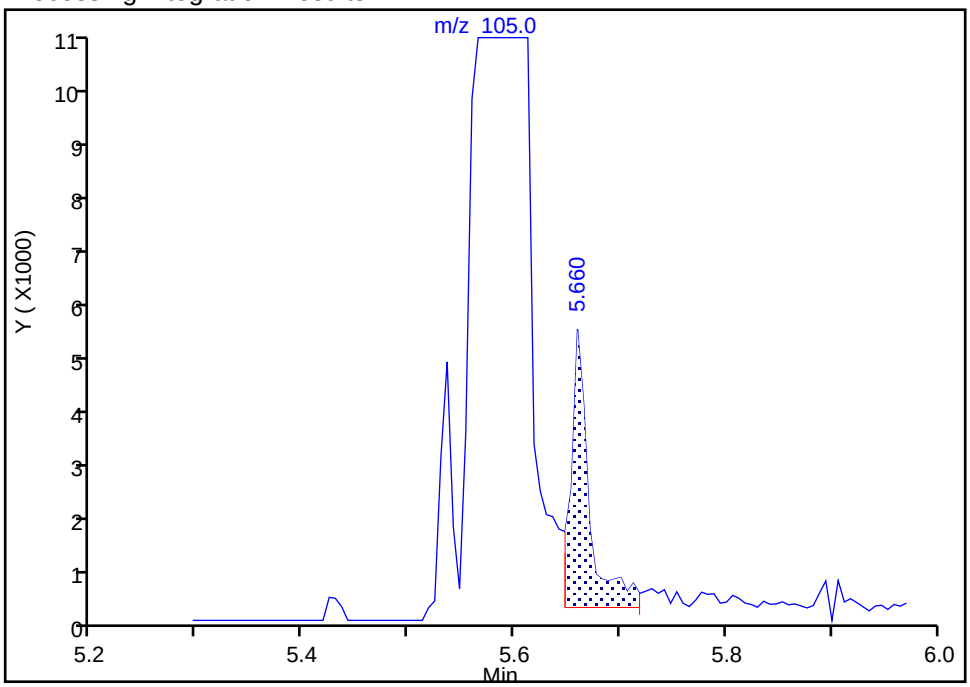
Data File:	\\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21618.D				
Injection Date:	17-Oct-2018 12:24:30	Instrument ID:	SMS_Y		
Lims ID:	STD020 HSL				
Client ID:					
Operator ID:	KIEKELD	ALS Bottle#:	5	Worklist Smp#:	6
Injection Vol:	0.5 ul	Dil. Factor:	1.0000		
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		
Column:	VF-5ms (0.50 mm)	Detector	MS SCAN		

64 Benzoic acid, CAS: 65-85-0

Signal: 1

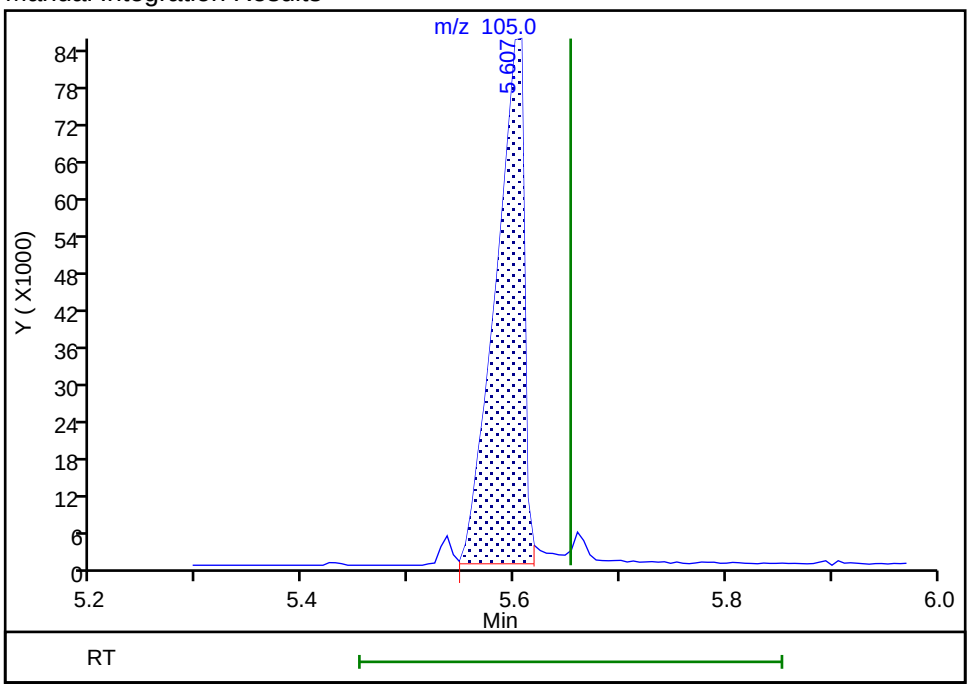
Processing Integration Results

RT: 5.66
Area: 6253
Amount: 2.197142
Amount Units: ug/ml



Manual Integration Results

RT: 5.61
Area: 160809
Amount: 38.650391
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 14:11:45
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

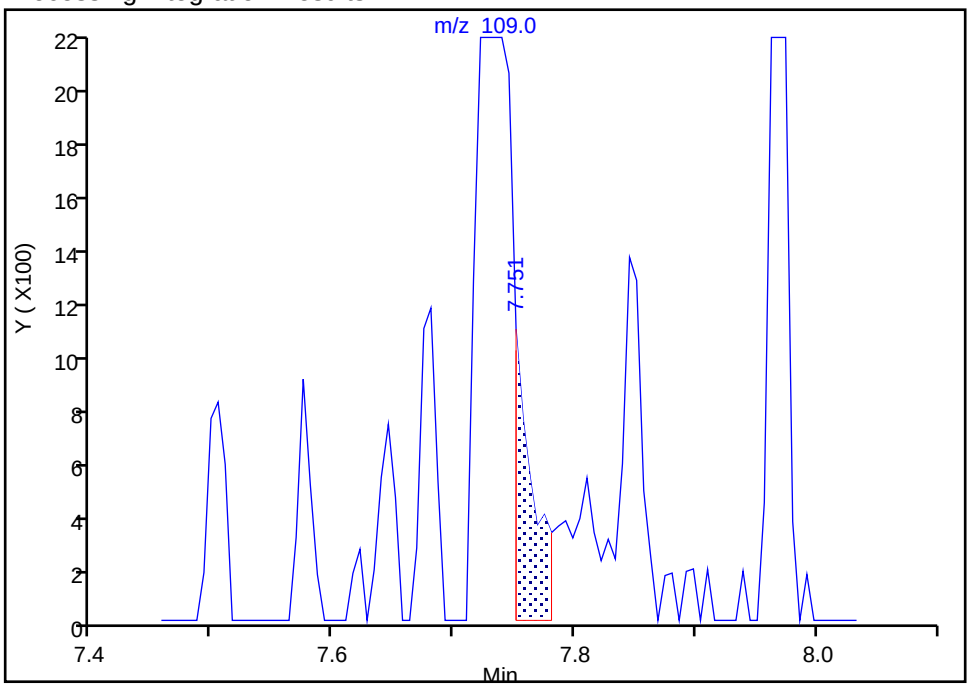
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21618.D
Injection Date: 17-Oct-2018 12:24:30 Instrument ID: SMS_Y
Lims ID: STD020 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

112 4-Nitrophenol, CAS: 100-02-7

Signal: 1

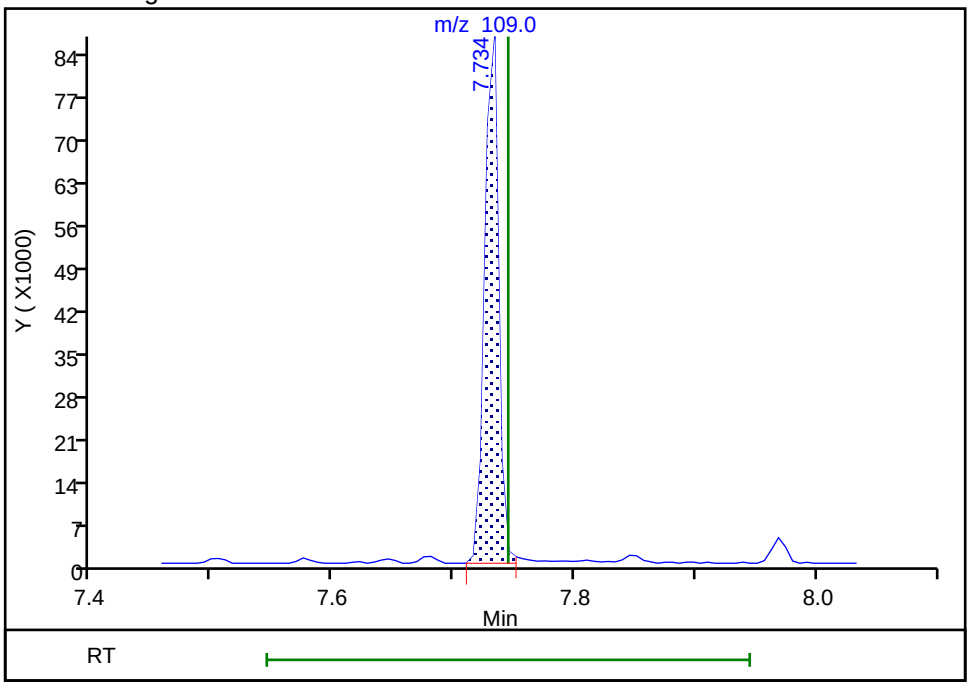
Processing Integration Results

RT: 7.75
Area: 1176
Amount: 1.015913
Amount Units: ug/ml



Manual Integration Results

RT: 7.73
Area: 69622
Amount: 40.479146
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 14:12:02
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21619.D
Lims ID: STD050 HSL
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Oct-2018 12:53:30 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD050 HSL
Operator ID: KIEKELD Instrument ID: SMS_Y
Sublist: chrom-SMSY_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 18-Oct-2018 09:36:23 Calib Date: 17-Oct-2018 19:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21632.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: kiekeld Date: 17-Oct-2018 14:13:58

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.681	4.684	-0.003	94	143346	40.0	40.0	
* 2 Naphthalene-d8	136	5.897	5.900	-0.003	99	595987	40.0	40.0	
* 3 Acenaphthene-d10	164	7.648	7.645	0.003	96	325179	40.0	40.0	
* 4 Phenanthrene-d10	188	9.141	9.143	-0.002	98	654041	40.0	40.0	
* 5 Chrysene-d12	240	13.236	13.244	-0.008	99	720391	40.0	40.0	
* 6 Perylene-d12	264	17.178	17.192	-0.014	97	763153	40.0	40.0	
$ 7 2-Fluorophenol	112	3.512	3.514	-0.002	89	239152	50.0	48.5	
$ 8 Phenol-d5	99	4.305	4.308	-0.003	97	303510	50.0	48.6	
$ 9 Nitrobenzene-d5	82	5.187	5.189	-0.002	84	262977	50.0	47.8	
$ 11 2-Fluorobiphenyl	172	6.955	6.957	-0.002	99	572257	50.0	49.3	
$ 12 2,4,6-Tribromophenol	330	8.436	8.438	-0.002	92	74352	50.0	50.0	
$ 13 Terphenyl-d14	244	11.103	11.111	-0.008	98	797420	50.0	48.5	
15 1,4-Dioxane	88	2.219	2.222	-0.003	89	95124	50.0	47.8	
17 N-Nitrosodimethylamine	74	2.425	2.427	-0.002	94	146921	50.0	48.2	
18 Pyridine	79	2.478	2.480	-0.002	96	497614	100.0	98.0	
28 Phenol	94	4.317	4.319	-0.002	96	310875	50.0	48.8	
30 Aniline	93	4.370	4.372	-0.002	99	391148	50.0	48.7	
31 Bis(2-chloroethyl)ether	93	4.405	4.407	-0.002	99	231536	50.0	49.4	
32 Alpha Methyl Styrene	118	4.423	4.425	-0.002	90	257554	50.0	49.1	
34 2-Chlorophenol	128	4.487	4.490	-0.003	95	258939	50.0	48.4	
35 n-Decane	43	4.517	4.519	-0.002	87	180796	50.0	48.1	
37 1,3-Dichlorobenzene	146	4.634	4.637	-0.003	98	273881	50.0	49.0	
38 1,4-Dichlorobenzene	146	4.693	4.695	-0.002	95	276312	50.0	48.7	
39 Benzyl alcohol	108	4.781	4.789	-0.008	95	175456	50.0	48.6	
40 1,2-Dichlorobenzene	146	4.846	4.842	0.004	98	265815	50.0	49.1	
41 2-Methylphenol	108	4.881	4.883	-0.002	92	239537	50.0	49.2	
43 2,2'-oxybis[1-chloropropan	45	4.910	4.913	-0.003	92	249252	50.0	48.8	
44 Indene	116	4.928	4.930	-0.002	90	850143	100.0	99.3	
46 3-Methylphenol	108	5.022	5.024	-0.002	92	252271	50.0	49.1	
47 4-Methylphenol	108	5.022	5.024	-0.002	94	252271	50.0	49.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
48 3 & 4 Methylphenol	108	5.022	5.024	-0.002	99	252271	50.0	49.1	
50 N-Nitrosodi-n-propylamine	70	5.034	5.036	-0.002	84	178216	50.0	49.2	
51 Acetophenone	105	5.040	5.042	-0.002	97	336121	50.0	49.4	
53 Hexachloroethane	117	5.169	5.171	-0.002	98	104085	50.0	48.9	
54 Nitrobenzene	77	5.204	5.212	-0.008	82	256190	50.0	49.0	
57 Isophorone	82	5.433	5.436	-0.003	98	476871	50.0	49.4	
58 2-Nitrophenol	139	5.516	5.518	-0.002	89	144428	50.0	49.6	
59 2,4-Dimethylphenol	107	5.539	5.541	-0.002	92	247960	50.0	49.2	
63 Bis(2-chloroethoxy)methane	93	5.627	5.630	-0.003	97	290547	50.0	48.9	
64 Benzoic acid	105	5.633	5.653	-0.020	89	424138	100.0	96.5	a
66 3,5-Dimethylphenol	107	5.662	5.665	-0.003	85	258449	50.0	49.6	
68 2,4-Dichlorophenol	162	5.745	5.753	-0.008	93	214546	50.0	49.0	
69 1,2,4-Trichlorobenzene	180	5.839	5.841	-0.002	94	222556	50.0	48.7	
71 Naphthalene	128	5.921	5.923	-0.002	96	764762	50.0	49.5	
72 4-Chloroaniline	127	5.950	5.953	-0.003	98	348447	50.0	49.8	
73 2,6-Dichlorophenol	162	5.968	5.970	-0.002	99	212486	50.0	49.1	
75 Hexachlorobutadiene	225	6.044	6.047	-0.003	97	116500	50.0	49.6	
79 Caprolactam	55	6.273	6.282	-0.009	88	97153	50.0	47.9	M
83 4-Chloro-3-methylphenol	107	6.420	6.423	-0.003	94	220381	50.0	48.9	
86 2-Methylnaphthalene	142	6.603	6.599	0.003	92	540934	50.0	49.4	
88 1-Methylnaphthalene	142	6.702	6.705	-0.003	93	502175	50.0	49.2	
89 1,2,4,5-Tetrachlorobenzene	216	6.773	6.775	-0.002	97	224275	50.0	49.6	
90 Hexachlorocyclopentadiene	237	6.767	6.769	-0.002	95	149416	50.0	50.0	
92 2,4,6-Trichlorophenol	196	6.873	6.875	-0.002	78	151907	50.0	49.9	
93 2,3-Dichlorobenzenamine	161	6.873	6.875	-0.002	93	267395	50.0	49.2	
94 2,4,5-Trichlorophenol	196	6.914	6.916	-0.002	96	173088	50.0	49.6	
98 1,1'-Biphenyl	154	7.061	7.063	-0.002	94	642016	50.0	49.9	
99 2-Chloronaphthalene	162	7.084	7.087	-0.003	96	487579	50.0	49.0	
101 2-Nitroaniline	65	7.172	7.175	-0.003	89	143062	50.0	49.9	
104 Dimethyl phthalate	163	7.349	7.351	-0.002	99	562746	50.0	48.7	
105 1,3-Dinitrobenzene	168	7.372	7.380	-0.008	92	105077	50.0	50.4	
106 2,6-Dinitrotoluene	165	7.407	7.410	-0.003	95	137721	50.0	49.2	
107 Acenaphthylene	152	7.507	7.510	-0.003	98	825631	50.0	49.5	
108 3-Nitroaniline	138	7.578	7.586	-0.008	98	166511	50.0	48.9	
109 Acenaphthene	153	7.678	7.680	-0.002	94	503526	50.0	49.3	
111 2,4-Dinitrophenol	184	7.684	7.686	-0.002	84	184736	100.0	97.5	
112 4-Nitrophenol	109	7.736	7.745	-0.009	84	166469	100.0	99.3	a
114 2,4-Dinitrotoluene	165	7.813	7.815	-0.002	96	188161	50.0	49.1	
116 Dibenzofuran	168	7.848	7.850	-0.002	97	730603	50.0	49.3	
119 2,3,4,6-Tetrachlorophenol	232	7.971	7.974	-0.003	72	145528	50.0	50.3	
123 Diethyl phthalate	149	8.048	8.056	-0.008	99	584402	50.0	49.9	
124 Hexadecane	57	8.071	8.074	-0.003	93	258008	50.0	49.7	
127 4-Chlorophenyl phenyl ethe	204	8.177	8.185	-0.008	93	278035	50.0	49.7	
129 Fluorene	166	8.195	8.197	-0.002	94	582668	50.0	49.0	
130 4-Nitroaniline	138	8.195	8.203	-0.008	93	179626	50.0	49.1	a
131 4,6-Dinitro-2-methylphenol	198	8.230	8.238	-0.008	90	212741	100.0	98.7	
134 Diphenylamine	169	8.295	8.297	-0.002	95	460560	42.5	42.3	
135 N-Nitrosodiphenylamine	169	8.295	8.297	-0.002	60	460560	50.0	49.9	
136 1,2-Diphenylhydrazine	77	8.342	8.344	-0.002	97	565756	50.5	49.8	
137 Azobenzene	77	8.342	8.344	-0.002	96	565756	50.0	49.2	
139 2,4,6 - Tribromophenol	330	8.436	8.438	-0.002	92	74366	50.0	50.0	
148 4-Bromophenyl phenyl ether	248	8.677	8.679	-0.002	63	169100	50.0	50.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
151 Hexachlorobenzene	284	8.765	8.767	-0.002	93	159434	50.0	49.0	
152 Atrazine	200	8.818	8.820	-0.002	95	171391	50.0	50.0	
155 Pentachlorophenol	266	8.953	8.955	-0.002	92	223726	100.0	102.8	
158 n-Octadecane	85	8.994	8.996	-0.002	97	151574	50.0	49.6	
161 Phenanthrene	178	9.164	9.167	-0.003	98	898854	50.0	49.6	
162 Anthracene	178	9.217	9.219	-0.002	97	937517	50.0	49.7	
164 Carbazole	167	9.364	9.366	-0.002	95	901993	50.0	49.7	
166 Alachlor	188	9.505	9.507	-0.002	92	125510	50.0	50.4	
168 Di-n-butyl phthalate	149	9.711	9.713	-0.002	100	1043002	50.0	50.0	
175 Fluoranthene	202	10.545	10.547	-0.002	98	1062825	50.0	50.0	
178 Pyrene	202	10.880	10.882	-0.002	97	1093946	50.0	48.4	
185 Famphur	218	11.873	11.875	-0.002	82	322571	50.0	49.2	
187 Butyl benzyl phthalate	149	11.996	11.999	-0.003	96	506799	50.0	48.4	
189 3,3'-Dichlorobenzidine	252	13.160	13.168	-0.008	74	393191	50.0	50.1	
191 Benzo[a]anthracene	228	13.207	13.221	-0.014	99	1076094	50.0	48.4	
192 Chrysene	228	13.301	13.309	-0.008	98	1019476	50.0	48.5	
193 Bis(2-ethylhexyl) phthalat	149	13.371	13.379	-0.008	95	685989	50.0	48.1	
195 Di-n-octyl phthalate	149	15.175	15.183	-0.008	98	1207417	50.0	48.5	
196 Benzo[b]fluoranthene	252	16.086	16.094	-0.008	98	1059571	50.0	48.5	
198 Benzo[k]fluoranthene	252	16.168	16.182	-0.014	99	1101441	50.0	49.2	
200 Benzo[e]pyrene	252	16.867	16.887	-0.020	98	996834	50.0	48.5	
201 Benzo[a]pyrene	252	17.020	17.034	-0.014	81	1059958	50.0	48.9	
207 Indeno[1,2,3-cd]pyrene	276	20.310	20.330	-0.020	97	949090	50.0	48.2	
208 Dibenz(a,h)anthracene	278	20.398	20.418	-0.020	94	955838	50.0	48.7	
209 Benzo[g,h,i]perylene	276	21.044	21.070	-0.026	96	998884	50.0	48.6	
S 219 Total Cresols	108				0			98.3	
S 220 Methyl Phenols,Total	108				0			98.3	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

MS-HSLA050_00039 Amount Added: 200.00 Units: uL

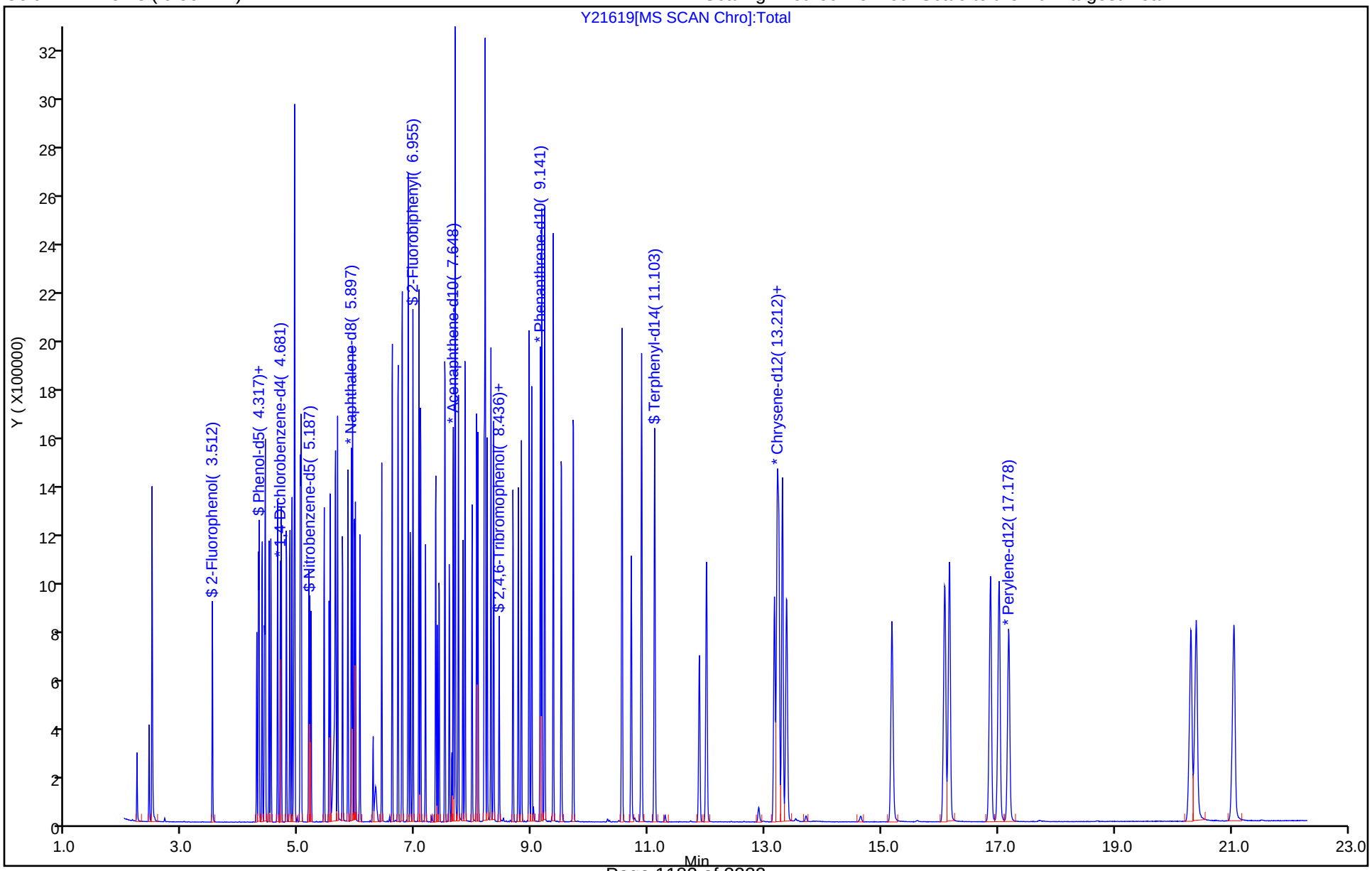
Report Date: 18-Oct-2018 09:36:24 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21619.D

Injection Date:	17-Oct-2018 12:53:30	Instrument ID:	SMS_Y	Operator ID:	KIEKELD
Lims ID:	STD050 HSL			Worklist Smp#:	7
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

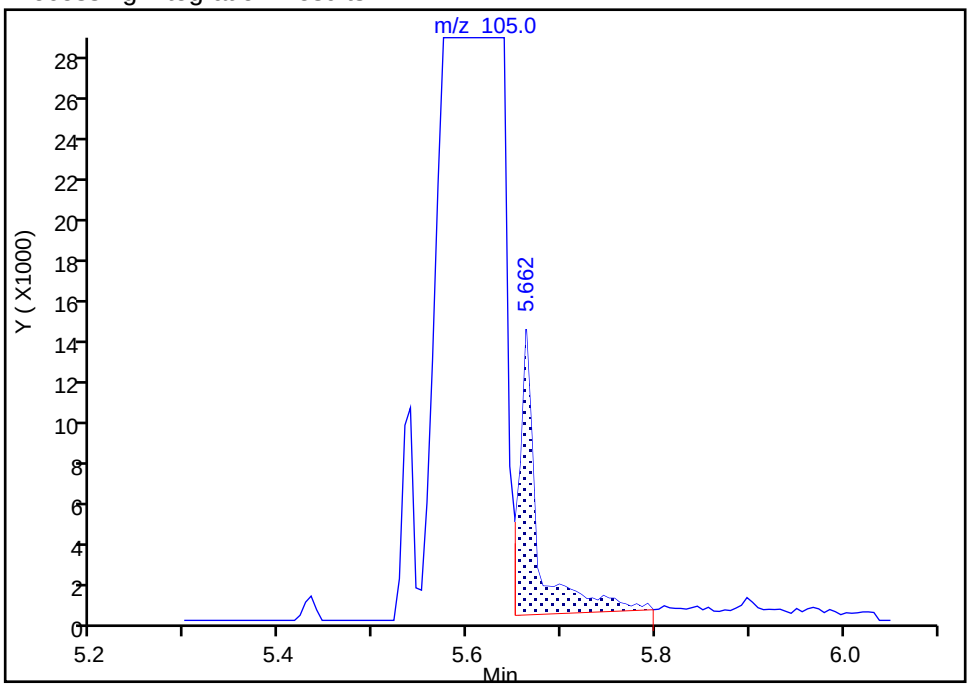
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21619.D
Injection Date: 17-Oct-2018 12:53:30 Instrument ID: SMS_Y
Lims ID: STD050 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

64 Benzoic acid, CAS: 65-85-0

Signal: 1

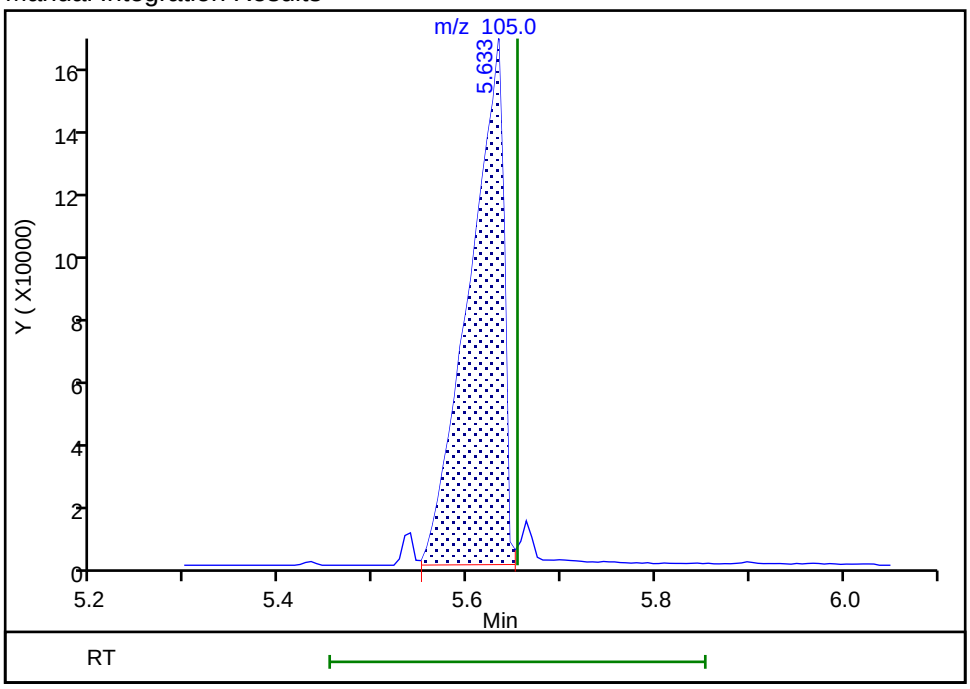
Processing Integration Results

RT: 5.66
Area: 18260
Amount: 5.420155
Amount Units: ug/ml



Manual Integration Results

RT: 5.63
Area: 424138
Amount: 96.529787
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 14:12:46
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

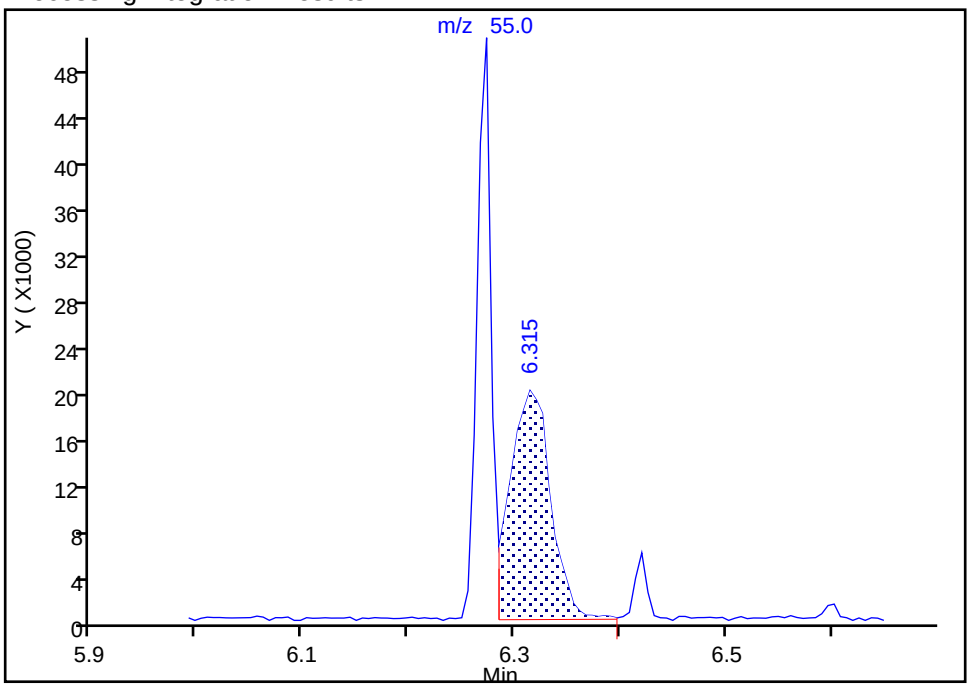
Data File:	\\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21619.D				
Injection Date:	17-Oct-2018 12:53:30	Instrument ID:	SMS_Y		
Lims ID:	STD050 HSL				
Client ID:					
Operator ID:	KIEKELD	ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	0.5 ul	Dil. Factor:	1.0000		
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		
Column:	VF-5ms (0.50 mm)	Detector	MS SCAN		

79 Caprolactam, CAS: 105-60-2

Signal: 1

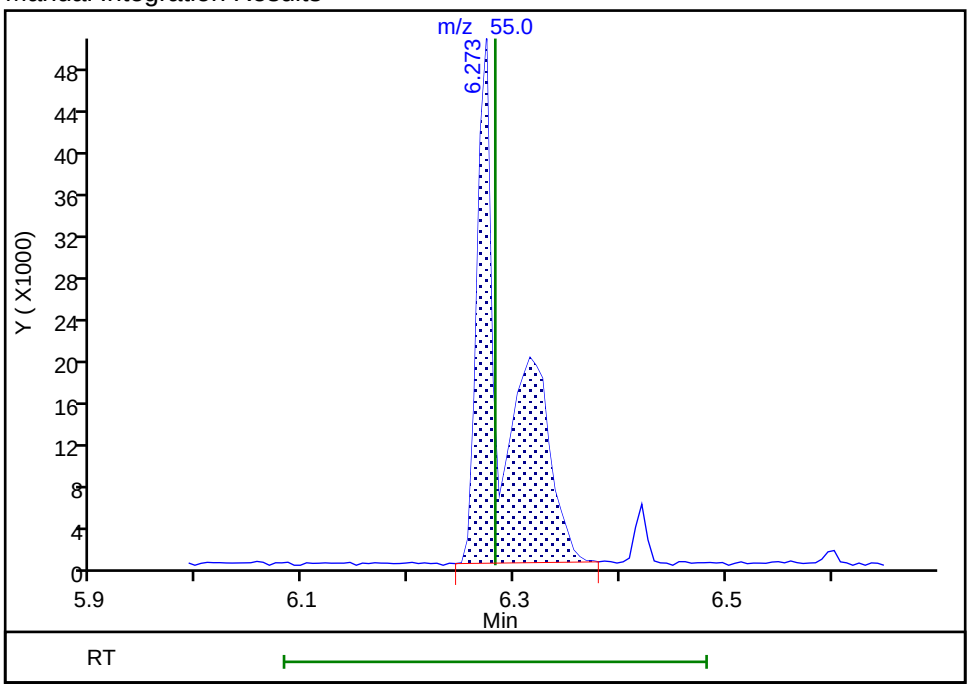
Processing Integration Results

RT: 6.31
Area: 53391
Amount: 33.837546
Amount Units: ug/ml



Manual Integration Results

RT: 6.27
Area: 97153
Amount: 47.933699
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 14:13:12

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

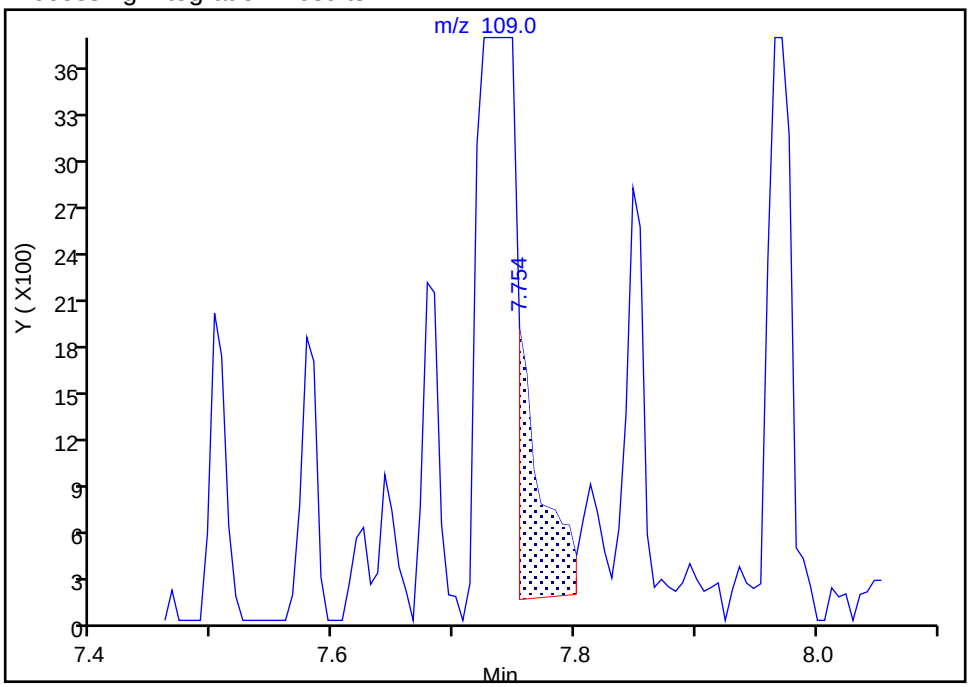
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21619.D
Injection Date: 17-Oct-2018 12:53:30 Instrument ID: SMS_Y
Lims ID: STD050 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

112 4-Nitrophenol, CAS: 100-02-7

Signal: 1

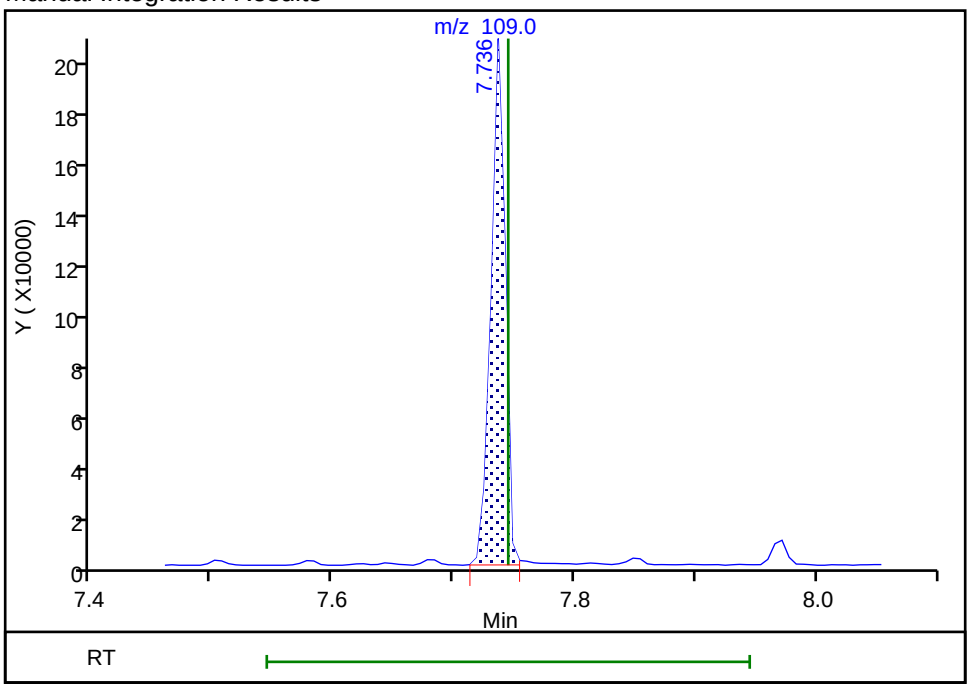
Processing Integration Results

RT: 7.75
Area: 2413
Amount: 1.715787
Amount Units: ug/ml



Manual Integration Results

RT: 7.74
Area: 166469
Amount: 99.293717
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 14:13:29
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

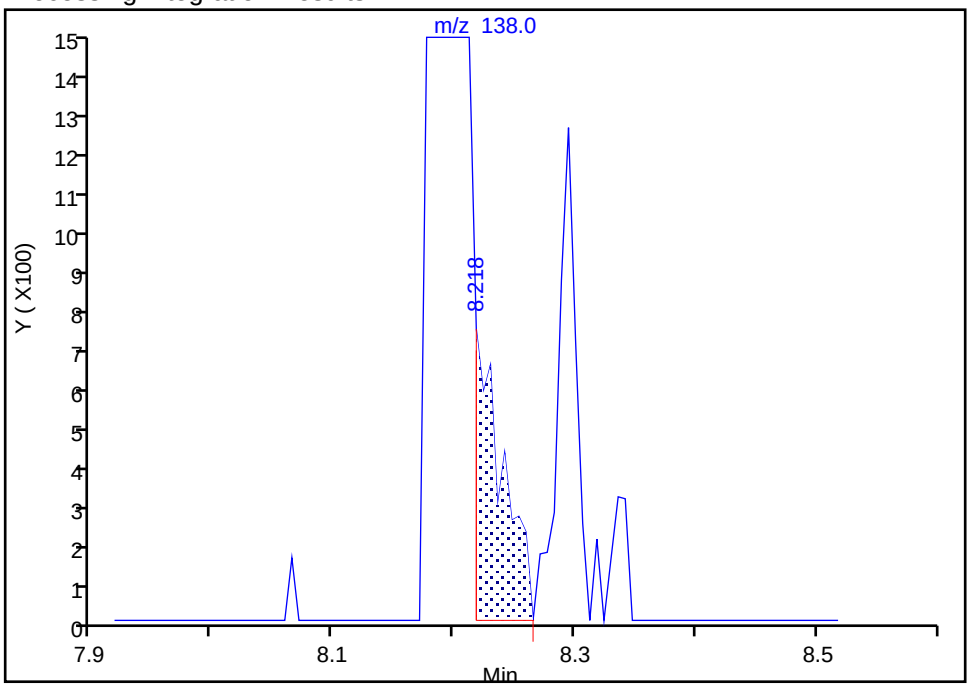
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21619.D
Injection Date: 17-Oct-2018 12:53:30 Instrument ID: SMS_Y
Lims ID: STD050 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

130 4-Nitroaniline, CAS: 100-01-6

Signal: 1

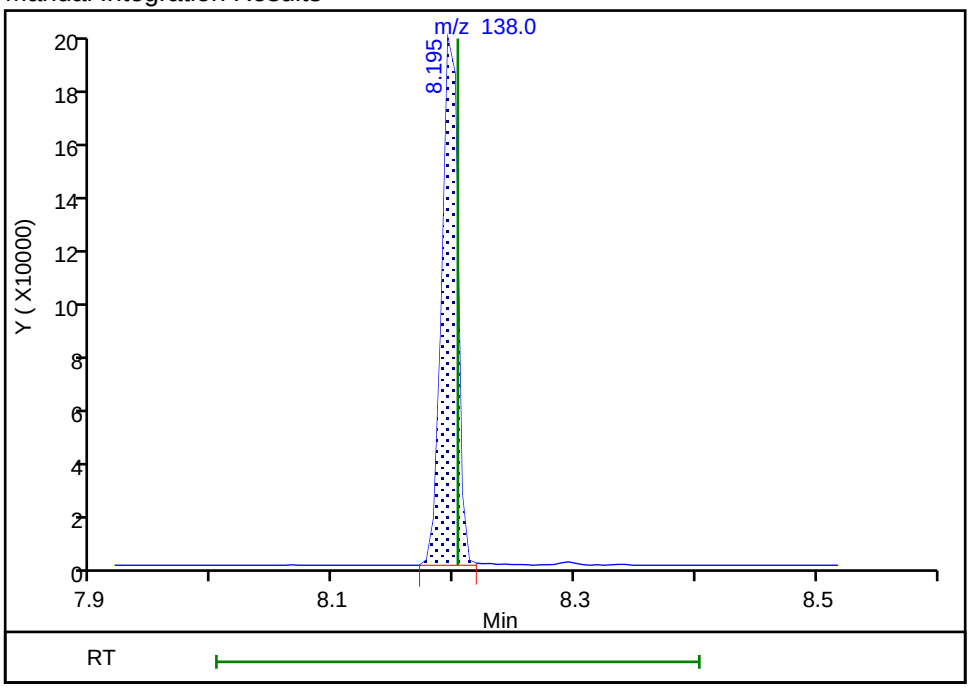
Processing Integration Results

RT: 8.22
Area: 1215
Amount: 0.392772
Amount Units: ug/ml



Manual Integration Results

RT: 8.19
Area: 179626
Amount: 49.111116
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 14:13:42
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21620.D
Lims ID: STD120 HSL
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Oct-2018 13:22:30 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD120 HSL
Operator ID: KIEKELD Instrument ID: SMS_Y
Sublist: chrom-SMSY_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 18-Oct-2018 09:36:27 Calib Date: 17-Oct-2018 19:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21632.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: kiekeld Date: 17-Oct-2018 14:15:56

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.679	4.684	-0.005	94	138164	40.0	40.0	
* 2 Naphthalene-d8	136	5.901	5.900	0.001	99	579723	40.0	40.0	
* 3 Acenaphthene-d10	164	7.646	7.645	0.001	96	314500	40.0	40.0	
* 4 Phenanthrene-d10	188	9.144	9.143	0.001	97	633955	40.0	40.0	
* 5 Chrysene-d12	240	13.245	13.244	0.001	99	671343	40.0	40.0	
* 6 Perylene-d12	264	17.188	17.192	-0.004	97	705442	40.0	40.0	
$ 7 2-Fluorophenol	112	3.516	3.514	0.002	90	563807	120.0	118.6	
$ 8 Phenol-d5	99	4.309	4.308	0.001	96	713224	120.0	118.4	
$ 9 Nitrobenzene-d5	82	5.190	5.189	0.001	84	613781	120.0	114.8	
$ 11 2-Fluorobiphenyl	172	6.959	6.957	0.002	100	1298380	120.0	115.6	
$ 12 2,4,6-Tribromophenol	330	8.439	8.438	0.001	92	169103	120.0	117.6	
$ 13 Terphenyl-d14	244	11.113	11.111	0.002	98	1787107	120.0	116.7	
15 1,4-Dioxane	88	2.217	2.222	-0.005	90	228276	120.0	118.9	
17 N-Nitrosodimethylamine	74	2.429	2.427	0.002	94	350438	120.0	119.3	
18 Pyridine	79	2.482	2.480	0.002	95	1162874	240.0	237.6	
28 Phenol	94	4.321	4.319	0.002	97	727497	120.0	118.6	
30 Aniline	93	4.374	4.372	0.002	99	915140	120.0	118.3	
31 Bis(2-chloroethyl)ether	93	4.409	4.407	0.002	98	536229	120.0	118.8	
32 Alpha Methyl Styrene	118	4.421	4.425	-0.004	89	594951	120.0	117.6	
34 2-Chlorophenol	128	4.491	4.490	0.001	95	608552	120.0	117.9	
35 n-Decane	43	4.520	4.519	0.001	90	422841	120.0	116.7	
37 1,3-Dichlorobenzene	146	4.638	4.637	0.001	98	630027	120.0	116.9	
38 1,4-Dichlorobenzene	146	4.697	4.695	0.002	95	638576	120.0	116.7	
39 Benzyl alcohol	108	4.791	4.789	0.002	95	416530	120.0	119.7	
40 1,2-Dichlorobenzene	146	4.844	4.842	0.002	98	615618	120.0	117.9	
41 2-Methylphenol	108	4.885	4.883	0.002	92	558495	120.0	119.0	
43 2,2'-oxybis[1-chloropropan	45	4.914	4.913	0.001	92	584300	120.0	118.6	
44 Indene	116	4.926	4.930	-0.004	90	1892460	240.0	229.4	
46 3-Methylphenol	108	5.026	5.024	0.002	94	587668	120.0	118.7	
47 4-Methylphenol	108	5.026	5.024	0.002	95	587668	120.0	118.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
48 3 & 4 Methylphenol	108	5.026	5.024	0.002	99	587668	120.0	118.7	
50 N-Nitrosodi-n-propylamine	70	5.037	5.036	0.001	84	408539	120.0	116.9	
51 Acetophenone	105	5.043	5.042	0.001	98	758422	120.0	115.6	
53 Hexachloroethane	117	5.173	5.171	0.002	96	243107	120.0	118.6	
54 Nitrobenzene	77	5.214	5.212	0.002	82	599472	120.0	117.9	
57 Isophorone	82	5.443	5.436	0.007	98	1108780	120.0	118.2	
58 2-Nitrophenol	139	5.519	5.518	0.001	89	342184	120.0	120.8	
59 2,4-Dimethylphenol	107	5.543	5.541	0.002	92	567406	120.0	115.8	
63 Bis(2-chloroethoxy)methane	93	5.631	5.630	0.001	97	676501	120.0	117.1	
64 Benzoic acid	105	5.678	5.653	0.025	87	1060549	240.0	239.9	
66 3,5-Dimethylphenol	107	5.666	5.665	0.001	93	586438	120.0	115.8	
68 2,4-Dichlorophenol	162	5.754	5.753	0.001	91	498921	120.0	117.2	
69 1,2,4-Trichlorobenzene	180	5.842	5.841	0.001	94	512153	120.0	115.2	
71 Naphthalene	128	5.925	5.923	0.002	97	1737324	120.0	115.7	
72 4-Chloroaniline	127	5.960	5.953	0.007	97	788359	120.0	115.9	
73 2,6-Dichlorophenol	162	5.972	5.970	0.002	98	493658	120.0	117.2	
75 Hexachlorobutadiene	225	6.048	6.047	0.001	98	264822	120.0	115.9	
79 Caprolactam	55	6.295	6.282	0.013	88	234313	120.0	118.8	M
83 4-Chloro-3-methylphenol	107	6.430	6.423	0.007	94	523048	120.0	119.3	
86 2-Methylnaphthalene	142	6.600	6.599	0.001	92	1225380	120.0	115.0	
88 1-Methylnaphthalene	142	6.700	6.705	-0.005	93	1138031	120.0	114.7	
89 1,2,4,5-Tetrachlorobenzene	216	6.777	6.775	0.002	97	500559	120.0	113.7	
90 Hexachlorocyclopentadiene	237	6.771	6.769	0.002	96	335930	120.0	116.1	
92 2,4,6-Trichlorophenol	196	6.876	6.875	0.001	79	343541	120.0	116.7	
93 2,3-Dichlorobenzenamine	161	6.876	6.875	0.001	92	607883	120.0	115.7	
94 2,4,5-Trichlorophenol	196	6.918	6.916	0.002	96	397771	120.0	117.9	
98 1,1'-Biphenyl	154	7.064	7.063	0.001	95	1440159	120.0	115.7	
99 2-Chloronaphthalene	162	7.088	7.087	0.001	97	1127998	120.0	117.2	
101 2-Nitroaniline	65	7.176	7.175	0.001	90	331719	120.0	119.6	
104 Dimethyl phthalate	163	7.352	7.351	0.001	99	1294783	120.0	115.8	
105 1,3-Dinitrobenzene	168	7.382	7.380	0.002	93	251579	120.0	124.7	
106 2,6-Dinitrotoluene	165	7.411	7.410	0.001	95	323293	120.0	119.3	
107 Acenaphthylene	152	7.511	7.510	0.001	98	1857117	120.0	115.1	
108 3-Nitroaniline	138	7.587	7.586	0.001	98	392383	120.0	119.1	
109 Acenaphthene	153	7.681	7.680	0.001	94	1116219	120.0	113.0	
111 2,4-Dinitrophenol	184	7.693	7.686	0.007	88	452906	240.0	240.7	
112 4-Nitrophenol	109	7.752	7.745	0.007	85	388087	240.0	239.3	
114 2,4-Dinitrotoluene	165	7.822	7.815	0.007	96	440362	120.0	118.9	
116 Dibenzofuran	168	7.858	7.850	0.008	97	1643634	120.0	114.7	
119 2,3,4,6-Tetrachlorophenol	232	7.975	7.974	0.001	73	333930	120.0	119.2	
123 Diethyl phthalate	149	8.057	8.056	0.001	99	1329006	120.0	117.3	
124 Hexadecane	57	8.069	8.074	-0.005	94	586785	120.0	116.8	
127 4-Chlorophenyl phenyl ethe	204	8.181	8.185	-0.004	93	625458	120.0	115.5	
129 Fluorene	166	8.198	8.197	0.001	94	1304345	120.0	113.5	
130 4-Nitroaniline	138	8.210	8.203	0.007	91	424907	120.0	120.1	
131 4,6-Dinitro-2-methylphenol	198	8.240	8.238	0.002	90	519854	240.0	245.3	
134 Diphenylamine	169	8.298	8.297	0.001	95	1039781	102.0	98.8	
135 N-Nitrosodiphenylamine	169	8.298	8.297	0.001	61	1039781	120.0	116.1	
136 1,2-Diphenylhydrazine	77	8.345	8.344	0.001	98	1302194	121.3	118.5	
137 Azobenzene	77	8.345	8.344	0.001	97	1302194	120.0	117.2	
139 2,4,6 - Tribromophenol	330	8.439	8.438	0.001	92	169214	120.0	117.7	
148 4-Bromophenyl phenyl ether	248	8.674	8.679	-0.005	64	381135	120.0	116.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
151 Hexachlorobenzene	284	8.768	8.767	0.001	93	357601	120.0	113.4	
152 Atrazine	200	8.827	8.820	0.007	96	387596	120.0	116.6	
155 Pentachlorophenol	266	8.956	8.955	0.001	92	500207	240.0	237.1	
158 n-Octadecane	85	8.998	8.996	0.002	97	344582	120.0	116.4	
161 Phenanthrene	178	9.168	9.167	0.001	98	2009729	120.0	114.5	
162 Anthracene	178	9.221	9.219	0.002	98	2082886	120.0	114.0	
164 Carbazole	167	9.368	9.366	0.002	96	2008912	120.0	114.3	
166 Alachlor	188	9.509	9.507	0.002	92	280753	120.0	116.2	
168 Di-n-butyl phthalate	149	9.708	9.713	-0.005	100	2332660	120.0	115.3	
175 Fluoranthene	202	10.549	10.547	0.002	99	2390678	120.0	116.0	
178 Pyrene	202	10.889	10.882	0.007	97	2463216	120.0	117.0	
185 Famphur	218	11.876	11.875	0.001	82	554080	120.0	116.9	
187 Butyl benzyl phthalate	149	12.000	11.999	0.001	96	1174376	120.0	120.2	
189 3,3'-Dichlorobenzidine	252	13.175	13.168	0.007	74	867174	120.0	118.6	
191 Benzo[a]anthracene	228	13.222	13.221	0.001	99	2440842	120.0	117.8	
192 Chrysene	228	13.316	13.309	0.007	98	2287612	120.0	116.8	
193 Bis(2-ethylhexyl) phthalat	149	13.375	13.379	-0.004	95	1607597	120.0	120.8	
195 Di-n-octyl phthalate	149	15.184	15.183	0.001	98	2831355	120.0	122.0	
196 Benzo[b]fluoranthene	252	16.107	16.094	0.013	99	2399302	120.0	118.9	
198 Benzo[k]fluoranthene	252	16.189	16.182	0.007	99	2507894	120.0	121.2	
200 Benzo[e]pyrene	252	16.894	16.887	0.007	98	2267926	120.0	119.4	
201 Benzo[a]pyrene	252	17.047	17.034	0.013	79	2419119	120.0	120.7	
207 Indeno[1,2,3-cd]pyrene	276	20.337	20.330	0.007	98	2248406	120.0	122.6	
208 Dibenz(a,h)anthracene	278	20.431	20.418	0.013	95	2219831	120.0	122.3	
209 Benzo[g,h,i]perylene	276	21.083	21.070	0.013	95	2298680	120.0	121.0	
S 219 Total Cresols	108				0			237.7	
S 220 Methyl Phenols,Total	108				0			237.7	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA120_00038 Amount Added: 200.00 Units: uL

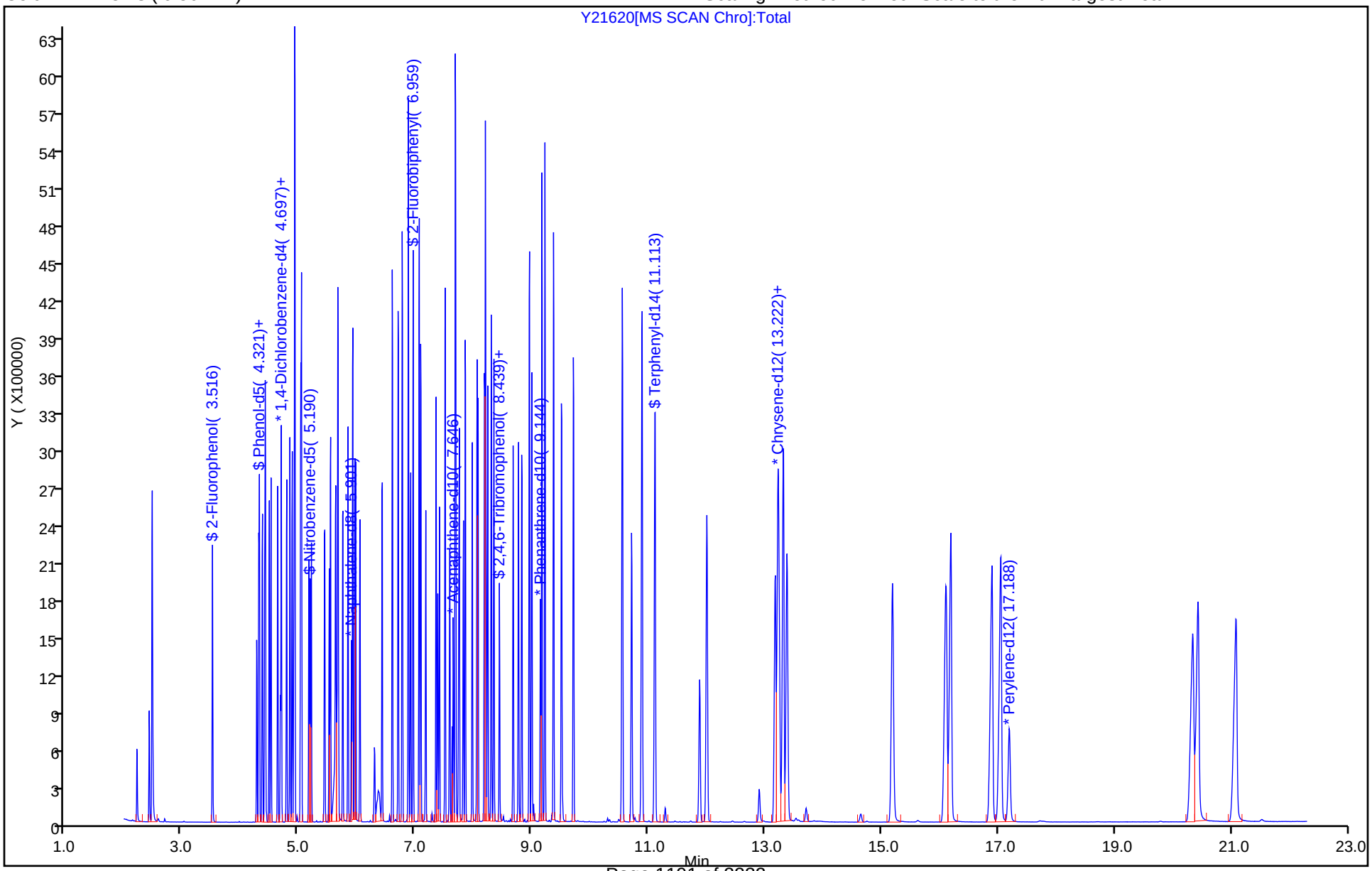
Report Date: 18-Oct-2018 09:36:28 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21620.D

Injection Date:	17-Oct-2018 13:22:30	Instrument ID:	SMS_Y	Operator ID:	KIEKELD
Lims ID:	STD120 HSL			Worklist Smp#:	8
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

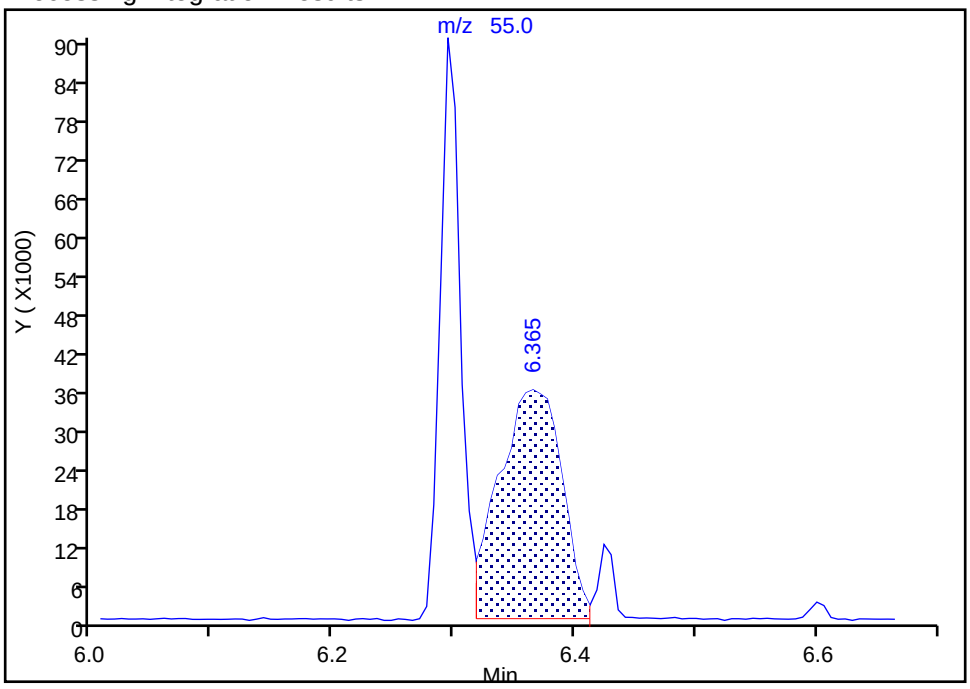
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21620.D
Injection Date: 17-Oct-2018 13:22:30 Instrument ID: SMS_Y
Lims ID: STD120 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

79 Caprolactam, CAS: 105-60-2

Signal: 1

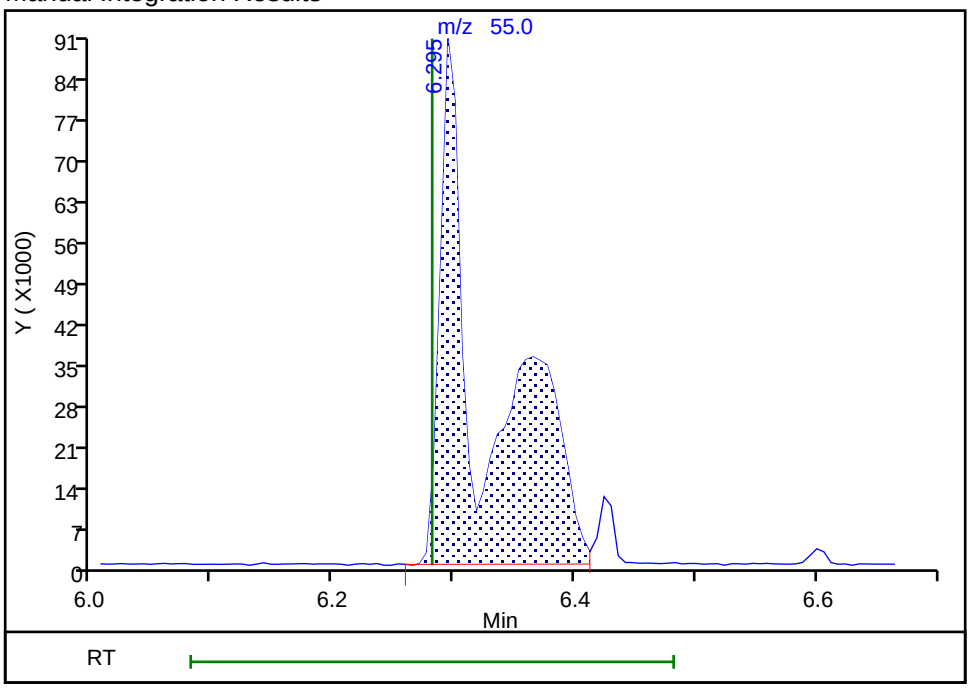
Processing Integration Results

RT: 6.37
Area: 129531
Amount: 77.253689
Amount Units: ug/ml



Manual Integration Results

RT: 6.29
Area: 234313
Amount: 118.8495
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 14:14:46
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21621.D
Lims ID: STD160 HSL
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 17-Oct-2018 13:50:30 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD160 HSL
Operator ID: KIEKELD Instrument ID: SMS_Y
Sublist: chrom-SMSY_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 18-Oct-2018 09:36:30 Calib Date: 17-Oct-2018 19:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21632.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: kiekeld Date: 17-Oct-2018 14:27:02

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.684	4.684	0.000	94	138653	40.0	40.0	
* 2 Naphthalene-d8	136	5.900	5.900	0.000	99	585145	40.0	40.0	
* 3 Acenaphthene-d10	164	7.645	7.645	0.000	96	318495	40.0	40.0	
* 4 Phenanthrene-d10	188	9.143	9.143	0.000	98	637847	40.0	40.0	
* 5 Chrysene-d12	240	13.250	13.244	0.006	99	662851	40.0	40.0	
* 6 Perylene-d12	264	17.193	17.192	0.001	97	705634	40.0	40.0	
$ 7 2-Fluorophenol	112	3.515	3.514	0.001	90	747903	160.0	156.8	
$ 8 Phenol-d5	99	4.314	4.308	0.006	99	950468	160.0	157.2	
$ 9 Nitrobenzene-d5	82	5.195	5.189	0.006	84	825706	160.0	153.0	
$ 11 2-Fluorobiphenyl	172	6.958	6.957	0.001	100	1674067	160.0	147.2	
$ 12 2,4,6-Tribromophenol	330	8.444	8.438	0.006	92	225993	160.0	155.2	
$ 13 Terphenyl-d14	244	11.112	11.111	0.001	98	2298169	160.0	151.9	
15 1,4-Dioxane	88	2.222	2.222	0.000	89	301810	160.0	156.7	
17 N-Nitrosodimethylamine	74	2.434	2.427	0.007	94	465225	160.0	157.8	
18 Pyridine	79	2.481	2.480	0.001	95	1540516	320.0	313.7	
28 Phenol	94	4.325	4.319	0.006	98	955592	160.0	155.2	
30 Aniline	93	4.372	4.372	0.000	99	1222225	160.0	157.4	
31 Bis(2-chloroethyl)ether	93	4.414	4.407	0.007	99	708211	160.0	156.4	
32 Alpha Methyl Styrene	118	4.425	4.425	0.000	90	777895	160.0	153.2	
34 2-Chlorophenol	128	4.490	4.490	0.000	95	805852	160.0	155.6	
35 n-Decane	43	4.519	4.519	0.000	86	559423	160.0	153.8	
37 1,3-Dichlorobenzene	146	4.637	4.637	0.000	98	837463	160.0	154.8	
38 1,4-Dichlorobenzene	146	4.696	4.695	0.001	95	839517	160.0	152.9	
39 Benzyl alcohol	108	4.790	4.789	0.001	96	552392	160.0	158.2	
40 1,2-Dichlorobenzene	146	4.848	4.842	0.006	98	807161	160.0	154.0	
41 2-Methylphenol	108	4.884	4.883	0.001	93	740942	160.0	157.3	
43 2,2'-oxybis[1-chloropropan	45	4.913	4.913	0.000	92	768222	160.0	155.4	
44 Indene	116	4.931	4.930	0.001	91	2431021	320.0	293.6	
46 3-Methylphenol	108	5.030	5.024	0.006	92	771864	160.0	155.3	
47 4-Methylphenol	108	5.030	5.024	0.006	97	771864	160.0	155.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
48 3 & 4 Methylphenol	108	5.030	5.024	0.006	99	771864	160.0	155.3	
50 N-Nitrosodi-n-propylamine	70	5.042	5.036	0.006	83	535943	160.0	152.8	
51 Acetophenone	105	5.048	5.042	0.006	95	992930	160.0	150.8	
53 Hexachloroethane	117	5.171	5.171	0.000	98	320693	160.0	155.9	
54 Nitrobenzene	77	5.213	5.212	0.001	83	793521	160.0	154.6	
57 Isophorone	82	5.442	5.436	0.006	98	1461678	160.0	154.3	
58 2-Nitrophenol	139	5.518	5.518	0.000	91	453940	160.0	158.7	
59 2,4-Dimethylphenol	107	5.542	5.541	0.001	93	752819	160.0	152.2	
63 Bis(2-chloroethoxy)methane	93	5.630	5.630	0.000	97	897935	160.0	154.0	
64 Benzoic acid	105	5.700	5.653	0.047	84	1462644	320.0	325.9	
66 3,5-Dimethylphenol	107	5.671	5.665	0.006	89	776871	160.0	151.9	
68 2,4-Dichlorophenol	162	5.753	5.753	0.000	92	659257	160.0	153.5	
69 1,2,4-Trichlorobenzene	180	5.841	5.841	0.000	94	671762	160.0	149.8	
71 Naphthalene	128	5.924	5.923	0.001	97	2252136	160.0	148.6	
72 4-Chloroaniline	127	5.959	5.953	0.006	97	1040633	160.0	151.5	
73 2,6-Dichlorophenol	162	5.976	5.970	0.006	98	654871	160.0	154.0	
75 Hexachlorobutadiene	225	6.047	6.047	0.000	98	347039	160.0	150.4	
79 Caprolactam	55	6.311	6.282	0.029	89	324705	160.0	163.2	M
83 4-Chloro-3-methylphenol	107	6.429	6.423	0.006	94	684408	160.0	154.7	
86 2-Methylnaphthalene	142	6.605	6.599	0.006	92	1588181	160.0	147.7	
88 1-Methylnaphthalene	142	6.705	6.705	0.000	93	1495263	160.0	149.3	
89 1,2,4,5-Tetrachlorobenzene	216	6.776	6.775	0.001	98	639418	160.0	144.0	
90 Hexachlorocyclopentadiene	237	6.770	6.769	0.001	96	437651	160.0	149.4	
92 2,4,6-Trichlorophenol	196	6.881	6.875	0.006	80	435060	160.0	145.9	
93 2,3-Dichlorobenzenamine	161	6.881	6.875	0.006	92	778015	160.0	146.2	
94 2,4,5-Trichlorophenol	196	6.917	6.916	0.000	95	522704	160.0	152.9	
98 1,1'-Biphenyl	154	7.063	7.063	0.000	95	1865379	160.0	148.0	
99 2-Chloronaphthalene	162	7.093	7.087	0.006	97	1462814	160.0	150.1	
101 2-Nitroaniline	65	7.181	7.175	0.006	90	441926	160.0	157.3	
104 Dimethyl phthalate	163	7.357	7.351	0.006	99	1697949	160.0	150.0	
105 1,3-Dinitrobenzene	168	7.387	7.380	0.007	92	332894	160.0	163.0	
106 2,6-Dinitrotoluene	165	7.416	7.410	0.006	95	426088	160.0	155.3	
107 Acenaphthylene	152	7.510	7.510	0.000	98	2407548	160.0	147.3	
108 3-Nitroaniline	138	7.592	7.586	0.006	97	521919	160.0	156.5	
109 Acenaphthene	153	7.686	7.680	0.006	94	1450647	160.0	145.0	
111 2,4-Dinitrophenol	184	7.698	7.686	0.012	86	610890	320.0	319.2	
112 4-Nitrophenol	109	7.757	7.745	0.012	86	527217	320.0	321.1	
114 2,4-Dinitrotoluene	165	7.827	7.815	0.012	96	589785	160.0	157.3	
116 Dibenzofuran	168	7.857	7.850	0.007	97	2137548	160.0	147.3	
119 2,3,4,6-Tetrachlorophenol	232	7.974	7.974	0.000	75	446827	160.0	157.5	
123 Diethyl phthalate	149	8.056	8.056	0.000	99	1700842	160.0	148.2	
124 Hexadecane	57	8.074	8.074	0.000	93	762977	160.0	150.0	
127 4-Chlorophenyl phenyl ethe	204	8.186	8.185	0.001	89	813476	160.0	148.3	
129 Fluorene	166	8.203	8.197	0.006	95	1703971	160.0	146.4	
130 4-Nitroaniline	138	8.221	8.203	0.018	92	562707	160.0	157.1	
131 4,6-Dinitro-2-methylphenol	198	8.244	8.238	0.006	89	679477	320.0	317.9	
134 Diphenylamine	169	8.303	8.297	0.006	94	1343659	136.0	126.0	
135 N-Nitrosodiphenylamine	169	8.303	8.297	0.006	61	1343659	160.0	149.1	
136 1,2-Diphenylhydrazine	77	8.344	8.344	0.000	99	1705176	161.8	153.2	
137 Azobenzene	77	8.344	8.344	0.000	98	1705176	160.0	151.5	
139 2,4,6 - Tribromophenol	330	8.444	8.438	0.006	92	225993	160.0	155.2	
148 4-Bromophenyl phenyl ether	248	8.679	8.679	0.000	64	493202	160.0	149.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
151 Hexachlorobenzene	284	8.767	8.767	0.000	93	463438	160.0	146.0	
152 Atrazine	200	8.826	8.820	0.006	95	496206	160.0	148.4	
155 Pentachlorophenol	266	8.955	8.955	0.000	92	652149	320.0	307.3	
158 n-Octadecane	85	8.996	8.996	0.000	97	450108	160.0	151.1	
161 Phenanthrene	178	9.173	9.167	0.006	98	2551040	160.0	144.5	
162 Anthracene	178	9.226	9.219	0.007	98	2680306	160.0	145.8	
164 Carbazole	167	9.372	9.366	0.006	96	2591609	160.0	146.6	
166 Alachlor	188	9.508	9.507	0.001	93	369042	160.0	151.8	
168 Di-n-butyl phthalate	149	9.713	9.713	0.000	100	3047518	160.0	149.7	
175 Fluoranthene	202	10.553	10.547	0.006	99	3077726	160.0	148.4	
178 Pyrene	202	10.888	10.882	0.006	96	3179111	160.0	152.9	
185 Famphur	218	11.875	11.875	0.000	83	622100	160.0	162.9	
187 Butyl benzyl phthalate	149	12.005	11.999	0.006	96	1549277	160.0	160.7	
189 3,3'-Dichlorobenzidine	252	13.180	13.168	0.012	74	1118553	160.0	154.9	
191 Benzo[a]anthracene	228	13.227	13.221	0.006	99	3159612	160.0	154.4	
192 Chrysene	228	13.321	13.309	0.012	98	2987374	160.0	154.5	
193 Bis(2-ethylhexyl) phthalat	149	13.374	13.379	-0.005	95	2113778	160.0	160.9	
195 Di-n-octyl phthalate	149	15.189	15.183	0.006	98	3722164	160.0	162.5	
196 Benzo[b]fluoranthene	252	16.112	16.094	0.018	99	3198333	160.0	158.4	
198 Benzo[k]fluoranthene	252	16.200	16.182	0.018	98	3210325	160.0	155.2	
200 Benzo[e]pyrene	252	16.899	16.887	0.012	98	2966234	160.0	156.1	
201 Benzo[a]pyrene	252	17.058	17.034	0.024	79	3169337	160.0	158.0	
207 Indeno[1,2,3-cd]pyrene	276	20.354	20.330	0.024	97	2917463	160.0	161.1	M
208 Dibenz(a,h)anthracene	278	20.442	20.418	0.024	95	2915555	160.0	160.5	
209 Benzo[g,h,i]perylene	276	21.094	21.070	0.024	95	3004419	160.0	158.2	
S 219 Total Cresols	108				0			312.6	
S 220 Methyl Phenols,Total	108				0			312.6	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA160_00038 Amount Added: 200.00 Units: uL

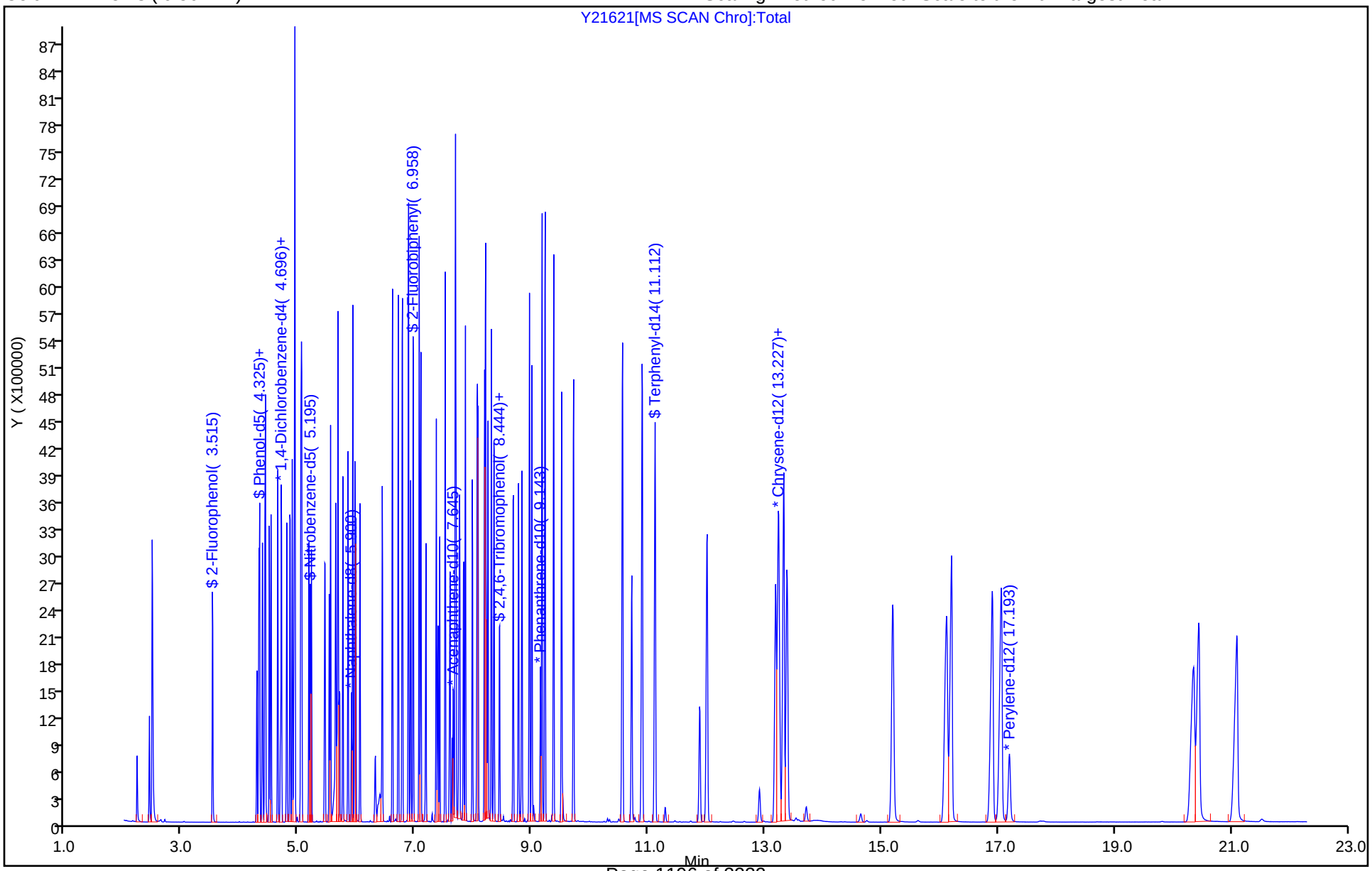
Report Date: 18-Oct-2018 09:36:31 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21621.D

Injection Date:	17-Oct-2018 13:50:30	Instrument ID:	SMS_Y	Operator ID:	KIEKELD
Lims ID:	STD160 HSL			Worklist Smp#:	9
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

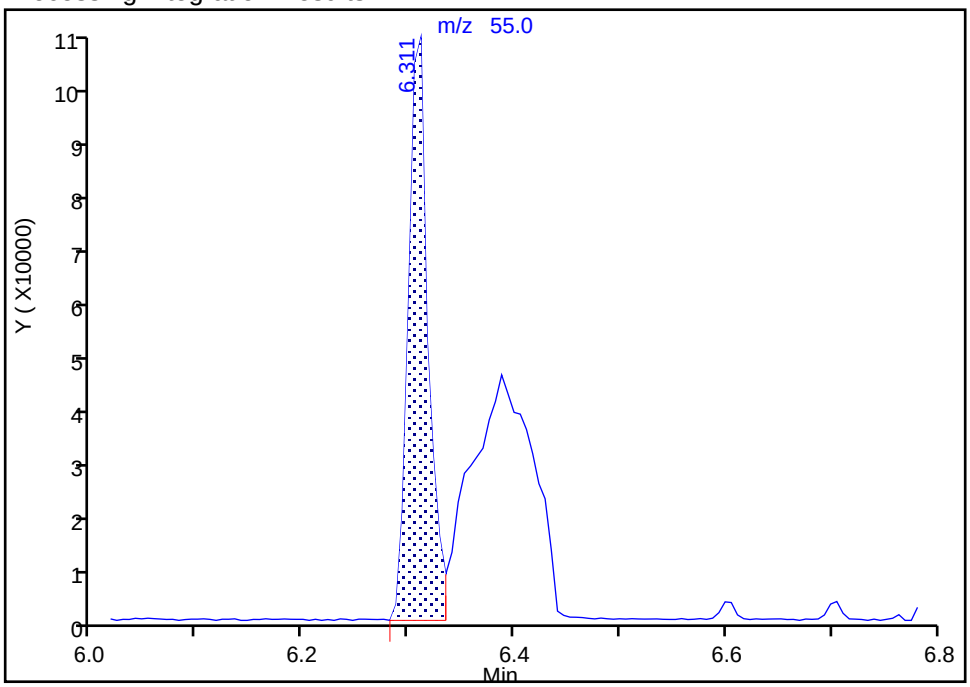
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21621.D
Injection Date: 17-Oct-2018 13:50:30 Instrument ID: SMS_Y
Lims ID: STD160 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

79 Caprolactam, CAS: 105-60-2

Signal: 1

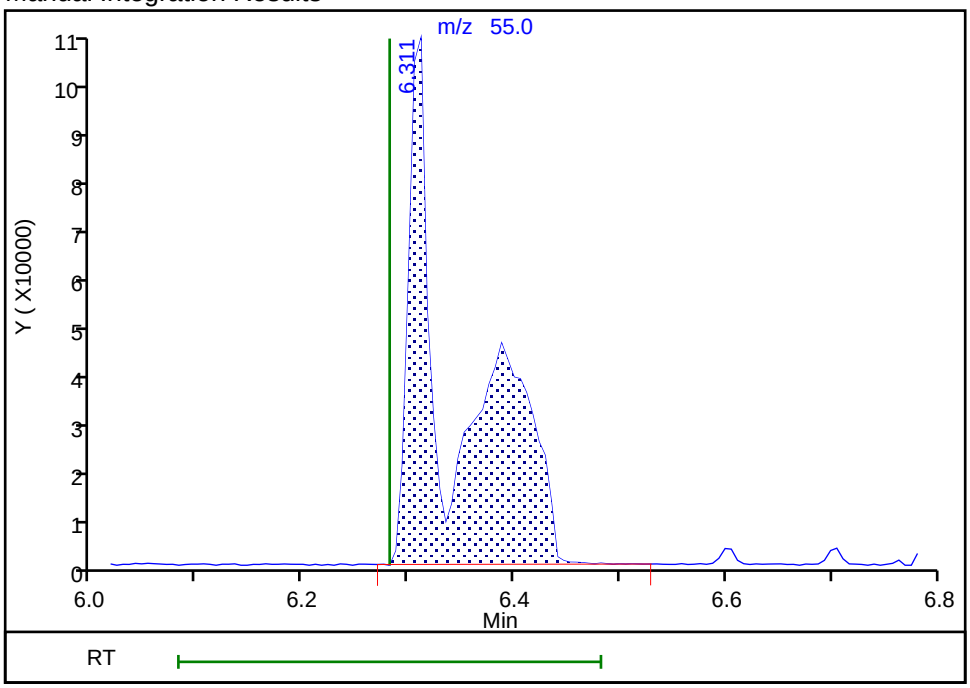
Processing Integration Results

RT: 6.31
Area: 141144
Amount: 77.435932
Amount Units: ug/ml



Manual Integration Results

RT: 6.31
Area: 324705
Amount: 163.1725
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 14:19:34
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

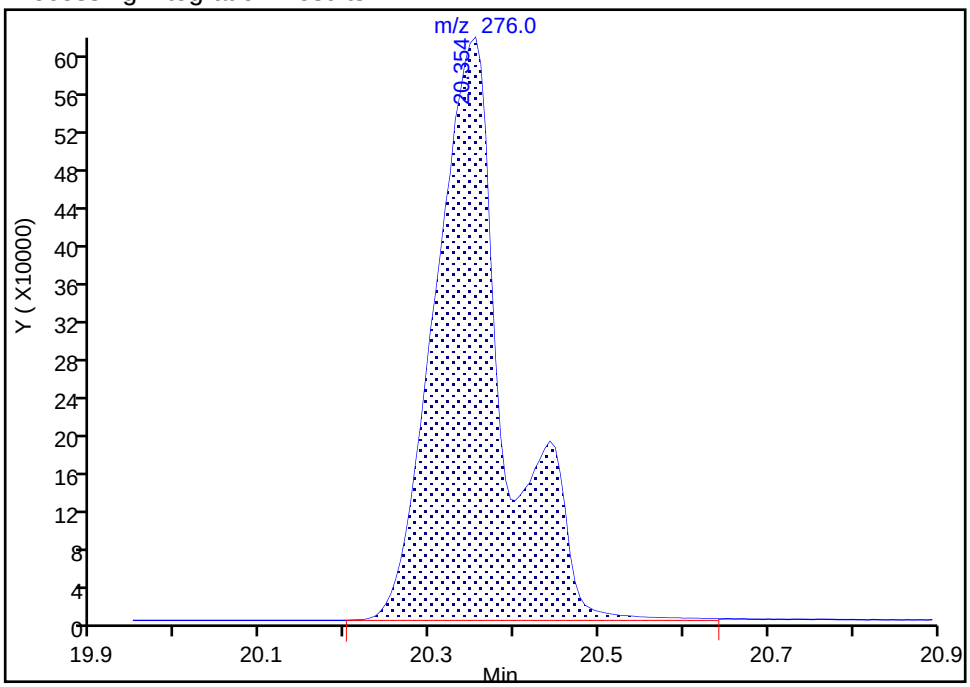
Data File:	\\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21621.D				
Injection Date:	17-Oct-2018 13:50:30	Instrument ID:	SMS_Y		
Lims ID:	STD160 HSL				
Client ID:					
Operator ID:	KIEKELD	ALS Bottle#:	8	Worklist Smp#:	9
Injection Vol:	0.5 ul	Dil. Factor:	1.0000		
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		
Column:	VF-5ms (0.50 mm)	Detector	MS SCAN		

207 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

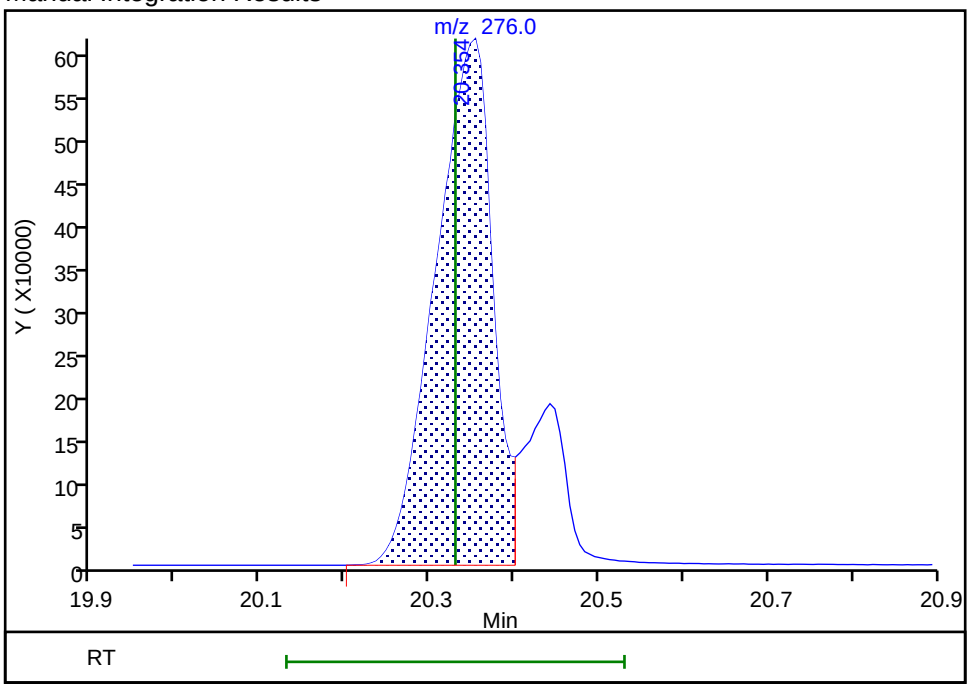
Processing Integration Results

RT: 20.35
Area: 3567142
Amount: 191.4678
Amount Units: ug/ml



Manual Integration Results

RT: 20.35
Area: 2917463
Amount: 161.0842
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 14:20:27

Audit Action: Split an Integrated Peak Audit Reason: Shouldering

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21622.D
Lims ID: STD200 HSL
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 17-Oct-2018 14:19:30 ALS Bottle#: 9 Worklist Smp#: 10
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD200 HSL
Operator ID: KIEKELD Instrument ID: SMS_Y
Sublist: chrom-SMSY_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 18-Oct-2018 09:36:35 Calib Date: 17-Oct-2018 19:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21632.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: kiekeld Date: 17-Oct-2018 15:51:42

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.680	4.684	-0.004	94	142626	40.0	40.0	
* 2 Naphthalene-d8	136	5.902	5.900	0.002	99	599282	40.0	40.0	
* 3 Acenaphthene-d10	164	7.647	7.645	0.002	96	325142	40.0	40.0	
* 4 Phenanthrene-d10	188	9.145	9.143	0.002	98	659616	40.0	40.0	
* 5 Chrysene-d12	240	13.252	13.244	0.008	99	661437	40.0	40.0	
* 6 Perylene-d12	264	17.200	17.192	0.008	97	708031	40.0	40.0	
$ 7 2-Fluorophenol	112	3.516	3.514	0.002	90	930926	200.0	189.8	
$ 8 Phenol-d5	99	4.315	4.308	0.007	99	1197908	200.0	192.6	
$ 9 Nitrobenzene-d5	82	5.197	5.189	0.008	84	1041233	200.0	188.4	
$ 11 2-Fluorobiphenyl	172	6.959	6.957	0.002	99	2071109	200.0	178.4	
$ 12 2,4,6-Tribromophenol	330	8.446	8.438	0.008	91	276966	200.0	186.3	
$ 13 Terphenyl-d14	244	11.113	11.111	0.002	98	2828786	200.0	187.4	
15 1,4-Dioxane	88	2.224	2.222	0.002	88	380305	200.0	191.9	
17 N-Nitrosodimethylamine	74	2.435	2.427	0.008	94	584331	200.0	192.7	
18 Pyridine	79	2.482	2.480	0.002	95	1939664	400.0	383.9	
28 Phenol	94	4.327	4.319	0.008	97	1212873	200.0	191.5	
30 Aniline	93	4.374	4.372	0.002	99	1554856	200.0	194.6	
31 Bis(2-chloroethyl)ether	93	4.415	4.407	0.008	99	885149	200.0	190.0	
32 Alpha Methyl Styrene	118	4.427	4.425	0.002	90	967631	200.0	185.3	
34 2-Chlorophenol	128	4.492	4.490	0.002	96	1020675	200.0	191.6	
35 n-Decane	43	4.521	4.519	0.002	87	697332	200.0	186.4	
37 1,3-Dichlorobenzene	146	4.639	4.637	0.002	97	1036557	200.0	186.2	
38 1,4-Dichlorobenzene	146	4.697	4.695	0.002	95	1054806	200.0	186.8	
39 Benzyl alcohol	108	4.797	4.789	0.008	96	696036	200.0	193.7	
40 1,2-Dichlorobenzene	146	4.844	4.842	0.002	98	1000736	200.0	185.6	
41 2-Methylphenol	108	4.885	4.883	0.002	93	928746	200.0	191.7	
43 2,2'-oxybis[1-chloropropan	45	4.915	4.913	0.002	93	961913	200.0	189.2	
44 Indene	116	4.932	4.930	0.002	91	2980096	400.0	349.9	
46 3-Methylphenol	108	5.038	5.024	0.014	96	962914	200.0	188.4	
47 4-Methylphenol	108	5.038	5.024	0.014	93	962914	200.0	188.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
48 3 & 4 Methylphenol	108	5.038	5.024	0.014	92	962914	200.0	188.4	
50 N-Nitrosodi-n-propylamine	70	5.050	5.036	0.014	60	670002	200.0	185.7	
51 Acetophenone	105	5.050	5.042	0.008	95	1228715	200.0	181.4	
53 Hexachloroethane	117	5.173	5.171	0.002	98	405282	200.0	191.5	
54 Nitrobenzene	77	5.214	5.212	0.002	83	997467	200.0	189.7	
57 Isophorone	82	5.449	5.436	0.013	98	1864707	200.0	192.2	
58 2-Nitrophenol	139	5.520	5.518	0.002	90	577371	200.0	197.1	
59 2,4-Dimethylphenol	107	5.543	5.541	0.002	93	954429	200.0	188.4	
63 Bis(2-chloroethoxy)methane	93	5.631	5.630	0.001	97	1129574	200.0	189.2	
64 Benzoic acid	105	5.720	5.653	0.067	86	1875673	400.0	406.7	M
66 3,5-Dimethylphenol	107	5.673	5.665	0.008	89	977647	200.0	186.7	
68 2,4-Dichlorophenol	162	5.755	5.753	0.002	92	834630	200.0	189.7	
69 1,2,4-Trichlorobenzene	180	5.843	5.841	0.002	94	839677	200.0	182.8	
71 Naphthalene	128	5.925	5.923	0.002	97	2796193	200.0	180.2	
72 4-Chloroaniline	127	5.961	5.953	0.008	97	1301824	200.0	185.1	
73 2,6-Dichlorophenol	162	5.978	5.970	0.008	98	816823	200.0	187.5	
75 Hexachlorobutadiene	225	6.049	6.047	0.002	98	431300	200.0	182.5	
79 Caprolactam	55	6.319	6.282	0.037	90	412388	200.0	202.3	M
83 4-Chloro-3-methylphenol	107	6.436	6.423	0.013	94	882083	200.0	194.7	
86 2-Methylnaphthalene	142	6.607	6.599	0.008	92	1988091	200.0	180.5	
88 1-Methylnaphthalene	142	6.707	6.705	0.002	93	1866655	200.0	182.0	
89 1,2,4,5-Tetrachlorobenzene	216	6.777	6.775	0.002	98	794924	200.0	174.7	
90 Hexachlorocyclopentadiene	237	6.771	6.769	0.002	96	543251	200.0	181.7	
92 2,4,6-Trichlorophenol	196	6.883	6.875	0.008	82	535354	200.0	175.9	
93 2,3-Dichlorobenzenamine	161	6.877	6.875	0.002	91	963681	200.0	177.4	
94 2,4,5-Trichlorophenol	196	6.918	6.916	0.002	95	656809	200.0	188.3	
98 1,1'-Biphenyl	154	7.065	7.063	0.002	96	2287067	200.0	177.7	
99 2-Chloronaphthalene	162	7.094	7.087	0.007	97	1791806	200.0	180.1	
101 2-Nitroaniline	65	7.183	7.175	0.008	90	555355	200.0	193.6	
104 Dimethyl phthalate	163	7.359	7.351	0.008	99	2135872	200.0	184.8	
105 1,3-Dinitrobenzene	168	7.388	7.380	0.008	93	434505	200.0	208.3	
106 2,6-Dinitrotoluene	165	7.418	7.410	0.008	94	536608	200.0	191.6	
107 Acenaphthylene	152	7.512	7.510	0.002	98	3000614	200.0	179.9	
108 3-Nitroaniline	138	7.600	7.586	0.014	97	663047	200.0	194.7	
109 Acenaphthene	153	7.688	7.680	0.008	95	1802595	200.0	176.4	
111 2,4-Dinitrophenol	184	7.700	7.686	0.014	85	782993	400.0	399.7	
112 4-Nitrophenol	109	7.764	7.745	0.019	85	660504	400.0	394.0	
114 2,4-Dinitrotoluene	165	7.829	7.815	0.014	96	745593	200.0	194.7	
116 Dibenzofuran	168	7.858	7.850	0.008	97	2662216	200.0	179.8	
119 2,3,4,6-Tetrachlorophenol	232	7.976	7.974	0.002	74	546928	200.0	188.9	
123 Diethyl phthalate	149	8.064	8.056	0.008	98	2052254	200.0	175.1	
124 Hexadecane	57	8.070	8.074	-0.004	94	937429	200.0	180.5	
127 4-Chlorophenyl phenyl ethe	204	8.187	8.185	0.002	92	987047	200.0	176.3	
129 Fluorene	166	8.205	8.197	0.008	94	2113153	200.0	177.8	
130 4-Nitroaniline	138	8.228	8.203	0.025	91	708120	200.0	193.6	
131 4,6-Dinitro-2-methylphenol	198	8.252	8.238	0.014	91	853901	400.0	385.9	
134 Diphenylamine	169	8.305	8.297	0.008	95	1659803	170.0	152.5	
135 N-Nitrosodiphenylamine	169	8.305	8.297	0.008	61	1659803	200.0	178.1	
136 1,2-Diphenylhydrazine	77	8.352	8.344	0.008	98	2156960	202.2	189.8	
137 Azobenzene	77	8.352	8.344	0.008	97	2156960	200.0	187.7	
139 2,4,6 - Tribromophenol	330	8.446	8.438	0.008	91	276966	200.0	186.3	
148 4-Bromophenyl phenyl ether	248	8.681	8.679	0.002	64	602040	200.0	176.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
151 Hexachlorobenzene	284	8.769	8.767	0.002	93	575358	200.0	175.3	
152 Atrazine	200	8.834	8.820	0.014	95	600892	200.0	173.8	
155 Pentachlorophenol	266	8.963	8.955	0.008	91	799768	400.0	364.4	
158 n-Octadecane	85	8.998	8.996	0.002	98	557880	200.0	181.1	
161 Phenanthrene	178	9.174	9.167	0.007	98	3143882	200.0	172.2	
162 Anthracene	178	9.227	9.219	0.008	98	3274877	200.0	172.2	
164 Carbazole	167	9.374	9.366	0.008	96	3194820	200.0	174.7	
166 Alachlor	188	9.509	9.507	0.002	92	461524	200.0	183.6	
168 Di-n-butyl phthalate	149	9.715	9.713	0.002	100	3757798	200.0	178.5	
175 Fluoranthene	202	10.555	10.547	0.008	99	3768235	200.0	175.7	
178 Pyrene	202	10.896	10.882	0.014	96	3923736	200.0	189.1	
185 Famphur	218	11.883	11.875	0.008	82	681306	200.0	NQ	
187 Butyl benzyl phthalate	149	12.006	11.999	0.007	96	1913596	200.0	198.9	
189 3,3'-Dichlorobenzidine	252	13.187	13.168	0.019	74	1349331	200.0	187.2	
191 Benzo[a]anthracene	228	13.234	13.221	0.013	99	3903813	200.0	191.2	
192 Chrysene	228	13.328	13.309	0.019	98	3654645	200.0	189.4	
193 Bis(2-ethylhexyl) phthalat	149	13.381	13.379	0.002	95	2622259	200.0	200.0	
195 Di-n-octyl phthalate	149	15.197	15.183	0.014	98	4620590	200.0	202.1	
196 Benzo[b]fluoranthene	252	16.125	16.094	0.031	98	4075967	200.0	201.2	
198 Benzo[k]fluoranthene	252	16.213	16.182	0.031	98	3861829	200.0	186.0	
200 Benzo[e]pyrene	252	16.912	16.887	0.025	98	3657078	200.0	191.8	
201 Benzo[a]pyrene	252	17.065	17.034	0.031	80	3880930	200.0	192.9	
207 Indeno[1,2,3-cd]pyrene	276	20.367	20.330	0.037	98	3699746	200.0	204.7	M
208 Dibenz(a,h)anthracene	278	20.461	20.418	0.043	95	3591959	200.0	197.1	
209 Benzo[g,h,i]perylene	276	21.113	21.070	0.043	95	3700841	200.0	194.2	
S 219 Total Cresols	108				0			380.0	
S 220 Methyl Phenols,Total	108				0			380.0	

QC Flag Legend

Processing Flags

NQ - Not Quantifiable

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA200_00038 Amount Added: 200.00 Units: uL

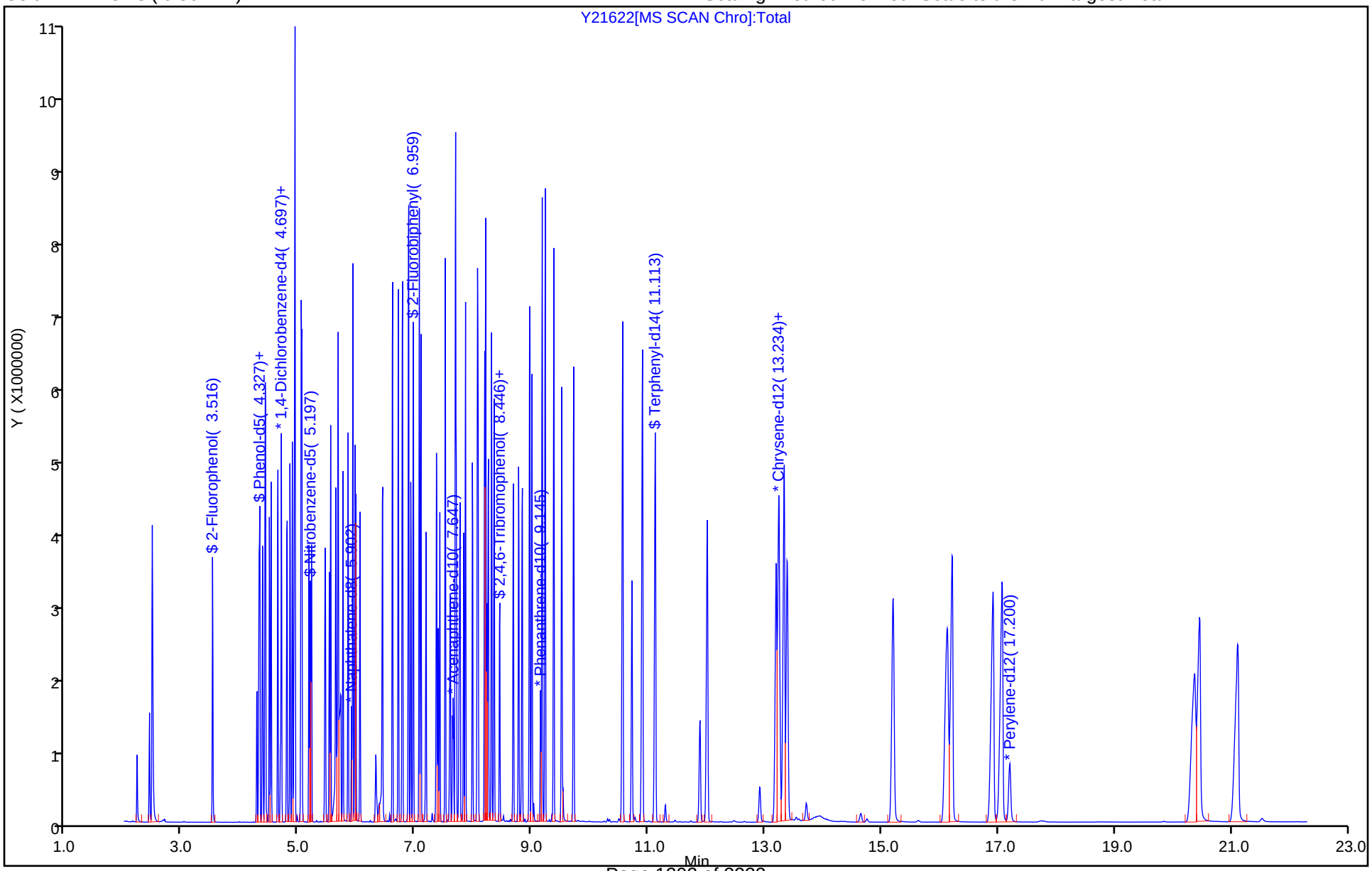
Report Date: 18-Oct-2018 09:36:35 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21622.D

Injection Date:	17-Oct-2018 14:19:30	Instrument ID:	SMS_Y	Operator ID:	KIEKELD
Lims ID:	STD200 HSL			Worklist Smp#:	10
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

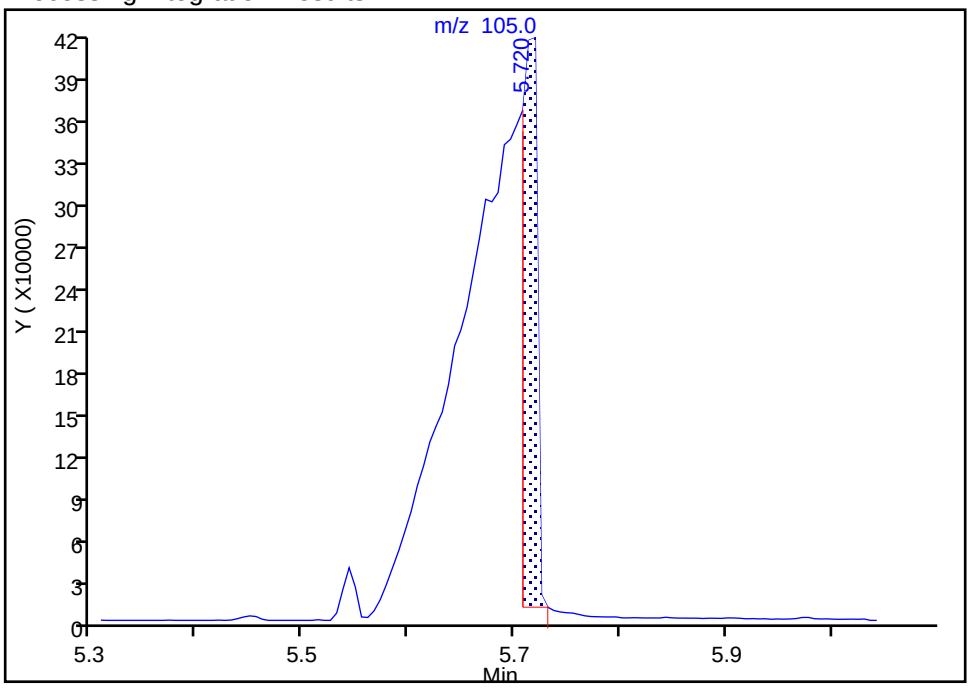
Data File:	\\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21622.D				
Injection Date:	17-Oct-2018 14:19:30	Instrument ID:	SMS_Y		
Lims ID:	STD200 HSL				
Client ID:					
Operator ID:	KIEKELD	ALS Bottle#:	9	Worklist Smp#:	10
Injection Vol:	0.5 ul	Dil. Factor:	1.0000		
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		
Column:	VF-5ms (0.50 mm)	Detector	MS SCAN		

64 Benzoic acid, CAS: 65-85-0

Signal: 1

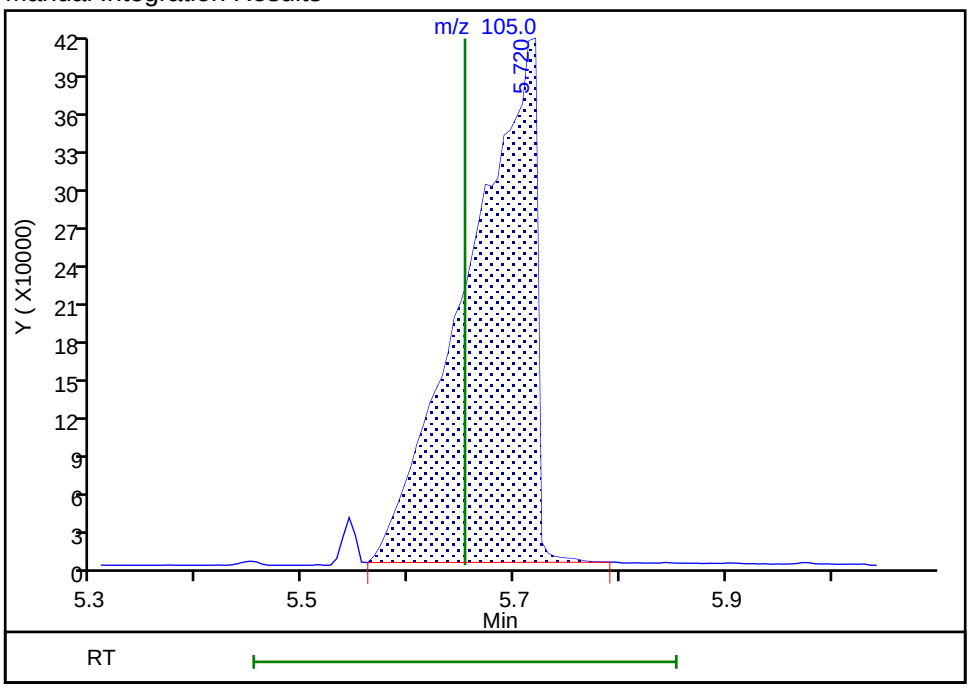
Processing Integration Results

RT: 5.72
Area: 413501
Amount: 108.8118
Amount Units: ug/ml



Manual Integration Results

RT: 5.72
Area: 1875673
Amount: 406.7382
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 15:49:27

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

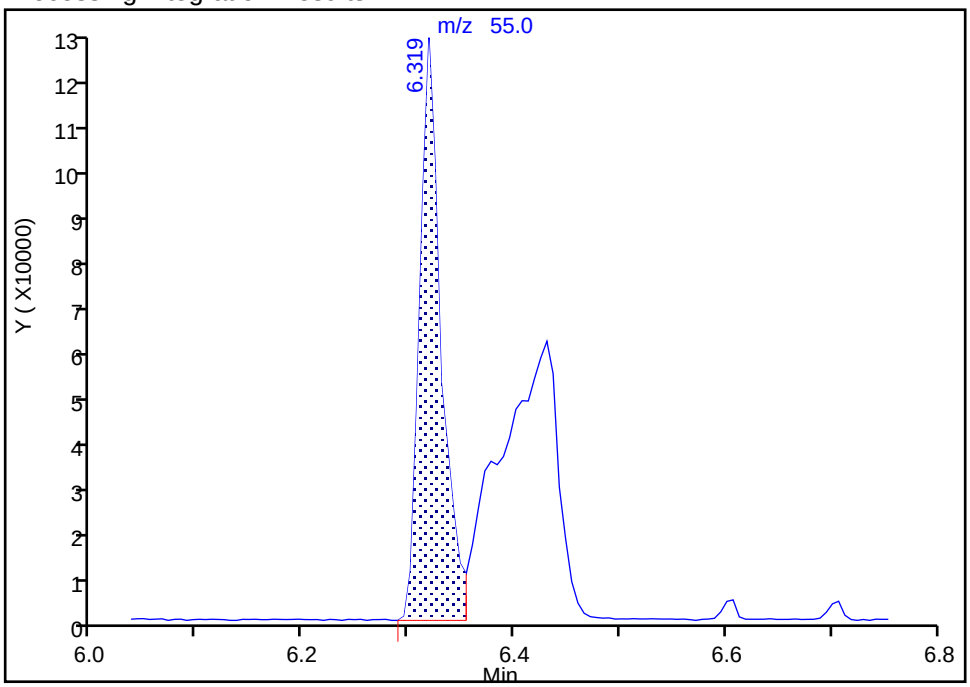
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21622.D
Injection Date: 17-Oct-2018 14:19:30 Instrument ID: SMS_Y
Lims ID: STD200 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 9 Worklist Smp#: 10
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

79 Caprolactam, CAS: 105-60-2

Signal: 1

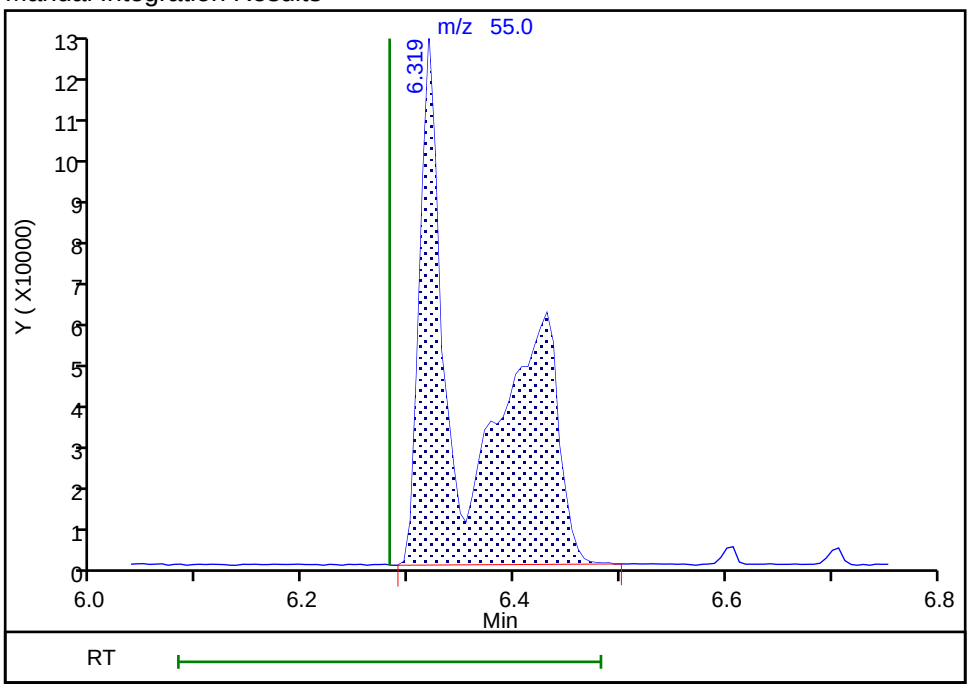
Processing Integration Results

RT: 6.32
Area: 183039
Amount: 96.606669
Amount Units: ug/ml



Manual Integration Results

RT: 6.32
Area: 412388
Amount: 202.3468
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 15:49:39
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

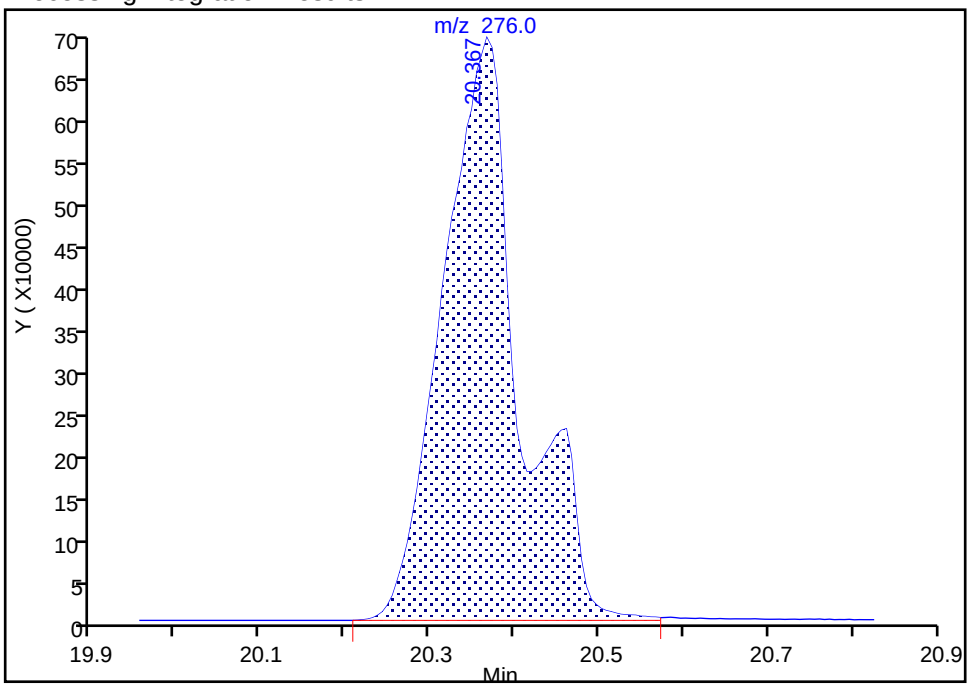
Data File:	\\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21622.D				
Injection Date:	17-Oct-2018 14:19:30	Instrument ID:	SMS_Y		
Lims ID:	STD200 HSL				
Client ID:					
Operator ID:	KIEKELD	ALS Bottle#:	9	Worklist Smp#:	10
Injection Vol:	0.5 ul	Dil. Factor:	1.0000		
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		
Column:	VF-5ms (0.50 mm)	Detector	MS SCAN		

207 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

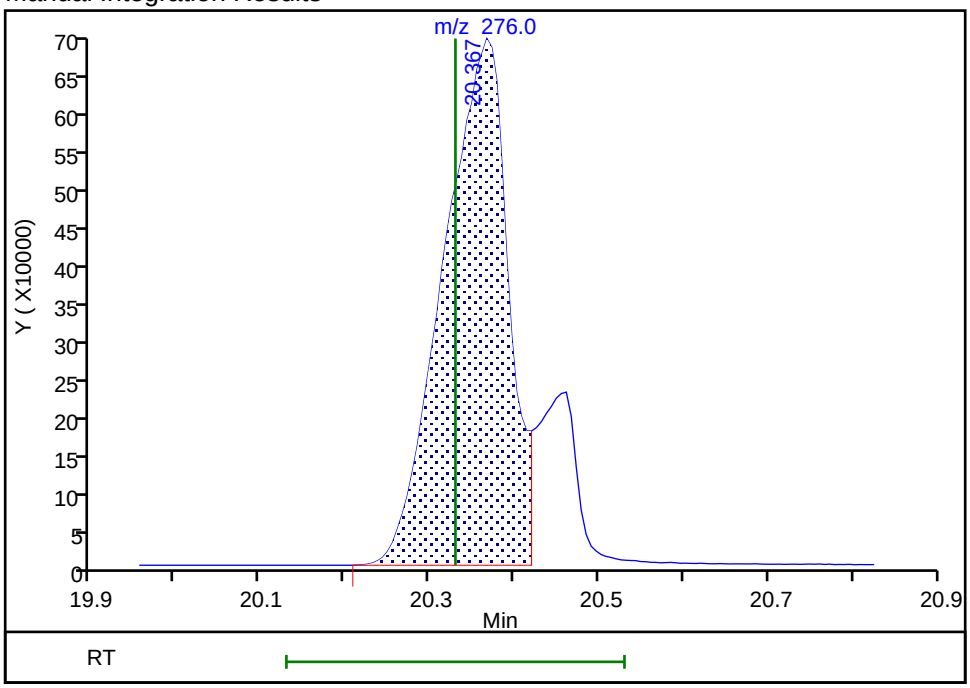
Processing Integration Results

RT: 20.37
Area: 4411334
Amount: 238.2248
Amount Units: ug/ml



Manual Integration Results

RT: 20.37
Area: 3699746
Amount: 204.7137
Amount Units: ug/ml



Reviewer: kiekeld, 17-Oct-2018 15:50:12

Audit Action: Split an Integrated Peak Audit Reason: Shouldering

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-433769/11 Calibration Date: 10/17/2018 14:47

Instrument ID: SMS_Y Calib Start Date: 10/17/2018 10:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/17/2018 14:19

Lab File ID: Y21623.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5557	0.5469		98400	100000	-1.6	20.0
N-Nitrosodimethylamine	Ave	0.8503	0.8493		99900	100000	-0.1	20.0
Pyridine	Ave	1.417	1.489		210000	200000	5.1	20.0
Phenol	Ave	1.776	1.757	0.8000	98900	100000	-1.1	20.0
Aniline	Ave	2.240	2.202		98300	100000	-1.7	20.0
Bis(2-chloroethyl)ether	Ave	1.307	1.302	0.7000	99600	100000	-0.4	20.0
2-Chlorophenol	Ave	1.494	1.470	0.8000	98400	100000	-1.6	20.0
1,3-Dichlorobenzene	Ave	1.561	1.530		98000	100000	-2.0	20.0
1,4-Dichlorobenzene	Ave	1.584	1.565		98800	100000	-1.2	20.0
Benzyl alcohol	Ave	1.008	1.001		99300	100000	-0.7	20.0
1,2-Dichlorobenzene	Ave	1.512	1.506		99600	100000	-0.4	20.0
2-Methylphenol	Ave	1.359	1.357	0.7000	99800	100000	-0.2	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.426	1.327	0.0100	93100	100000	-6.9	20.0
3 & 4 Methylphenol	Ave	1.434	1.437		100000	100000	0.2	20.0
N-Nitrosodi-n-propylamine	Ave	1.012	0.995	0.5000	98400	100000	-1.6	20.0
Acetophenone	Ave	1.900	1.881	0.0100	99000	100000	-1.0	20.0
Hexachloroethane	Ave	0.5936	0.5840	0.3000	98400	100000	-1.6	20.0
Nitrobenzene	Ave	0.3510	0.3397		96800	100000	-3.2	20.0
Isophorone	Ave	0.6474	0.6163	0.4000	95200	100000	-4.8	20.0
2-Nitrophenol	Ave	0.1955	0.1948	0.1000	99700	100000	-0.3	20.0
2,4-Dimethylphenol	Ave	0.3381	0.3196	0.2000	94500	100000	-5.5	20.0
Bis(2-chloroethoxy)methane	Ave	0.3985	0.3932	0.3000	98700	100000	-1.3	20.0
Benzoic acid	Lin2		0.2945		194000	200000	-2.9	20.0
2,4-Dichlorophenol	Ave	0.2936	0.2869	0.2000	97700	100000	-2.3	20.0
1,2,4-Trichlorobenzene	Ave	0.3066	0.2966		96700	100000	-3.3	20.0
Naphthalene	Ave	1.036	0.9850	0.7000	95100	100000	-4.9	20.0
4-Chloroaniline	Ave	0.4694	0.4559	0.0100	97100	100000	-2.9	20.0
2,6-Dichlorophenol	Ave	0.2907	0.2834		97500	100000	-2.5	20.0
Hexachlorobutadiene	Ave	0.1577	0.1598	0.0100	101000	100000	1.3	20.0
4-Chloro-3-methylphenol	Ave	0.3024	0.2954	0.2000	97700	100000	-2.3	20.0
2-Methylnaphthalene	Ave	0.7350	0.7036	0.4000	95700	100000	-4.3	20.0
1-Methylnaphthalene	Ave	0.6847	0.6660		97300	100000	-2.7	20.0
Hexachlorocyclopentadiene	Ave	0.3679	0.3650	0.0500	99200	100000	-0.8	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.3036	0.2905	0.0100	95700	100000	-4.3	20.0
2,4,6-Trichlorophenol	Ave	0.3745	0.3775	0.2000	101000	100000	0.8	20.0
2,4,5-Trichlorophenol	Ave	0.4292	0.4344	0.2000	101000	100000	1.2	20.0
1,1'-Biphenyl	Ave	1.583	1.575		99500	100000	-0.5	20.0
2-Chloronaphthalene	Ave	1.224	1.204	0.8000	98400	100000	-1.6	20.0
2-Nitroaniline	Ave	0.3529	0.3569	0.0100	101000	100000	1.1	20.0
Dimethyl phthalate	Ave	1.422	1.396	0.0100	98100	100000	-1.9	20.0
1,3-Dinitrobenzene	Ave	0.2566	0.2717		106000	100000	5.9	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-433769/11 Calibration Date: 10/17/2018 14:47

Instrument ID: SMS_Y Calib Start Date: 10/17/2018 10:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/17/2018 14:19

Lab File ID: Y21623.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-Dinitrotoluene	Ave	0.3446	0.3424	0.2000	99400	100000	-0.6	20.0
Acenaphthylene	Ave	2.053	2.033	0.9000	99000	100000	-1.0	20.0
3-Nitroaniline	Ave	0.4189	0.4093	0.0100	97700	100000	-2.3	20.0
Acenaphthene	Ave	1.257	1.211	0.9000	96400	100000	-3.6	20.0
2,4-Dinitrophenol	Lin2		0.2451	0.0100	205000	200000	2.7	20.0
4-Nitrophenol	Ave	0.2062	0.2082	0.0100	202000	200000	0.9	20.0
2,4-Dinitrotoluene	Ave	0.4710	0.4747	0.2000	101000	100000	0.8	20.0
Dibenzofuran	Ave	1.822	1.794	0.8000	98400	100000	-1.6	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3562	0.3618	0.0100	102000	100000	1.6	20.0
Diethyl phthalate	Ave	1.441	1.435	0.0100	99500	100000	-0.5	20.0
4-Chlorophenyl phenyl ether	Ave	0.6887	0.6746	0.4000	97900	100000	-2.1	20.0
Fluorene	Ave	1.462	1.434	0.9000	98100	100000	-1.9	20.0
4-Nitroaniline	Ave	0.4499	0.4177	0.0100	92800	100000	-7.2	20.0
4,6-Dinitro-2-methylphenol	Lin2		0.1525	0.0100	228000	200000	14.1	20.0
Diphenylamine	Ave	1.339	1.309		83100	85000	-2.3	20.0
N-Nitrosodiphenylamine	Ave	0.5650	0.5489	0.0100	97200	100000	-2.8	20.0
1,2-Diphenylhydrazine	Ave	1.398	1.375		99400	101000	-1.7	20.0
Azobenzene	Ave	1.414	1.390		98300	100000	-1.7	20.0
4-Bromophenyl phenyl ether	Ave	0.2069	0.1977	0.1000	95600	100000	-4.4	20.0
Hexachlorobenzene	Ave	0.1990	0.1933	0.1000	97100	100000	-2.9	20.0
Pentachlorophenol	Ave	0.1331	0.1430	0.0500	215000	200000	7.5	20.0
Phenanthrene	Ave	1.107	1.067	0.7000	96400	100000	-3.6	20.0
Anthracene	Ave	1.153	1.101	0.7000	95500	100000	-4.5	20.0
Carbazole	Ave	1.109	1.076	0.0100	97000	100000	-3.0	20.0
Alachlor	Ave	0.1524	0.1474		96700	100000	-3.3	20.0
Di-n-butyl phthalate	Ave	1.276	1.234	0.0100	96700	100000	-3.3	20.0
Fluoranthene	Ave	1.301	1.245	0.6000	95700	100000	-4.3	20.0
Pyrene	Ave	1.255	1.209	0.6000	96400	100000	-3.6	20.0
Butyl benzyl phthalate	Ave	0.5819	0.5742	0.0100	98700	100000	-1.3	20.0
Benzo[a]anthracene	Ave	1.235	1.179	0.8000	95500	100000	-4.5	20.0
Chrysene	Ave	1.167	1.140	0.7000	97700	100000	-2.3	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.7927	0.7763	0.0100	97900	100000	-2.1	20.0
Di-n-octyl phthalate	Ave	1.383	1.375	0.0100	99500	100000	-0.5	20.0
Benzo[b]fluoranthene	Ave	1.144	1.112	0.7000	97200	100000	-2.8	20.0
Benzo[k]fluoranthene	Ave	1.173	1.147	0.7000	97800	100000	-2.2	20.0
Benzo[a]pyrene	Ave	1.137	1.127	0.7000	99100	100000	-0.9	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.093	1.076	0.5000	98400	100000	-1.6	20.0
Dibenz(a,h)anthracene	Ave	1.029	1.025	0.4000	99600	100000	-0.4	20.0
Benzo[g,h,i]perylene	Ave	1.077	1.040	0.5000	96600	100000	-3.4	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21623.D
Lims ID: ICV HSL 1
Client ID:
Sample Type: ICV
Inject. Date: 17-Oct-2018 14:47:30 ALS Bottle#: 10 Worklist Smp#: 11
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: ICV HSL 1
Operator ID: KIEKELD Instrument ID: SMS_Y
Sublist:

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 18-Oct-2018 09:36:35 Calib Date: 17-Oct-2018 19:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21632.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: kiekeld Date: 17-Oct-2018 15:53:13

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.678	4.684	-0.006	94	133508	40.0	40.0	
* 2 Naphthalene-d8	136	5.900	5.900	0.000	99	567169	40.0	40.0	
* 3 Acenaphthene-d10	164	7.645	7.645	0.000	96	301891	40.0	40.0	
* 4 Phenanthrene-d10	188	9.143	9.143	0.000	98	611862	40.0	40.0	
* 5 Chrysene-d12	240	13.239	13.244	-0.005	99	650241	40.0	40.0	
* 6 Perylene-d12	264	17.181	17.192	-0.011	97	689537	40.0	40.0	
15 1,4-Dioxane	88	2.222	2.222	0.000	89	182523	100.0	98.4	
17 N-Nitrosodimethylamine	74	2.428	2.427	0.001	93	283476	100.0	99.9	
18 Pyridine	79	2.481	2.480	0.001	96	993878	200.0	210.2	
28 Phenol	94	4.320	4.319	0.001	96	586275	100.0	98.9	
30 Aniline	93	4.367	4.372	-0.005	99	734906	100.0	98.3	
31 Bis(2-chloroethyl)ether	93	4.408	4.407	0.001	99	434589	100.0	99.6	
32 Alpha Methyl Styrene	118	4.420	4.425	-0.005	89	474407	100.0	97.0	
34 2-Chlorophenol	128	4.490	4.490	0.000	94	490709	100.0	98.4	
35 n-Decane	43	4.519	4.519	0.000	87	345086	100.0	98.5	
37 1,3-Dichlorobenzene	146	4.631	4.637	-0.006	98	510662	100.0	98.0	
38 1,4-Dichlorobenzene	146	4.696	4.695	0.001	95	522438	100.0	98.8	
39 Benzyl alcohol	108	4.790	4.789	0.001	95	334083	100.0	99.3	
40 1,2-Dichlorobenzene	146	4.843	4.842	0.001	98	502646	100.0	99.6	
41 2-Methylphenol	108	4.884	4.883	0.001	92	452836	100.0	99.8	
43 2,2'-oxybis[1-chloropropan	45	4.913	4.913	0.000	92	443002	100.0	93.1	
44 Indene	116	4.925	4.930	-0.005	91	1561095	200.0	195.8	
46 3-Methylphenol	108	5.025	5.024	0.001	92	479598	100.0	100.2	
47 4-Methylphenol	108	5.025	5.024	0.001	94	479598	100.0	100.2	
48 3 & 4 Methylphenol	108	5.025	5.024	0.001	99	479598	100.0	100.2	
50 N-Nitrosodi-n-propylamine	70	5.036	5.036	0.000	83	332179	100.0	98.4	
51 Acetophenone	105	5.042	5.042	0.000	97	627819	100.0	99.0	
53 Hexachloroethane	117	5.172	5.171	0.001	98	194915	100.0	98.4	
54 Nitrobenzene	77	5.207	5.212	-0.005	83	481709	100.0	96.8	
57 Isophorone	82	5.436	5.436	0.000	98	873905	100.0	95.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
58 2-Nitrophenol	139	5.518	5.518	0.000	87	276264	100.0	99.7	
59 2,4-Dimethylphenol	107	5.536	5.541	-0.005	94	453173	100.0	94.5	
63 Bis(2-chloroethoxy)methane	93	5.624	5.630	-0.006	98	557536	100.0	98.7	
64 Benzoic acid	105	5.665	5.653	0.012	62	835180	200.0	194.1	
66 3,5-Dimethylphenol	107	5.665	5.665	0.000	91	464962	100.0	93.8	
68 2,4-Dichlorophenol	162	5.747	5.753	-0.006	93	406773	100.0	97.7	
69 1,2,4-Trichlorobenzene	180	5.841	5.841	0.000	94	420568	100.0	96.7	
71 Naphthalene	128	5.918	5.923	-0.005	97	1396710	100.0	95.1	
72 4-Chloroaniline	127	5.953	5.953	0.000	97	646448	100.0	97.1	
73 2,6-Dichlorophenol	162	5.971	5.970	0.001	98	401840	100.0	97.5	
75 Hexachlorobutadiene	225	6.047	6.047	0.000	97	226507	100.0	101.3	
83 4-Chloro-3-methylphenol	107	6.417	6.423	-0.006	94	418892	100.0	97.7	
86 2-Methylnaphthalene	142	6.599	6.599	0.000	93	997672	100.0	95.7	
88 1-Methylnaphthalene	142	6.699	6.705	-0.006	93	944291	100.0	97.3	
89 1,2,4,5-Tetrachlorobenzene	216	6.776	6.775	0.001	97	411948	100.0	95.7	
90 Hexachlorocyclopentadiene	237	6.770	6.769	0.001	96	275491	100.0	99.2	
92 2,4,6-Trichlorophenol	196	6.876	6.875	0.001	80	284898	100.0	100.8	
93 2,3-Dichlorobenzenamine	161	6.876	6.875	0.001	92	488384	100.0	96.8	
94 2,4,5-Trichlorophenol	196	6.911	6.916	-0.005	96	327846	100.0	101.2	
98 1,1'-Biphenyl	154	7.058	7.063	-0.005	95	1188876	100.0	99.5	
99 2-Chloronaphthalene	162	7.087	7.087	0.000	96	908513	100.0	98.4	
101 2-Nitroaniline	65	7.175	7.175	0.000	90	269372	100.0	101.1	
104 Dimethyl phthalate	163	7.351	7.351	0.000	99	1053219	100.0	98.1	
105 1,3-Dinitrobenzene	168	7.381	7.380	0.001	96	205029	100.0	105.9	
106 2,6-Dinitrotoluene	165	7.410	7.410	0.000	95	258426	100.0	99.4	
107 Acenaphthylene	152	7.504	7.510	-0.006	98	1534247	100.0	99.0	
108 3-Nitroaniline	138	7.586	7.586	0.000	97	308900	100.0	97.7	
109 Acenaphthene	153	7.680	7.680	0.000	92	914215	100.0	96.4	
111 2,4-Dinitrophenol	184	7.686	7.686	0.000	85	369964	200.0	205.5	
112 4-Nitrophenol	109	7.745	7.745	0.000	84	314204	200.0	201.9	
114 2,4-Dinitrotoluene	165	7.816	7.815	0.001	95	358245	100.0	100.8	
116 Dibenzofuran	168	7.851	7.850	0.001	97	1353604	100.0	98.4	
119 2,3,4,6-Tetrachlorophenol	232	7.974	7.974	0.000	73	273024	100.0	101.6	
123 Diethyl phthalate	149	8.056	8.056	0.000	99	1082763	100.0	99.5	
124 Hexadecane	57	8.068	8.074	-0.006	94	479346	100.0	99.4	
127 4-Chlorophenyl phenyl ethe	204	8.180	8.185	-0.005	91	509149	100.0	97.9	
129 Fluorene	166	8.197	8.197	0.000	95	1082064	100.0	98.1	
130 4-Nitroaniline	138	8.203	8.203	0.000	91	315225	100.0	92.8	
131 4,6-Dinitro-2-methylphenol	198	8.239	8.238	0.001	92	466608	200.0	228.3	
134 Diphenylamine	169	8.297	8.297	0.000	95	839642	85.0	83.1	
135 N-Nitrosodiphenylamine	169	8.297	8.297	0.000	61	839642	100.0	97.2	
136 1,2-Diphenylhydrazine	77	8.344	8.344	0.000	97	1049034	101.1	99.4	
137 Azobenzene	77	8.344	8.344	0.000	96	1049034	100.0	98.3	
148 4-Bromophenyl phenyl ether	248	8.673	8.679	-0.006	63	302439	100.0	95.6	
151 Hexachlorobenzene	284	8.767	8.767	0.000	94	295642	100.0	97.1	
155 Pentachlorophenol	266	8.950	8.955	-0.005	92	437594	200.0	214.9	
158 n-Octadecane	85	8.991	8.996	-0.005	97	279314	100.0	97.7	
161 Phenanthrene	178	9.167	9.167	0.000	98	1632024	100.0	96.4	
162 Anthracene	178	9.220	9.219	0.001	98	1684758	100.0	95.5	
164 Carbazole	167	9.367	9.366	0.001	96	1646102	100.0	97.0	
166 Alachlor	188	9.502	9.507	-0.005	93	225437	100.0	96.7	
168 Di-n-butyl phthalate	149	9.707	9.713	-0.006	100	1887568	100.0	96.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
175 Fluoranthene	202	10.548	10.547	0.001	98	1903648	100.0	95.7	
178 Pyrene	202	10.883	10.882	0.001	97	1965947	100.0	96.4	
187 Butyl benzyl phthalate	149	11.993	11.999	-0.006	96	933339	100.0	98.7	
191 Benzo[a]anthracene	228	13.215	13.221	-0.006	99	1916175	100.0	95.5	
192 Chrysene	228	13.303	13.309	-0.006	98	1853118	100.0	97.7	
193 Bis(2-ethylhexyl) phthalat	149	13.368	13.379	-0.011	95	1261924	100.0	97.9	
195 Di-n-octyl phthalate	149	15.178	15.183	-0.005	98	2235832	100.0	99.5	
196 Benzo[b]fluoranthene	252	16.094	16.094	0.000	99	1917163	100.0	97.2	
198 Benzo[k]fluoranthene	252	16.176	16.182	-0.006	99	1977134	100.0	97.8	
200 Benzo[e]pyrene	252	16.881	16.887	-0.006	98	1789645	100.0	96.4	
201 Benzo[a]pyrene	252	17.034	17.034	0.000	81	1942242	100.0	99.1	
207 Indeno[1,2,3-cd]pyrene	276	20.324	20.330	-0.006	97	1748818	100.0	98.4	
208 Dibenz(a,h)anthracene	278	20.418	20.418	0.000	95	1767119	100.0	99.6	
209 Benzo[g,h,i]perylene	276	21.071	21.070	0.001	95	1792302	100.0	96.6	

Reagents:

MS-HSLB1B3SSV_00051 Amount Added: 200.00 Units: uL

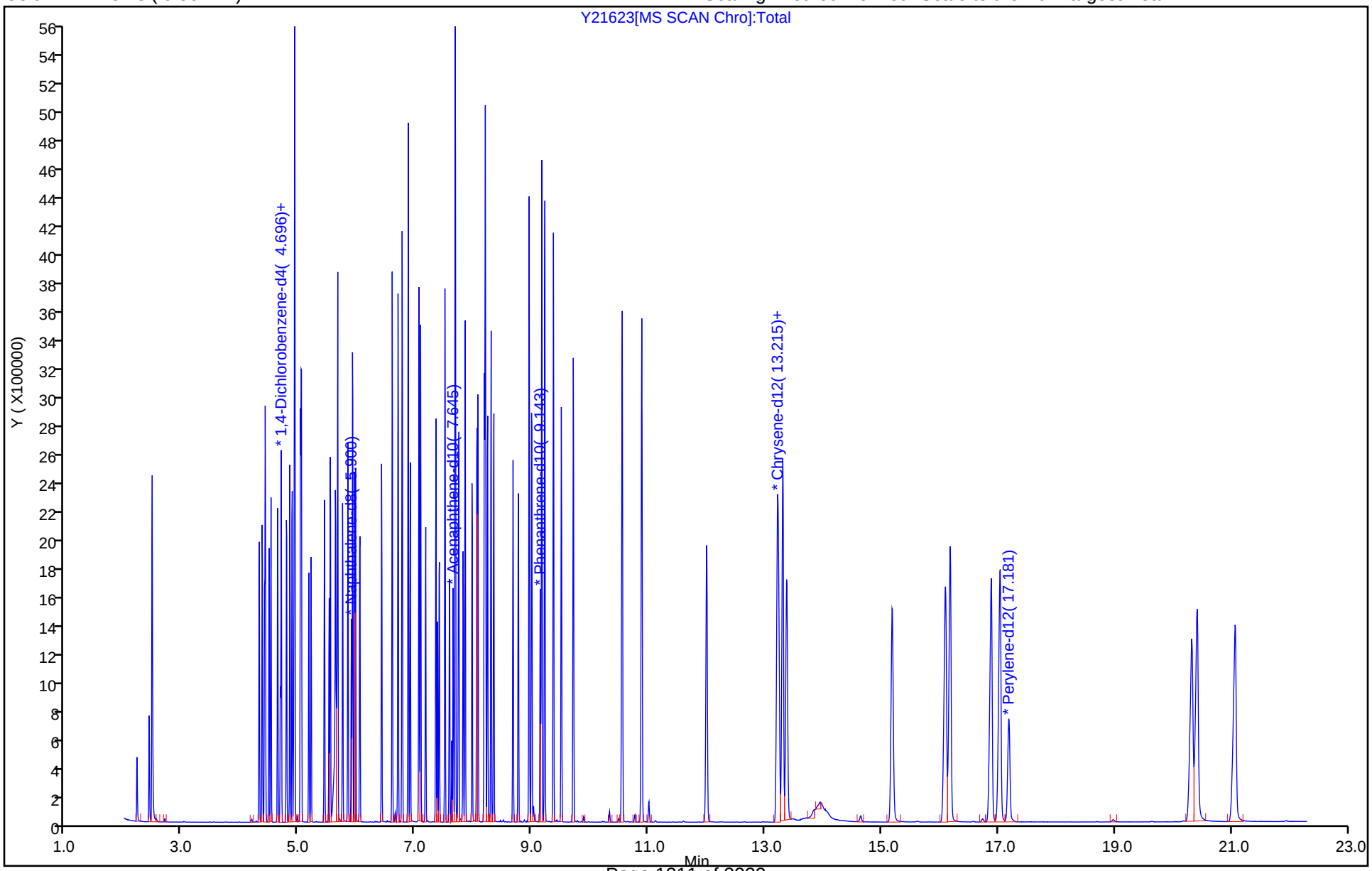
Report Date: 18-Oct-2018 09:36:37 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21623.D

Injection Date:	17-Oct-2018 14:47:30	Instrument ID:	SMS_Y	Operator ID:	KIEKELD
Lims ID:	ICV HSL 1			Worklist Smp#:	11
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436671/3 Calibration Date: 11/07/2018 12:42

Instrument ID: SMS_Y Calib Start Date: 10/17/2018 10:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/17/2018 14:19

Lab File ID: Y21928.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5557	0.5885		84700	80000	5.9	20.0
N-Nitrosodimethylamine	Ave	0.8503	0.9248		87000	80000	8.8	20.0
Pyridine	Ave	1.417	1.532		173000	160000	8.1	20.0
Phenol	Ave	1.776	1.880	0.8000	84700	80000	5.8	20.0
Aniline	Ave	2.240	2.365		84500	80000	5.6	20.0
Bis(2-chloroethyl)ether	Ave	1.307	1.358	0.7000	83200	80000	3.9	20.0
2-Chlorophenol	Ave	1.494	1.544	0.8000	82700	80000	3.3	20.0
1,3-Dichlorobenzene	Ave	1.561	1.600		82000	80000	2.5	20.0
1,4-Dichlorobenzene	Ave	1.584	1.656		83700	80000	4.6	20.0
Benzyl alcohol	Ave	1.008	1.022		81100	80000	1.4	20.0
1,2-Dichlorobenzene	Ave	1.512	1.568		82900	80000	3.7	20.0
2-Methylphenol	Ave	1.359	1.419	0.7000	83500	80000	4.4	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.426	1.450	0.0100	81400	80000	1.7	20.0
N-Nitrosodi-n-propylamine	Ave	1.012	1.029	0.5000	81400	80000	1.7	20.0
3 & 4 Methylphenol	Ave	1.434	1.473		82200	80000	2.7	20.0
Acetophenone	Ave	1.900	1.963	0.0100	82700	80000	3.3	20.0
Hexachloroethane	Ave	0.5936	0.6122	0.3000	82500	80000	3.1	20.0
Nitrobenzene	Ave	0.3510	0.3672		83700	80000	4.6	20.0
Isophorone	Ave	0.6474	0.6661	0.4000	82300	80000	2.9	20.0
2-Nitrophenol	Ave	0.1955	0.2062	0.1000	84400	80000	5.5	20.0
2,4-Dimethylphenol	Ave	0.3381	0.3468	0.2000	82100	80000	2.6	20.0
Bis(2-chloroethoxy)methane	Ave	0.3985	0.4043	0.3000	81200	80000	1.5	20.0
Benzoic acid	Lin2		0.2931		156000	160000	-2.7	20.0
2,4-Dichlorophenol	Ave	0.2936	0.3016	0.2000	82200	80000	2.7	20.0
1,2,4-Trichlorobenzene	Ave	0.3066	0.3119		81400	80000	1.7	20.0
Naphthalene	Ave	1.036	1.066	0.7000	82400	80000	2.9	20.0
4-Chloroaniline	Ave	0.4694	0.4840	0.0100	82500	80000	3.1	20.0
2,6-Dichlorophenol	Ave	0.2907	0.2999		82500	80000	3.2	20.0
Hexachlorobutadiene	Ave	0.1577	0.1578	0.0100	80100	80000	0.0	20.0
Caprolactam	Ave	0.1360	0.1358		79900	80000	-0.2	20.0
4-Chloro-3-methylphenol	Ave	0.3024	0.3070	0.2000	81200	80000	1.5	20.0
2-Methylnaphthalene	Ave	0.7350	0.7620	0.4000	82900	80000	3.7	20.0
1-Methylnaphthalene	Ave	0.6847	0.7043		82300	80000	2.9	20.0
Hexachlorocyclopentadiene	Ave	0.3679	0.3593	0.0500	78100	80000	-2.3	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.3036	0.3041	0.0100	80100	80000	0.2	20.0
2,4,6-Trichlorophenol	Ave	0.3745	0.3929	0.2000	83900	80000	4.9	20.0
2,4,5-Trichlorophenol	Ave	0.4292	0.4417	0.2000	82300	80000	2.9	20.0
1,1'-Biphenyl	Ave	1.583	1.640		82900	80000	3.6	20.0
2-Chloronaphthalene	Ave	1.224	1.237	0.8000	80900	80000	1.1	20.0
2-Nitroaniline	Ave	0.3529	0.3654	0.0100	82800	80000	3.6	20.0
Dimethyl phthalate	Ave	1.422	1.457	0.0100	82000	80000	2.5	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436671/3 Calibration Date: 11/07/2018 12:42

Instrument ID: SMS_Y Calib Start Date: 10/17/2018 10:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/17/2018 14:19

Lab File ID: Y21928.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,3-Dinitrobenzene	Ave	0.2566	0.2650		82600	80000	3.3	20.0
2,6-Dinitrotoluene	Ave	0.3446	0.3539	0.2000	82200	80000	2.7	20.0
Acenaphthylene	Ave	2.053	2.093	0.9000	81600	80000	2.0	20.0
3-Nitroaniline	Ave	0.4189	0.4335	0.0100	82800	80000	3.5	20.0
Acenaphthene	Ave	1.257	1.294	0.9000	82400	80000	3.0	20.0
2,4-Dinitrophenol	Lin2		0.2399	0.0100	162000	160000	1.2	20.0
4-Nitrophenol	Ave	0.2062	0.2104	0.0100	163000	160000	2.0	20.0
2,4-Dinitrotoluene	Ave	0.4710	0.4885	0.2000	83000	80000	3.7	20.0
Dibenzofuran	Ave	1.822	1.864	0.8000	81800	80000	2.3	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3562	0.3681	0.0100	82700	80000	3.3	20.0
Diethyl phthalate	Ave	1.441	1.459	0.0100	81000	80000	1.2	20.0
4-Chlorophenyl phenyl ether	Ave	0.6887	0.6866	0.4000	79700	80000	-0.3	20.0
Fluorene	Ave	1.462	1.494	0.9000	81700	80000	2.2	20.0
4-Nitroaniline	Ave	0.4499	0.4726	0.0100	84000	80000	5.0	20.0
4,6-Dinitro-2-methylphenol	Lin2		0.1414	0.0100	170000	160000	6.2	20.0
Diphenylamine	Ave	1.339	1.368		69500	68000	2.2	20.0
N-Nitrosodiphenylamine	Ave	0.5650	0.5779	0.0100	81800	80000	2.3	20.0
1,2-Diphenylhydrazine	Ave	1.398	1.437		83100	80900	2.8	20.0
Azobenzene	Ave	1.414	1.453		82200	80000	2.8	20.0
4-Bromophenyl phenyl ether	Ave	0.2069	0.2075	0.1000	80200	80000	0.3	20.0
Hexachlorobenzene	Ave	0.1990	0.1981	0.1000	79600	80000	-0.5	20.0
Atrazine	Ave	0.2097	0.2120		80900	80000	1.1	20.0
Pentachlorophenol	Ave	0.1331	0.1315	0.0500	158000	160000	-1.2	20.0
Phenanthrene	Ave	1.107	1.137	0.7000	82200	80000	2.7	20.0
Anthracene	Ave	1.153	1.170	0.7000	81100	80000	1.4	20.0
Carbazole	Ave	1.109	1.160	0.0100	83700	80000	4.6	20.0
Alachlor	Ave	0.1524	0.1553		81500	80000	1.9	20.0
Di-n-butyl phthalate	Ave	1.276	1.307	0.0100	81900	80000	2.4	20.0
Fluoranthene	Ave	1.301	1.345	0.6000	82700	80000	3.4	20.0
Pyrene	Ave	1.255	1.285	0.6000	81900	80000	2.4	20.0
Famphur	Qua		0.3371		84200	80000	5.3	20.0
Butyl benzyl phthalate	Ave	0.5819	0.5973	0.0100	82100	80000	2.6	20.0
3,3'-Dichlorobenzidine	Ave	0.4358	0.4585	0.0100	84200	80000	5.2	20.0
Benzo[a]anthracene	Ave	1.235	1.271	0.8000	82400	80000	3.0	20.0
Chrysene	Ave	1.167	1.203	0.7000	82400	80000	3.1	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.7927	0.8080	0.0100	81500	80000	1.9	20.0
Di-n-octyl phthalate	Ave	1.383	1.425	0.0100	82400	80000	3.0	20.0
Benzo[b]fluoranthene	Ave	1.144	1.177	0.7000	82300	80000	2.9	20.0
Benzo[k]fluoranthene	Ave	1.173	1.228	0.7000	83700	80000	4.7	20.0
Benzo[a]pyrene	Ave	1.137	1.178	0.7000	82900	80000	3.6	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.093	1.094	0.5000	80000	80000	0.0	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436671/3 Calibration Date: 11/07/2018 12:42

Instrument ID: SMS_Y Calib Start Date: 10/17/2018 10:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/17/2018 14:19

Lab File ID: Y21928.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibenz(a,h)anthracene	Ave	1.029	1.040	0.4000	80800	80000	1.0	20.0
Benzo[g,h,i]perylene	Ave	1.077	1.078	0.5000	80100	80000	0.0	20.0
2-Fluorophenol (Surr)	Ave	1.376	1.442		83900	80000	4.8	20.0
Phenol-d5 (Surr)	Ave	1.744	1.815		83200	80000	4.0	20.0
Nitrobenzene-d5 (Surr)	Ave	0.3689	0.3701		80300	80000	0.3	20.0
2-Fluorobiphenyl	Ave	1.428	1.476		82600	80000	3.3	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.1829	0.1878		82200	80000	2.7	20.0
Terphenyl-d14 (Surr)	Ave	0.9127	0.9215		80800	80000	1.0	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21928.D
Lims ID: CCV HSL
Client ID:
Sample Type: CCV
Inject. Date: 07-Nov-2018 12:42:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: CCV HSL
Operator ID: HOEFLERA Instrument ID: SMS_Y
Sublist: chrom-SMSY_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:17 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 07-Nov-2018 12:39:12

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.646	4.646	0.000	95	110417	40.0	40.0	
* 2 Naphthalene-d8	136	5.880	5.880	0.000	98	462578	40.0	40.0	
* 3 Acenaphthene-d10	164	7.631	7.631	0.000	97	251664	40.0	40.0	
* 4 Phenanthrene-d10	188	9.123	9.123	0.000	97	506416	40.0	40.0	
* 5 Chrysene-d12	240	13.189	13.189	0.000	98	546676	40.0	40.0	
* 6 Perylene-d12	264	17.120	17.120	0.000	97	574411	40.0	40.0	
$ 7 2-Fluorophenol	112	3.465	3.465	0.000	89	318523	80.0	83.9	
$ 8 Phenol-d5	99	4.294	4.294	0.000	95	400742	80.0	83.2	
$ 9 Nitrobenzene-d5	82	5.169	5.169	0.000	84	342364	80.0	80.3	
$ 11 2-Fluorobiphenyl	172	6.944	6.944	0.000	100	742688	80.0	82.6	
$ 12 2,4,6-Tribromophenol	330	8.424	8.424	0.000	92	94525	80.0	82.2	
$ 13 Terphenyl-d14	244	11.068	11.068	0.000	98	1007555	80.0	80.8	
15 1,4-Dioxane	88	2.049	2.049	0.000	89	129949	80.0	84.7	
17 N-Nitrosodimethylamine	74	2.284	2.284	0.000	93	204234	80.0	87.0	
18 Pyridine	79	2.331	2.331	0.000	95	676616	160.0	173.0	
28 Phenol	94	4.305	4.305	0.000	97	415097	80.0	84.7	
30 Aniline	93	4.335	4.335	0.000	99	522283	80.0	84.5	
31 Bis(2-chloroethyl)ether	93	4.376	4.376	0.000	99	299963	80.0	83.2	
32 Alpha Methyl Styrene	118	4.382	4.382	0.000	90	337781	80.0	83.5	
34 2-Chlorophenol	128	4.458	4.458	0.000	95	340900	80.0	82.7	
35 n-Decane	43	4.482	4.482	0.000	87	236111	80.0	81.5	
37 1,3-Dichlorobenzene	146	4.599	4.599	0.000	98	353390	80.0	82.0	
38 1,4-Dichlorobenzene	146	4.664	4.664	0.000	95	365718	80.0	83.7	
39 Benzyl alcohol	108	4.764	4.764	0.000	95	225599	80.0	81.1	
40 1,2-Dichlorobenzene	146	4.817	4.817	0.000	98	346184	80.0	82.9	
41 2-Methylphenol	108	4.875	4.875	0.000	93	313429	80.0	83.5	
43 2,2'-oxybis[1-chloropropan	45	4.887	4.887	0.000	90	320258	80.0	81.4	
44 Indene	116	4.899	4.899	0.000	90	1102722	160.0	167.2	
46 3-Methylphenol	108	5.016	5.016	0.000	77	325207	80.0	82.2	
47 4-Methylphenol	108	5.016	5.016	0.000	73	325207	80.0	82.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
48 3 & 4 Methylphenol	108	5.016	5.016	0.000	73	325207	80.0	82.2	
50 N-Nitrosodi-n-propylamine	70	5.011	5.011	0.000	81	227244	80.0	81.4	
51 Acetophenone	105	5.016	5.016	0.000	89	433568	80.0	82.7	
53 Hexachloroethane	117	5.140	5.140	0.000	97	135199	80.0	82.5	
54 Nitrobenzene	77	5.187	5.187	0.000	82	339741	80.0	83.7	
57 Isophorone	82	5.416	5.416	0.000	98	616253	80.0	82.3	
58 2-Nitrophenol	139	5.498	5.498	0.000	89	190773	80.0	84.4	
59 2,4-Dimethylphenol	107	5.533	5.533	0.000	93	320844	80.0	82.1	
63 Bis(2-chloroethoxy)methane	93	5.610	5.610	0.000	96	374076	80.0	81.2	
64 Benzoic acid	105	5.657	5.657	0.000	62	542347	160.0	155.6	
66 3,5-Dimethylphenol	107	5.663	5.663	0.000	93	338111	80.0	83.6	
68 2,4-Dichlorophenol	162	5.745	5.745	0.000	91	279058	80.0	82.2	
69 1,2,4-Trichlorobenzene	180	5.821	5.821	0.000	94	288575	80.0	81.4	
71 Naphthalene	128	5.904	5.904	0.000	97	986561	80.0	82.4	
72 4-Chloroaniline	127	5.939	5.939	0.000	98	447744	80.0	82.5	
73 2,6-Dichlorophenol	162	5.956	5.956	0.000	99	277420	80.0	82.5	
75 Hexachlorobutadiene	225	6.027	6.027	0.000	97	146029	80.0	80.1	
79 Caprolactam	55	6.280	6.280	0.000	90	125619	80.0	79.9	M
83 4-Chloro-3-methylphenol	107	6.427	6.427	0.000	94	283980	80.0	81.2	
86 2-Methylnaphthalene	142	6.585	6.585	0.000	93	704937	80.0	82.9	
88 1-Methylnaphthalene	142	6.685	6.685	0.000	93	651580	80.0	82.3	
89 1,2,4,5-Tetrachlorobenzene	216	6.756	6.756	0.000	97	281348	80.0	80.1	
90 Hexachlorocyclopentadiene	237	6.750	6.750	0.000	96	180828	80.0	78.1	
92 2,4,6-Trichlorophenol	196	6.867	6.867	0.000	92	197749	80.0	83.9	
93 2,3-Dichlorobenzenamine	161	6.861	6.861	0.000	97	343673	80.0	81.7	
94 2,4,5-Trichlorophenol	196	6.914	6.914	0.000	96	222305	80.0	82.3	
98 1,1'-Biphenyl	154	7.043	7.043	0.000	95	825380	80.0	82.9	
99 2-Chloronaphthalene	162	7.073	7.073	0.000	96	622741	80.0	80.9	
101 2-Nitroaniline	65	7.161	7.161	0.000	89	183930	80.0	82.8	
104 Dimethyl phthalate	163	7.331	7.331	0.000	99	733527	80.0	82.0	
105 1,3-Dinitrobenzene	168	7.367	7.367	0.000	92	133357	80.0	82.6	
106 2,6-Dinitrotoluene	165	7.396	7.396	0.000	95	178141	80.0	82.2	
107 Acenaphthylene	152	7.490	7.490	0.000	98	1053411	80.0	81.6	
108 3-Nitroaniline	138	7.572	7.572	0.000	96	218182	80.0	82.8	
109 Acenaphthene	153	7.666	7.666	0.000	94	651316	80.0	82.4	
111 2,4-Dinitrophenol	184	7.678	7.678	0.000	85	241530	160.0	161.8	
112 4-Nitrophenol	109	7.760	7.760	0.000	85	211798	160.0	163.2	
114 2,4-Dinitrotoluene	165	7.801	7.801	0.000	96	245884	80.0	83.0	
116 Dibenzofuran	168	7.837	7.837	0.000	97	938173	80.0	81.8	
119 2,3,4,6-Tetrachlorophenol	232	7.960	7.960	0.000	73	185284	80.0	82.7	
123 Diethyl phthalate	149	8.036	8.036	0.000	99	734379	80.0	81.0	
124 Hexadecane	57	8.048	8.048	0.000	94	322623	80.0	80.3	
127 4-Chlorophenyl phenyl ethe	204	8.166	8.166	0.000	89	345576	80.0	79.7	
129 Fluorene	166	8.177	8.177	0.000	94	751760	80.0	81.7	
130 4-Nitroaniline	138	8.189	8.189	0.000	91	237865	80.0	84.0	
131 4,6-Dinitro-2-methylphenol	198	8.219	8.219	0.000	91	286418	160.0	169.9	
134 Diphenylamine	169	8.283	8.283	0.000	95	585278	68.0	69.5	
135 N-Nitrosodiphenylamine	169	8.283	8.283	0.000	61	585278	80.0	81.8	
136 1,2-Diphenylhydrazine	77	8.324	8.324	0.000	98	731159	80.9	83.1	
137 Azobenzene	77	8.324	8.324	0.000	97	731159	80.0	82.2	
139 2,4,6 - Tribromophenol	330	8.424	8.424	0.000	92	94707	80.0	82.3	
148 4-Bromophenyl phenyl ether	248	8.653	8.653	0.000	64	210175	80.0	80.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
151 Hexachlorobenzene	284	8.747	8.747	0.000	94	200592	80.0	79.6	
152 Atrazine	200	8.800	8.800	0.000	95	214711	80.0	80.9	
155 Pentachlorophenol	266	8.941	8.941	0.000	92	266344	160.0	158.1	
158 n-Octadecane	85	8.971	8.971	0.000	97	184472	80.0	78.0	
161 Phenanthrene	178	9.147	9.147	0.000	98	1151859	80.0	82.2	
162 Anthracene	178	9.200	9.200	0.000	98	1184651	80.0	81.1	
164 Carbazole	167	9.352	9.352	0.000	95	1174668	80.0	83.7	
166 Alachlor	188	9.482	9.482	0.000	92	157283	80.0	81.5	
168 Di-n-butyl phthalate	149	9.682	9.682	0.000	100	1323312	80.0	81.9	
175 Fluoranthene	202	10.516	10.516	0.000	98	1362197	80.0	82.7	
178 Pyrene	202	10.851	10.851	0.000	97	1405289	80.0	81.9	
185 Famphur	218	11.826	11.826	0.000	83	368608	80.0	84.2	
187 Butyl benzyl phthalate	149	11.949	11.949	0.000	96	653096	80.0	82.1	
189 3,3'-Dichlorobenzidine	252	13.113	13.113	0.000	74	501268	80.0	84.2	
191 Benzo[a]anthracene	228	13.166	13.166	0.000	99	1389994	80.0	82.4	
192 Chrysene	228	13.254	13.254	0.000	98	1315018	80.0	82.4	
193 Bis(2-ethylhexyl) phthalat	149	13.307	13.307	0.000	95	883415	80.0	81.5	
195 Di-n-octyl phthalate	149	15.105	15.105	0.000	98	1557500	80.0	82.4	
196 Benzo[b]fluoranthene	252	16.027	16.027	0.000	99	1352329	80.0	82.3	
198 Benzo[k]fluoranthene	252	16.109	16.109	0.000	98	1410191	80.0	83.7	
200 Benzo[e]pyrene	252	16.814	16.814	0.000	98	1277422	80.0	82.6	
201 Benzo[a]pyrene	252	16.961	16.961	0.000	79	1352767	80.0	82.9	
207 Indeno[1,2,3-cd]pyrene	276	20.240	20.240	0.000	97	1195646	80.0	80.0	
208 Dibenz(a,h)anthracene	278	20.334	20.334	0.000	95	1195010	80.0	80.8	
209 Benzo[g,h,i]perylene	276	20.986	20.986	0.000	95	1238074	80.0	80.1	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLACCV080_00172 Amount Added: 200.00 Units: uL

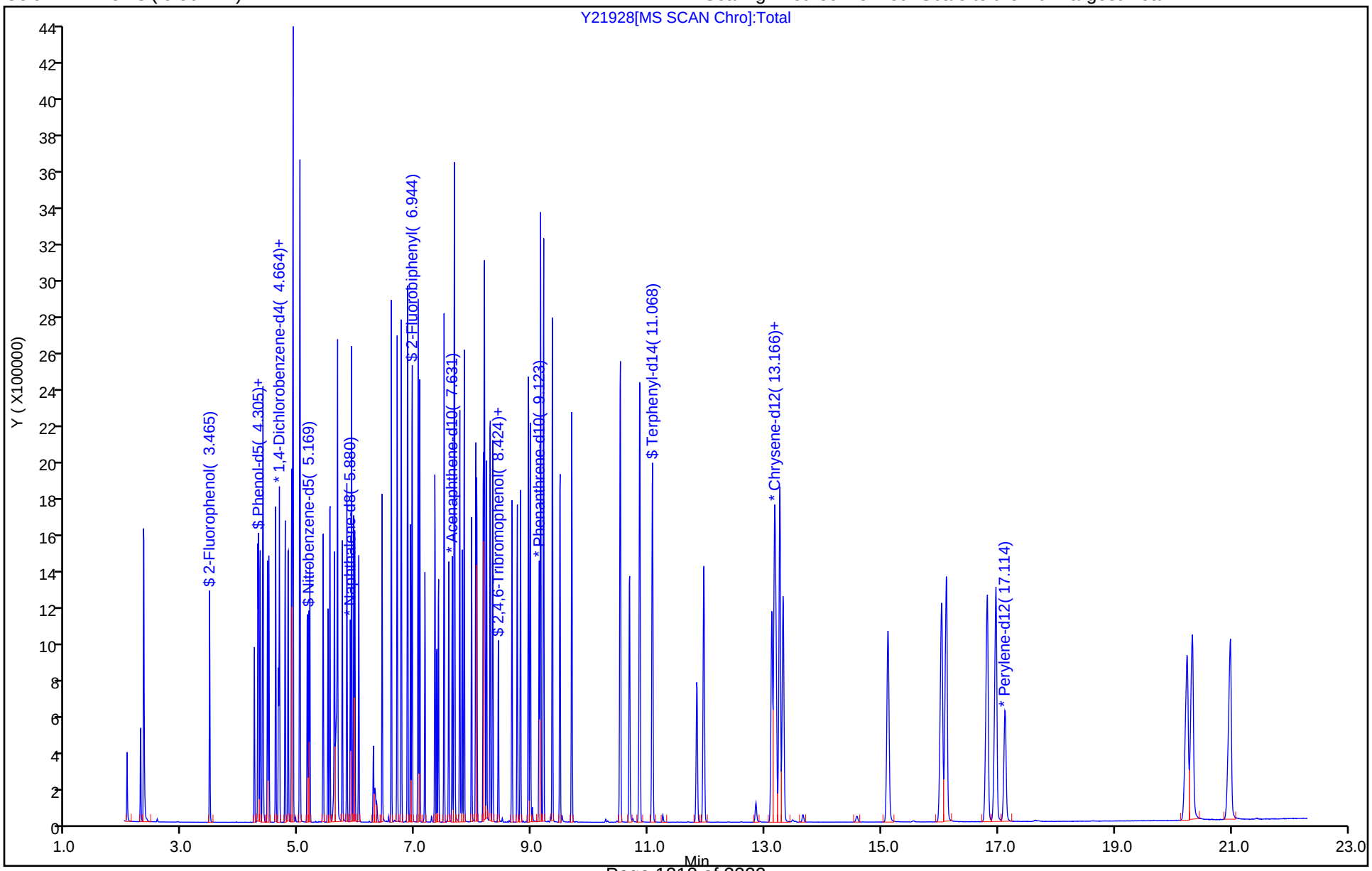
Report Date: 08-Nov-2018 09:55:18 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21928.D

Injection Date:	07-Nov-2018 12:42:30	Instrument ID:	SMS_Y	Operator ID:	HOEFLERA
Lims ID:	CCV HSL			Worklist Smp#:	3
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

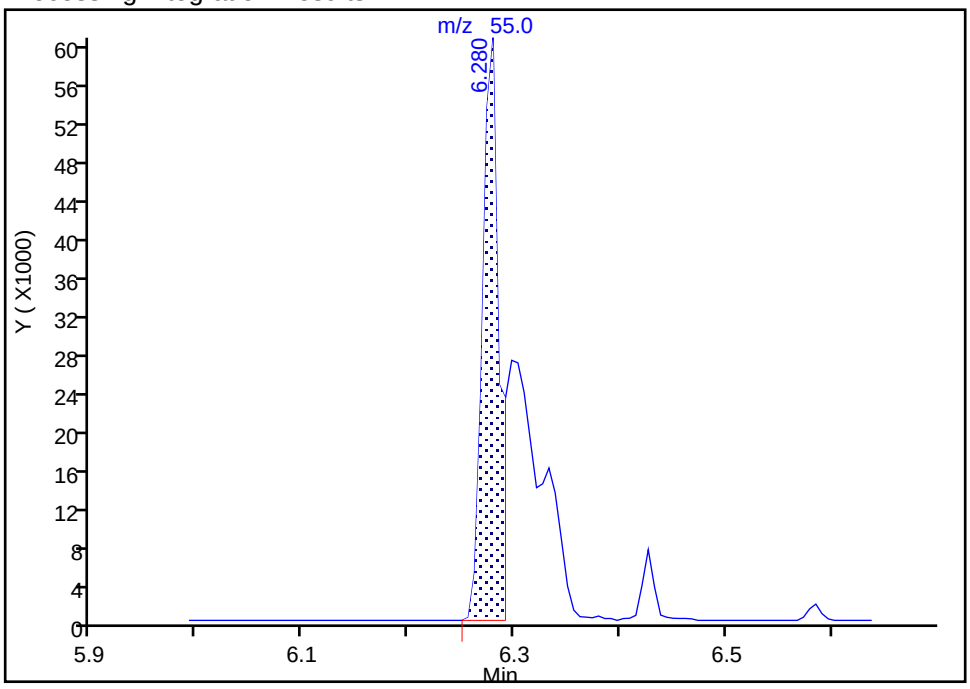
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21928.D
Injection Date: 07-Nov-2018 12:42:30 Instrument ID: SMS_Y
Lims ID: CCV HSL
Client ID:
Operator ID: HOEFLERA ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

79 Caprolactam, CAS: 105-60-2

Signal: 1

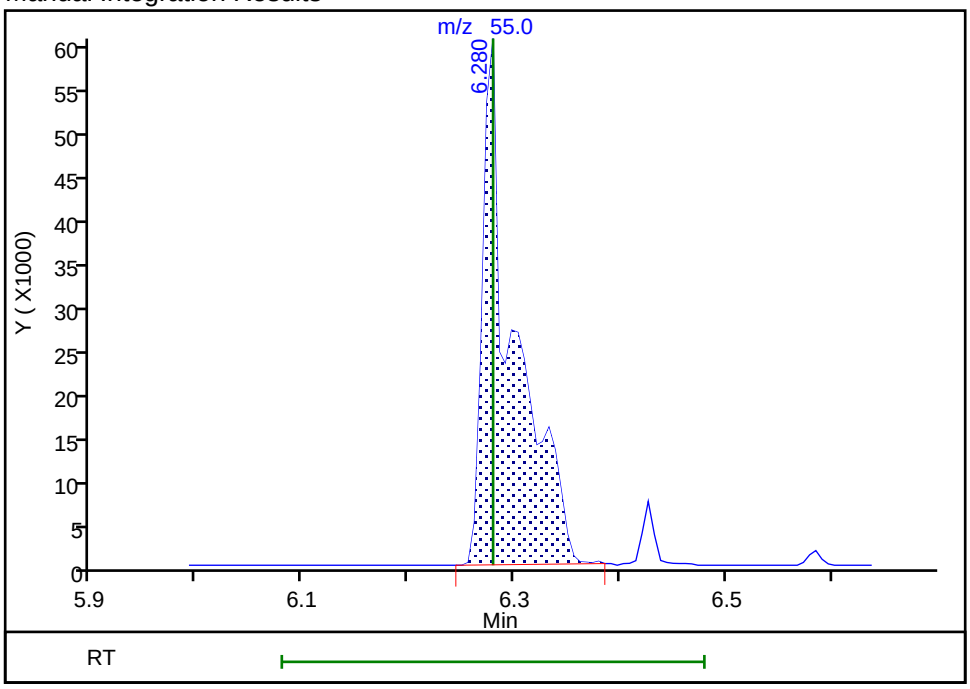
Processing Integration Results

RT: 6.28
Area: 67156
Amount: 42.689529
Amount Units: ug/ml



Manual Integration Results

RT: 6.28
Area: 125619
Amount: 79.853117
Amount Units: ug/ml



Reviewer: hoeflera, 07-Nov-2018 12:33:17
Audit Action: Manually Integrated Audit Reason: Split Peak

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVC 280-436671/42 Calibration Date: 11/07/2018 23:07

Instrument ID: SMS_Y Calib Start Date: 10/17/2018 10:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/17/2018 14:19

Lab File ID: Y21950.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5557	0.5785		83300	80000	4.1	50.0
N-Nitrosodimethylamine	Ave	0.8503	0.8901		83700	80000	4.7	50.0
Pyridine	Ave	1.417	1.477		167000	160000	4.2	50.0
Phenol	Ave	1.776	1.840	0.8000	82900	80000	3.6	50.0
Aniline	Ave	2.240	2.284		81600	80000	1.9	50.0
Bis(2-chloroethyl)ether	Ave	1.307	1.330	0.7000	81400	80000	1.8	50.0
2-Chlorophenol	Ave	1.494	1.511	0.8000	80900	80000	1.1	50.0
1,3-Dichlorobenzene	Ave	1.561	1.584		81200	80000	1.5	50.0
1,4-Dichlorobenzene	Ave	1.584	1.612		81400	80000	1.8	50.0
Benzyl alcohol	Ave	1.008	0.996		79000	80000	-1.2	50.0
1,2-Dichlorobenzene	Ave	1.512	1.545		81700	80000	2.2	50.0
2-Methylphenol	Ave	1.359	1.403	0.7000	82600	80000	3.2	50.0
2,2'-oxybis[1-chloropropane]	Ave	1.426	1.406	0.0100	78900	80000	-1.4	50.0
N-Nitrosodi-n-propylamine	Ave	1.012	0.9905	0.5000	78300	80000	-2.1	50.0
3 & 4 Methylphenol	Ave	1.434	1.429		79800	80000	-0.3	50.0
Acetophenone	Ave	1.900	1.896	0.0100	79800	80000	-0.2	50.0
Hexachloroethane	Ave	0.5936	0.5975	0.3000	80500	80000	0.7	50.0
Nitrobenzene	Ave	0.3510	0.3518		80200	80000	0.2	50.0
Isophorone	Ave	0.6474	0.6492	0.4000	80200	80000	0.3	50.0
2-Nitrophenol	Ave	0.1955	0.1996	0.1000	81700	80000	2.1	50.0
2,4-Dimethylphenol	Ave	0.3381	0.3386	0.2000	80100	80000	0.1	50.0
Bis(2-chloroethoxy)methane	Ave	0.3985	0.3954	0.3000	79400	80000	-0.8	50.0
Benzoic acid	Lin2		0.2777		148000	160000	-7.7	50.0
2,4-Dichlorophenol	Ave	0.2936	0.2939	0.2000	80100	80000	0.0	50.0
1,2,4-Trichlorobenzene	Ave	0.3066	0.3041		79300	80000	-0.8	50.0
Naphthalene	Ave	1.036	1.037	0.7000	80100	80000	0.1	50.0
4-Chloroaniline	Ave	0.4694	0.4710	0.0100	80300	80000	0.3	50.0
2,6-Dichlorophenol	Ave	0.2907	0.2900		79800	80000	-0.2	50.0
Hexachlorobutadiene	Ave	0.1577	0.1563	0.0100	79300	80000	-0.9	50.0
Caprolactam	Ave	0.1360	0.1287		75700	80000	-5.4	50.0
4-Chloro-3-methylphenol	Ave	0.3024	0.3009	0.2000	79600	80000	-0.5	50.0
2-Methylnaphthalene	Ave	0.7350	0.7367	0.4000	80200	80000	0.2	50.0
1-Methylnaphthalene	Ave	0.6847	0.6840		79900	80000	-0.1	50.0
Hexachlorocyclopentadiene	Ave	0.3679	0.3417	0.0500	74300	80000	-7.1	50.0
1,2,4,5-Tetrachlorobenzene	Ave	0.3036	0.3000	0.0100	79100	80000	-1.2	50.0
2,4,6-Trichlorophenol	Ave	0.3745	0.3758	0.2000	80300	80000	0.4	50.0
2,4,5-Trichlorophenol	Ave	0.4292	0.4179	0.2000	77900	80000	-2.6	50.0
1,1'-Biphenyl	Ave	1.583	1.575		79600	80000	-0.5	50.0
2-Chloronaphthalene	Ave	1.224	1.214	0.8000	79400	80000	-0.8	50.0
2-Nitroaniline	Ave	0.3529	0.3531	0.0100	80000	80000	0.0	50.0
Dimethyl phthalate	Ave	1.422	1.401	0.0100	78800	80000	-1.4	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVC 280-436671/42 | Calibration Date: 11/07/2018 23:07

Instrument ID: SMS_Y | Calib Start Date: 10/17/2018 10:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 10/17/2018 14:19

Lab File ID: Y21950.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,3-Dinitrobenzene	Ave	0.2566	0.2558		79800	80000	-0.3	50.0
2,6-Dinitrotoluene	Ave	0.3446	0.3392	0.2000	78700	80000	-1.6	50.0
Acenaphthylene	Ave	2.053	2.037	0.9000	79400	80000	-0.7	50.0
3-Nitroaniline	Ave	0.4189	0.4127	0.0100	78800	80000	-1.5	50.0
Acenaphthene	Ave	1.257	1.249	0.9000	79500	80000	-0.6	50.0
2,4-Dinitrophenol	Lin2		0.2235	0.0100	151000	160000	-5.6	50.0
4-Nitrophenol	Ave	0.2062	0.1975	0.0100	153000	160000	-4.2	50.0
2,4-Dinitrotoluene	Ave	0.4710	0.4649	0.2000	79000	80000	-1.3	50.0
Dibenzofuran	Ave	1.822	1.799	0.8000	79000	80000	-1.3	50.0
2,3,4,6-Tetrachlorophenol	Ave	0.3562	0.3545	0.0100	79600	80000	-0.5	50.0
Diethyl phthalate	Ave	1.441	1.407	0.0100	78100	80000	-2.4	50.0
4-Chlorophenyl phenyl ether	Ave	0.6887	0.6782	0.4000	78800	80000	-1.5	50.0
Fluorene	Ave	1.462	1.437	0.9000	78600	80000	-1.7	50.0
4-Nitroaniline	Ave	0.4499	0.4534	0.0100	80600	80000	0.8	50.0
4,6-Dinitro-2-methylphenol	Lin2		0.1314	0.0100	158000	160000	-1.2	50.0
Diphenylamine	Ave	1.339	1.323		67200	68000	-1.2	50.0
N-Nitrosodiphenylamine	Ave	0.5650	0.5559	0.0100	78700	80000	-1.6	50.0
1,2-Diphenylhydrazine	Ave	1.398	1.370		79200	80900	-2.0	50.0
Azobenzene	Ave	1.414	1.385		78400	80000	-2.0	50.0
4-Bromophenyl phenyl ether	Ave	0.2069	0.1977	0.1000	76400	80000	-4.5	50.0
Hexachlorobenzene	Ave	0.1990	0.1903	0.1000	76500	80000	-4.4	50.0
Atrazine	Ave	0.2097	0.2019		77000	80000	-3.7	50.0
Pentachlorophenol	Ave	0.1331	0.1294	0.0500	155000	160000	-2.8	50.0
Phenanthrene	Ave	1.107	1.082	0.7000	78200	80000	-2.3	50.0
Anthracene	Ave	1.153	1.121	0.7000	77700	80000	-2.8	50.0
Carbazole	Ave	1.109	1.074	0.0100	77500	80000	-3.2	50.0
Alachlor	Ave	0.1524	0.1459		76600	80000	-4.3	50.0
Di-n-butyl phthalate	Ave	1.276	1.227	0.0100	76900	80000	-3.8	50.0
Fluoranthene	Ave	1.301	1.265	0.6000	77800	80000	-2.7	50.0
Pyrene	Ave	1.255	1.225	0.6000	78100	80000	-2.4	50.0
Famphur	Qua		0.3406		85500	80000	6.8	50.0
Butyl benzyl phthalate	Ave	0.5819	0.5617	0.0100	77200	80000	-3.5	50.0
3,3'-Dichlorobenzidine	Ave	0.4358	0.4152	0.0100	76200	80000	-4.7	50.0
Benzo[a]anthracene	Ave	1.235	1.194	0.8000	77400	80000	-3.3	50.0
Chrysene	Ave	1.167	1.134	0.7000	77800	80000	-2.8	50.0
Bis(2-ethylhexyl) phthalate	Ave	0.7927	0.7583	0.0100	76500	80000	-4.3	50.0
Di-n-octyl phthalate	Ave	1.383	1.325	0.0100	76700	80000	-4.2	50.0
Benzo[b]fluoranthene	Ave	1.144	1.116	0.7000	78000	80000	-2.5	50.0
Benzo[k]fluoranthene	Ave	1.173	1.175	0.7000	80100	80000	0.2	50.0
Benzo[a]pyrene	Ave	1.137	1.122	0.7000	79000	80000	-1.3	50.0
Indeno[1,2,3-cd]pyrene	Ave	1.093	1.022	0.5000	74800	80000	-6.5	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVC 280-436671/42 Calibration Date: 11/07/2018 23:07

Instrument ID: SMS_Y Calib Start Date: 10/17/2018 10:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/17/2018 14:19

Lab File ID: Y21950.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibenz(a,h)anthracene	Ave	1.029	0.9926	0.4000	77100	80000	-3.6	50.0
Benzo[g,h,i]perylene	Ave	1.077	1.031	0.5000	76600	80000	-4.3	50.0
2-Fluorophenol (Surr)	Ave	1.376	1.362		79200	80000	-1.0	50.0
Phenol-d5 (Surr)	Ave	1.744	1.755		80500	80000	0.6	50.0
Nitrobenzene-d5 (Surr)	Ave	0.3689	0.3575		77500	80000	-3.1	50.0
2-Fluorobiphenyl	Ave	1.428	1.390		77800	80000	-2.7	50.0
2,4,6-Tribromophenol (Surr)	Ave	0.1829	0.1820		79600	80000	-0.5	50.0
Terphenyl-d14 (Surr)	Ave	0.9127	0.8743		76600	80000	-4.2	50.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21950.D
Lims ID: CCVC HSL
Client ID:
Sample Type: CCVC
Inject. Date: 07-Nov-2018 23:07:30 ALS Bottle#: 24 Worklist Smp#: 42
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: CCVC HSL
Operator ID: HOEFLERA Instrument ID: SMS_Y
Sublist: chrom-SMSY_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:56:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:55:04

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.649	4.649	0.000	93	114128	40.0	40.0	
* 2 Naphthalene-d8	136	5.883	5.877	0.006	99	476520	40.0	40.0	
* 3 Acenaphthene-d10	164	7.628	7.628	0.000	96	261239	40.0	40.0	
* 4 Phenanthrene-d10	188	9.120	9.120	0.000	97	528491	40.0	40.0	
* 5 Chrysene-d12	240	13.180	13.174	0.006	98	558750	40.0	40.0	
* 6 Perylene-d12	264	17.111	17.105	0.006	97	579909	40.0	40.0	
$ 7 2-Fluorophenol	112	3.468	3.465	0.003	89	310888	80.0	79.2	
$ 8 Phenol-d5	99	4.290	4.294	-0.004	93	400548	80.0	80.5	
$ 9 Nitrobenzene-d5	82	5.166	5.169	-0.003	84	340680	80.0	77.5	
$ 11 2-Fluorobiphenyl	172	6.940	6.944	-0.004	100	726083	80.0	77.8	
$ 12 2,4,6-Tribromophenol	330	8.421	8.424	-0.003	93	95064	80.0	79.6	
$ 13 Terphenyl-d14	244	11.059	11.068	-0.009	98	977072	80.0	76.6	
15 1,4-Dioxane	88	2.052	2.049	0.003	88	132044	80.0	83.3	
17 N-Nitrosodimethylamine	74	2.281	2.284	-0.003	93	203177	80.0	83.7	
18 Pyridine	79	2.334	2.331	0.003	95	674079	160.0	166.7	
28 Phenol	94	4.308	4.305	0.003	95	420044	80.0	82.9	
30 Aniline	93	4.331	4.335	-0.004	99	521291	80.0	81.6	
31 Bis(2-chloroethyl)ether	93	4.373	4.376	-0.003	99	303636	80.0	81.4	
32 Alpha Methyl Styrene	118	4.384	4.382	0.002	90	346710	80.0	83.0	
34 2-Chlorophenol	128	4.461	4.458	0.003	94	344860	80.0	80.9	
35 n-Decane	43	4.484	4.482	0.002	87	235315	80.0	78.6	
37 1,3-Dichlorobenzene	146	4.602	4.599	0.003	98	361599	80.0	81.2	
38 1,4-Dichlorobenzene	146	4.661	4.664	-0.003	95	367946	80.0	81.4	
39 Benzyl alcohol	108	4.760	4.764	-0.004	96	227249	80.0	79.0	
40 1,2-Dichlorobenzene	146	4.813	4.817	-0.004	98	352630	80.0	81.7	
41 2-Methylphenol	108	4.872	4.875	-0.003	92	320186	80.0	82.6	
43 2,2'-oxybis[1-chloropropan	45	4.884	4.887	-0.003	92	320855	80.0	78.9	
44 Indene	116	4.896	4.899	-0.003	90	1112659	160.0	163.3	
46 3-Methylphenol	108	5.013	5.016	-0.003	78	326217	80.0	79.8	
47 4-Methylphenol	108	5.013	5.016	-0.003	77	326217	80.0	79.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
48 3 & 4 Methylphenol	108	5.013	5.016	-0.003	74	326217	80.0	79.8	
50 N-Nitrosodi-n-propylamine	70	5.007	5.011	-0.004	83	226091	80.0	78.3	
51 Acetophenone	105	5.019	5.016	0.003	92	432810	80.0	79.8	
53 Hexachloroethane	117	5.142	5.140	0.002	98	136380	80.0	80.5	
54 Nitrobenzene	77	5.183	5.187	-0.004	82	335245	80.0	80.2	
57 Isophorone	82	5.413	5.416	-0.003	98	618702	80.0	80.2	
58 2-Nitrophenol	139	5.495	5.498	-0.003	91	190224	80.0	81.7	
59 2,4-Dimethylphenol	107	5.530	5.533	-0.003	93	322710	80.0	80.1	
63 Bis(2-chloroethoxy)methane	93	5.606	5.610	-0.004	97	376851	80.0	79.4	
64 Benzoic acid	105	5.653	5.657	-0.004	79	529258	160.0	147.7	
66 3,5-Dimethylphenol	107	5.659	5.663	-0.004	92	336099	80.0	80.7	
68 2,4-Dichlorophenol	162	5.742	5.745	-0.003	91	280059	80.0	80.1	
69 1,2,4-Trichlorobenzene	180	5.824	5.821	0.003	94	289792	80.0	79.3	
71 Naphthalene	128	5.900	5.904	-0.004	97	988677	80.0	80.1	
72 4-Chloroaniline	127	5.941	5.939	0.002	98	448852	80.0	80.3	
73 2,6-Dichlorophenol	162	5.959	5.956	0.003	97	276405	80.0	79.8	
75 Hexachlorobutadiene	225	6.024	6.027	-0.003	97	148953	80.0	79.3	
79 Caprolactam	55	6.276	6.280	-0.004	89	122689	80.0	75.7	M
83 4-Chloro-3-methylphenol	107	6.423	6.427	-0.003	94	286800	80.0	79.6	a
86 2-Methylnaphthalene	142	6.582	6.585	-0.003	93	702138	80.0	80.2	
88 1-Methylnaphthalene	142	6.682	6.685	-0.003	93	651916	80.0	79.9	
89 1,2,4,5-Tetrachlorobenzene	216	6.758	6.756	0.002	97	285942	80.0	79.1	
90 Hexachlorocyclopentadiene	237	6.752	6.750	0.002	96	178546	80.0	74.3	
92 2,4,6-Trichlorophenol	196	6.864	6.867	-0.003	92	196352	80.0	80.3	
93 2,3-Dichlorobenzenamine	161	6.858	6.861	-0.003	97	342880	80.0	78.6	
94 2,4,5-Trichlorophenol	196	6.911	6.914	-0.003	96	218362	80.0	77.9	
98 1,1'-Biphenyl	154	7.040	7.043	-0.003	95	823105	80.0	79.6	
99 2-Chloronaphthalene	162	7.069	7.073	-0.004	97	634429	80.0	79.4	
101 2-Nitroaniline	65	7.158	7.161	-0.003	90	184480	80.0	80.0	
104 Dimethyl phthalate	163	7.334	7.331	0.003	99	732180	80.0	78.8	
105 1,3-Dinitrobenzene	168	7.363	7.367	-0.004	92	133647	80.0	79.8	
106 2,6-Dinitrotoluene	165	7.393	7.396	-0.003	96	177200	80.0	78.7	
107 Acenaphthylene	152	7.487	7.490	-0.003	98	1064456	80.0	79.4	
108 3-Nitroaniline	138	7.569	7.572	-0.003	96	215647	80.0	78.8	
109 Acenaphthene	153	7.663	7.666	-0.003	93	652693	80.0	79.5	
111 2,4-Dinitrophenol	184	7.675	7.678	-0.003	85	233565	160.0	151.1	
112 4-Nitrophenol	109	7.757	7.760	-0.003	84	206358	160.0	153.2	
114 2,4-Dinitrotoluene	165	7.798	7.801	-0.003	96	242893	80.0	79.0	
116 Dibenzofuran	168	7.833	7.837	-0.004	97	939740	80.0	79.0	
119 2,3,4,6-Tetrachlorophenol	232	7.957	7.960	-0.003	73	185197	80.0	79.6	
123 Diethyl phthalate	149	8.033	8.036	-0.003	99	734922	80.0	78.1	
124 Hexadecane	57	8.051	8.048	0.003	93	326692	80.0	78.3	
127 4-Chlorophenyl phenyl ethe	204	8.162	8.166	-0.004	90	354320	80.0	78.8	
129 Fluorene	166	8.180	8.177	0.003	95	750631	80.0	78.6	
130 4-Nitroaniline	138	8.186	8.189	-0.003	92	236875	80.0	80.6	
131 4,6-Dinitro-2-methylphenol	198	8.215	8.219	-0.004	91	277838	160.0	158.1	
134 Diphenylamine	169	8.280	8.283	-0.003	95	587575	68.0	67.2	
135 N-Nitrosodiphenylamine	169	8.280	8.283	-0.003	60	587575	80.0	78.7	
136 1,2-Diphenylhydrazine	77	8.321	8.324	-0.003	98	723447	80.9	79.2	
137 Azobenzene	77	8.321	8.324	-0.003	97	723447	80.0	78.4	
139 2,4,6 - Tribromophenol	330	8.421	8.424	-0.003	93	95237	80.0	79.7	
148 4-Bromophenyl phenyl ether	248	8.650	8.653	-0.003	63	208917	80.0	76.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
151 Hexachlorobenzene	284	8.744	8.747	-0.003	93	201086	80.0	76.5	
152 Atrazine	200	8.797	8.800	-0.003	96	213392	80.0	77.0	
155 Pentachlorophenol	266	8.938	8.941	-0.003	93	273434	160.0	155.5	
158 n-Octadecane	85	8.967	8.971	-0.004	97	190547	80.0	77.2	
161 Phenanthrene	178	9.144	9.147	-0.003	98	1144037	80.0	78.2	
162 Anthracene	178	9.196	9.200	-0.004	98	1184594	80.0	77.7	
164 Carbazole	167	9.343	9.352	-0.009	95	1135109	80.0	77.5	
166 Alachlor	188	9.478	9.482	-0.004	92	154220	80.0	76.6	
168 Di-n-butyl phthalate	149	9.678	9.682	-0.004	100	1297324	80.0	76.9	
175 Fluoranthene	202	10.512	10.516	-0.004	98	1337514	80.0	77.8	
178 Pyrene	202	10.842	10.851	-0.009	97	1368622	80.0	78.1	
185 Famphur	218	11.823	11.826	-0.003	82	380584	80.0	85.5	
187 Butyl benzyl phthalate	149	11.940	11.949	-0.009	96	627646	80.0	77.2	
189 3,3'-Dichlorobenzidine	252	13.109	13.113	-0.004	74	464013	80.0	76.2	
191 Benzo[a]anthracene	228	13.156	13.166	-0.010	99	1334412	80.0	77.4	
192 Chrysene	228	13.245	13.254	-0.009	98	1267567	80.0	77.8	
193 Bis(2-ethylhexyl) phthalat	149	13.303	13.307	-0.004	95	847444	80.0	76.5	
195 Di-n-octyl phthalate	149	15.101	15.105	-0.004	98	1480456	80.0	76.7	
196 Benzo[b]fluoranthene	252	16.018	16.027	-0.009	99	1294381	80.0	78.0	
198 Benzo[k]fluoranthene	252	16.100	16.109	-0.009	99	1362587	80.0	80.1	
200 Benzo[e]pyrene	252	16.805	16.814	-0.009	98	1211002	80.0	77.6	
201 Benzo[a]pyrene	252	16.952	16.961	-0.009	79	1301162	80.0	79.0	
207 Indeno[1,2,3-cd]pyrene	276	20.231	20.240	-0.010	98	1142243	80.0	74.8	
208 Dibenz(a,h)anthracene	278	20.319	20.334	-0.015	96	1151214	80.0	77.1	
209 Benzo[g,h,i]perylene	276	20.965	20.986	-0.021	95	1195231	80.0	76.6	
S 219 Total Cresols	108				0			162.3	
S 220 Methyl Phenols,Total	108				0			162.3	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

MS-HSLACCV080_00172 Amount Added: 200.00 Units: uL

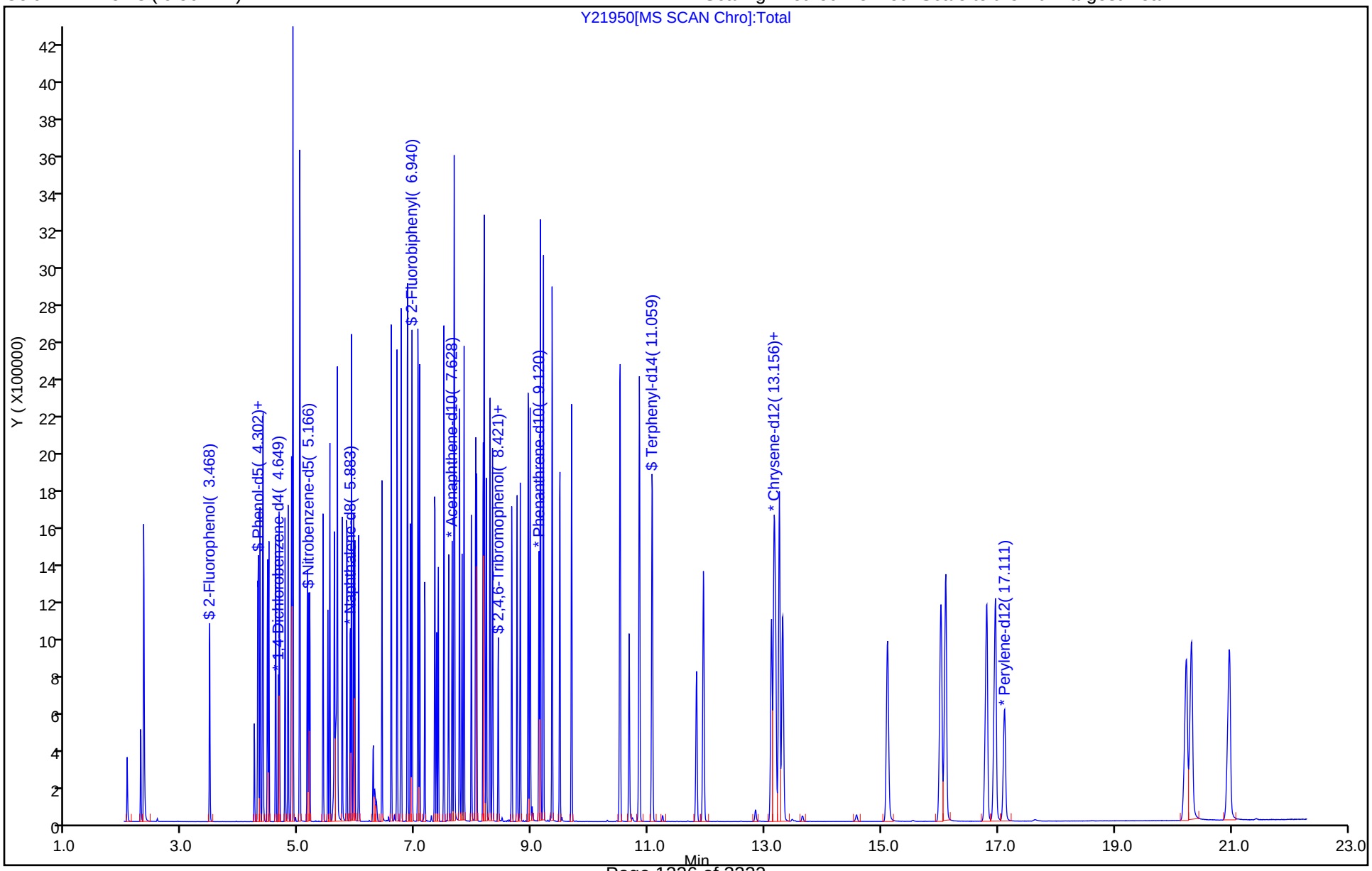
Report Date: 08-Nov-2018 09:56:24 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21950.D

Injection Date:	07-Nov-2018 23:07:30	Instrument ID:	SMS_Y	Operator ID:	HOEFLERA
Lims ID:	CCVC HSL			Worklist Smp#:	42
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

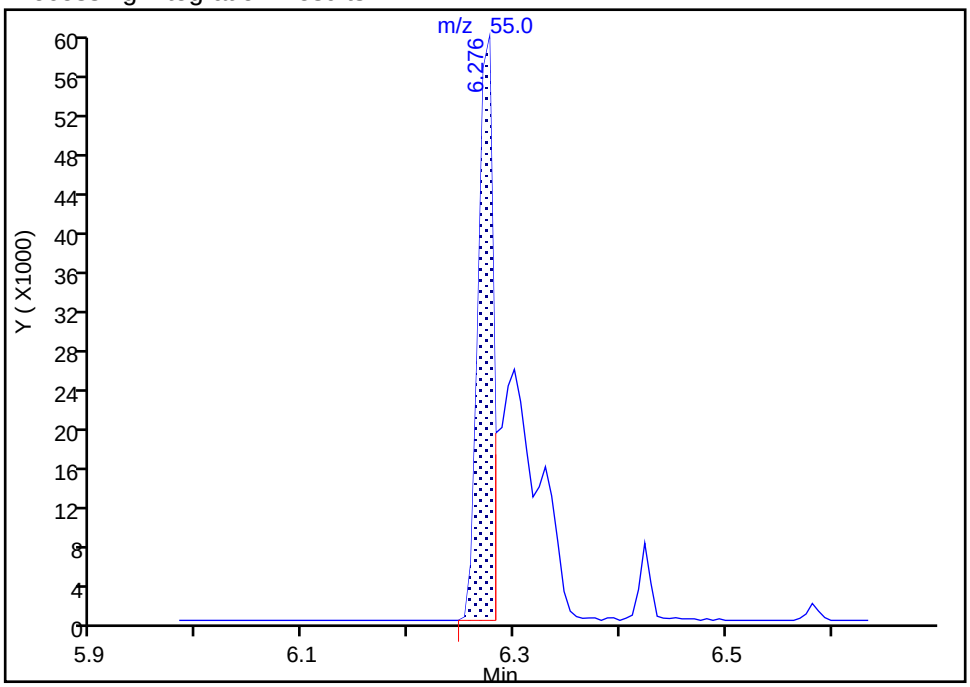
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21950.D
Injection Date: 07-Nov-2018 23:07:30 Instrument ID: SMS_Y
Lims ID: CCVC HSL
Client ID:
Operator ID: HOEFLERA ALS Bottle#: 24 Worklist Smp#: 42
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

79 Caprolactam, CAS: 105-60-2

Signal: 1

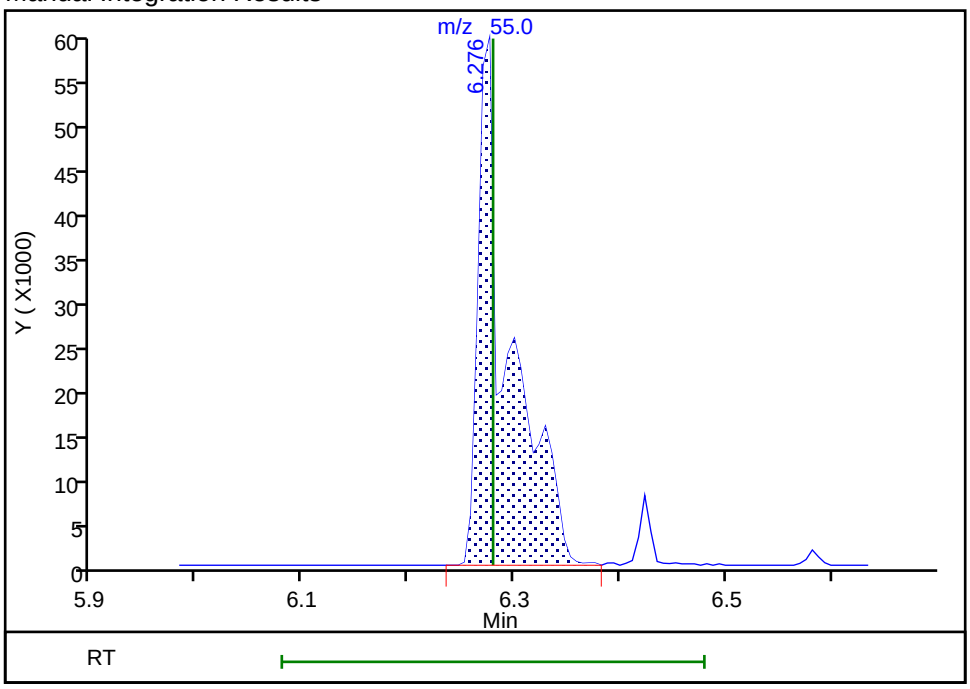
Processing Integration Results

RT: 6.28
Area: 59928
Amount: 36.980278
Amount Units: ug/ml



Manual Integration Results

RT: 6.28
Area: 122689
Amount: 75.708738
Amount Units: ug/ml



Reviewer: hoeflera, 08-Nov-2018 09:54:09
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

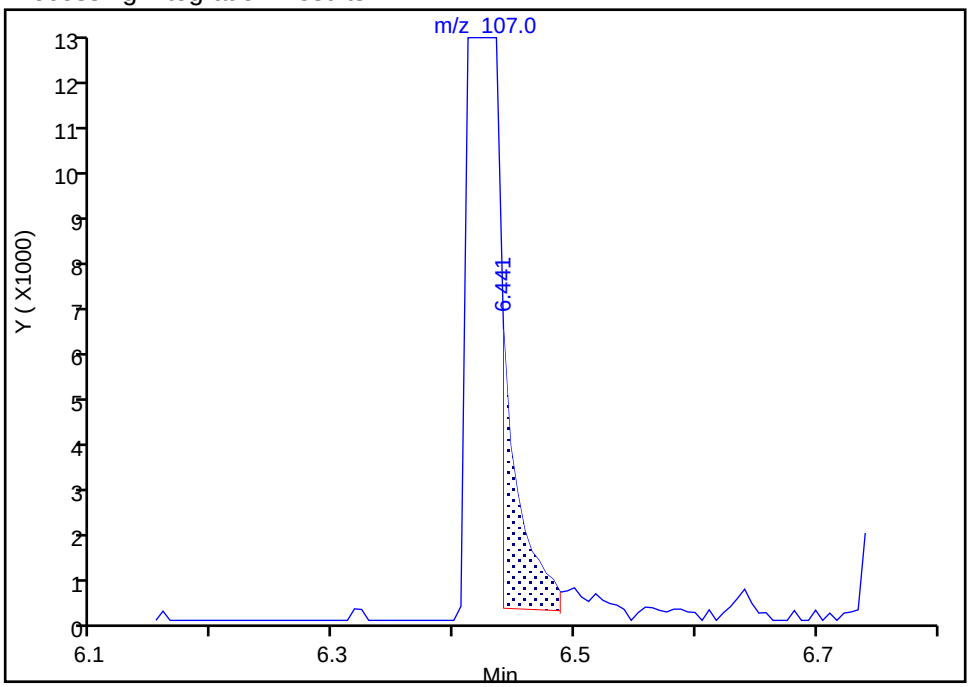
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21950.D
Injection Date: 07-Nov-2018 23:07:30 Instrument ID: SMS_Y
Lims ID: CCVC HSL
Client ID:
Operator ID: HOEFLERA ALS Bottle#: 24 Worklist Smp#: 42
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

83 4-Chloro-3-methylphenol, CAS: 59-50-7

Signal: 1

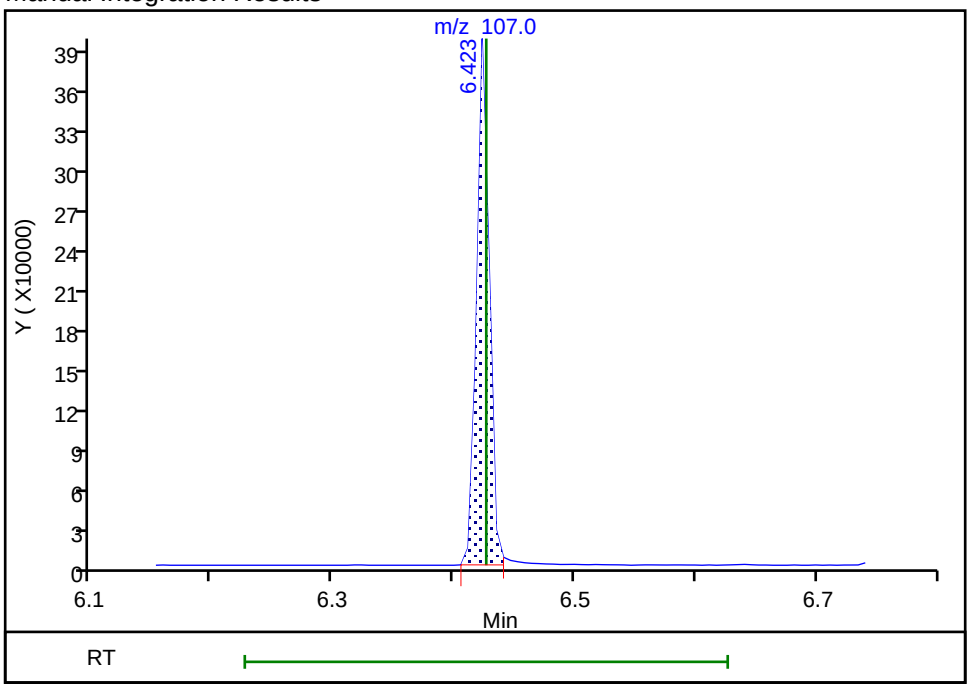
Processing Integration Results

RT: 6.44
Area: 6088
Amount: 1.689806
Amount Units: ug/ml



Manual Integration Results

RT: 6.42
Area: 286800
Amount: 79.605185
Amount Units: ug/ml



Reviewer: hoeflera, 08-Nov-2018 09:54:16
Audit Action: Assigned Compound ID Audit Reason: Split Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21614.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 17-Oct-2018 10:47:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: KIEKELD Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 18-Oct-2018 09:36:07 Calib Date: 17-Oct-2018 19:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21632.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: kiekeld Date: 17-Oct-2018 10:55:52

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Pentachlorophenol_T	266	3.809	3.809	0.000	92	120765	NR	NR	
42 Benzidine_T	184	4.889	4.889	0.000	100	863480	NR	NR	a
215 DFTPP									
216 4,4'-DDE	246	5.027	5.027	0.000	83	434	NR	NR	a
217 4,4'-DDD	235	5.318	5.318	0.000	96	4530	NR	NR	a
218 4,4'-DDT	235	5.541	5.541	0.000	98	347906	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
a - User Assigned ID

Reagents:

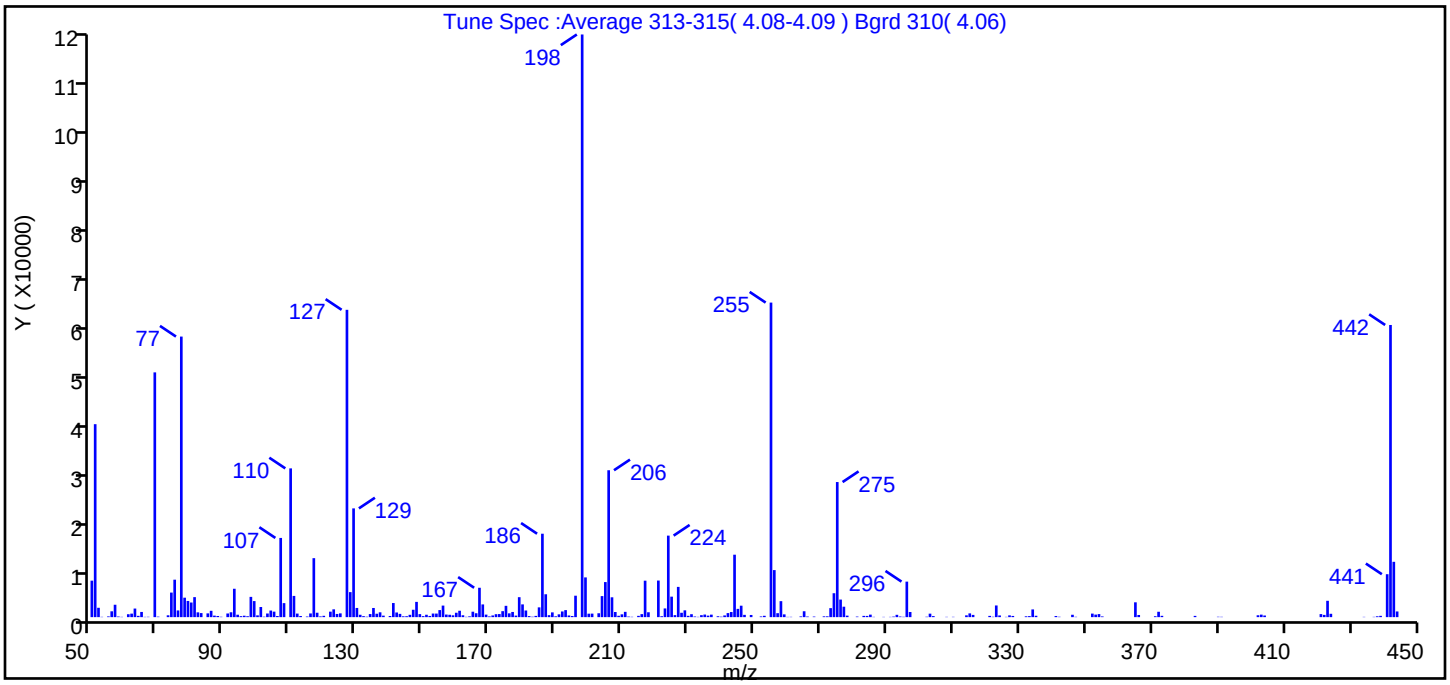
MS-DFTPP_00047 Amount Added: 200.00 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21614.D
Injection Date: 17-Oct-2018 10:47:30 Instrument ID: SMS_Y
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Tune Method: DFTPP Method 8270

215 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	33.1
68	<2% of mass 69	0.0 (0.0)
69	Present	42.0
70	<2% of mass 69	0.1 (0.2)
127	40-60% of mass 198	52.7
197	<1% of mass 198	0.0
199	5-9% of mass 198	6.8
275	10-30% of mass 198	23.2
365	>1% of mass 198	2.5
441	Present but less than mass 443	7.4 (77.6)
442	>40% of mass 198	50.1
443	17-23% of mass 442	9.5 (18.9)

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21614.D\SMSY_8270C.rslt\spectra.d
Injection Date: 17-Oct-2018 10:47:30
Spectrum: Tune Spec :Average 313-315(4.08-4.09) Bgrd 310(4.06)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 265

m/z	Y	m/z	Y	m/z	Y	m/z	Y
50.00	7026	128.00	4817	196.00	4128	278.00	289
51.00	37160	129.00	20944	198.00	112208	281.00	110
52.00	1802	130.00	1770	199.00	7652	283.00	243
53.00	58	131.00	458	200.00	665	284.00	236
55.00	140	132.00	193	201.00	680	285.00	484
56.00	1126	133.00	86	203.00	748	286.00	54
57.00	2387	134.00	596	204.00	4053	289.00	50
58.00	120	135.00	1765	205.00	6755	291.00	52
59.00	54	136.00	656	206.00	28288	292.00	107
61.00	560	137.00	932	207.00	3822	293.00	448
62.00	677	138.00	287	208.00	989	294.00	124
63.00	1655	140.00	220	209.00	263	295.00	68
64.00	250	141.00	2717	210.00	542	296.00	6840
65.00	1001	142.00	897	211.00	1021	297.00	989
66.00	54	143.00	629	212.00	111	302.00	80
67.00	70	144.00	158	213.00	66	303.00	670
69.00	47136	145.00	178	215.00	250	304.00	199
70.00	97	146.00	446	216.00	581	308.00	56
73.00	355	147.00	1424	217.00	7021	310.00	60
74.00	4731	148.00	2939	218.00	939	314.00	348
75.00	7214	149.00	583	221.00	7047	315.00	724
76.00	1294	150.00	196	222.00	173	316.00	432
77.00	54032	151.00	461	223.00	1677	321.00	243
78.00	3747	152.00	228	224.00	15699	322.00	75
79.00	3117	153.00	694	225.00	3946	323.00	2249
80.00	2816	154.00	686	226.00	390	324.00	328
81.00	3853	155.00	1359	227.00	5826	326.00	52
82.00	923	156.00	2225	228.00	841	327.00	341
83.00	781	157.00	499	229.00	1311	328.00	231
85.00	725	158.00	455	230.00	255	332.00	160
86.00	1222	159.00	353	231.00	565	333.00	199
87.00	291	160.00	846	232.00	121	334.00	1486
88.00	223	161.00	1231	233.00	55	335.00	264

Report Date: 18-Oct-2018 09:36:08 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21614.D\SMSY_8270C.rslt\spectra.d
Injection Date: 17-Oct-2018 10:47:30
Spectrum: Tune Spec :Average 313-315(4.08-4.09) Bgrd 310(4.06)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 265

m/z	Y	m/z	Y	m/z	Y	m/z	Y
89.00	72	162.00	359	234.00	381	341.00	216
91.00	704	163.00	59	235.00	500	342.00	75
92.00	938	164.00	150	236.00	292	346.00	458
93.00	5466	165.00	1048	237.00	482	347.00	65
94.00	466	166.00	751	239.00	171	352.00	681
95.00	193	167.00	5659	240.00	89	353.00	491
96.00	275	168.00	2451	241.00	329	354.00	589
97.00	175	169.00	486	242.00	780	355.00	136
98.00	3902	170.00	141	243.00	985	365.00	2856
99.00	3092	171.00	327	244.00	12025	366.00	416
100.00	343	172.00	569	245.00	1592	371.00	173
101.00	1952	173.00	595	246.00	2204	372.00	1036
102.00	90	174.00	1153	247.00	440	373.00	254
103.00	703	175.00	2179	249.00	418	383.00	243
104.00	1269	176.00	731	252.00	134	390.00	74
105.00	1061	177.00	997	253.00	259	391.00	63
106.00	217	178.00	296	255.00	60576	402.00	361
107.00	15255	179.00	3844	256.00	9060	403.00	483
108.00	2699	180.00	2457	257.00	762	404.00	315
110.00	28648	181.00	1281	258.00	3078	421.00	587
111.00	4087	182.00	203	259.00	534	422.00	433
112.00	686	183.00	82	260.00	50	423.00	3147
113.00	222	184.00	240	261.00	59	424.00	645
115.00	116	185.00	1884	264.00	140	434.00	52
116.00	713	186.00	16066	265.00	1134	437.00	57
117.00	11357	187.00	4407	266.00	117	438.00	163
118.00	850	188.00	378	268.00	110	439.00	252
119.00	139	189.00	917	271.00	153	441.00	8268
120.00	257	190.00	158	272.00	155	442.00	56264
122.00	1057	191.00	539	273.00	1736	443.00	10655
123.00	1505	192.00	1096	274.00	4606	444.00	1094
124.00	612	193.00	1354	275.00	26016		
125.00	728	194.00	320	276.00	3384		
127.00	59184	195.00	217	277.00	2011		

m/z	Y	m/z	Y	m/z	Y	m/z	Y
89.00	72	162.00	359	234.00	381	341.00	216
91.00	704	163.00	59	235.00	500	342.00	75
92.00	938	164.00	150	236.00	292	346.00	458
93.00	5466	165.00	1048	237.00	482	347.00	65
94.00	466	166.00	751	239.00	171	352.00	681
95.00	193	167.00	5659	240.00	89	353.00	491
96.00	275	168.00	2451	241.00	329	354.00	589
97.00	175	169.00	486	242.00	780	355.00	136
98.00	3902	170.00	141	243.00	985	365.00	2856
99.00	3092	171.00	327	244.00	12025	366.00	416
100.00	343	172.00	569	245.00	1592	371.00	173
101.00	1952	173.00	595	246.00	2204	372.00	1036
102.00	90	174.00	1153	247.00	440	373.00	254
103.00	703	175.00	2179	249.00	418	383.00	243
104.00	1269	176.00	731	252.00	134	390.00	74
105.00	1061	177.00	997	253.00	259	391.00	63
106.00	217	178.00	296	255.00	60576	402.00	361
107.00	15255	179.00	3844	256.00	9060	403.00	483
108.00	2699	180.00	2457	257.00	762	404.00	315
110.00	28648	181.00	1281	258.00	3078	421.00	587
111.00	4087	182.00	203	259.00	534	422.00	433
112.00	686	183.00	82	260.00	50	423.00	3147
113.00	222	184.00	240	261.00	59	424.00	645
115.00	116	185.00	1884	264.00	140	434.00	52
116.00	713	186.00	16066	265.00	1134	437.00	57
117.00	11357	187.00	4407	266.00	117	438.00	163
118.00	850	188.00	378	268.00	110	439.00	252
119.00	139	189.00	917	271.00	153	441.00	8268
120.00	257	190.00	158	272.00	155	442.00	56264
122.00	1057	191.00	539	273.00	1736	443.00	10655
123.00	1505	192.00	1096	274.00	4606	444.00	1094
124.00	612	193.00	1354	275.00	26016		
125.00	728	194.00	320	276.00	3384		
127.00	59184	195.00	217	277.00	2011		

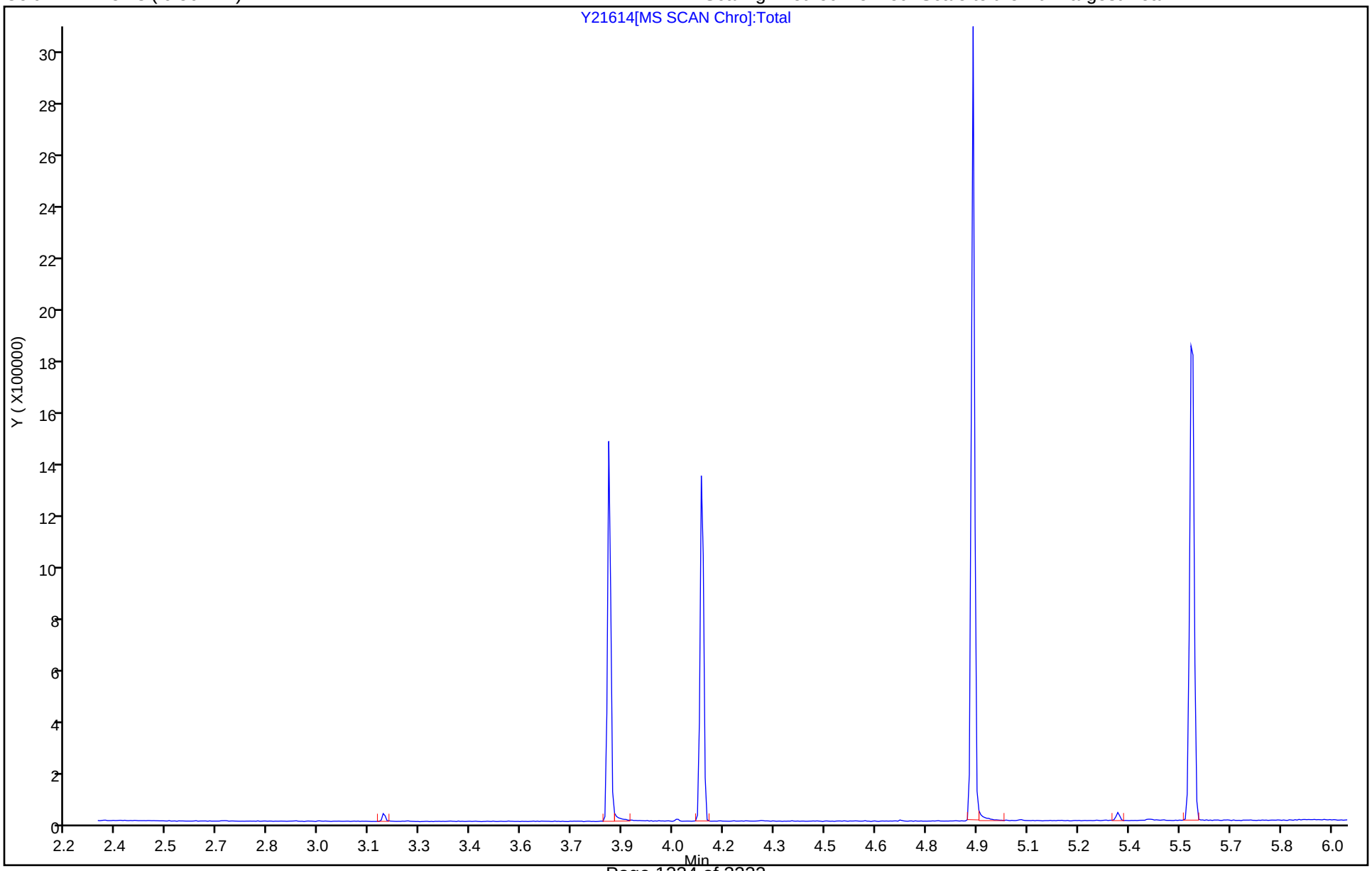
Report Date: 18-Oct-2018 09:36:08 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21614.D

Injection Date:	17-Oct-2018 10:47:30	Instrument ID:	SMS_Y	Operator ID:	KIEKELD
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1

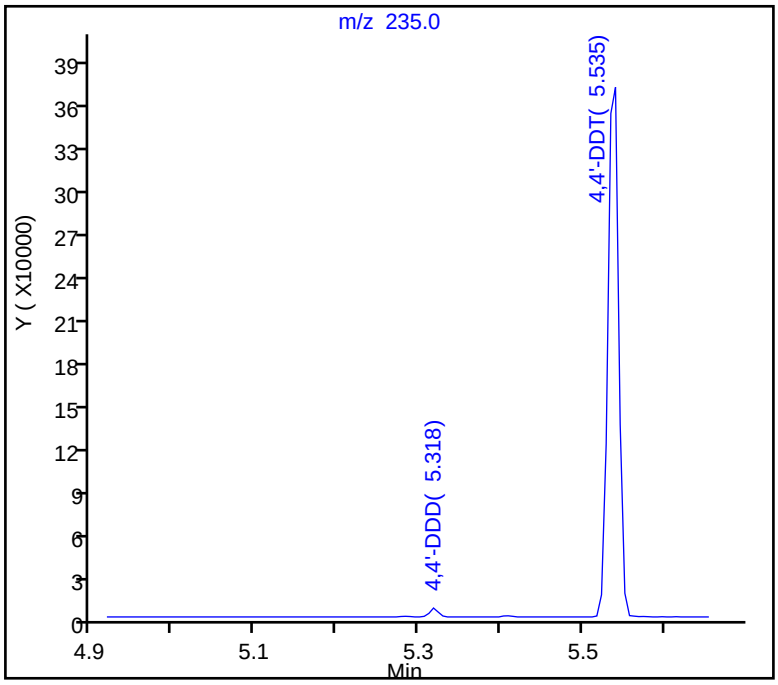


Breakdown Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21614.D
Injection Date: 17-Oct-2018 10:47:30 Instrument ID: SMS_Y
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625

218 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

218 4,4'-DDT, Area = 347906
217 4,4'-DDD, Area = 4530
216 4,4'-DDE, Area = 434

%Breakdown: 1.41%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Denver

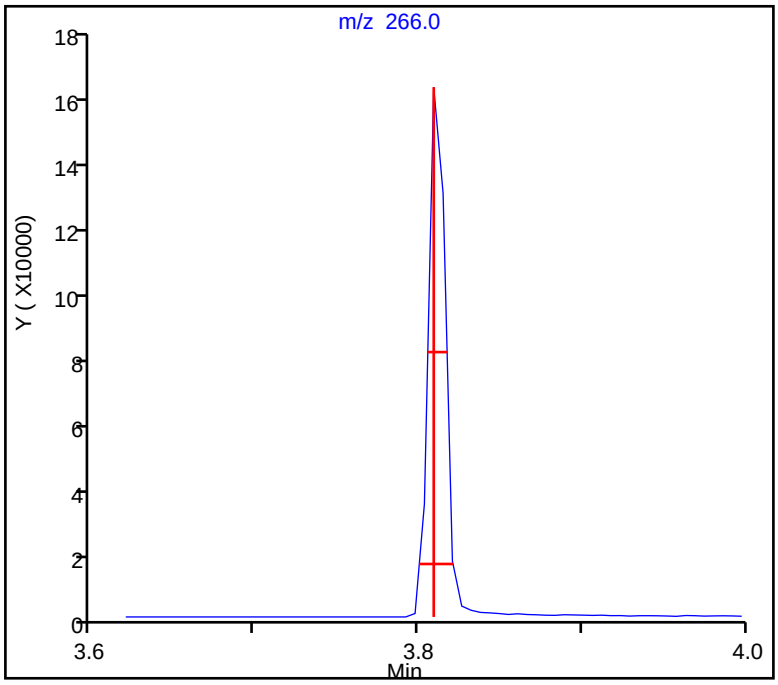
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21614.D
Injection Date: 17-Oct-2018 10:47:30 Instrument ID: SMS_Y
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625

25 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.012 (min.)
Front Width = 0.009 (min.)

Tailing Factor = 1.3, Max. Tailing < 5.00
Passed



Peak Tailing Report

TestAmerica Denver

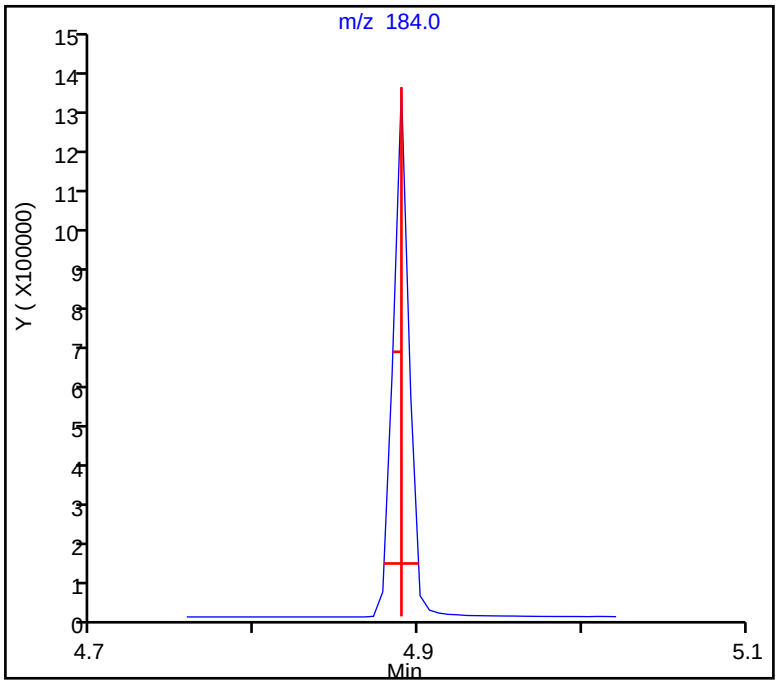
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181017-75179.b\Y21614.D
Injection Date: 17-Oct-2018 10:47:30 Instrument ID: SMS_Y
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625

42 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.011 (min.)

Tailing Factor = 1.0, Max. Tailing < 3.00
Passed



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21927.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 07-Nov-2018 12:29:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:15 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 07-Nov-2018 11:37:23

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Pentachlorophenol_T	266	3.785	3.785	0.000	92	108711	NR	NR	
42 Benzidine_T	184	4.865	4.865	0.000	100	821293	NR	NR	
215 DFTPP									
216 4,4'-DDE	246	4.997	4.997	0.000	83	321	NR	NR	a
217 4,4'-DDD	235	5.283	5.283	0.000	95	4045	NR	NR	a
218 4,4'-DDT	235	5.500	5.500	0.000	98	323920	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
a - User Assigned ID

Reagents:

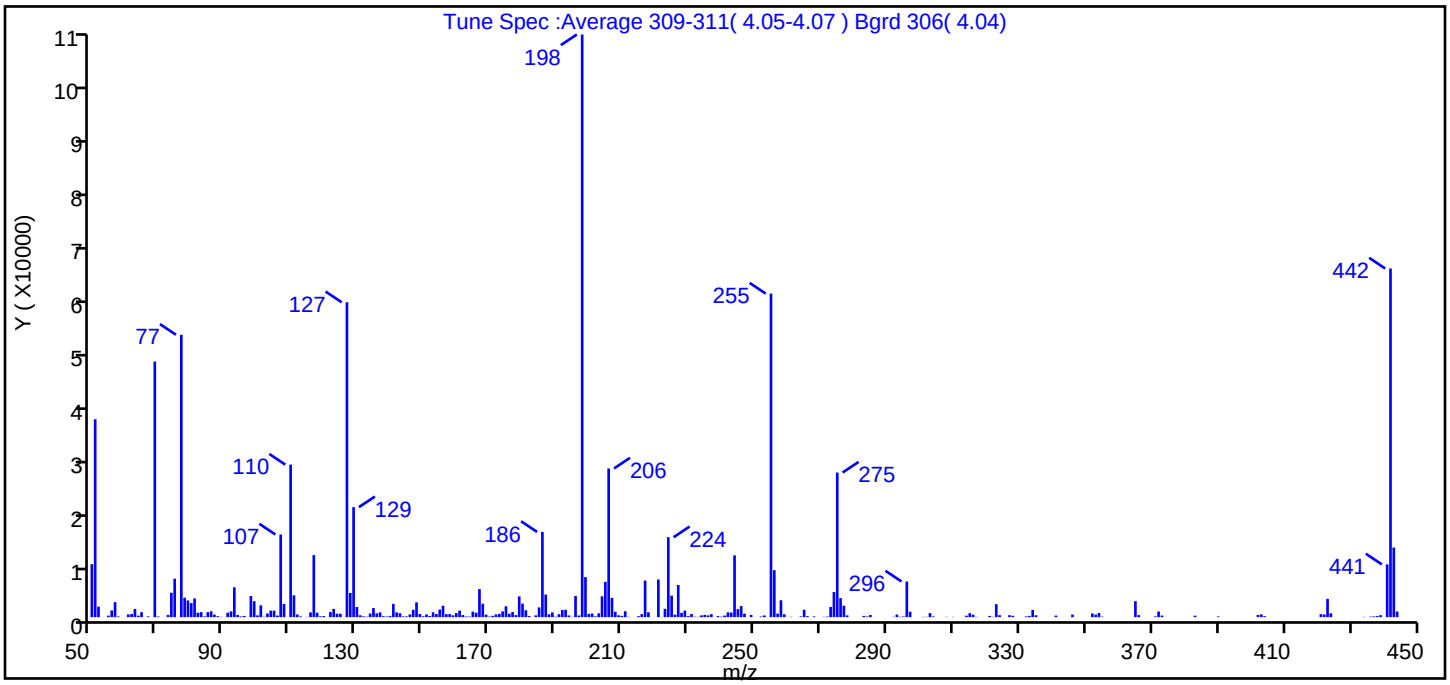
MS-DFTPP_00047 Amount Added: 200.00 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21927.D
Injection Date: 07-Nov-2018 12:29:30 Instrument ID: SMS_Y
Lims ID: DFTPP
Client ID:
Operator ID: HOEFLERA ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Tune Method: DFTPP Method 8270

215 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	34.0
68	<2% of mass 69	0.0 (0.0)
69	Present	43.9
70	<2% of mass 69	0.1 (0.3)
127	40-60% of mass 198	54.0
197	<1% of mass 198	0.3
199	5-9% of mass 198	6.9
275	10-30% of mass 198	24.8
365	>1% of mass 198	2.7
441	Present but less than mass 443	9.1 (75.8)
442	>40% of mass 198	59.8
443	17-23% of mass 442	11.9 (20.0)

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21927.D\SMSY_8270C.rslt\spectra.d
Injection Date: 07-Nov-2018 12:29:30
Spectrum: Tune Spec :Average 309-311(4.05-4.07) Bgrd 306(4.04)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 255

m/z	Y	m/z	Y	m/z	Y	m/z	Y
50.00	9660	129.00	20056	194.00	310	274.00	4582
51.00	36088	130.00	1851	195.00	57	275.00	26368
52.00	1910	131.00	340	196.00	3868	276.00	3470
55.00	280	132.00	140	197.00	301	277.00	2090
56.00	1222	133.00	83	198.00	106264	278.00	326
57.00	2733	134.00	659	199.00	7300	283.00	229
58.00	121	135.00	1662	200.00	591	284.00	129
61.00	493	136.00	690	201.00	655	285.00	389
62.00	581	137.00	864	202.00	139	292.00	56
63.00	1501	138.00	161	203.00	693	293.00	459
64.00	275	139.00	113	204.00	3793	294.00	71
65.00	903	140.00	227	205.00	6433	295.00	111
67.00	139	141.00	2425	206.00	27112	296.00	6503
69.00	46624	142.00	864	207.00	3522	297.00	989
70.00	127	143.00	719	208.00	985	301.00	51
73.00	405	144.00	133	209.00	336	302.00	52
74.00	4449	145.00	129	210.00	236	303.00	736
75.00	7009	146.00	494	211.00	1071	304.00	125
77.00	51496	147.00	1348	212.00	64	308.00	54
78.00	3543	148.00	2701	215.00	182	310.00	51
79.00	3044	149.00	576	216.00	542	314.00	269
80.00	2560	150.00	154	217.00	6668	315.00	723
81.00	3415	151.00	500	218.00	880	316.00	459
82.00	800	152.00	207	221.00	6869	317.00	55
83.00	908	153.00	881	223.00	1523	321.00	219
84.00	128	154.00	573	224.00	14581	322.00	58
85.00	910	155.00	1382	225.00	3931	323.00	2360
86.00	1059	156.00	2072	226.00	450	324.00	358
87.00	474	157.00	541	227.00	5861	327.00	355
88.00	170	158.00	554	228.00	795	328.00	247
89.00	57	159.00	344	229.00	1192	332.00	140
91.00	816	160.00	747	230.00	192	333.00	230
92.00	1055	161.00	1188	231.00	568	334.00	1322

Report Date: 08-Nov-2018 09:55:15 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21927.D\SMSY_8270C.rslt\spectra.d
Injection Date: 07-Nov-2018 12:29:30
Spectrum: Tune Spec :Average 309-311(4.05-4.07) Bgrd 306(4.04)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 255

m/z	Y	m/z	Y	m/z	Y	m/z	Y
93.00	5444	162.00	379	232.00	76	335.00	344
94.00	400	163.00	123	233.00	62	341.00	290
95.00	135	164.00	97	234.00	322	346.00	469
96.00	222	165.00	997	235.00	417	352.00	667
98.00	3845	166.00	814	236.00	318	353.00	472
99.00	2911	167.00	5113	237.00	540	354.00	765
100.00	325	168.00	2448	239.00	200	355.00	79
101.00	2157	169.00	469	240.00	80	365.00	2902
102.00	63	170.00	105	241.00	282	366.00	374
103.00	657	171.00	241	242.00	868	371.00	138
104.00	1182	172.00	500	243.00	836	372.00	1029
105.00	1187	173.00	590	244.00	11268	373.00	293
106.00	283	174.00	1043	245.00	1466	383.00	269
107.00	15076	175.00	1982	246.00	2025	390.00	134
108.00	2404	176.00	618	247.00	641	402.00	401
110.00	27816	177.00	932	249.00	407	403.00	498
111.00	3977	178.00	378	252.00	124	404.00	176
112.00	484	179.00	3777	253.00	307	421.00	548
113.00	139	180.00	2470	255.00	59008	422.00	481
115.00	52	181.00	1254	256.00	8565	423.00	3334
116.00	866	182.00	196	257.00	643	424.00	697
117.00	11310	184.00	325	258.00	3074	434.00	55
118.00	813	185.00	1777	259.00	523	436.00	101
119.00	148	186.00	15542	261.00	60	437.00	135
120.00	204	187.00	4123	264.00	133	438.00	189
122.00	923	188.00	525	265.00	1358	439.00	360
123.00	1510	189.00	863	266.00	182	441.00	9620
124.00	626	190.00	85	268.00	141	442.00	63584
125.00	617	191.00	536	271.00	56	443.00	12694
127.00	57432	192.00	1297	272.00	100	444.00	1022
128.00	4405	193.00	1347	273.00	1862		

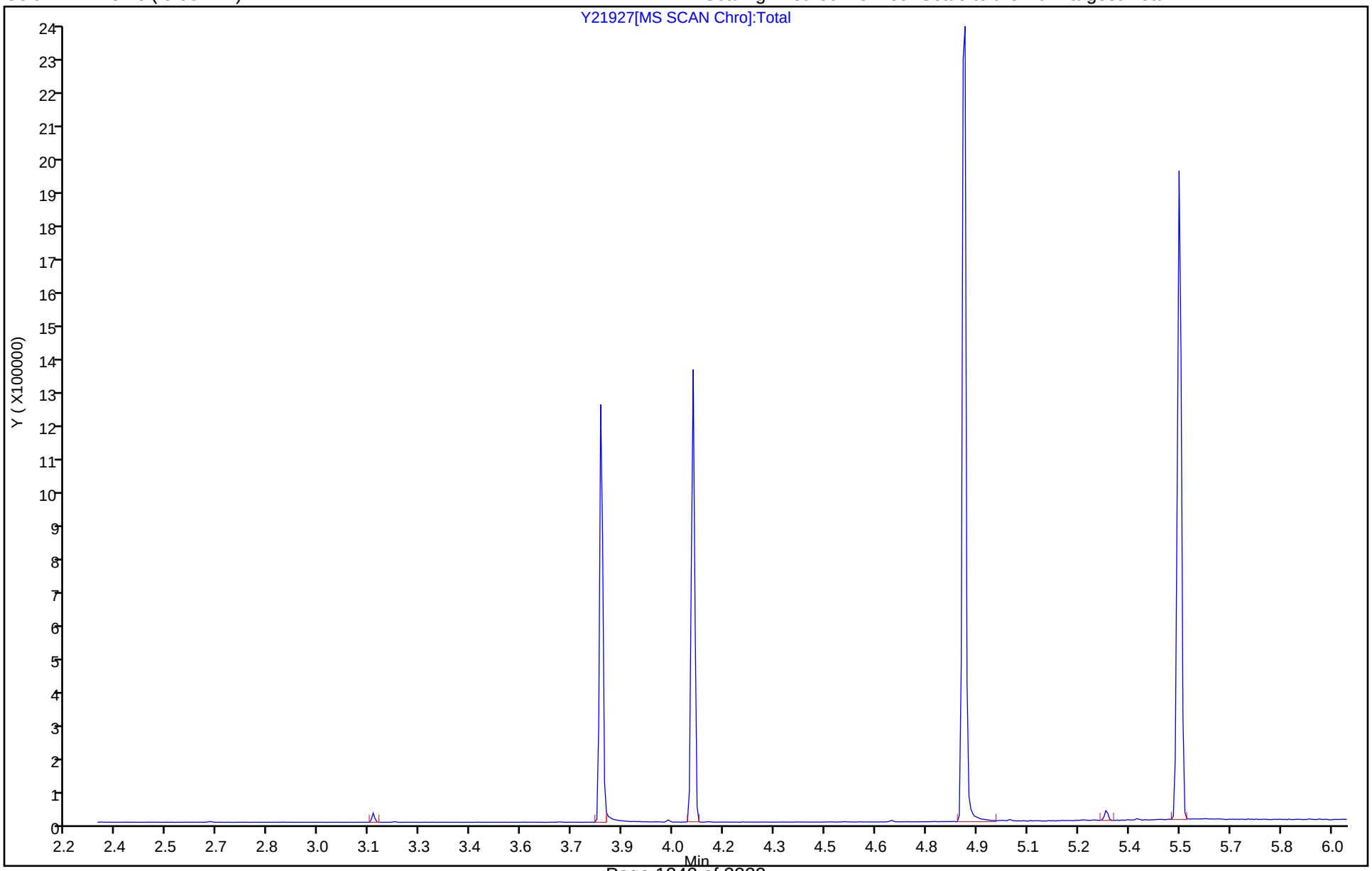
Report Date: 08-Nov-2018 09:55:16 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21927.D

Injection Date:	07-Nov-2018 12:29:30	Instrument ID:	SMS_Y	Operator ID:	HOEFLERA
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1

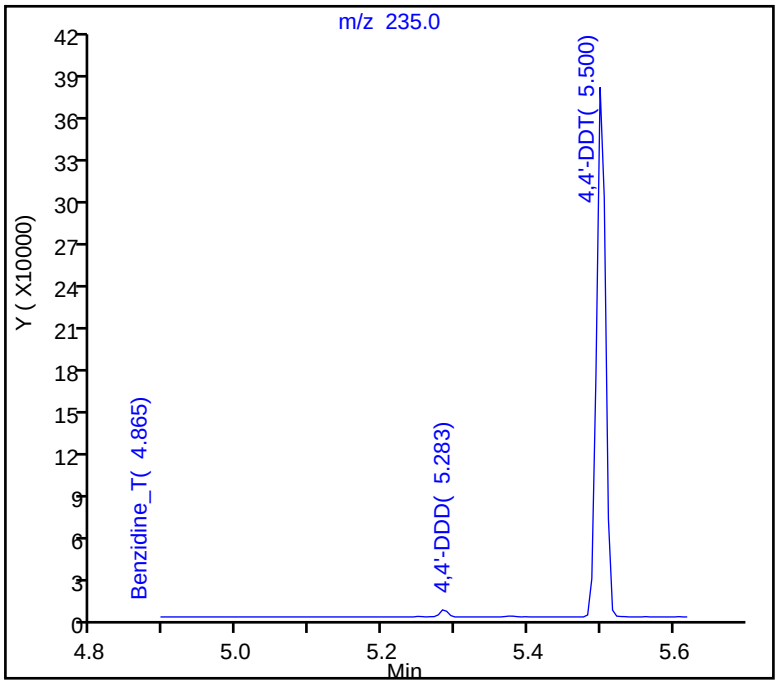


Breakdown Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21927.D				
Injection Date:	07-Nov-2018 12:29:30	Instrument ID:	SMS_Y		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	HOEFLERA	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	0.5 ul	Dil. Factor:	1.0000		
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

218 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

218 4,4'-DDT, Area = 323920
217 4,4'-DDD, Area = 4045
216 4,4'-DDE, Area = 321

%Breakdown: 1.33%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Denver

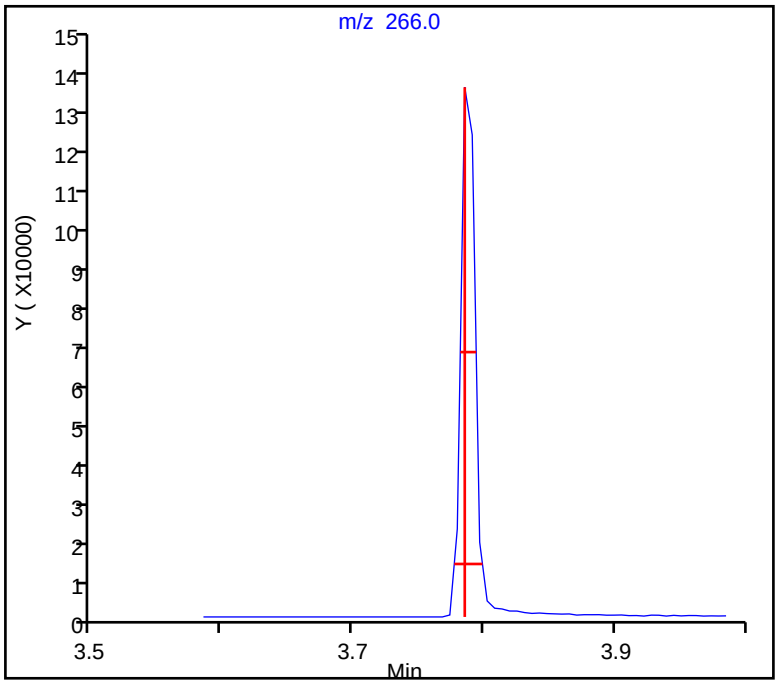
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21927.D
Injection Date: 07-Nov-2018 12:29:30 Instrument ID: SMS_Y
Lims ID: DFTPP
Client ID:
Operator ID: HOEFLERA ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625

25 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.014 (min.)
Front Width = 0.008 (min.)

Tailing Factor = 1.7, Max. Tailing < 5.00
Passed



Peak Tailing Report

TestAmerica Denver

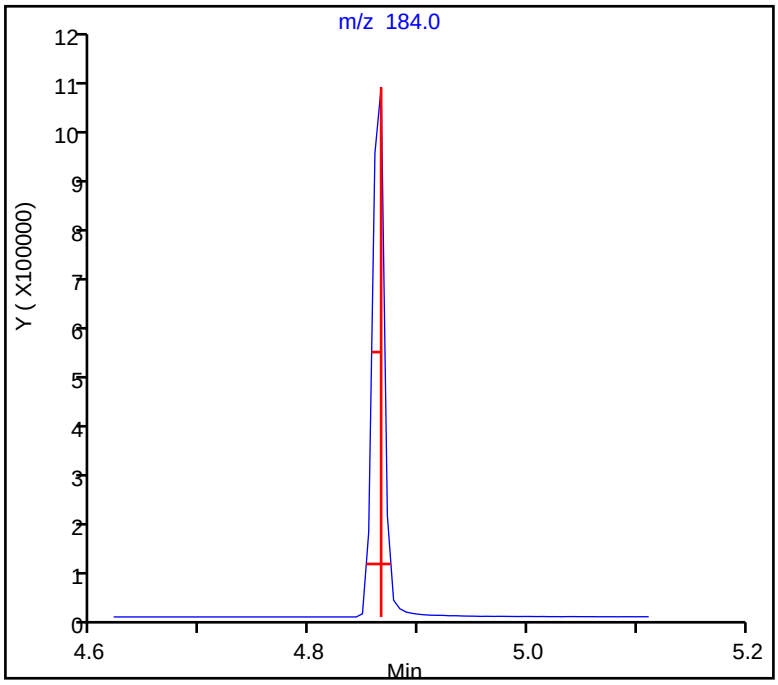
Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21927.D
Injection Date: 07-Nov-2018 12:29:30 Instrument ID: SMS_Y
Lims ID: DFTPP
Client ID:
Operator ID: HOEFLERA ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625

42 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.009 (min.)
Front Width = 0.014 (min.)

Tailing Factor = 0.7, Max. Tailing < 3.00
Passed



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-435328/1-A

Matrix: Water | Lab File ID: Y21931.D

Analysis Method: 8270D | Date Collected:

Extract. Method: 3520C | Date Extracted: 10/29/2018 12:36

Sample wt/vol: 1000(mL) | Date Analyzed: 11/07/2018 14:03

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436671 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
95-95-4	2,4,5-Trichlorophenol	1.0	U	20	1.0	0.45
88-06-2	2,4,6-Trichlorophenol	1.0	U	20	1.0	0.29
120-83-2	2,4-Dichlorophenol	2.0	U	10	2.0	0.64
105-67-9	2,4-Dimethylphenol	2.0	U	10	2.0	0.58
51-28-5	2,4-Dinitrophenol	30	U	80	30	10
121-14-2	2,4-Dinitrotoluene	4.4	U	20	4.4	1.7
606-20-2	2,6-Dinitrotoluene	4.4	U	20	4.4	1.9
95-57-8	2-Chlorophenol	4.4	U	10	4.4	2.0
95-48-7	2-Methylphenol	2.0	U	10	2.0	0.98
88-75-5	2-Nitrophenol	1.0	U	20	1.0	0.39
15831-10-4	3 & 4 Methylphenol	0.50	U	20	0.50	0.25
534-52-1	4,6-Dinitro-2-methylphenol	8.8	U	80	8.8	4.0
59-50-7	4-Chloro-3-methylphenol	5.0	U	20	5.0	2.4
100-02-7	4-Nitrophenol	4.0	U	50	4.0	1.2
117-81-7	Bis(2-ethylhexyl) phthalate	2.0	U	10	2.0	0.56
85-68-7	Butyl benzyl phthalate	2.0	U	20	2.0	1.0
84-66-2	Diethyl phthalate	1.0	U	20	1.0	0.38
131-11-3	Dimethyl phthalate	0.50	U	20	0.50	0.21
84-74-2	Di-n-butyl phthalate	4.4	U	20	4.4	1.2
117-84-0	Di-n-octyl phthalate	1.0	U	20	1.0	0.35
98-95-3	Nitrobenzene	2.0	U	20	2.0	0.81
87-86-5	Pentachlorophenol	60	U	80	60	20
108-95-2	Phenol	4.4	U	10	4.4	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	71		43-140
321-60-8	2-Fluorobiphenyl	56		44-119
367-12-4	2-Fluorophenol (Surr)	58		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	55		44-120
4165-62-2	Phenol-d5 (Surr)	58		10-115
1718-51-0	Terphenyl-d14 (Surr)	82		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21931.D
Lims ID: MB 280-435328/1-A
Client ID:
Sample Type: MB
Inject. Date: 07-Nov-2018 14:03:30 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: MB280-435328_1-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 07-Nov-2018 13:58:36

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.644	4.649	-0.005	95	109648	40.0	40.0	
* 2 Naphthalene-d8	136	5.878	5.877	0.001	99	456956	40.0	40.0	
* 3 Acenaphthene-d10	164	7.629	7.628	0.001	96	252799	40.0	40.0	
* 4 Phenanthrene-d10	188	9.115	9.120	-0.005	98	523171	40.0	40.0	
* 5 Chrysene-d12	240	13.169	13.174	-0.005	98	568122	40.0	40.0	
* 6 Perylene-d12	264	17.106	17.105	0.001	96	594749	40.0	40.0	
$ 7 2-Fluorophenol	112	3.469	3.465	0.004	89	217055	100.0	57.6	
$ 8 Phenol-d5	99	4.291	4.294	-0.003	95	279613	100.0	58.5	
$ 9 Nitrobenzene-d5	82	5.167	5.169	-0.002	84	229759	100.0	54.5	
$ 10 2,4,6-Trichlorophenol-d2	198		6.864					ND	
$ 11 2-Fluorobiphenyl	172	6.941	6.944	-0.003	100	501781	100.0	55.6	
$ 12 2,4,6-Tribromophenol	330	8.416	8.424	-0.008	92	82047	100.0	71.0	
$ 13 Terphenyl-d14	244	11.060	11.068	-0.008	99	1064768	100.0	82.1	
14 Triethyl amine	86		1.894					ND	
15 1,4-Dioxane	88		2.049					ND	
16 2-Ethoxyethanol	59		2.070					ND	
17 N-Nitrosodimethylamine	74		2.284					ND	
18 Pyridine	79		2.331					ND	
19 Dimethylformamide	73		2.616					ND	
20 2-Picoline	93		2.980					ND	
21 N-Nitrosomethylethylamine	88		3.051					ND	
22 Acrylamide	71		3.292					ND	
23 Methyl methanesulfonate	80		3.304					ND	
24 N-Nitrosodiethylamine	102		3.668					ND	
25 Pentachlorophenol_T	266		3.785					ND	
26 Ethyl methanesulfonate	79		3.915					ND	
27 Benzaldehyde	106		4.243					ND	
28 Phenol	94		4.305					ND	
29 Phenylmercaptan	110		4.280					ND	
30 Aniline	93		4.335					ND	
31 Bis(2-chloroethyl)ether	93		4.376					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
32 Alpha Methyl Styrene	118		4.382					ND	
33 Pentachloroethane	117		4.402					ND	
34 2-Chlorophenol	128		4.458					ND	
35 n-Decane	43		4.482					ND	
36 Methyl styrene	118	4.644	4.500	0.144	42	1499			NC
37 1,3-Dichlorobenzene	146		4.599					ND	
38 1,4-Dichlorobenzene	146		4.664					ND	
39 Benzyl alcohol	108		4.764					ND	
40 1,2-Dichlorobenzene	146		4.817					ND	
41 2-Methylphenol	108		4.875					ND	
42 Benzidine_T	184		4.865					ND	
43 2,2'-oxybis[1-chloropropan	45		4.887					ND	
44 Indene	116		4.899					ND	
45 N-Nitrosopyrrolidine	100		4.996					ND	
46 3-Methylphenol	108		5.016					ND	
47 4-Methylphenol	108		5.016					ND	
48 3 & 4 Methylphenol	108		5.016					ND	
49 N-Nitrosomorpholine	116		5.031					ND	
50 N-Nitrosodi-n-propylamine	70		5.011					ND	
51 Acetophenone	105		5.016					ND	
52 2-Toluidine	106		5.066					ND	
53 Hexachloroethane	117		5.140					ND	
54 Nitrobenzene	77		5.187					ND	
55 Triethyl phosphate	99		5.290					ND	
56 N-Nitrosopiperidine	114		5.336					ND	
57 Isophorone	82		5.416					ND	
58 2-Nitrophenol	139		5.498					ND	
59 2,4-Dimethylphenol	107		5.533					ND	
60 Benzyl dichloride	125		5.542					ND	
61 o,o',o''-Triethylphosphoro	198		5.589					ND	
62 2,4-Xylidine	121		5.637					ND	
63 Bis(2-chloroethoxy)methane	93		5.610					ND	
64 Benzoic acid	105		5.657					ND	
65 o-Anisidine	80		5.678					ND	
66 3,5-Dimethylphenol	107		5.663					ND	
67 alpha,alpha-Dimethyl phene	58		5.736					ND	
68 2,4-Dichlorophenol	162		5.745					ND	
69 1,2,4-Trichlorobenzene	180		5.821					ND	
70 Alpha-Terpineol	59		5.890					ND	
71 Naphthalene	128		5.904					ND	
72 4-Chloroaniline	127		5.939					ND	
73 2,6-Dichlorophenol	162		5.956					ND	
74 Hexachloropropene	213		6.006					ND	
75 Hexachlorobutadiene	225		6.027					ND	
76 4-chlorobenzenethiol	144		6.086					ND	
77 Quinoline	129		6.235					ND	
78 5-Methyl-o-Anisidine	122		6.289					ND	
79 Caprolactam	55		6.280					ND	
80 N-Nitrosodi-n-butylamine	84		6.277					ND	
81 p-Phenylene diamine	108		6.294					ND	
82 1,3-phenylenediamine	108		6.407					ND	
83 4-Chloro-3-methylphenol	107		6.427					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
84 Safrole, Total	162		6.494					ND	
85 Carbofuran phenol	164		6.512					ND	
86 2-Methylnaphthalene	142		6.585					ND	
87 Phthalic anhydride	76		6.619					ND	
88 1-Methylnaphthalene	142		6.685					ND	
89 1,2,4,5-Tetrachlorobenzene	216		6.756					ND	
90 Hexachlorocyclopentadiene	237		6.750					ND	
91 Isosafrole Peak 1	162		6.782					ND	
92 2,4,6-Trichlorophenol	196		6.867					ND	
93 2,3-Dichlorobenzenamine	161		6.861					ND	
94 2,4,5-Trichlorophenol	196		6.914					ND	
95 Methyl 4-chlorophenyl sulf	158	6.935	6.893	0.042	48	956			NC
96 Isosafrole Peak 2	104		7.011					ND	
97 Toluene diamine (2,4- + 2,	122		7.035					ND	
98 1,1'-Biphenyl	154		7.043					ND	
99 2-Chloronaphthalene	162		7.073					ND	
100 1-Chloronaphthalene	162		7.111					ND	
101 2-Nitroaniline	65		7.161					ND	
102 1,4-Naphthoquinone	158		7.246					ND	
103 1,4-Dinitrobenzene	168		7.293					ND	
104 Dimethyl phthalate	163		7.331					ND	
105 1,3-Dinitrobenzene	168		7.367					ND	
106 2,6-Dinitrotoluene	165		7.396					ND	
107 Acenaphthylene	152		7.490					ND	
108 3-Nitroaniline	138		7.572					ND	
109 Acenaphthene	153		7.666					ND	
110 1,3-Dimethyl-2,4-Dinitrobe	77		7.635					ND	
111 2,4-Dinitrophenol	184		7.678					ND	
112 4-Nitrophenol	109		7.760					ND	
113 1,3-Dimethyl-2,5-Dinitrobe	179		7.879					ND	
114 2,4-Dinitrotoluene	165		7.801					ND	
115 Pentachlorobenzene	250		7.816					ND	
116 Dibenzofuran	168		7.837					ND	
117 1,4-Dimethyl-2,3-Dinitrobe	77		7.885					ND	
118 1-Naphthylamine	143		7.922					ND	
119 2,3,4,6-Tetrachlorophenol	232		7.960					ND	
120 1,4-Dimethyl-2,6-Dinitrobe	179		8.020					ND	
121 2-Naphthylamine	143		7.998					ND	
122 1,4-Dimethyl-2,5-Dinitrobe	179		7.970					ND	
123 Diethyl phthalate	149		8.036					ND	
124 Hexadecane	57		8.048					ND	
125 1,2-Dimethyl-3,6-Dinitrobe	179		8.020					ND	
126 Thionazin	97		8.127					ND	
127 4-Chlorophenyl phenyl ethe	204		8.166					ND	
128 N-Nitro-o-toluidine	152		8.192					ND	
129 Fluorene	166		8.177					ND	
130 4-Nitroaniline	138		8.189					ND	
131 4,6-Dinitro-2-methylphenol	198		8.219					ND	
132 1,5-Dimethyl-2,4-Dinitrobe	179		8.020					ND	
133 Tributyl phosphate	99		8.239					ND	
134 Diphenylamine	169		8.283					ND	
135 N-Nitrosodiphenylamine	169		8.283					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
136 1,2-Diphenylhydrazine	77		8.324					ND	
137 Azobenzene	77		8.324					ND	
138 1,5-Dimethyl-2,3-Dinitrobe	179		8.299					ND	
139 2,4,6 - Tribromophenol	330		8.424				ND	ND	U
140 Sulfotepp	97		8.433					ND	
141 1,2-Dimethyl-3,5-Dinitrobe	179		8.520					ND	
142 1,3,5-Trinitrobenzene	213		8.539					ND	
143 Diallate Peak 1	86		8.580					ND	
144 Phorate	121		8.586					ND	
145 Phenacetin	108		8.597					ND	
146 1,2-Dimethyl-3,4-Dinitrobe	179		8.557					ND	
147 Phenyl sulfide	186		8.615					ND	
148 4-Bromophenyl phenyl ether	248		8.653					ND	
149 Diallate Peak 2	86		8.668					ND	
150 Dimethoate	87		8.756					ND	
151 Hexachlorobenzene	284		8.747					ND	
152 Atrazine	200		8.800					ND	
153 1,2-Dimethyl-4,5-Dinitrobe	91		8.784					ND	
154 4-Aminobiphenyl	169		8.932					ND	
155 Pentachlorophenol	266		8.941					ND	
156 Pentachloronitrobenzene	237		8.962					ND	
157 Pronamide	173		8.985					ND	
158 n-Octadecane	85		8.971					ND	
159 Disulfoton	88		9.108					ND	
160 Dinoseb	211		9.120					ND	
161 Phenanthrene	178		9.147					ND	
162 Anthracene	178		9.200					ND	
163 n-hydroxymethylphthalimide	147	9.121	9.177	-0.056	38	799			NC
164 Carbazole	167		9.352					ND	
165 Methyl parathion	109		9.490					ND	
166 Alachlor	188		9.482					ND	
167 Phenyl disulfide	109		9.589					ND	
168 Di-n-butyl phthalate	149		9.682					ND	
169 Ethyl Parathion	109		9.919					ND	
170 4-Nitroquinoline-1-oxide	190		9.978					ND	
171 Diphenylsulfone	125		9.984					ND	
172 Methapyrilene	97		10.060					ND	
173 Isodrin	193		10.336					ND	
174 Octachlorostyrene	308		10.360					ND	
175 Fluoranthene	202		10.516					ND	
176 Benzidine	184		10.672					ND	
177 4,4-Dichlorobenzil	139		10.529					ND	
178 Pyrene	202		10.851					ND	
180 Aramite Peak 1	185		11.042					ND	U
181 p-chlorophenyl sulfone	159	11.066	11.036	0.030	43	13685			NC
182 Aramite Peak 2	185		11.165					ND	U
183 p-Dimethylamino azobenzene	120		11.329					ND	
184 Chlorobenzilate	251		11.412					ND	
185 Famphur	218		11.826					ND	
186 3,3'-Dimethylbenzidine	212		11.952					ND	
187 Butyl benzyl phthalate	149		11.949					ND	
188 2-Acetylaminofluorene	181		12.487					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
189 3,3'-Dichlorobenzidine	252		13.113					ND	
190 4,4'-Methylene bis(2-chlor	231		13.151					ND	U
191 Benzo[a]anthracene	228		13.166					ND	
192 Chrysene	228		13.254					ND	
193 Bis(2-ethylhexyl) phthalat	149		13.307					ND	
194 6-Methylchrysene	242		14.449					ND	
195 Di-n-octyl phthalate	149		15.105					ND	
196 Benzo[b]fluoranthene	252		16.027					ND	
197 7,12-Dimethylbenz(a)anthra	256		16.065					ND	
198 Benzo[k]fluoranthene	252		16.109					ND	
199 Hexachlorophene	196		16.589					ND	
200 Benzo[e]pyrene	252		16.814					ND	
201 Benzo[a]pyrene	252		16.961					ND	
202 Perylene	252		17.235					ND	
203 3-Methylcholanthrene	268		18.080					ND	
204 Tris(2,3-dibromopropyl)pho	119		18.680					ND	
205 Dibenz[a,h]acridine	279		19.661					ND	
206 Dibenz[a,j]acridine	279		19.814					ND	
207 Indeno[1,2,3-cd]pyrene	276		20.240					ND	
208 Dibenz(a,h)anthracene	278		20.334					ND	
209 Benzo[g,h,i]perylene	276		20.986					ND	
210 Dibenzo[a,e]pyrene	302		24.834					ND	
S 219 Total Cresols	108		15.636					ND	
S 220 Methyl Phenols,Total	108		15.636					ND	
S 221 Isosafrole	162		15.636					ND	
S 222 Diallate	86		15.636					ND	
S 223 Aramite, Total	185		15.636					ND	
S 224 Phthalic acid	148		19.829					ND	
211 2-Phenoxyethanol	1		0.140					ND	
212 1,2,3,4-Tetrahydronaphthal	1		0.140					ND	
213 4-Methylacetophenone	1		0.140					ND	
214 2-Butoxyethanol	1		0.140					ND	
216 4,4'-DDE	246		4.997					ND	
217 4,4'-DDD	235		5.283					ND	
218 4,4'-DDT	235		5.500					ND	
S 225 TPAH	1		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

ND - Not Detected or Marked ND

Review Flags

U - Marked Undetected

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

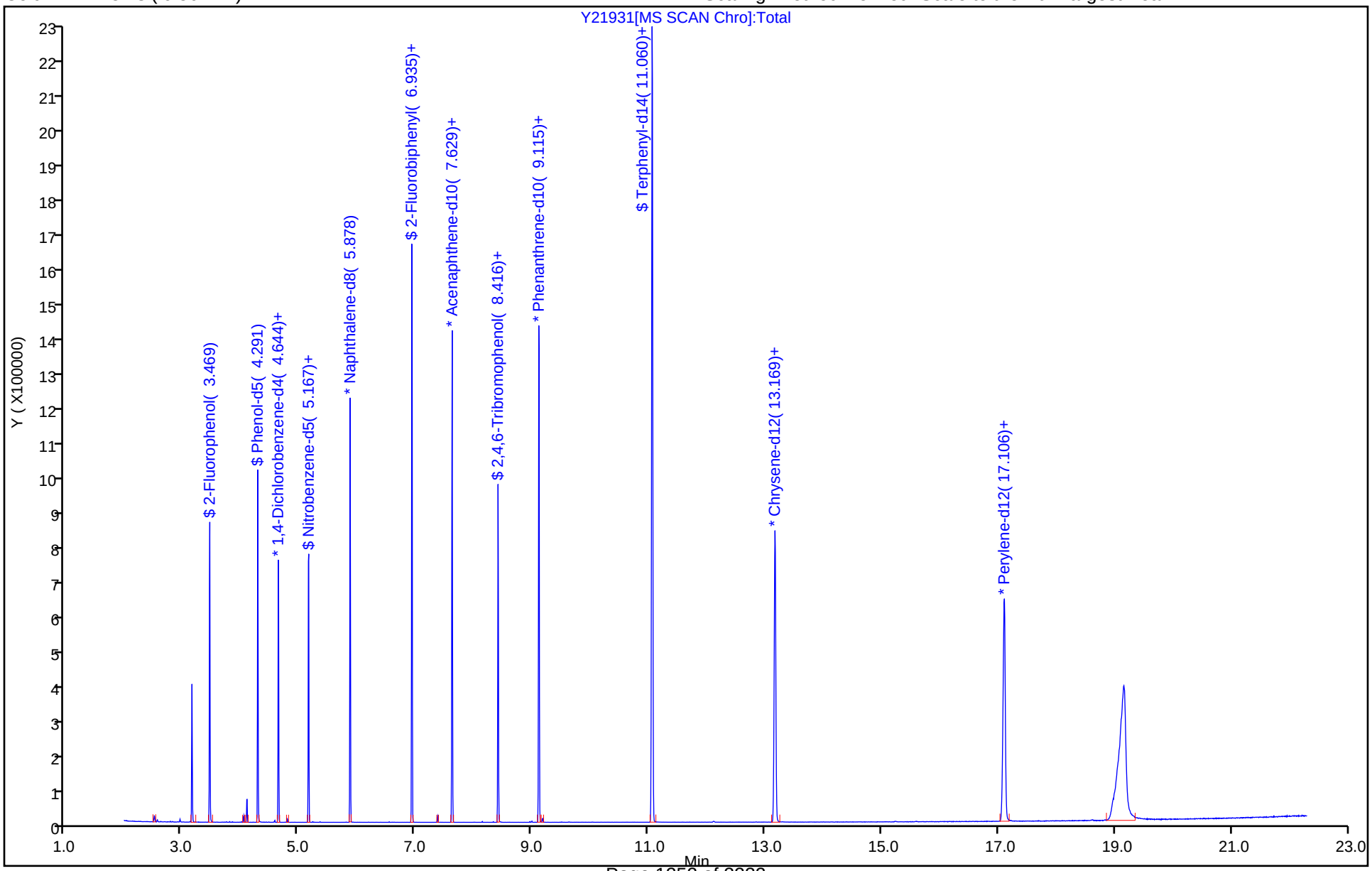
Report Date: 08-Nov-2018 09:55:30 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21931.D

Injection Date:	07-Nov-2018 14:03:30	Instrument ID:	SMS_Y	Operator ID:	HOEFLERA
Lims ID:	MB 280-435328/1-A			Worklist Smp#:	6
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21931.D
Lims ID: MB 280-435328/1-A
Client ID:
Sample Type: MB
Inject. Date: 07-Nov-2018 14:03:30 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: MB280-435328_1-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 07-Nov-2018 13:58:36

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	57.6	57.55
$ 8 Phenol-d5	100.0	58.5	58.48
$ 9 Nitrobenzene-d5	100.0	54.5	54.52
$ 11 2-Fluorobiphenyl	100.0	55.6	55.58
$ 12 2,4,6-Tribromophenol	100.0	71.0	70.99
$ 13 Terphenyl-d14	100.0	82.1	82.14

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-435328/2-A

Matrix: Water | Lab File ID: Y21932.D

Analysis Method: 8270D | Date Collected:

Extract. Method: 3520C | Date Extracted: 10/29/2018 12:36

Sample wt/vol: 1000(mL) | Date Analyzed: 11/07/2018 14:32

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436671 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
95-95-4	2,4,5-Trichlorophenol	70.5		20	1.0	0.45
88-06-2	2,4,6-Trichlorophenol	73.7		20	1.0	0.29
120-83-2	2,4-Dichlorophenol	70.1		10	2.0	0.64
105-67-9	2,4-Dimethylphenol	59.3		10	2.0	0.58
51-28-5	2,4-Dinitrophenol	134		80	30	10
121-14-2	2,4-Dinitrotoluene	72.3		20	4.4	1.7
606-20-2	2,6-Dinitrotoluene	71.9		20	4.4	1.9
95-57-8	2-Chlorophenol	70.0		10	4.4	2.0
95-48-7	2-Methylphenol	71.3		10	2.0	0.98
88-75-5	2-Nitrophenol	69.0		20	1.0	0.39
15831-10-4	3 & 4 Methylphenol	71.0		20	0.50	0.25
534-52-1	4,6-Dinitro-2-methylphenol	161		80	8.8	4.0
59-50-7	4-Chloro-3-methylphenol	72.1		20	5.0	2.4
100-02-7	4-Nitrophenol	142		50	4.0	1.2
117-81-7	Bis(2-ethylhexyl) phthalate	71.7		10	2.0	0.56
85-68-7	Butyl benzyl phthalate	69.2		20	2.0	1.0
84-66-2	Diethyl phthalate	72.1		20	1.0	0.38
131-11-3	Dimethyl phthalate	71.5		20	0.50	0.21
84-74-2	Di-n-butyl phthalate	71.1		20	4.4	1.2
117-84-0	Di-n-octyl phthalate	71.6		20	1.0	0.35
98-95-3	Nitrobenzene	66.8		20	2.0	0.81
87-86-5	Pentachlorophenol	134		80	60	20
108-95-2	Phenol	72.8		10	4.4	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	96		43-140
321-60-8	2-Fluorobiphenyl	85		44-119
367-12-4	2-Fluorophenol (Surr)	91		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	85		44-120
4165-62-2	Phenol-d5 (Surr)	93		10-115
1718-51-0	Terphenyl-d14 (Surr)	84		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21932.D
Lims ID: LCS 280-435328/2-A
Client ID:
Sample Type: LCS
Inject. Date: 07-Nov-2018 14:32:30 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: LCS280-435328_2-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 07-Nov-2018 13:59:54

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.648	4.649	-0.001	93	109213	40.0	40.0	
* 2 Naphthalene-d8	136	5.882	5.877	0.005	99	470743	40.0	40.0	
* 3 Acenaphthene-d10	164	7.627	7.628	-0.001	96	265444	40.0	40.0	
* 4 Phenanthrene-d10	188	9.120	9.120	0.000	98	541238	40.0	40.0	
* 5 Chrysene-d12	240	13.186	13.174	0.012	98	584531	40.0	40.0	
* 6 Perylene-d12	264	17.110	17.105	0.005	97	621666	40.0	40.0	
$ 7 2-Fluorophenol	112	3.468	3.465	0.003	89	342566	100.0	91.2	
$ 8 Phenol-d5	99	4.296	4.294	0.002	95	441952	100.0	92.8	
$ 9 Nitrobenzene-d5	82	5.166	5.169	-0.003	84	370574	100.0	85.4	
$ 11 2-Fluorobiphenyl	172	6.940	6.944	-0.004	99	802234	100.0	84.6	
$ 12 2,4,6-Tribromophenol	330	8.421	8.424	-0.003	92	116060	100.0	95.6	
$ 13 Terphenyl-d14	244	11.064	11.068	-0.004	99	1126077	100.0	84.4	
15 1,4-Dioxane	88	2.052	2.049	0.003	88	90777	80.0	59.8	
17 N-Nitrosodimethylamine	74	2.281	2.284	-0.003	94	162611	80.0	70.0	
18 Pyridine	79	2.334	2.331	0.003	95	430542	160.0	111.3	
27 Benzaldehyde	106	4.231	4.243	-0.012	97	118303	80.0	37.7	
28 Phenol	94	4.308	4.305	0.003	96	352974	80.0	72.8	
30 Aniline	93	4.331	4.335	-0.004	99	367811	80.0	60.1	
31 Bis(2-chloroethyl)ether	93	4.372	4.376	-0.004	99	262076	80.0	73.5	
34 2-Chlorophenol	128	4.460	4.458	0.002	95	285380	80.0	70.0	
35 n-Decane	43	4.484	4.482	0.002	87	131456	80.0	45.9	
37 1,3-Dichlorobenzene	146	4.601	4.599	0.002	98	233408	80.0	54.8	
38 1,4-Dichlorobenzene	146	4.666	4.664	0.002	95	241383	80.0	55.8	
39 Benzyl alcohol	108	4.760	4.764	-0.004	96	189767	80.0	69.0	
40 1,2-Dichlorobenzene	146	4.813	4.817	-0.004	98	238245	80.0	57.7	
41 2-Methylphenol	108	4.872	4.875	-0.003	93	264717	80.0	71.3	
43 2,2'-oxybis[1-chloropropan	45	4.883	4.887	-0.004	91	262069	80.0	67.3	
44 Indene	116	4.895	4.899	-0.004	90	419838	80.0	64.4	
46 3-Methylphenol	108	5.019	5.016	0.003	77	278068	80.0	71.0	
47 4-Methylphenol	108	5.019	5.016	0.003	73	278068	80.0	71.0	
48 3 & 4 Methylphenol	108	5.019	5.016	0.003	74	278068	80.0	71.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
50 N-Nitrosodi-n-propylamine	70	5.007	5.011	-0.004	83	190609	80.0	69.0	
51 Acetophenone	105	5.019	5.016	0.003	89	361242	80.0	69.6	
53 Hexachloroethane	117	5.142	5.140	0.002	96	82180	80.0	50.7	
54 Nitrobenzene	77	5.183	5.187	-0.004	83	275952	80.0	66.8	
57 Isophorone	82	5.412	5.416	-0.004	98	519135	80.0	68.1	
58 2-Nitrophenol	139	5.495	5.498	-0.003	91	158799	80.0	69.0	
59 2,4-Dimethylphenol	107	5.530	5.533	-0.003	93	236100	80.0	59.3	
63 Bis(2-chloroethoxy)methane	93	5.606	5.610	-0.004	97	320053	80.0	68.2	
64 Benzoic acid	105	5.624	5.657	-0.033	86	192938	80.0	57.8	
68 2,4-Dichlorophenol	162	5.741	5.745	-0.004	92	242400	80.0	70.1	
69 1,2,4-Trichlorobenzene	180	5.824	5.821	0.003	94	206655	80.0	57.3	
71 Naphthalene	128	5.900	5.904	-0.004	97	771776	80.0	63.3	
72 4-Chloroaniline	127	5.941	5.939	0.002	97	291045	80.0	52.7	
73 2,6-Dichlorophenol	162	5.959	5.956	0.003	97	241688	80.0	70.6	
75 Hexachlorobutadiene	225	6.023	6.027	-0.004	97	96862	80.0	52.2	
79 Caprolactam	55	6.264	6.280	-0.016	88	115922	80.0	72.4	M
83 4-Chloro-3-methylphenol	107	6.429	6.427	0.003	94	256562	80.0	72.1	
86 2-Methylnaphthalene	142	6.582	6.585	-0.003	93	556613	80.0	64.3	
88 1-Methylnaphthalene	142	6.681	6.685	-0.004	93	535525	80.0	66.5	
89 1,2,4,5-Tetrachlorobenzene	216	6.758	6.756	0.002	97	224766	80.0	62.9	
90 Hexachlorocyclopentadiene	237	6.752	6.750	0.002	96	167434	160.0	68.6	
92 2,4,6-Trichlorophenol	196	6.864	6.867	-0.003	91	183197	80.0	73.7	
94 2,4,5-Trichlorophenol	196	6.916	6.914	0.002	96	200781	80.0	70.5	
98 1,1'-Biphenyl	154	7.040	7.043	-0.003	95	696813	80.0	66.3	
99 2-Chloronaphthalene	162	7.069	7.073	-0.004	97	521084	80.0	64.2	
101 2-Nitroaniline	65	7.157	7.161	-0.004	90	165409	80.0	70.6	
104 Dimethyl phthalate	163	7.334	7.331	0.003	100	674557	80.0	71.5	
105 1,3-Dinitrobenzene	168	7.363	7.367	-0.004	92	124745	80.0	73.3	
106 2,6-Dinitrotoluene	165	7.392	7.396	-0.004	96	164337	80.0	71.9	
107 Acenaphthylene	152	7.486	7.490	-0.004	98	903298	80.0	66.3	
108 3-Nitroaniline	138	7.569	7.572	-0.003	96	138272	80.0	49.7	
109 Acenaphthene	153	7.663	7.666	-0.003	94	571824	80.0	68.6	
111 2,4-Dinitrophenol	184	7.674	7.678	-0.004	86	210326	160.0	134.4	
112 4-Nitrophenol	109	7.757	7.760	-0.003	86	194784	160.0	142.3	
114 2,4-Dinitrotoluene	165	7.798	7.801	-0.003	95	225946	80.0	72.3	
116 Dibenzofuran	168	7.833	7.837	-0.004	97	841211	80.0	69.6	
119 2,3,4,6-Tetrachlorophenol	232	7.962	7.960	0.002	73	165486	80.0	70.0	
123 Diethyl phthalate	149	8.033	8.036	-0.003	99	689415	80.0	72.1	
124 Hexadecane	57	8.050	8.048	0.002	93	284956	80.0	67.2	
127 4-Chlorophenyl phenyl ethe	204	8.162	8.166	-0.004	91	315834	80.0	69.1	
129 Fluorene	166	8.180	8.177	0.003	94	688502	80.0	71.0	
130 4-Nitroaniline	138	8.186	8.189	-0.004	91	212286	80.0	71.1	
131 4,6-Dinitro-2-methylphenol	198	8.215	8.219	-0.004	92	289379	160.0	160.7	
134 Diphenylamine	169	8.280	8.283	-0.003	94	524001	68.0	59.0	
135 N-Nitrosodiphenylamine	169	8.280	8.283	-0.003	61	524001	80.0	68.5	
136 1,2-Diphenylhydrazine	77	8.321	8.324	-0.003	99	676390	80.9	72.9	
137 Azobenzene	77	8.321	8.324	-0.003	97	676390	80.0	72.1	
139 2,4,6 - Tribromophenol	330		8.424				ND	ND	U
148 4-Bromophenyl phenyl ether	248	8.656	8.653	0.003	64	187594	80.0	67.0	
151 Hexachlorobenzene	284	8.744	8.747	-0.003	93	183176	80.0	68.0	
152 Atrazine	200	8.797	8.800	-0.003	95	202388	80.0	71.3	
155 Pentachlorophenol	266	8.938	8.941	-0.003	93	241565	160.0	134.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
158 n-Octadecane	85	8.967	8.971	-0.004	98	169441	80.0	67.0	
161 Phenanthrene	178	9.143	9.147	-0.004	98	1052152	80.0	70.2	
162 Anthracene	178	9.196	9.200	-0.004	97	1087198	80.0	69.7	
164 Carbazole	167	9.349	9.352	-0.003	95	1056021	80.0	70.4	
168 Di-n-butyl phthalate	149	9.678	9.682	-0.004	100	1228195	80.0	71.1	
175 Fluoranthene	202	10.512	10.516	-0.004	98	1246845	80.0	70.8	
176 Benzidine	184	10.671	10.672	-0.001	100	697550	160.0	52.0	
178 Pyrene	202	10.841	10.851	-0.010	99	1296544	80.0	70.7	
187 Butyl benzyl phthalate	149	11.946	11.949	-0.003	96	588232	80.0	69.2	
189 3,3'-Dichlorobenzidine	252	13.115	13.113	0.002	74	774044	160.0	121.5	
191 Benzo[a]anthracene	228	13.156	13.166	-0.010	99	1207963	80.0	66.9	
192 Chrysene	228	13.250	13.254	-0.004	98	1213185	80.0	71.1	
193 Bis(2-ethylhexyl) phthalat	149	13.303	13.307	-0.004	95	830054	80.0	71.7	
195 Di-n-octyl phthalate	149	15.101	15.105	-0.004	98	1447367	80.0	71.6	
196 Benzo[b]fluoranthene	252	16.023	16.027	-0.004	99	1273559	80.0	71.6	
198 Benzo[k]fluoranthene	252	16.106	16.109	-0.003	98	1290734	80.0	70.8	
201 Benzo[a]pyrene	252	16.952	16.961	-0.009	79	1224939	80.0	69.3	
207 Indeno[1,2,3-cd]pyrene	276	20.230	20.240	-0.010	97	1100462	80.0	68.9	
208 Dibenz(a,h)anthracene	278	20.324	20.334	-0.010	95	1119909	80.0	70.0	
209 Benzo[g,h,i]perylene	276	20.976	20.986	-0.010	95	1152259	80.0	68.9	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

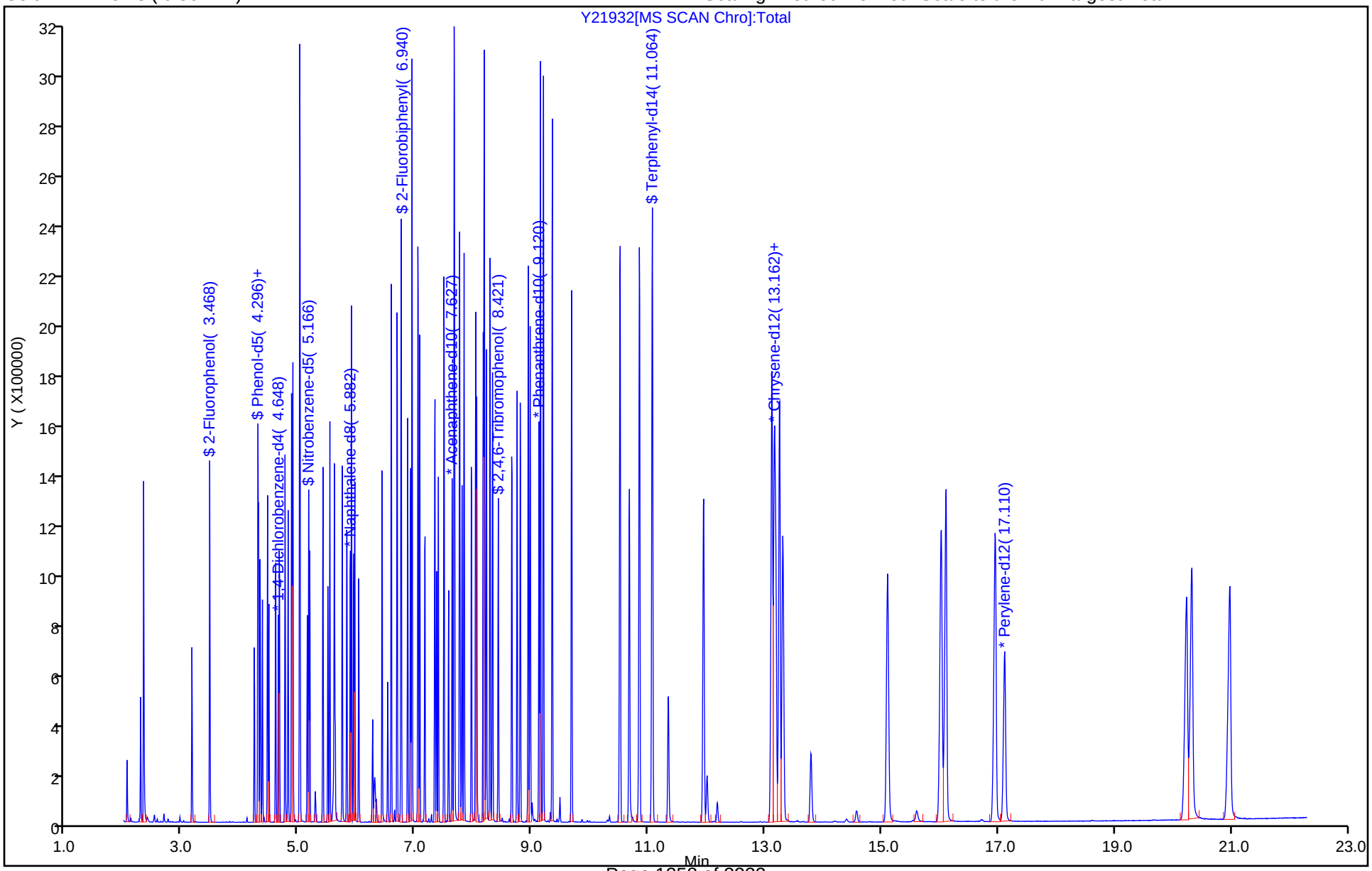
Report Date: 08-Nov-2018 09:55:36 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21932.D

Injection Date:	07-Nov-2018 14:32:30	Instrument ID:	SMS_Y	Operator ID:	HOEFLERA
Lims ID:	LCS 280-435328/2-A			Worklist Smp#:	7
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21932.D
Lims ID: LCS 280-435328/2-A
Client ID:
Sample Type: LCS
Inject. Date: 07-Nov-2018 14:32:30 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: LCS280-435328_2-A
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 07-Nov-2018 13:59:54

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	91.2	91.20
$ 8 Phenol-d5	100.0	92.8	92.80
$ 9 Nitrobenzene-d5	100.0	85.4	85.36
$ 11 2-Fluorobiphenyl	100.0	84.6	84.63
$ 12 2,4,6-Tribromophenol	100.0	95.6	95.64
$ 13 Terphenyl-d14	100.0	84.4	84.43

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW MS | Lab Sample ID: 280-116020-1 MS

Matrix: Water | Lab File ID: Y21937.D

Analysis Method: 8270D | Date Collected: 10/24/2018 10:05

Extract. Method: 3520C | Date Extracted: 10/29/2018 12:36

Sample wt/vol: 1023.9(mL) | Date Analyzed: 11/07/2018 16:55

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436671 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
95-95-4	2,4,5-Trichlorophenol	65.5		20	0.98	0.44
88-06-2	2,4,6-Trichlorophenol	71.0		20	0.98	0.28
120-83-2	2,4-Dichlorophenol	67.8		9.8	2.0	0.63
105-67-9	2,4-Dimethylphenol	60.3		9.8	2.0	0.57
51-28-5	2,4-Dinitrophenol	132		78	29	9.8
121-14-2	2,4-Dinitrotoluene	68.9		20	4.3	1.6
606-20-2	2,6-Dinitrotoluene	68.0		20	4.3	1.8
95-57-8	2-Chlorophenol	67.8		9.8	4.3	2.0
95-48-7	2-Methylphenol	69.9		9.8	2.0	0.96
88-75-5	2-Nitrophenol	66.7		20	0.98	0.38
15831-10-4	3 & 4 Methylphenol	68.6		20	0.49	0.24
534-52-1	4,6-Dinitro-2-methylphenol	151		78	8.6	3.9
59-50-7	4-Chloro-3-methylphenol	69.8		20	4.9	2.4
100-02-7	4-Nitrophenol	134		49	3.9	1.2
117-81-7	Bis(2-ethylhexyl) phthalate	65.4		9.8	2.0	0.55
85-68-7	Butyl benzyl phthalate	63.9		20	2.0	0.98
84-66-2	Diethyl phthalate	68.1		20	0.98	0.37
131-11-3	Dimethyl phthalate	68.1		20	0.49	0.21
84-74-2	Di-n-butyl phthalate	66.4		20	4.3	1.1
117-84-0	Di-n-octyl phthalate	65.5		20	0.98	0.34
98-95-3	Nitrobenzene	66.3		20	2.0	0.79
87-86-5	Pentachlorophenol	127		78	59	20
108-95-2	Phenol	71.0		9.8	4.3	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	93		43-140
321-60-8	2-Fluorobiphenyl	85		44-119
367-12-4	2-Fluorophenol (Surr)	90		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	86		44-120
4165-62-2	Phenol-d5 (Surr)	93		10-115
1718-51-0	Terphenyl-d14 (Surr)	81		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21937.D
Lims ID: 280-116020-B-1-A MS
Client ID: DET-003-181001-GW
Sample Type: MS
Inject. Date: 07-Nov-2018 16:55:30 ALS Bottle#: 11 Worklist Smp#: 15
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-B-1-AMS
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 07-Nov-2018 16:22:39

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.649	4.649	0.000	94	114331	40.0	40.0	
* 2 Naphthalene-d8	136	5.877	5.877	0.000	99	496134	40.0	40.0	
* 3 Acenaphthene-d10	164	7.628	7.628	0.000	97	277384	40.0	40.0	
* 4 Phenanthrene-d10	188	9.120	9.120	0.000	97	567713	40.0	40.0	
* 5 Chrysene-d12	240	13.186	13.174	0.012	99	607006	40.0	40.0	
* 6 Perylene-d12	264	17.111	17.105	0.005	96	646885	40.0	40.0	
$ 7 2-Fluorophenol	112	3.468	3.465	0.003	89	354622	100.0	90.2	
$ 8 Phenol-d5	99	4.296	4.294	0.002	97	462769	100.0	92.8	
$ 9 Nitrobenzene-d5	82	5.166	5.169	-0.003	84	393271	100.0	86.0	
$ 10 2,4,6-Trichlorophenol-d2	198		6.864					ND	
$ 11 2-Fluorobiphenyl	172	6.940	6.944	-0.004	99	841059	100.0	84.9	
$ 12 2,4,6-Tribromophenol	330	8.421	8.424	-0.003	92	117932	100.0	93.0	
$ 13 Terphenyl-d14	244	11.065	11.068	-0.003	99	1120789	100.0	80.9	
14 Triethyl amine	86		1.894					ND	
15 1,4-Dioxane	88	2.052	2.049	0.003	88	96924	80.0	61.0	
16 2-Ethoxyethanol	59		2.070					ND	
17 N-Nitrosodimethylamine	74	2.281	2.284	-0.003	94	170177	80.0	70.0	
18 Pyridine	79	2.334	2.331	0.003	95	422358	160.0	104.3	
19 Dimethylformamide	73		2.616					ND	
20 2-Picoline	93		2.980					ND	
21 N-Nitrosomethylethylamine	88		3.051					ND	
22 Acrylamide	71		3.292					ND	
23 Methyl methanesulfonate	80		3.304					ND	
24 N-Nitrosodiethylamine	102		3.668					ND	
25 Pentachlorophenol_T	266		3.785					ND	
26 Ethyl methanesulfonate	79		3.915					ND	
27 Benzaldehyde	106	4.231	4.243	-0.012	96	120300	80.0	36.7	
28 Phenol	94	4.308	4.305	0.003	96	369274	80.0	72.7	
29 Phenylmercaptan	110		4.280					ND	
30 Aniline	93	4.331	4.335	-0.004	99	362560	80.0	56.6	
31 Bis(2-chloroethyl)ether	93	4.373	4.376	-0.004	99	274756	80.0	73.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
32 Alpha Methyl Styrene	118		4.382					ND	
33 Pentachloroethane	117		4.402					ND	
34 2-Chlorophenol	128	4.461	4.458	0.003	95	296614	80.0	69.5	
35 n-Decane	43	4.484	4.482	0.002	87	176032	80.0	58.7	
36 Methyl styrene	118		4.500					ND	
37 1,3-Dichlorobenzene	146	4.602	4.599	0.003	98	286469	80.0	64.2	
38 1,4-Dichlorobenzene	146	4.666	4.664	0.002	96	289351	80.0	63.9	
39 Benzyl alcohol	108	4.760	4.764	-0.004	96	197194	80.0	68.5	
40 1,2-Dichlorobenzene	146	4.813	4.817	-0.004	98	281088	80.0	65.0	
41 2-Methylphenol	108	4.872	4.875	-0.003	93	277966	80.0	71.6	
42 Benzidine_T	184		4.865					ND	
43 2,2'-oxybis[1-chloropropan	45	4.884	4.887	-0.003	92	278316	80.0	68.3	
44 Indene	116	4.895	4.899	-0.004	90	469863	80.0	68.8	
45 N-Nitrosopyrrolidine	100		4.996					ND	
46 3-Methylphenol	108	5.013	5.016	-0.003	76	287853	80.0	70.2	
47 4-Methylphenol	108	5.013	5.016	-0.003	73	287853	80.0	70.2	
48 3 & 4 Methylphenol	108	5.013	5.016	-0.003	72	287853	80.0	70.2	
49 N-Nitrosomorpholine	116		5.031					ND	
50 N-Nitrosodi-n-propylamine	70	5.007	5.011	-0.004	82	199397	80.0	69.0	
51 Acetophenone	105	5.019	5.016	0.003	89	382016	80.0	70.3	
52 2-Toluidine	106		5.066					ND	
53 Hexachloroethane	117	5.142	5.140	0.002	98	104718	80.0	61.7	
54 Nitrobenzene	77	5.183	5.187	-0.004	82	295361	80.0	67.8	
55 Triethyl phosphate	99		5.290					ND	
56 N-Nitrosopiperidine	114		5.336					ND	
57 Isophorone	82	5.412	5.416	-0.004	98	538043	80.0	67.0	
58 2-Nitrophenol	139	5.495	5.498	-0.003	91	165706	80.0	68.3	
59 2,4-Dimethylphenol	107	5.530	5.533	-0.003	92	258939	80.0	61.7	
60 Benzyl dichloride	125		5.542					ND	
61 o,o',o''-Triethylphosphoro	198		5.589					ND	
62 2,4-Xylidine	121		5.637					ND	
63 Bis(2-chloroethoxy)methane	93	5.606	5.610	-0.004	97	334867	80.0	67.7	
64 Benzoic acid	105	5.624	5.657	-0.033	87	217095	80.0	61.4	
65 o-Anisidine	80		5.678					ND	
66 3,5-Dimethylphenol	107		5.663					ND	
67 alpha,alpha-Dimethyl phene	58		5.736					ND	
68 2,4-Dichlorophenol	162	5.741	5.745	-0.004	91	252927	80.0	69.4	
69 1,2,4-Trichlorobenzene	180	5.824	5.821	0.003	94	235936	80.0	62.0	
70 Alpha-Terpineol	59		5.890					ND	
71 Naphthalene	128	5.900	5.904	-0.004	97	851565	80.0	66.3	
72 4-Chloroaniline	127	5.941	5.939	0.002	98	302575	80.0	52.0	
73 2,6-Dichlorophenol	162	5.959	5.956	0.003	98	249864	80.0	69.3	
74 Hexachloropropene	213		6.006					ND	
75 Hexachlorobutadiene	225	6.024	6.027	-0.003	97	119149	80.0	60.9	
76 4-chlorobenzenethiol	144		6.086					ND	
77 Quinoline	129		6.235					ND	
78 5-Methyl-o-Anisidine	122		6.289					ND	
79 Caprolactam	55	6.264	6.280	-0.016	87	115155	80.0	68.3	M
80 N-Nitrosodi-n-butylamine	84		6.277					ND	
81 p-Phenylene diamine	108		6.294					ND	
82 1,3-phenylenediamine	108		6.407					ND	
83 4-Chloro-3-methylphenol	107	6.423	6.427	-0.003	94	268018	80.0	71.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
84 Safrole, Total	162		6.494					ND	
85 Carbofuran phenol	164		6.512					ND	
86 2-Methylnaphthalene	142	6.582	6.585	-0.003	93	602189	80.0	66.1	
87 Phthalic anhydride	76		6.619					ND	
88 1-Methylnaphthalene	142	6.682	6.685	-0.003	93	577722	80.0	68.0	
89 1,2,4,5-Tetrachlorobenzene	216	6.758	6.756	0.002	97	239105	80.0	63.5	
90 Hexachlorocyclopentadiene	237	6.752	6.750	0.002	96	227012	160.0	89.0	
91 Isosafrole Peak 1	162		6.782					ND	
92 2,4,6-Trichlorophenol	196	6.864	6.867	-0.003	91	188782	80.0	72.7	
93 2,3-Dichlorobenzenamine	161		6.861					ND	
94 2,4,5-Trichlorophenol	196	6.917	6.914	0.003	96	199486	80.0	67.0	
95 Methyl 4-chlorophenyl sulf	158		6.893					ND	
96 Isosafrole Peak 2	104		7.011					ND	
97 Toluene diamine (2,4- + 2,	122		7.035					ND	
98 1,1'-Biphenyl	154	7.040	7.043	-0.003	95	728325	80.0	66.3	
99 2-Chloronaphthalene	162	7.069	7.073	-0.004	97	551668	80.0	65.0	
100 1-Chloronaphthalene	162		7.111					ND	
101 2-Nitroaniline	65	7.157	7.161	-0.004	90	169370	80.0	69.2	
102 1,4-Naphthoquinone	158		7.246					ND	
103 1,4-Dinitrobenzene	168		7.293					ND	
104 Dimethyl phthalate	163	7.334	7.331	0.003	100	687438	80.0	69.7	
105 1,3-Dinitrobenzene	168	7.363	7.367	-0.004	92	127303	80.0	71.6	
106 2,6-Dinitrotoluene	165	7.392	7.396	-0.004	95	166322	80.0	69.6	
107 Acenaphthylene	152	7.486	7.490	-0.004	98	946789	80.0	66.5	
108 3-Nitroaniline	138	7.569	7.572	-0.003	96	139169	80.0	47.9	
109 Acenaphthene	153	7.663	7.666	-0.003	93	581715	80.0	66.7	
110 1,3-Dimethyl-2,4-Dinitrobe	77		7.635					ND	
111 2,4-Dinitrophenol	184	7.669	7.678	-0.009	85	221699	160.0	135.5	
112 4-Nitrophenol	109	7.757	7.760	-0.003	85	195938	160.0	137.0	
113 1,3-Dimethyl-2,5-Dinitrobe	179		7.879					ND	
114 2,4-Dinitrotoluene	165	7.798	7.801	-0.003	96	230534	80.0	70.6	
115 Pentachlorobenzene	250		7.816					ND	
116 Dibenzofuran	168	7.833	7.837	-0.004	97	850406	80.0	67.3	
117 1,4-Dimethyl-2,3-Dinitrobe	77		7.885					ND	
118 1-Naphthylamine	143		7.922					ND	
119 2,3,4,6-Tetrachlorophenol	232	7.957	7.960	-0.003	73	171458	80.0	69.4	
120 1,4-Dimethyl-2,6-Dinitrobe	179		8.020					ND	
121 2-Naphthylamine	143		7.998					ND	
122 1,4-Dimethyl-2,5-Dinitrobe	179		7.970					ND	
123 Diethyl phthalate	149	8.033	8.036	-0.003	99	696759	80.0	69.7	
124 Hexadecane	57	8.051	8.048	0.003	93	290163	80.0	65.5	
125 1,2-Dimethyl-3,6-Dinitrobe	179		8.020					ND	
126 Thionazin	97		8.127					ND	
127 4-Chlorophenyl phenyl ethe	204	8.162	8.166	-0.004	90	321876	80.0	67.4	
128 N-Nitro-o-toluidine	152		8.192					ND	
129 Fluorene	166	8.180	8.177	0.003	94	695667	80.0	68.6	
130 4-Nitroaniline	138	8.186	8.189	-0.003	92	218749	80.0	70.1	
131 4,6-Dinitro-2-methylphenol	198	8.215	8.219	-0.004	91	291589	160.0	154.5	
132 1,5-Dimethyl-2,4-Dinitrobe	179		8.020					ND	
133 Tributyl phosphate	99		8.239					ND	
134 Diphenylamine	169	8.280	8.283	-0.003	94	508581	68.0	54.8	
135 N-Nitrosodiphenylamine	169	8.280	8.283	-0.003	61	508581	80.0	63.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
136 1,2-Diphenylhydrazine	77	8.321	8.324	-0.003	98	677859	80.9	69.9	
137 Azobenzene	77	8.321	8.324	-0.003	97	677859	80.0	69.2	
138 1,5-Dimethyl-2,3-Dinitrobe	179		8.299					ND	
139 2,4,6 - Tribromophenol	330		8.424				ND	ND	U
140 Sulfotepp	97		8.433					ND	
141 1,2-Dimethyl-3,5-Dinitrobe	179		8.520					ND	
142 1,3,5-Trinitrobenzene	213		8.539					ND	
143 Diallate Peak 1	86		8.580					ND	
144 Phorate	121		8.586					ND	
145 Phenacetin	108		8.597					ND	
146 1,2-Dimethyl-3,4-Dinitrobe	179		8.557					ND	
147 Phenyl sulfide	186		8.615					ND	
148 4-Bromophenyl phenyl ether	248	8.656	8.653	0.003	63	189835	80.0	64.6	
149 Diallate Peak 2	86		8.668					ND	
150 Dimethoate	87		8.756					ND	
151 Hexachlorobenzene	284	8.744	8.747	-0.003	94	187720	80.0	66.5	
152 Atrazine	200	8.797	8.800	-0.003	96	205710	80.0	69.1	
153 1,2-Dimethyl-4,5-Dinitrobe	91		8.784					ND	
154 4-Aminobiphenyl	169		8.932					ND	
155 Pentachlorophenol	266	8.938	8.941	-0.003	92	246147	160.0	130.3	
156 Pentachloronitrobenzene	237		8.962					ND	
157 Pronamide	173		8.985					ND	
158 n-Octadecane	85	8.967	8.971	-0.004	97	171392	80.0	64.6	
159 Disulfoton	88		9.108					ND	
160 Dinoseb	211		9.120					ND	
161 Phenanthrene	178	9.143	9.147	-0.004	98	1063576	80.0	67.7	
162 Anthracene	178	9.196	9.200	-0.004	97	1092836	80.0	66.8	
163 n-hydroxymethylphthalimide	147		9.177					ND	
164 Carbazole	167	9.349	9.352	-0.003	95	1077778	80.0	68.5	
165 Methyl parathion	109		9.490					ND	
166 Alachlor	188		9.482					ND	
167 Phenyl disulfide	109		9.589					ND	
168 Di-n-butyl phthalate	149	9.678	9.682	-0.004	100	1231409	80.0	68.0	
169 Ethyl Parathion	109		9.919					ND	
170 4-Nitroquinoline-1-oxide	190		9.978					ND	
171 Diphenylsulfone	125		9.984					ND	
172 Methapyrilene	97		10.060					ND	
173 Isodrin	193		10.336					ND	
174 Octachlorostyrene	308		10.360					ND	
175 Fluoranthene	202	10.512	10.516	-0.004	98	1238961	80.0	67.1	
176 Benzidine	184	10.671	10.672	-0.001	100	638882	160.0	45.9	
177 4,4-Dichlorobenzil	139		10.529					ND	
178 Pyrene	202	10.841	10.851	-0.010	97	1283736	80.0	67.4	
179 Bis(4-chlorophenyl)disulfi	143		10.971					ND	
180 Aramite Peak 1	185		11.042					ND	
181 p-chlorophenyl sulfone	159		11.036					ND	
182 Aramite Peak 2	185		11.165					ND	
183 p-Dimethylamino azobenzene	120		11.329					ND	
184 Chlorobenzilate	251		11.412					ND	
185 Famphur	218		11.826					ND	
186 3,3'-Dimethylbenzidine	212		11.952					ND	
187 Butyl benzyl phthalate	149	11.940	11.949	-0.009	96	577527	80.0	65.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
188 2-Acetylaminofluorene	181		12.487					ND	
189 3,3'-Dichlorobenzidine	252	13.115	13.113	0.002	75	712445	160.0	107.7	
190 4,4'-Methylene bis(2-chlor	231		13.151					ND	
191 Benzo[a]anthracene	228	13.156	13.166	-0.010	99	1188376	80.0	63.4	
192 Chrysene	228	13.244	13.254	-0.010	98	1186226	80.0	67.0	
193 Bis(2-ethylhexyl) phthalat	149	13.303	13.307	-0.004	95	805056	80.0	66.9	
194 6-Methylchrysene	242		14.449					ND	
195 Di-n-octyl phthalate	149	15.101	15.105	-0.004	98	1406293	80.0	67.0	
196 Benzo[b]fluoranthene	252	16.018	16.027	-0.009	99	1255513	80.0	67.8	
197 7,12-Dimethylbenz(a)anthra	256		16.065					ND	
198 Benzo[k]fluoranthene	252	16.100	16.109	-0.009	99	1256058	80.0	66.2	
199 Hexachlorophene	196		16.589					ND	
200 Benzo[e]pyrene	252		16.814					ND	
201 Benzo[a]pyrene	252	16.946	16.961	-0.015	81	1202002	80.0	65.4	
202 Perylene	252		17.235					ND	
203 3-Methylcholanthrene	268		18.080					ND	
204 Tris(2,3-dibromopropyl)pho	119		18.680					ND	
205 Dibenz[a,h]acridine	279		19.661					ND	
206 Dibenz[a,j]acridine	279		19.814					ND	
207 Indeno[1,2,3-cd]pyrene	276	20.230	20.240	-0.010	97	1078093	80.0	65.0	
208 Dibenz(a,h)anthracene	278	20.319	20.334	-0.016	95	1102280	80.0	66.2	
209 Benzo[g,h,i]perylene	276	20.971	20.986	-0.015	95	1130481	80.0	64.9	
210 Dibenzo[a,e]pyrene	302		24.834					ND	
S 219 Total Cresols	108				0			141.8	
S 220 Methyl Phenols,Total	108				0			141.8	
S 221 Isosafrole	162		15.636					ND	
S 222 Diallate	86		15.636					ND	
S 223 Aramite, Total	185		15.636					ND	
S 224 Phthalic acid	148		19.829					ND	
211 2-Phenoxyethanol	1		0.140					ND	
212 1,2,3,4-Tetrahydronaphthal	1		0.140					ND	
213 4-Methylacetophenone	1		0.140					ND	
214 2-Butoxyethanol	1		0.140					ND	
216 4,4'-DDE	246		4.997					ND	
217 4,4'-DDD	235		5.283					ND	
218 4,4'-DDT	235		5.500					ND	
S 225 TPAH	1		0.000					ND	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

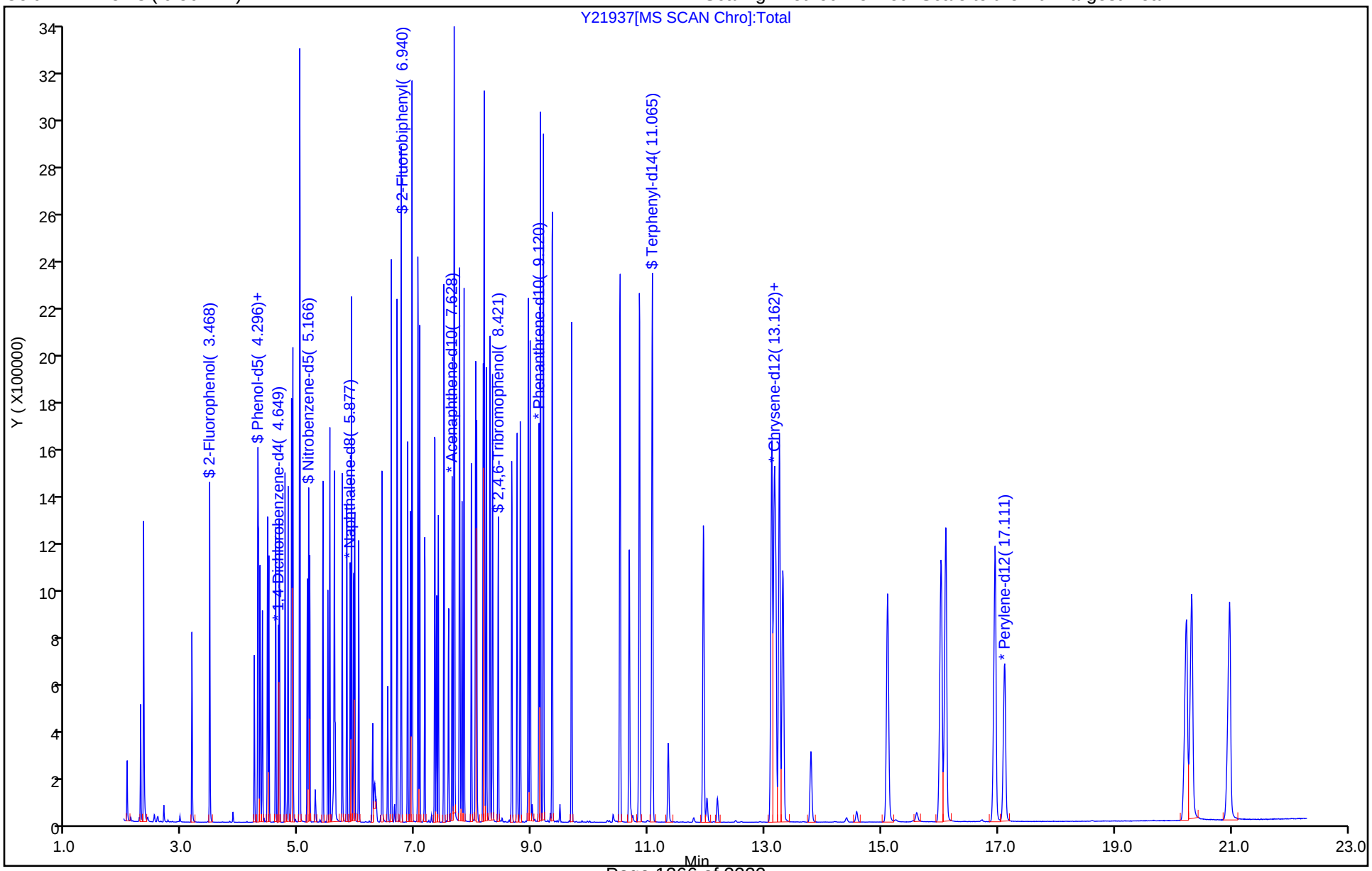
Report Date: 08-Nov-2018 09:55:56 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21937.D

Injection Date:	07-Nov-2018 16:55:30	Instrument ID:	SMS_Y	Operator ID:	HOEFLERA
Lims ID:	280-116020-B-1-A MS			Worklist Smp#:	15
Client ID:	DET-003-181001-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21937.D
Lims ID: 280-116020-B-1-A MS
Client ID: DET-003-181001-GW
Sample Type: MS
Inject. Date: 07-Nov-2018 16:55:30 ALS Bottle#: 11 Worklist Smp#: 15
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-B-1-AMS
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 07-Nov-2018 16:22:39

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	90.2	90.18
$ 8 Phenol-d5	100.0	92.8	92.82
$ 9 Nitrobenzene-d5	100.0	86.0	85.95
$ 11 2-Fluorobiphenyl	100.0	84.9	84.90
$ 12 2,4,6-Tribromophenol	100.0	93.0	93.00
$ 13 Terphenyl-d14	100.0	80.9	80.92

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW MSD | Lab Sample ID: 280-116020-1 MSD

Matrix: Water | Lab File ID: Y21938.D

Analysis Method: 8270D | Date Collected: 10/24/2018 10:05

Extract. Method: 3520C | Date Extracted: 10/29/2018 12:36

Sample wt/vol: 1015(mL) | Date Analyzed: 11/07/2018 17:24

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436671 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
95-95-4	2,4,5-Trichlorophenol	65.9		20	0.99	0.44
88-06-2	2,4,6-Trichlorophenol	68.7		20	0.99	0.29
120-83-2	2,4-Dichlorophenol	58.4		9.9	2.0	0.63
105-67-9	2,4-Dimethylphenol	54.5		9.9	2.0	0.57
51-28-5	2,4-Dinitrophenol	138		79	30	9.9
121-14-2	2,4-Dinitrotoluene	69.6		20	4.3	1.6
606-20-2	2,6-Dinitrotoluene	68.1		20	4.3	1.9
95-57-8	2-Chlorophenol	43.5	J1	9.9	4.3	2.0
95-48-7	2-Methylphenol	53.5	J1	9.9	2.0	0.97
88-75-5	2-Nitrophenol	51.0	J1	20	0.99	0.38
15831-10-4	3 & 4 Methylphenol	57.0		20	0.49	0.25
534-52-1	4,6-Dinitro-2-methylphenol	152		79	8.7	3.9
59-50-7	4-Chloro-3-methylphenol	68.2		20	4.9	2.4
100-02-7	4-Nitrophenol	132		49	3.9	1.2
117-81-7	Bis(2-ethylhexyl) phthalate	67.0		9.9	2.0	0.55
85-68-7	Butyl benzyl phthalate	64.8		20	2.0	0.99
84-66-2	Diethyl phthalate	67.6		20	0.99	0.37
131-11-3	Dimethyl phthalate	67.7		20	0.49	0.21
84-74-2	Di-n-butyl phthalate	66.8		20	4.3	1.1
117-84-0	Di-n-octyl phthalate	66.3		20	0.99	0.34
98-95-3	Nitrobenzene	47.7	J1	20	2.0	0.80
87-86-5	Pentachlorophenol	134		79	59	20
108-95-2	Phenol	50.1	J1	9.9	4.3	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	91		43-140
321-60-8	2-Fluorobiphenyl	76		44-119
367-12-4	2-Fluorophenol (Surr)	54		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	60		44-120
4165-62-2	Phenol-d5 (Surr)	66		10-115
1718-51-0	Terphenyl-d14 (Surr)	81		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21938.D
Lims ID: 280-116020-A-1-B MSD
Client ID: DET-003-181001-GW
Sample Type: MSD
Inject. Date: 07-Nov-2018 17:24:30 ALS Bottle#: 12 Worklist Smp#: 16
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-1-BMSD
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:48:15

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.649	4.649	0.000	93	120076	40.0	40.0	
* 2 Naphthalene-d8	136	5.877	5.877	0.000	99	516958	40.0	40.0	
* 3 Acenaphthene-d10	164	7.628	7.628	0.000	97	287777	40.0	40.0	
* 4 Phenanthrene-d10	188	9.120	9.120	0.000	98	584389	40.0	40.0	
* 5 Chrysene-d12	240	13.186	13.174	0.012	98	623775	40.0	40.0	
* 6 Perylene-d12	264	17.111	17.105	0.006	97	664327	40.0	40.0	
$ 7 2-Fluorophenol	112	3.468	3.465	0.003	89	223536	100.0	54.1	
$ 8 Phenol-d5	99	4.290	4.294	-0.004	95	343967	100.0	65.7	
$ 9 Nitrobenzene-d5	82	5.166	5.169	-0.003	84	284460	100.0	59.7	
$ 10 2,4,6-Trichlorophenol-d2	198		6.864					ND	
$ 11 2-Fluorobiphenyl	172	6.940	6.944	-0.004	99	777192	100.0	75.6	
$ 12 2,4,6-Tribromophenol	330	8.421	8.424	-0.003	92	119296	100.0	90.7	
$ 13 Terphenyl-d14	244	11.065	11.068	-0.003	99	1150361	100.0	80.8	
14 Triethyl amine	86		1.894					ND	
15 1,4-Dioxane	88	2.052	2.049	0.003	89	58388	80.0	35.0	
16 2-Ethoxyethanol	59		2.070					ND	
17 N-Nitrosodimethylamine	74	2.281	2.284	-0.003	94	105992	80.0	41.5	
18 Pyridine	79	2.334	2.331	0.003	95	269658	160.0	63.4	
19 Dimethylformamide	73		2.616					ND	
20 2-Picoline	93		2.980					ND	
21 N-Nitrosomethylethylamine	88		3.051					ND	
22 Acrylamide	71		3.292					ND	
23 Methyl methanesulfonate	80		3.304					ND	
24 N-Nitrosodiethylamine	102		3.668					ND	
25 Pentachlorophenol_T	266		3.785					ND	
26 Ethyl methanesulfonate	79		3.915					ND	
27 Benzaldehyde	106	4.232	4.243	-0.011	96	81964	80.0	23.8	
28 Phenol	94	4.308	4.305	0.003	95	271077	80.0	50.8	
29 Phenylmercaptan	110		4.280					ND	
30 Aniline	93	4.332	4.335	-0.003	99	287369	80.0	42.7	
31 Bis(2-chloroethyl)ether	93	4.373	4.376	-0.003	99	176449	80.0	45.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
32 Alpha Methyl Styrene	118		4.382					ND	
33 Pentachloroethane	117		4.402					ND	
34 2-Chlorophenol	128	4.461	4.458	0.003	95	197806	80.0	44.1	
35 n-Decane	43	4.484	4.482	0.002	87	92655	80.0	29.4	
36 Methyl styrene	118		4.500					ND	
37 1,3-Dichlorobenzene	146	4.596	4.599	-0.003	98	164697	80.0	35.2	
38 1,4-Dichlorobenzene	146	4.661	4.664	-0.003	96	170899	80.0	35.9	
39 Benzyl alcohol	108	4.760	4.764	-0.004	95	164203	80.0	54.3	
40 1,2-Dichlorobenzene	146	4.813	4.817	-0.004	98	166460	80.0	36.7	
41 2-Methylphenol	108	4.872	4.875	-0.003	93	221530	80.0	54.3	
42 Benzidine_T	184		4.865					ND	
43 2,2'-oxybis[1-chloropropan	45	4.884	4.887	-0.003	92	181515	80.0	42.4	
44 Indene	116	4.896	4.899	-0.003	90	289068	80.0	40.3	
45 N-Nitrosopyrrolidine	100		4.996					ND	
46 3-Methylphenol	108	5.013	5.016	-0.003	79	249025	80.0	57.9	
47 4-Methylphenol	108	5.013	5.016	-0.003	75	249025	80.0	57.9	
48 3 & 4 Methylphenol	108	5.013	5.016	-0.003	76	249025	80.0	57.9	
49 N-Nitrosomorpholine	116		5.031					ND	
50 N-Nitrosodi-n-propylamine	70	5.007	5.011	-0.004	80	171869	80.0	56.6	
51 Acetophenone	105	5.013	5.016	-0.003	88	299327	80.0	52.5	
52 2-Toluidine	106		5.066					ND	
53 Hexachloroethane	117	5.142	5.140	0.002	96	57648	80.0	32.4	
54 Nitrobenzene	77	5.183	5.187	-0.004	83	219795	80.0	48.5	
55 Triethyl phosphate	99		5.290					ND	
56 N-Nitrosopiperidine	114		5.336					ND	
57 Isophorone	82	5.413	5.416	-0.003	98	499795	80.0	59.7	
58 2-Nitrophenol	139	5.495	5.498	-0.003	90	130848	80.0	51.8	
59 2,4-Dimethylphenol	107	5.530	5.533	-0.003	93	241620	80.0	55.3	
60 Benzyl dichloride	125		5.542					ND	
61 o,o',o''-Triethylphosphoro	198		5.589					ND	
62 2,4-Xylidine	121		5.637					ND	
63 Bis(2-chloroethoxy)methane	93	5.607	5.610	-0.003	97	275806	80.0	53.5	
64 Benzoic acid	105	5.624	5.657	-0.033	86	232928	80.0	63.0	a
65 o-Anisidine	80		5.678					ND	
66 3,5-Dimethylphenol	107		5.663					ND	
67 alpha,alpha-Dimethyl phene	58		5.736					ND	
68 2,4-Dichlorophenol	162	5.742	5.745	-0.003	91	224879	80.0	59.3	
69 1,2,4-Trichlorobenzene	180	5.818	5.821	-0.003	94	164092	80.0	41.4	
70 Alpha-Terpineol	59		5.890					ND	
71 Naphthalene	128	5.900	5.904	-0.004	97	628580	80.0	47.0	
72 4-Chloroaniline	127	5.936	5.939	-0.003	98	332043	80.0	54.7	
73 2,6-Dichlorophenol	162	5.959	5.956	0.003	98	221398	80.0	58.9	
74 Hexachloropropene	213		6.006					ND	
75 Hexachlorobutadiene	225	6.024	6.027	-0.003	96	75587	80.0	37.1	
76 4-chlorobenzenethiol	144		6.086					ND	
77 Quinoline	129		6.235					ND	
78 5-Methyl-o-Anisidine	122		6.289					ND	
79 Caprolactam	55	6.265	6.280	-0.015	88	119221	80.0	67.8	M
80 N-Nitrosodi-n-butylamine	84		6.277					ND	
81 p-Phenylene diamine	108		6.294					ND	
82 1,3-phenylenediamine	108		6.407					ND	
83 4-Chloro-3-methylphenol	107	6.423	6.427	-0.003	94	270556	80.0	69.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
84 Safrole, Total	162		6.494					ND	
85 Carbofuran phenol	164		6.512					ND	
86 2-Methylnaphthalene	142	6.582	6.585	-0.003	92	523379	80.0	55.1	
87 Phthalic anhydride	76		6.619					ND	
88 1-Methylnaphthalene	142	6.682	6.685	-0.003	93	504560	80.0	57.0	
89 1,2,4,5-Tetrachlorobenzene	216	6.758	6.756	0.002	97	213946	80.0	54.5	
90 Hexachlorocyclopentadiene	237	6.752	6.750	0.002	96	180997	160.0	68.4	
91 Isosafrole Peak 1	162		6.782					ND	
92 2,4,6-Trichlorophenol	196	6.864	6.867	-0.003	91	187918	80.0	69.8	
93 2,3-Dichlorobenzenamine	161		6.861					ND	
94 2,4,5-Trichlorophenol	196	6.917	6.914	0.003	96	206560	80.0	66.9	
95 Methyl 4-chlorophenyl sulf	158		6.893					ND	
96 Isosafrole Peak 2	104		7.011					ND	
97 Toluene diamine (2,4- + 2,	122		7.035					ND	
98 1,1'-Biphenyl	154	7.040	7.043	-0.003	95	683101	80.0	60.0	
99 2-Chloronaphthalene	162	7.070	7.073	-0.003	96	511751	80.0	58.1	
100 1-Chloronaphthalene	162		7.111					ND	
101 2-Nitroaniline	65	7.158	7.161	-0.003	91	169893	80.0	66.9	
102 1,4-Naphthoquinone	158		7.246					ND	
103 1,4-Dinitrobenzene	168		7.293					ND	
104 Dimethyl phthalate	163	7.334	7.331	0.003	99	702514	80.0	68.7	
105 1,3-Dinitrobenzene	168	7.363	7.367	-0.004	92	130899	80.0	70.9	
106 2,6-Dinitrotoluene	165	7.393	7.396	-0.003	96	171300	80.0	69.1	
107 Acenaphthylene	152	7.487	7.490	-0.003	98	908203	80.0	61.5	
108 3-Nitroaniline	138	7.569	7.572	-0.003	96	173819	80.0	57.7	
109 Acenaphthene	153	7.663	7.666	-0.003	93	571747	80.0	63.2	
110 1,3-Dimethyl-2,4-Dinitrobe	77		7.635					ND	
111 2,4-Dinitrophenol	184	7.675	7.678	-0.003	85	237223	160.0	139.6	
112 4-Nitrophenol	109	7.757	7.760	-0.003	85	199474	160.0	134.4	
113 1,3-Dimethyl-2,5-Dinitrobe	179		7.879					ND	
114 2,4-Dinitrotoluene	165	7.798	7.801	-0.003	96	239392	80.0	70.6	
115 Pentachlorobenzene	250		7.816					ND	
116 Dibenzofuran	168	7.833	7.837	-0.004	97	856023	80.0	65.3	
117 1,4-Dimethyl-2,3-Dinitrobe	77		7.885					ND	
118 1-Naphthylamine	143		7.922					ND	
119 2,3,4,6-Tetrachlorophenol	232	7.963	7.960	0.003	73	175794	80.0	68.6	
120 1,4-Dimethyl-2,6-Dinitrobe	179		8.020					ND	
121 2-Naphthylamine	143		7.998					ND	
122 1,4-Dimethyl-2,5-Dinitrobe	179		7.970					ND	
123 Diethyl phthalate	149	8.033	8.036	-0.003	99	711513	80.0	68.6	
124 Hexadecane	57	8.051	8.048	0.003	94	273322	80.0	59.5	
125 1,2-Dimethyl-3,6-Dinitrobe	179		8.020					ND	
126 Thionazin	97		8.127					ND	
127 4-Chlorophenyl phenyl ethe	204	8.162	8.166	-0.004	91	320004	80.0	64.6	
128 N-Nitro-o-toluidine	152		8.192					ND	
129 Fluorene	166	8.180	8.177	0.003	94	700687	80.0	66.6	
130 4-Nitroaniline	138	8.186	8.189	-0.003	92	226684	80.0	70.0	
131 4,6-Dinitro-2-methylphenol	198	8.215	8.219	-0.004	91	300657	160.0	154.7	
132 1,5-Dimethyl-2,4-Dinitrobe	179		8.020					ND	
133 Tributyl phosphate	99		8.239					ND	
134 Diphenylamine	169	8.280	8.283	-0.003	94	520374	68.0	54.0	
135 N-Nitrosodiphenylamine	169	8.280	8.283	-0.003	60	520374	80.0	63.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
136 1,2-Diphenylhydrazine	77	8.321	8.324	-0.003	98	697431	80.9	69.3	
137 Azobenzene	77	8.321	8.324	-0.003	97	697431	80.0	68.6	
138 1,5-Dimethyl-2,3-Dinitrobe	179		8.299					ND	
139 2,4,6 - Tribromophenol	330		8.424				ND	ND	U
140 Sulfotepp	97		8.433					ND	
141 1,2-Dimethyl-3,5-Dinitrobe	179		8.520					ND	
142 1,3,5-Trinitrobenzene	213		8.539					ND	
143 Diallate Peak 1	86		8.580					ND	
144 Phorate	121		8.586					ND	
145 Phenacetin	108		8.597					ND	
146 1,2-Dimethyl-3,4-Dinitrobe	179		8.557					ND	
147 Phenyl sulfide	186		8.615					ND	
148 4-Bromophenyl phenyl ether	248	8.656	8.653	0.003	63	195120	80.0	64.5	
149 Diallate Peak 2	86		8.668					ND	
150 Dimethoate	87		8.756					ND	
151 Hexachlorobenzene	284	8.744	8.747	-0.003	93	190299	80.0	65.4	
152 Atrazine	200	8.797	8.800	-0.003	95	207032	80.0	67.6	
153 1,2-Dimethyl-4,5-Dinitrobe	91		8.784					ND	
154 4-Aminobiphenyl	169		8.932					ND	
155 Pentachlorophenol	266	8.938	8.941	-0.003	93	263773	160.0	135.7	
156 Pentachloronitrobenzene	237		8.962					ND	
157 Pronamide	173		8.985					ND	
158 n-Octadecane	85	8.967	8.971	-0.004	97	172150	80.0	63.1	
159 Disulfoton	88		9.108					ND	
160 Dinoseb	211		9.120					ND	
161 Phenanthrene	178	9.144	9.147	-0.003	98	1086646	80.0	67.2	
162 Anthracene	178	9.196	9.200	-0.004	97	1108997	80.0	65.8	
163 n-hydroxymethylphthalimide	147		9.177					ND	
164 Carbazole	167	9.349	9.352	-0.003	95	1098900	80.0	67.8	
165 Methyl parathion	109		9.490					ND	
166 Alachlor	188		9.482					ND	
167 Phenyl disulfide	109		9.589					ND	
168 Di-n-butyl phthalate	149	9.678	9.682	-0.004	100	1264677	80.0	67.8	
169 Ethyl Parathion	109		9.919					ND	
170 4-Nitroquinoline-1-oxide	190		9.978					ND	
171 Diphenylsulfone	125		9.984					ND	
172 Methapyrilene	97		10.060					ND	
173 Isodrin	193		10.336					ND	
174 Octachlorostyrene	308		10.360					ND	
175 Fluoranthene	202	10.513	10.516	-0.003	98	1267747	80.0	66.7	
176 Benzidine	184	10.671	10.672	-0.001	100	675484	160.0	47.2	
177 4,4-Dichlorobenzil	139		10.529					ND	
178 Pyrene	202	10.842	10.851	-0.009	97	1326248	80.0	67.8	
179 Bis(4-chlorophenyl)disulfi	143		10.971					ND	
180 Aramite Peak 1	185		11.042					ND	
181 p-chlorophenyl sulfone	159		11.036					ND	
182 Aramite Peak 2	185		11.165					ND	
183 p-Dimethylamino azobenzene	120		11.329					ND	
184 Chlorobenzilate	251		11.412					ND	
185 Famphur	218		11.826					ND	
186 3,3'-Dimethylbenzidine	212		11.952					ND	
187 Butyl benzyl phthalate	149	11.940	11.949	-0.009	96	596514	80.0	65.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
188 2-Acetylaminofluorene	181		12.487					ND	
189 3,3'-Dichlorobenzidine	252	13.115	13.113	0.002	74	865910	160.0	127.4	
190 4,4'-Methylene bis(2-chlor	231		13.151					ND	
191 Benzo[a]anthracene	228	13.157	13.166	-0.010	99	1220410	80.0	63.4	
192 Chrysene	228	13.245	13.254	-0.009	98	1216994	80.0	66.9	
193 Bis(2-ethylhexyl) phthalat	149	13.303	13.307	-0.004	95	841190	80.0	68.0	
194 6-Methylchrysene	242		14.449					ND	
195 Di-n-octyl phthalate	149	15.101	15.105	-0.004	98	1450060	80.0	67.3	
196 Benzo[b]fluoranthene	252	16.024	16.027	-0.003	98	1285917	80.0	67.7	
197 7,12-Dimethylbenz(a)anthra	256		16.065					ND	
198 Benzo[k]fluoranthene	252	16.106	16.109	-0.003	98	1299038	80.0	66.7	
199 Hexachlorophene	196		16.589					ND	
200 Benzo[e]pyrene	252		16.814					ND	
201 Benzo[a]pyrene	252	16.946	16.961	-0.015	79	1245081	80.0	65.9	
202 Perylene	252		17.235					ND	
203 3-Methylcholanthrene	268		18.080					ND	
204 Tris(2,3-dibromopropyl)pho	119		18.680					ND	
205 Dibenz[a,h]acridine	279		19.661					ND	
206 Dibenz[a,j]acridine	279		19.814					ND	
207 Indeno[1,2,3-cd]pyrene	276	20.231	20.240	-0.009	97	1124318	80.0	66.0	
208 Dibenz(a,h)anthracene	278	20.319	20.334	-0.015	95	1135893	80.0	66.4	
209 Benzo[g,h,i]perylene	276	20.971	20.986	-0.015	95	1168008	80.0	65.3	
210 Dibenzo[a,e]pyrene	302		24.834					ND	
S 219 Total Cresols	108				0			112.2	
S 220 Methyl Phenols,Total	108				0			112.2	
S 221 Isosafrole	162		15.636					ND	
S 222 Diallate	86		15.636					ND	
S 223 Aramite, Total	185		15.636					ND	
S 224 Phthalic acid	148		19.829					ND	
211 2-Phenoxyethanol	1		0.140					ND	
212 1,2,3,4-Tetrahydronaphthal	1		0.140					ND	
213 4-Methylacetophenone	1		0.140					ND	
214 2-Butoxyethanol	1		0.140					ND	
216 4,4'-DDE	246		4.997					ND	
217 4,4'-DDD	235		5.283					ND	
218 4,4'-DDT	235		5.500					ND	
S 225 TPAH	1		0.000					ND	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

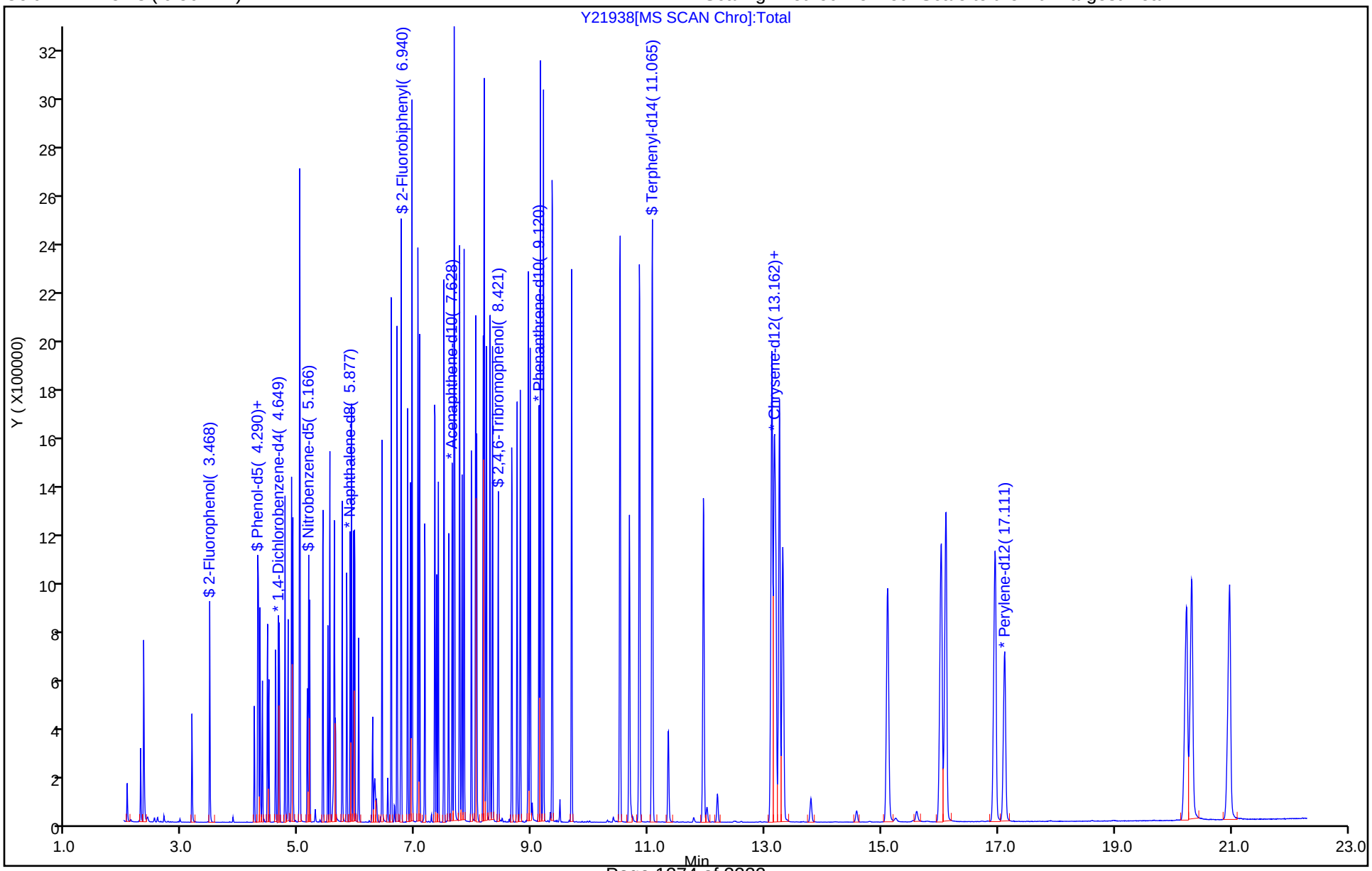
Report Date: 08-Nov-2018 09:56:00 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21938.D

Injection Date:	07-Nov-2018 17:24:30	Instrument ID:	SMS_Y	Operator ID:	HOEFLERA
Lims ID:	280-116020-A-1-B MSD			Worklist Smp#:	16
Client ID:	DET-003-181001-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	SMSY_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\Y21938.D
Lims ID: 280-116020-A-1-B MSD
Client ID: DET-003-181001-GW
Sample Type: MSD
Inject. Date: 07-Nov-2018 17:24:30 ALS Bottle#: 12 Worklist Smp#: 16
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-1-BMSD
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20181107-75933.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 08-Nov-2018 09:55:23 Calib Date: 18-Oct-2018 19:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20181018-75224.b\Y21660.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: hoeflera Date: 08-Nov-2018 09:48:15

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	54.1	54.12
$ 8 Phenol-d5	100.0	65.7	65.69
$ 9 Nitrobenzene-d5	100.0	59.7	59.67
$ 11 2-Fluorobiphenyl	100.0	75.6	75.62
$ 12 2,4,6-Tribromophenol	100.0	90.7	90.68
$ 13 Terphenyl-d14	100.0	80.8	80.82

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_Y Start Date: 10/17/2018 10:47

Analysis Batch Number: 433769 End Date: 10/17/2018 15:45

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-433769/2		10/17/2018 10:47	1	Y21614.D	Rxi-5Sil MS 0.25(mm)
ICIS 280-433769/3		10/17/2018 10:59	1	Y21615.D	Rxi-5Sil MS 0.25(mm)
STD004 280-433769/4 IC		10/17/2018 11:27	1	Y21616.D	Rxi-5Sil MS 0.25(mm)
STD010 280-433769/5 IC		10/17/2018 11:56	1	Y21617.D	Rxi-5Sil MS 0.25(mm)
STD020 280-433769/6 IC		10/17/2018 12:24	1	Y21618.D	Rxi-5Sil MS 0.25(mm)
STD050 280-433769/7 IC		10/17/2018 12:53	1	Y21619.D	Rxi-5Sil MS 0.25(mm)
STD120 280-433769/8 IC		10/17/2018 13:22	1	Y21620.D	Rxi-5Sil MS 0.25(mm)
STD160 280-433769/9 IC		10/17/2018 13:50	1	Y21621.D	Rxi-5Sil MS 0.25(mm)
STD200 280-433769/10 IC		10/17/2018 14:19	1	Y21622.D	Rxi-5Sil MS 0.25(mm)
ICV 280-433769/11		10/17/2018 14:47	1	Y21623.D	Rxi-5Sil MS 0.25(mm)
ICV 280-433769/12		10/17/2018 15:16	1	Y21624.D	Rxi-5Sil MS 0.25(mm)
ICV 280-433769/13		10/17/2018 15:45	1	Y21625.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_Y Start Date: 11/07/2018 12:29

Analysis Batch Number: 436671 End Date: 11/07/2018 23:07

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-436671/2		11/07/2018 12:29	1	Y21927.D	Rxi-5Sil MS 0.25(mm)
CCV 280-436671/3		11/07/2018 12:42	1	Y21928.D	Rxi-5Sil MS 0.25(mm)
CCV 280-436671/4		11/07/2018 13:10	1		Rxi-5Sil MS 0.25(mm)
CCV 280-436671/5		11/07/2018 13:35	1		Rxi-5Sil MS 0.25(mm)
MB 280-435328/1-A		11/07/2018 14:03	1	Y21931.D	Rxi-5Sil MS 0.25(mm)
LCS 280-435328/2-A		11/07/2018 14:32	1	Y21932.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/07/2018 15:01	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/07/2018 15:29	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/07/2018 15:58	1		Rxi-5Sil MS 0.25(mm)
280-116020-1		11/07/2018 16:26	1	Y21936.D	Rxi-5Sil MS 0.25(mm)
280-116020-1 MS		11/07/2018 16:55	1	Y21937.D	Rxi-5Sil MS 0.25(mm)
280-116020-1 MSD		11/07/2018 17:24	1	Y21938.D	Rxi-5Sil MS 0.25(mm)
280-116020-2		11/07/2018 17:53	1	Y21939.D	Rxi-5Sil MS 0.25(mm)
280-116020-4		11/07/2018 18:21	1	Y21940.D	Rxi-5Sil MS 0.25(mm)
280-116020-5		11/07/2018 18:50	1	Y21941.D	Rxi-5Sil MS 0.25(mm)
280-116020-6		11/07/2018 19:18	1	Y21942.D	Rxi-5Sil MS 0.25(mm)
280-116020-8		11/07/2018 19:47	1	Y21943.D	Rxi-5Sil MS 0.25(mm)
280-116020-12		11/07/2018 20:16	1	Y21944.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/07/2018 20:44	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/07/2018 21:13	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/07/2018 21:41	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/07/2018 22:10	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/07/2018 22:39	1		Rxi-5Sil MS 0.25(mm)
CCVC 280-436671/42		11/07/2018 23:07	1	Y21950.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435328 Batch Start Date: 10/29/18 12:36 Batch Analyst: Zhang, Jian

Batch Method: 3520C Batch End Date: 11/01/18 12:27

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH
MB 280-435328/1		3520C, 8270D				1000 mL	1 mL	7 SU	1-2 SU
LCS 280-435328/2		3520C, 8270D				1000 mL	1 mL	7 SU	1-2 SU
280-116020-A-1	DET-003-181001-GW	3520C, 8270D	T	1513.7 g	498.5 g	1015.2 mL	1 mL	7 SU	1-2 SU
280-116020-B-1 MS	DET-003-181001-GW	3520C, 8270D	T	1524.7 g	500.8 g	1023.9 mL	1 mL	7 SU	1-2 SU
280-116020-A-1 MSD	DET-003-181001-GW	3520C, 8270D	T	1516.3 g	501.3 g	1015 mL	1 mL	7 SU	1-2 SU
280-116020-D-2	DET-003-181002-GW	3520C, 8270D	T	1519.3 g	496.8 g	1022.5 mL	1 mL	7 SU	1-2 SU
280-116020-A-4	WBGmw-009-181001-GW	3520C, 8270D	T	1421.5 g	499.7 g	921.8 mL	1 mL	7 SU	1-2 SU
280-116020-C-5	LL1mw-083-181001-GW	3520C, 8270D	T	1455.8 g	499.3 g	956.5 mL	1 mL	7 SU	1-2 SU
280-116020-B-6	LL1mw-084-181001-GW	3520C, 8270D	T	1551.9 g	499.2 g	1052.7 mL	1 mL	7 SU	1-2 SU
280-116020-A-8	DA2mw-115-181001-GW	3520C, 8270D	T	1469.9 g	499.5 g	970.4 mL	1 mL	7 SU	1-2 SU
280-116020-C-12	DET-004-181001-GW	3520C, 8270D	T	1437.3 g	498.3 g	939 mL	1 mL	7 SU	1-2 SU

Lab Sample ID	Client Sample ID	Method Chain	Basis	SecondAdjustpH	8270_LCS_Main 00055	8270_LCS_Supp 00308	8270Surrogate 00128	AnalysisComment	
MB 280-435328/1		3520C, 8270D		11-12 SU			1 mL	Shared with 435323	
LCS 280-435328/2		3520C, 8270D		11-12 SU	1 mL	1 mL	1 mL	Shared with 435323	
280-116020-A-1	DET-003-181001-GW	3520C, 8270D	T	11-12 SU			1 mL		
280-116020-B-1 MS	DET-003-181001-GW	3520C, 8270D	T	11-12 SU	1 mL	1 mL	1 mL		
280-116020-A-1 MSD	DET-003-181001-GW	3520C, 8270D	T	11-12 SU	1 mL	1 mL	1 mL		
280-116020-D-2	DET-003-181002-GW	3520C, 8270D	T	11-12 SU			1 mL		
280-116020-A-4	WBGmw-009-181001-GW	3520C, 8270D	T	11-12 SU			1 mL		
280-116020-C-5	LL1mw-083-181001-GW	3520C, 8270D	T	11-12 SU			1 mL		
280-116020-B-6	LL1mw-084-181001-GW	3520C, 8270D	T	11-12 SU			1 mL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435328 Batch Start Date: 10/29/18 12:36 Batch Analyst: Zhang, Jian

Batch Method: 3520C Batch End Date: 11/01/18 12:27

Lab Sample ID	Client Sample ID	Method Chain	Basis	SecondAdjustpH	8270_LCS_Main 00055	8270_LCS_Supp 00308	8270Surrogate 00128	AnalysisComment	
280-116020-A-8	DA2mw-115-181001-GW	3520C, 8270D	T	11-12 SU			1 mL		
280-116020-C-12	DET-004-181001-GW	3520C, 8270D	T	11-12 SU			1 mL		

Batch Notes	
Acid Used for pH Adjustment ID	1:1 H2SO4_00077
Balance ID	B318295195
Base Used to Adjust pH ID	10N_NaOH_00131
Batch Comment	DV-OP-0008/0007; H2O N.ELGA;
Analyst ID - Concentration	CR/MF
Concentration 1 Corrected Temperature	84/84 Degrees C
Equipment ID - Concentration 1	A/B
Analyst ID - Extraction	JZ(Trainer)/VV(Trainee)
Extraction 1 End Time	10/30/2018 06:55
Extraction 1 Start Time	10/29/2018 12:48
Method/Fraction	3520C/8270D_DOD5
Na2SO4 ID	0000205461_00008
NaCl ID	173831
Pipette/Syringe/Dispenser ID	Woo!
Prep Solvent ID	MeCl2_Cycl_00410/411
Extraction 2 End Time	10/31/2018 06:14
Extraction 2 Start Time	10/30/2018 07:52
Analyst ID - Spike Analyst	JZ
Analyst ID - Spike Witness Analyst	Reviewer:KS
Sufficient Volume for Batch QC	Yes
Concentration 1 Uncorrected Temperature	85/83 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8270D_SIM_DOD5

Semivolatile Organic Compounds (GC/MS SIM)

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Rxi-5Sil MS ID: 0.25(mm)

Client Sample ID	Lab Sample ID	NBZ	#	FBP	#	TPHL	#
DET-003-181001-GW	280-116020-1	61		57		91	
DET-003-181002-GW	280-116020-2	73		63		83	
DET-004-181001-GW	280-116020-12	52	Q	47	Q	78	
	MB 280-435408/1-A	56		57		92	
	LCS 280-435408/2-A	78		66		87	
DET-003-181001-GW MS	280-116020-1 MS	63		51	Q	84	
DET-003-181001-GW MSD	280-116020-1 MSD	69		60		83	

	QC LIMITS
NBZ = Nitrobenzene-d5	55-111
FBP = 2-Fluorobiphenyl	53-106
TPHL = Terphenyl-d14	58-132

Column to be used to flag recovery values

FORM II 8270D SIM

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: F4484.D

Lab ID: LCS 280-435408/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1-Methylnaphthalene	0.900	0.625	69	41-115	
2-Methylnaphthalene	0.900	0.598	66	39-114	
Acenaphthene	0.900	0.685	76	48-114	
Acenaphthylene	0.900	0.648	72	35-121	
Anthracene	0.900	0.704	78	53-119	
Benzo[a]anthracene	0.900	0.848	94	59-120	
Benzo[a]pyrene	0.900	0.731	81	53-120	
Benzo[b]fluoranthene	0.900	0.757	84	53-126	
Benzo[g,h,i]perylene	0.900	0.632	70	44-128	
Benzo[k]fluoranthene	0.900	0.803	89	54-125	
Chrysene	0.900	0.785	87	57-120	
Dibenz(a,h)anthracene	0.900	0.626	70	44-131	
Fluoranthene	0.900	0.783	87	58-120	
Fluorene	0.900	0.694	77	50-118	
Indeno[1,2,3-cd]pyrene	0.900	0.637	71	48-130	
Naphthalene	0.900	0.595	66	43-114	
Phenanthrene	0.900	0.716	80	53-115	
Pyrene	0.900	0.784	87	53-121	

Column to be used to flag recovery and RPD values

FORM III 8270D SIM

FORM III
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: F4486.D

Lab ID: 280-116020-1 MS Client ID: DET-003-181001-GW MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1-Methylnaphthalene	0.907	0.013 U	0.559	62	41-115	
2-Methylnaphthalene	0.907	0.013 U	0.516	57	39-114	
Acenaphthene	0.907	0.042 U	0.552	61	48-114	Q
Acenaphthylene	0.907	0.042 U	0.529	58	35-121	Q
Anthracene	0.907	0.042 U	0.572	63	53-119	Q
Benzo[a]anthracene	0.907	0.013 U	0.634	70	59-120	
Benzo[a]pyrene	0.907	0.013 U	0.524	58	53-120	
Benzo[b]fluoranthene	0.907	0.013 U	0.594	66	53-126	
Benzo[g,h,i]perylene	0.907	0.013 U	0.577	64	44-128	
Benzo[k]fluoranthene	0.907	0.013 U	0.617	68	54-125	
Chrysene	0.907	0.013 U	0.773	85	57-120	
Dibenz(a,h)anthracene	0.907	0.013 U	0.536	59	44-131	
Fluoranthene	0.907	0.013 U	0.695	77	58-120	Q
Fluorene	0.907	0.042 U	0.564	62	50-118	Q
Indeno[1,2,3-cd]pyrene	0.907	0.042 U	0.541	60	48-130	
Naphthalene	0.907	0.013 U	0.542	60	43-114	
Phenanthrene	0.907	0.021 U	0.630	70	53-115	Q
Pyrene	0.907	0.021 U	0.662	73	53-121	Q

Column to be used to flag recovery and RPD values

FORM III 8270D SIM

FORM III
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: F4487.D

Lab ID: 280-116020-1 MSD Client ID: DET-003-181001-GW MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1-Methylnaphthalene	0.911	0.632	69	12	20	41-115	
2-Methylnaphthalene	0.911	0.595	65	14	20	39-114	
Acenaphthene	0.911	0.645	71	15	20	48-114	
Acenaphthylene	0.911	0.580	64	9	20	35-121	
Anthracene	0.911	0.599	66	5	20	53-119	
Benzo[a]anthracene	0.911	0.635	70	0	20	59-120	
Benzo[a]pyrene	0.911	0.523	57	0	20	53-120	
Benzo[b]fluoranthene	0.911	0.604	66	2	20	53-126	
Benzo[g,h,i]perylene	0.911	0.589	65	2	20	44-128	M
Benzo[k]fluoranthene	0.911	0.670	74	8	20	54-125	
Chrysene	0.911	0.800	88	3	20	57-120	
Dibenz(a,h)anthracene	0.911	0.520	57	3	20	44-131	
Fluoranthene	0.911	0.677	74	3	20	58-120	
Fluorene	0.911	0.611	67	8	20	50-118	
Indeno[1,2,3-cd]pyrene	0.911	0.524	58	3	20	48-130	
Naphthalene	0.911	0.613	67	12	20	43-114	
Phenanthrene	0.911	0.670	74	6	20	53-115	
Pyrene	0.911	0.654	72	1	20	53-121	

Column to be used to flag recovery and RPD values

FORM III 8270D SIM

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab File ID: F4483.D Lab Sample ID: MB 280-435408/1-A

Matrix: Water Date Extracted: 10/29/2018 21:02

Instrument ID: SMS_F Date Analyzed: 11/01/2018 23:01

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-435408/2-A	F4484.D	11/01/2018 23:30
DET-003-181001-GW MS	280-116020-1 MS	F4486.D	11/02/2018 00:29
DET-003-181001-GW MSD	280-116020-1 MSD	F4487.D	11/02/2018 00:59
DET-003-181002-GW	280-116020-2	F4488.D	11/02/2018 01:28
DET-004-181001-GW	280-116020-12	F4489.D	11/02/2018 01:58
DET-003-181001-GW	280-116020-1	F4573.D	11/09/2018 01:53

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab File ID: F4397.D DFTPP Injection Date: 10/29/2018

Instrument ID: SMS_F DFTPP Injection Time: 15:45

Analysis Batch No.: 435404

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	48.2	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	50.4	
70	Less than 2.0 % of mass 69	0.2	(0.4) 1
127	40.0 - 60.0 % of mass 198	54.1	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	7.1	
275	10.0 - 30.0 % of mass 198	25.0	
365	Greater than 1.0 % of mass 198	3.3	
441	Present but less than mass 443	11.7	(74.1) 3
442	Greater than 40.0 % of mass 198	74.9	
443	17.0 - 23.0 % of mass 442	15.8	(21.1) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICIS 280-435404/3	F4398.D	10/29/2018	16:02
	STD0001 280-435404/4	F4399.D	10/29/2018	16:32
	STD0002 280-435404/5	F4400.D	10/29/2018	17:02
	STD0500 280-435404/6	F4401.D	10/29/2018	17:32
	STD0100 280-435404/7	F4402.D	10/29/2018	18:01
	STD0300 280-435404/8	F4403.D	10/29/2018	18:31
	STD1200 280-435404/9	F4404.D	10/29/2018	19:01
	STD2500 280-435404/10	F4405.D	10/29/2018	19:31
	STD5000 280-435404/11	F4406.D	10/29/2018	20:00
	ICV 280-435404/12	F4407.D	10/29/2018	20:30

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab File ID: F4473.D DFTPP Injection Date: 11/01/2018

Instrument ID: SMS_F DFTPP Injection Time: 18:15

Analysis Batch No.: 435950

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	56.6	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	58.2	
70	Less than 2.0 % of mass 69	0.2	(0.4) 1
127	40.0 - 60.0 % of mass 198	57.7	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	7.0	
275	10.0 - 30.0 % of mass 198	23.0	
365	Greater than 1.0 % of mass 198	2.4	
441	Present but less than mass 443	10.5	(78.8) 3
442	Greater than 40.0 % of mass 198	65.4	
443	17.0 - 23.0 % of mass 442	13.3	(20.3) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-435950/3	F4474.D	11/01/2018	18:29
	MB 280-435408/1-A	F4483.D	11/01/2018	23:01
	LCS 280-435408/2-A	F4484.D	11/01/2018	23:30
DET-003-181001-GW MS	280-116020-1 MS	F4486.D	11/02/2018	00:29
DET-003-181001-GW MSD	280-116020-1 MSD	F4487.D	11/02/2018	00:59
DET-003-181002-GW	280-116020-2	F4488.D	11/02/2018	01:28
DET-004-181001-GW	280-116020-12	F4489.D	11/02/2018	01:58
	CCVC 280-435950/25	F4496.D	11/02/2018	05:24

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab File ID: F4561.D DFTPP Injection Date: 11/07/2018

Instrument ID: SMS_F DFTPP Injection Time: 19:54

Analysis Batch No.: 436730

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	57.1	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	58.5	
70	Less than 2.0 % of mass 69	0.2	(0.4) 1
127	40.0 - 60.0 % of mass 198	58.5	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.7	
275	10.0 - 30.0 % of mass 198	23.8	
365	Greater than 1.0 % of mass 198	2.8	
441	Present but less than mass 443	11.5	(82.1) 3
442	Greater than 40.0 % of mass 198	70.5	
443	17.0 - 23.0 % of mass 442	14.0	(19.8) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICIS 280-436730/3	F4562.D	11/07/2018	20:06
	STD0500 280-436730/6	F4563.D	11/07/2018	20:35
	STD0100 280-436730/7	F4564.D	11/07/2018	21:05
	STD0001 280-436730/4	F4565.D	11/07/2018	21:34
	STD0002 280-436730/5	F4566.D	11/07/2018	22:02
	STD0300 280-436730/8	F4567.D	11/07/2018	22:31
	STD1200 280-436730/9	F4568.D	11/07/2018	23:00
	STD2500 280-436730/10	F4569.D	11/07/2018	23:29
	STD5000 280-436730/11	F4570.D	11/07/2018	23:58
	ICV 280-436730/12	F4571.D	11/08/2018	00:27

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab File ID: F4553.D DFTPP Injection Date: 11/08/2018

Instrument ID: SMS_F DFTPP Injection Time: 15:41

Analysis Batch No.: 436903

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	54.7	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	57.8	
70	Less than 2.0 % of mass 69	0.4	(0.6) 1
127	40.0 - 60.0 % of mass 198	58.9	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.9	
275	10.0 - 30.0 % of mass 198	24.4	
365	Greater than 1.0 % of mass 198	3.0	
441	Present but less than mass 443	13.4	(88.8) 3
442	Greater than 40.0 % of mass 198	79.0	
443	17.0 - 23.0 % of mass 442	15.1	(19.1) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-436903/3	F4554.D	11/08/2018	15:54
DET-003-181001-GW	280-116020-1	F4573.D	11/09/2018	01:53
	CCVC 280-436903/23	F4574.D	11/09/2018	02:22

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: ICIS 280-435404/3 Date Analyzed: 10/29/2018 16:02

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): F4398.D Heated Purge: (Y/N) N

Calibration ID: 34170

		ANT		PHN		CRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		24976	7.71	52568	9.21	52726	13.38
UPPER LIMIT		49952	8.21	105136	9.71	105452	13.88
LOWER LIMIT		12488	7.21	26284	8.71	26363	12.88
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-435404/12		24945	7.71	53849	9.21	53312	13.36
CCV 280-435950/3		24170	7.72	53542	9.22	51365	13.38
MB 280-435408/1-A		25730	7.71	62866	9.21	66335	13.36
LCS 280-435408/2-A		24762	7.71	56551	9.21	60502	13.36
280-116020-2	DET-003-181002-GW	23991	7.71	53154	9.20	44740	13.35
280-116020-12	DET-004-181001-GW	22952	7.71	52170	9.21	47069	13.35
CCVC 280-435950/25		25141	7.70	53342	9.20	48919	13.35

ANT = Acenaphthene-d10
PHN = Phenanthrene-d10
CRY = Chrysene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D SIM

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: ICIS 280-436730/3 Date Analyzed: 11/07/2018 20:06

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): F4562.D Heated Purge: (Y/N) N

Calibration ID: 34235

		ANT		PHN		CRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		50543	7.63	108205	9.12	100389	13.18
UPPER LIMIT		101086	8.13	216410	9.62	200778	13.68
LOWER LIMIT		25272	7.13	54103	8.62	50195	12.68
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-436730/12		45866	7.63	99357	9.11	87955	13.16
CCV 280-436903/3		45662	7.63	92694	9.11	80280	13.16
280-116020-1	DET-003-181001-GW	44238	7.62	90562	9.10	67314	13.15
CCVC 280-436903/23		41494	7.62	82505	9.11	68666	13.15

ANT = Acenaphthene-d10
PHN = Phenanthrene-d10
CRY = Chrysene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D SIM

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW | Lab Sample ID: 280-116020-1

Matrix: Water | Lab File ID: F4573.D

Analysis Method: 8270D SIM | Date Collected: 10/24/2018 10:05

Extract. Method: 3510C | Date Extracted: 10/29/2018 21:02

Sample wt/vol: 239.2(mL) | Date Analyzed: 11/09/2018 01:53

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436903 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	0.013	U	0.10	0.013	0.0062
91-57-6	2-Methylnaphthalene	0.013	U	0.10	0.013	0.0063
83-32-9	Acenaphthene	0.042	U M	0.10	0.042	0.0044
208-96-8	Acenaphthylene	0.042	U	0.10	0.042	0.0053
120-12-7	Anthracene	0.042	U	0.10	0.042	0.0059
56-55-3	Benzo[a]anthracene	0.013	U	0.10	0.013	0.0044
50-32-8	Benzo[a]pyrene	0.013	U M	0.10	0.013	0.0072
205-99-2	Benzo[b]fluoranthene	0.013	U	0.10	0.013	0.0032
191-24-2	Benzo[g,h,i]perylene	0.013	U	0.10	0.013	0.0065
207-08-9	Benzo[k]fluoranthene	0.013	U M	0.10	0.013	0.0066
218-01-9	Chrysene	0.013	U	0.10	0.013	0.0034
53-70-3	Dibenz(a,h)anthracene	0.013	U	0.10	0.013	0.0043
206-44-0	Fluoranthene	0.013	U	0.10	0.013	0.0050
86-73-7	Fluorene	0.042	U	0.10	0.042	0.0057
193-39-5	Indeno[1,2,3-cd]pyrene	0.042	U	0.10	0.042	0.0047
91-20-3	Naphthalene	0.013	U	0.10	0.013	0.0084
85-01-8	Phenanthrene	0.021	U	0.10	0.021	0.0097
129-00-0	Pyrene	0.021	U	0.10	0.021	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	57		53-106
4165-60-0	Nitrobenzene-d5	61		55-111
1718-51-0	Terphenyl-d14	91		58-132

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4573.D
Lims ID: 280-116020-H-1-A
Client ID: DET-003-181001-GW
Sample Type: Client
Inject. Date: 09-Nov-2018 01:53:30 ALS Bottle#: 21 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-h-1-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 21:26:54 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: CTX0302

First Level Reviewer: wickhamm Date: 09-Nov-2018 19:31:42

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.618	7.626	-0.008	89	44238	600.0	
* 2 Phenanthrene-d10	188	9.102	9.111	-0.009	100	90562	600.0	
* 3 Chrysene-d12	240	13.151	13.160	-0.009	91	67314	600.0	
$ 4 Nitrobenzene-d5	82	5.164	5.169	-0.005	99	18992	303.4	
$ 5 2-Fluorobiphenyl	172	6.936	6.935	0.001	98	30830	284.1	
$ 6 Terphenyl-d14	244	11.047	11.056	-0.009	99	53615	457.1	
10 Naphthalene	128		5.898				ND	
11 2-Methylnaphthalene	142		6.572				ND	
12 1-Methylnaphthalene	142		6.678				ND	
14 Acenaphthylene	152		7.479				ND	
15 Acenaphthene	153		7.652				ND	U
18 Fluorene	166		8.167				ND	
20 Phenanthrene	178		9.128				ND	
21 Anthracene	178		9.180				ND	
23 Fluoranthene	202		10.502				ND	
24 Pyrene	202		10.831				ND	
26 Benzo[a]anthracene	228		13.133				ND	
27 Chrysene	228		13.223				ND	
30 Benzo[b]fluoranthene	252		15.988				ND	
31 Benzo[k]fluoranthene	252		16.062				ND	U
32 Benzo[a]pyrene	252		16.911				ND	U
33 Indeno[1,2,3-cd]pyrene	276		20.187				ND	
34 Dibenz(a,h)anthracene	278		20.279				ND	
35 Benzo[g,h,i]perylene	276		20.922				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

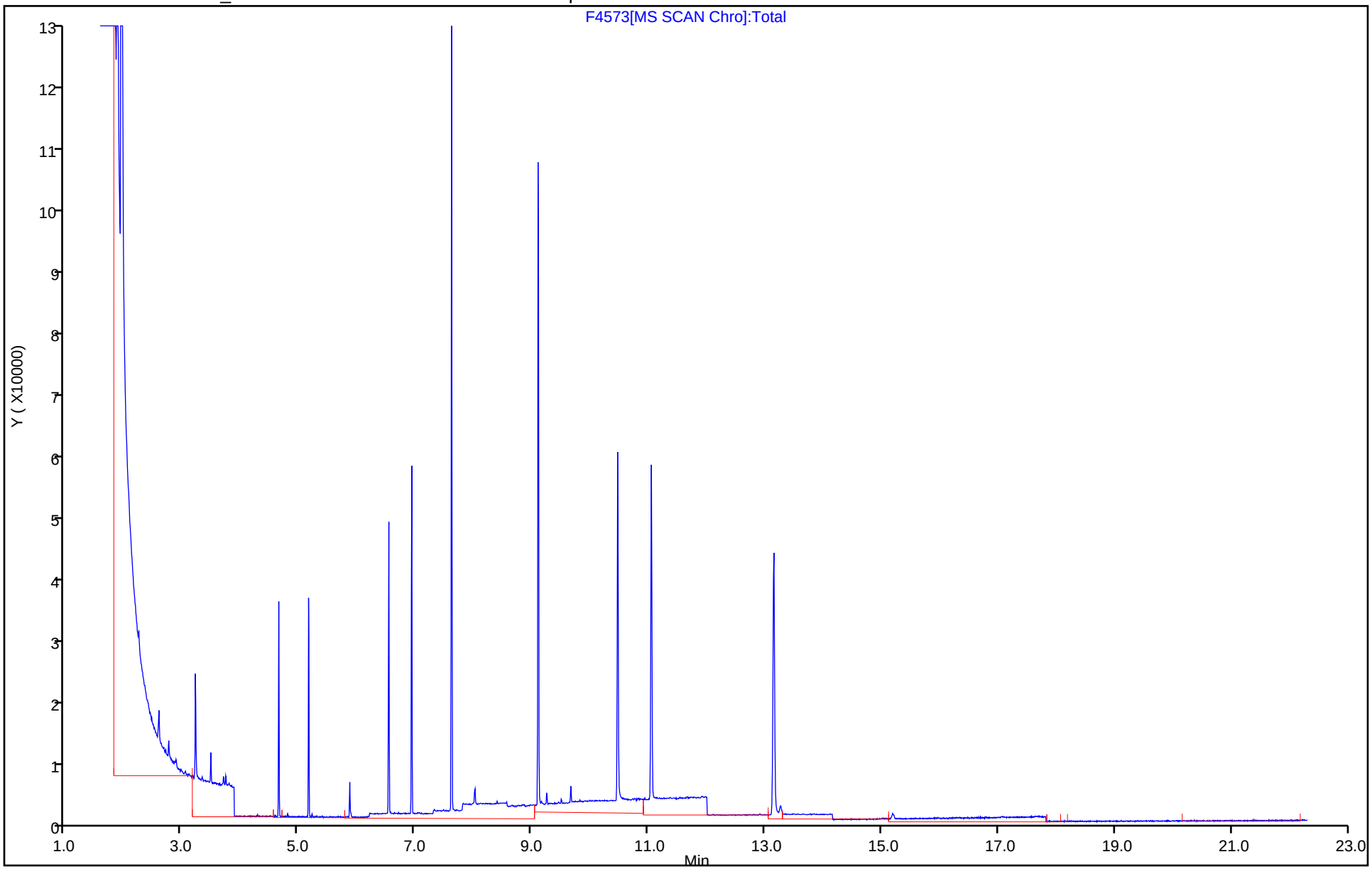
Reagents:

MS-SIM IS_00033 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 09-Nov-2018 21:27:33 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4573.D				
Injection Date:	09-Nov-2018 01:53:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	280-116020-H-1-A	Lab Sample ID:	280-116020-1	Worklist Smp#:	22
Client ID:	DET-003-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4573.D
Lims ID: 280-116020-H-1-A
Client ID: DET-003-181001-GW
Sample Type: Client
Inject. Date: 09-Nov-2018 01:53:30 ALS Bottle#: 21 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-h-1-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 21:26:54 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: CTX0302

First Level Reviewer: wickhamm Date: 09-Nov-2018 19:31:42

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Nitrobenzene-d5	500.0	303.4	60.67
$ 5 2-Fluorobiphenyl	500.0	284.1	56.83
$ 6 Terphenyl-d14	500.0	457.1	91.43
$ 53 2-methylnaphthalene-d10	0.0	0	0.00
$ 54 Fluoranthene-d10	0.0	0	0.00

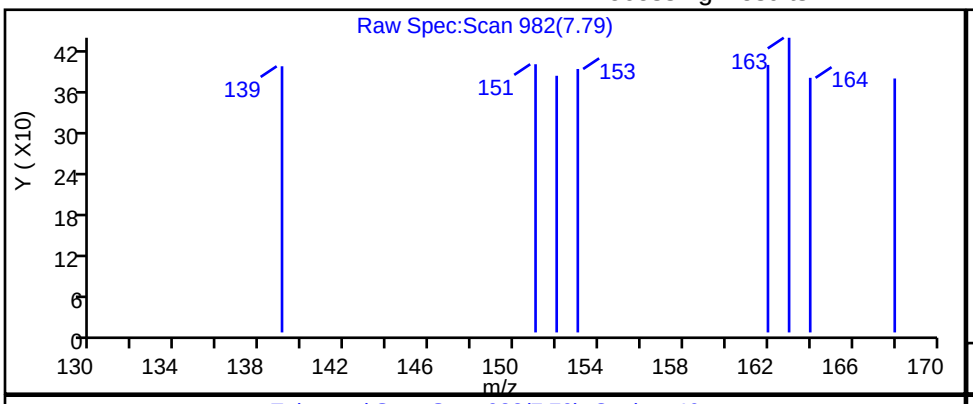
User Disabled Compound Report

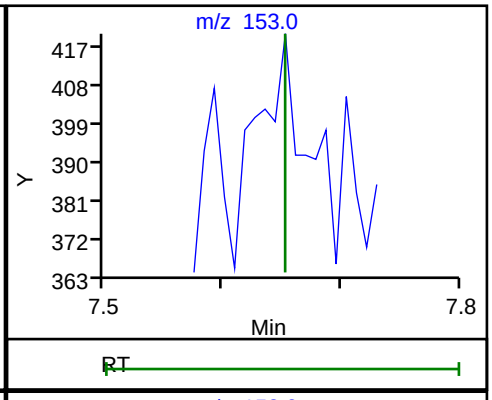
TestAmerica Denver

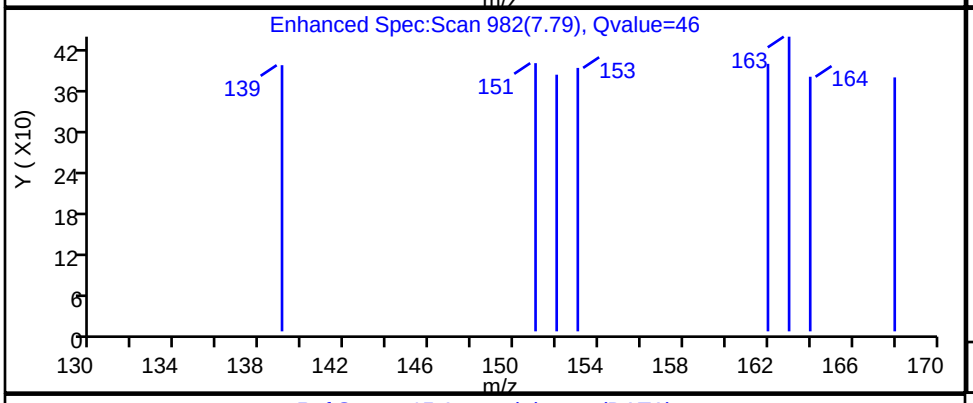
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4573.D				
Injection Date:	09-Nov-2018 01:53:30	Instrument ID:	SMS_F		
Lims ID:	280-116020-H-1-A	Lab Sample ID:	280-116020-1		
Client ID:	DET-003-181001-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	21	Worklist Smp#:	22
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

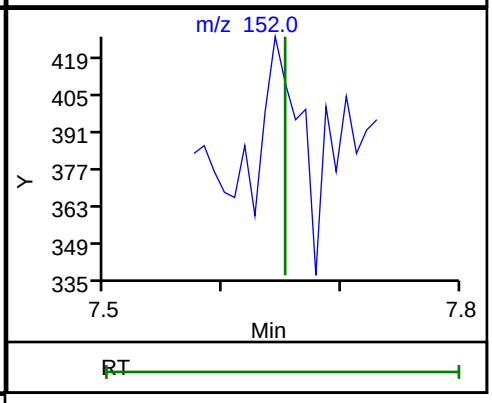
15 Acenaphthene, CAS: 83-32-9

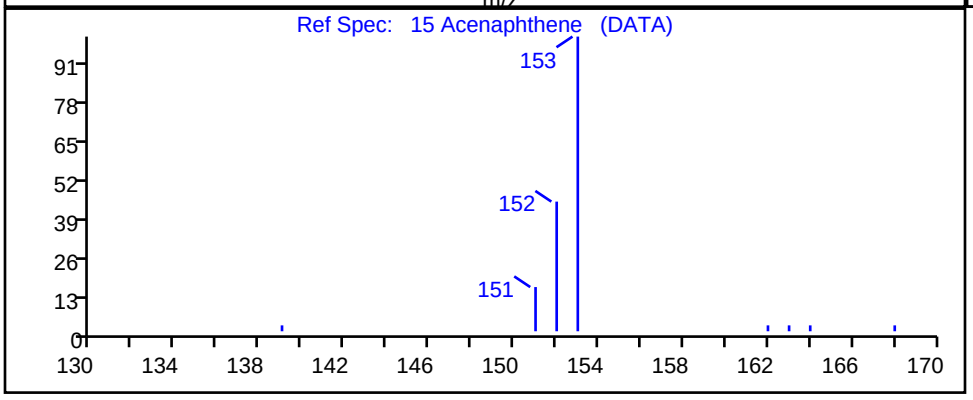
Processing Results











RT	Mass	Response	Amount
7.79	153.00	596	6.073095
7.65	152.00	0	

Reviewer: wickhamm, 09-Nov-2018 19:31:30

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

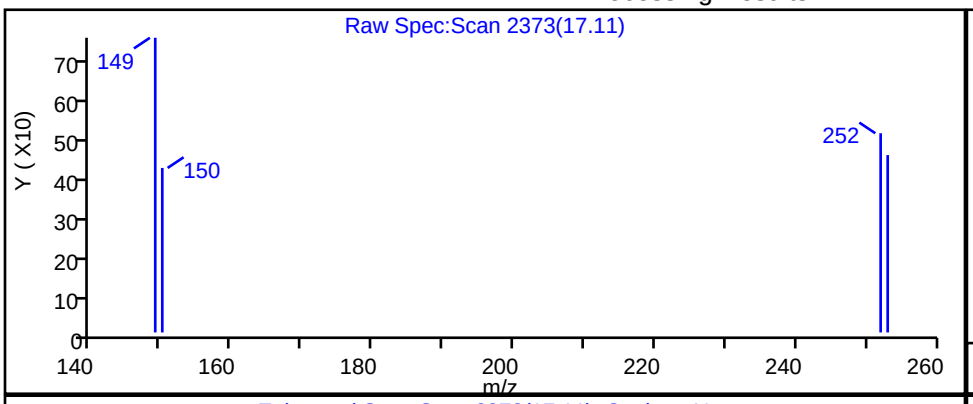
User Disabled Compound Report

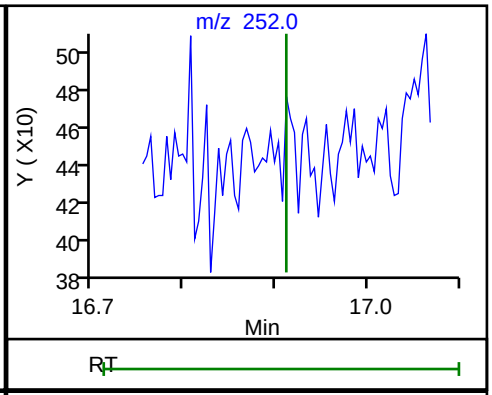
TestAmerica Denver

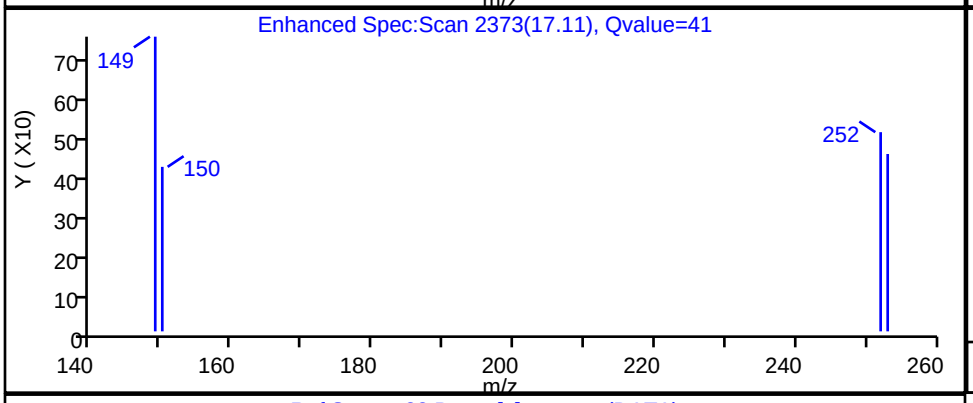
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4573.D				
Injection Date:	09-Nov-2018 01:53:30	Instrument ID:	SMS_F		
Lims ID:	280-116020-H-1-A	Lab Sample ID:	280-116020-1		
Client ID:	DET-003-181001-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	21	Worklist Smp#:	22
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

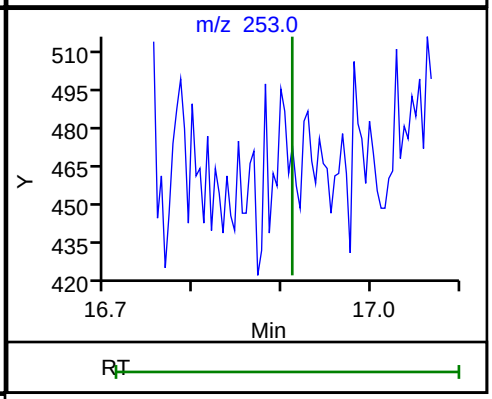
32 Benzo[a]pyrene, CAS: 50-32-8

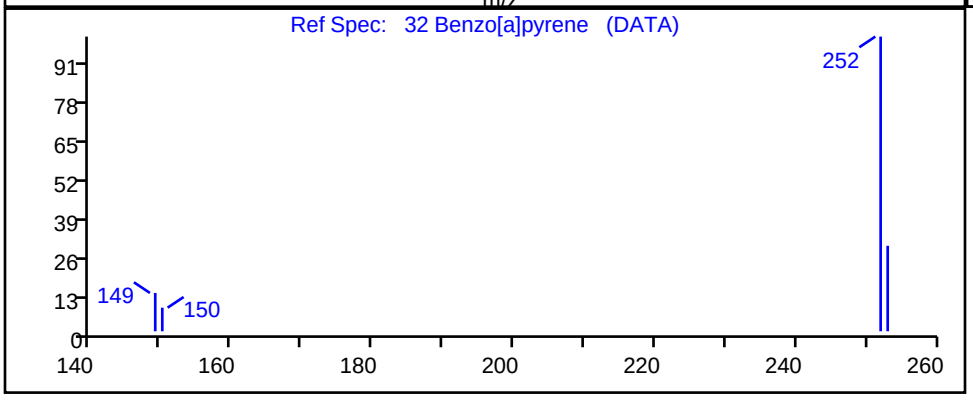
Processing Results











RT	Mass	Response	Amount
17.11	252.00	173	1.326421
16.91	253.00	0	

Reviewer: wickhamm, 09-Nov-2018 19:31:38

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

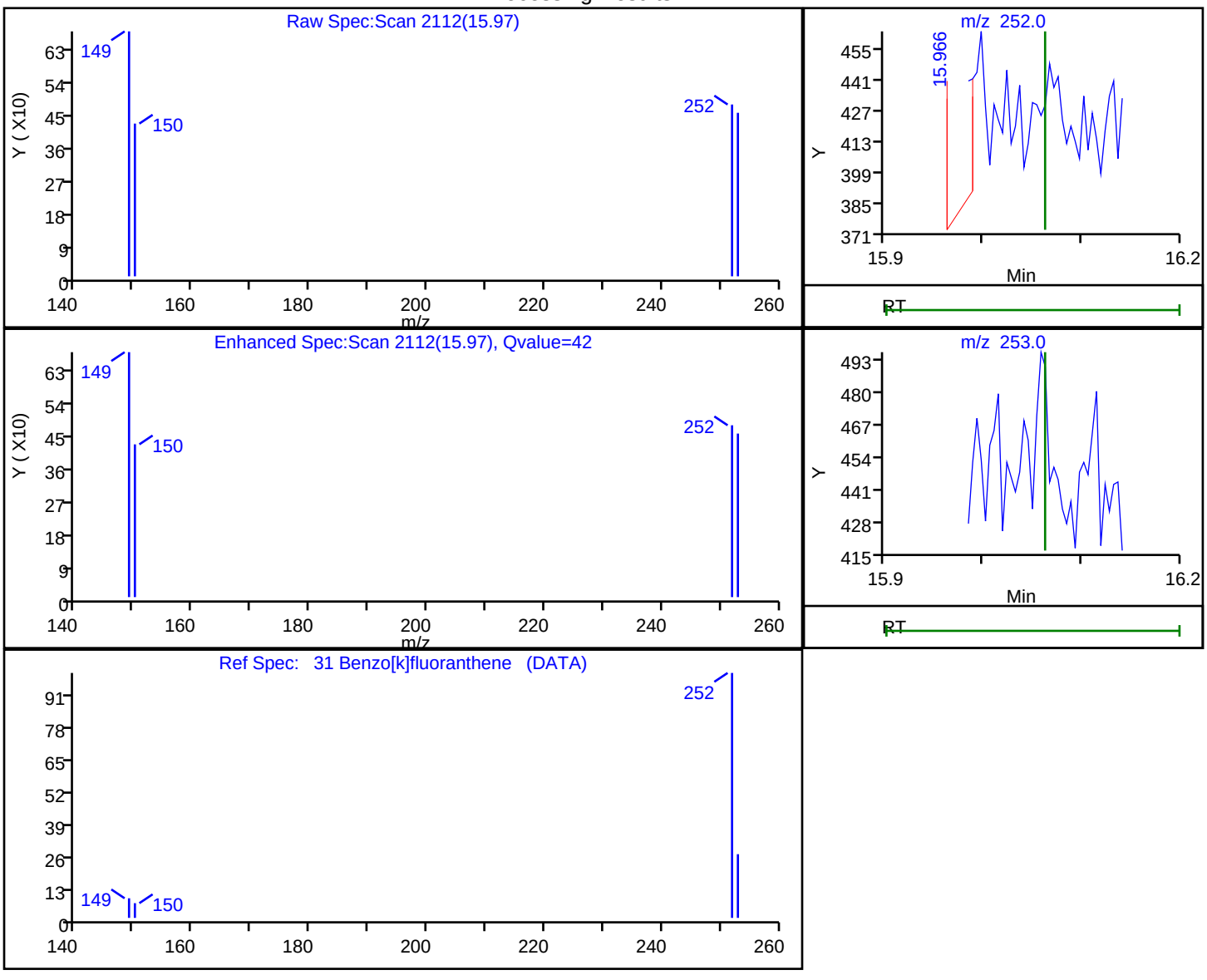
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4573.D				
Injection Date:	09-Nov-2018 01:53:30	Instrument ID:	SMS_F		
Lims ID:	280-116020-H-1-A	Lab Sample ID:	280-116020-1		
Client ID:	DET-003-181001-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	21	Worklist Smp#:	22
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

31 Benzo[k]fluoranthene, CAS: 207-08-9

Processing Results



RT	Mass	Response	Amount
15.97	252.00	126	0.865007
16.06	253.00	0	

Reviewer: wickhamm, 09-Nov-2018 19:31:36

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181002-GW | Lab Sample ID: 280-116020-2

Matrix: Water | Lab File ID: F4488.D

Analysis Method: 8270D SIM | Date Collected: 10/24/2018 10:05

Extract. Method: 3510C | Date Extracted: 10/29/2018 21:02

Sample wt/vol: 244.5(mL) | Date Analyzed: 11/02/2018 01:28

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	0.012	U	0.10	0.012	0.0060
91-57-6	2-Methylnaphthalene	0.012	U	0.10	0.012	0.0061
83-32-9	Acenaphthene	0.041	U	0.10	0.041	0.0043
208-96-8	Acenaphthylene	0.041	U	0.10	0.041	0.0052
120-12-7	Anthracene	0.041	U	0.10	0.041	0.0057
56-55-3	Benzo[a]anthracene	0.012	U	0.10	0.012	0.0043
50-32-8	Benzo[a]pyrene	0.012	U	0.10	0.012	0.0071
205-99-2	Benzo[b]fluoranthene	0.012	U	0.10	0.012	0.0032
191-24-2	Benzo[g,h,i]perylene	0.012	U	0.10	0.012	0.0063
207-08-9	Benzo[k]fluoranthene	0.012	U M	0.10	0.012	0.0064
218-01-9	Chrysene	0.012	U	0.10	0.012	0.0034
53-70-3	Dibenz(a,h)anthracene	0.012	U	0.10	0.012	0.0042
206-44-0	Fluoranthene	0.012	U	0.10	0.012	0.0049
86-73-7	Fluorene	0.041	U	0.10	0.041	0.0056
193-39-5	Indeno[1,2,3-cd]pyrene	0.041	U	0.10	0.041	0.0046
91-20-3	Naphthalene	0.012	U	0.10	0.012	0.0082
85-01-8	Phenanthrene	0.020	U	0.10	0.020	0.0095
129-00-0	Pyrene	0.020	U	0.10	0.020	0.0062

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	63		53-106
4165-60-0	Nitrobenzene-d5	73		55-111
1718-51-0	Terphenyl-d14	83		58-132

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4488.D
Lims ID: 280-116020-E-2-A
Client ID: DET-003-181002-GW
Sample Type: Client
Inject. Date: 02-Nov-2018 01:28:30 ALS Bottle#: 16 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-e-2-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 17:14:23

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.721	-0.008	95	23991	600.0	
* 2 Phenanthrene-d10	188	9.197	9.215	-0.018	100	53154	600.0	a
* 3 Chrysene-d12	240	13.349	13.376	-0.027	91	44740	600.0	
$ 4 Nitrobenzene-d5	82	5.251	5.256	-0.005	100	9077	362.8	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	100	19026	312.7	
$ 6 Terphenyl-d14	244	11.194	11.212	-0.018	99	32478	413.6	
10 Naphthalene	128		5.985				ND	
11 2-Methylnaphthalene	142		6.663				ND	
12 1-Methylnaphthalene	142		6.769				ND	
14 Acenaphthylene	152		7.575				ND	
15 Acenaphthene	153		7.747				ND	
18 Fluorene	166		8.264				ND	
20 Phenanthrene	178		9.232				ND	
21 Anthracene	178		9.284				ND	
23 Fluoranthene	202		10.641				ND	
24 Pyrene	202		10.987				ND	
26 Benzo[a]anthracene	228		13.349				ND	
27 Chrysene	228		13.439				ND	
30 Benzo[b]fluoranthene	252		16.264				ND	
31 Benzo[k]fluoranthene	252		16.342				ND	U
32 Benzo[a]pyrene	252		17.204				ND	
33 Indeno[1,2,3-cd]pyrene	276		20.520				ND	
34 Dibenz(a,h)anthracene	278		20.612				ND	
35 Benzo[g,h,i]perylene	276		21.264				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

a - User Assigned ID

Reagents:

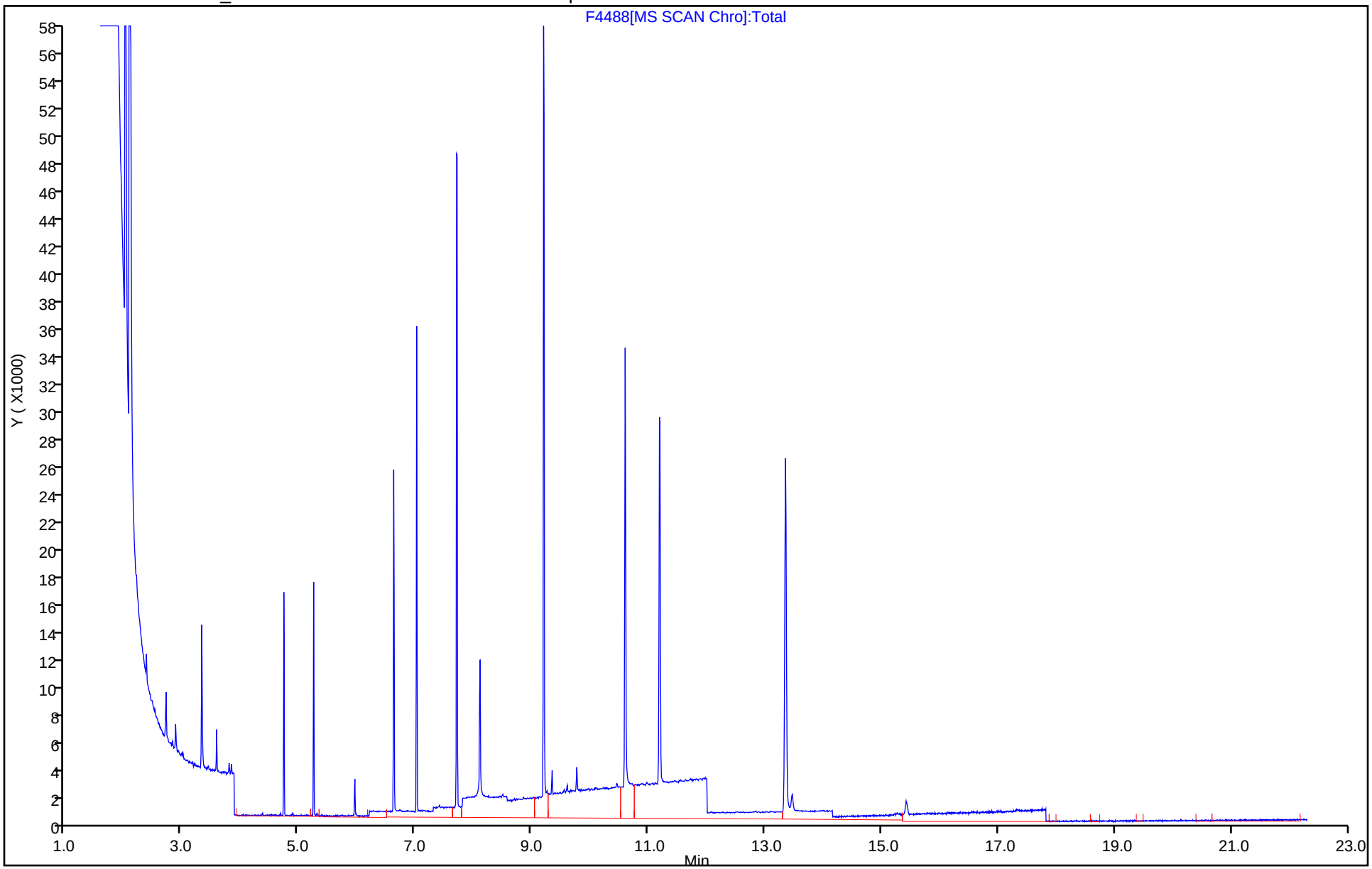
MS-SIM IS_00033 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 02-Nov-2018 17:20:27 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4488.D

Injection Date:	02-Nov-2018 01:28:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	280-116020-E-2-A	Lab Sample ID:	280-116020-2	Worklist Smp#:	17
Client ID:	DET-003-181002-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4488.D
Lims ID: 280-116020-E-2-A
Client ID: DET-003-181002-GW
Sample Type: Client
Inject. Date: 02-Nov-2018 01:28:30 ALS Bottle#: 16 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-e-2-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 17:14:23

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Nitrobenzene-d5	500.0	362.8	72.56
$ 5 2-Fluorobiphenyl	500.0	312.7	62.54
$ 6 Terphenyl-d14	500.0	413.6	82.73
$ 53 2-methylnaphthalene-d10	0.0	0	0.00
$ 54 Fluoranthene-d10	0.0	0	0.00

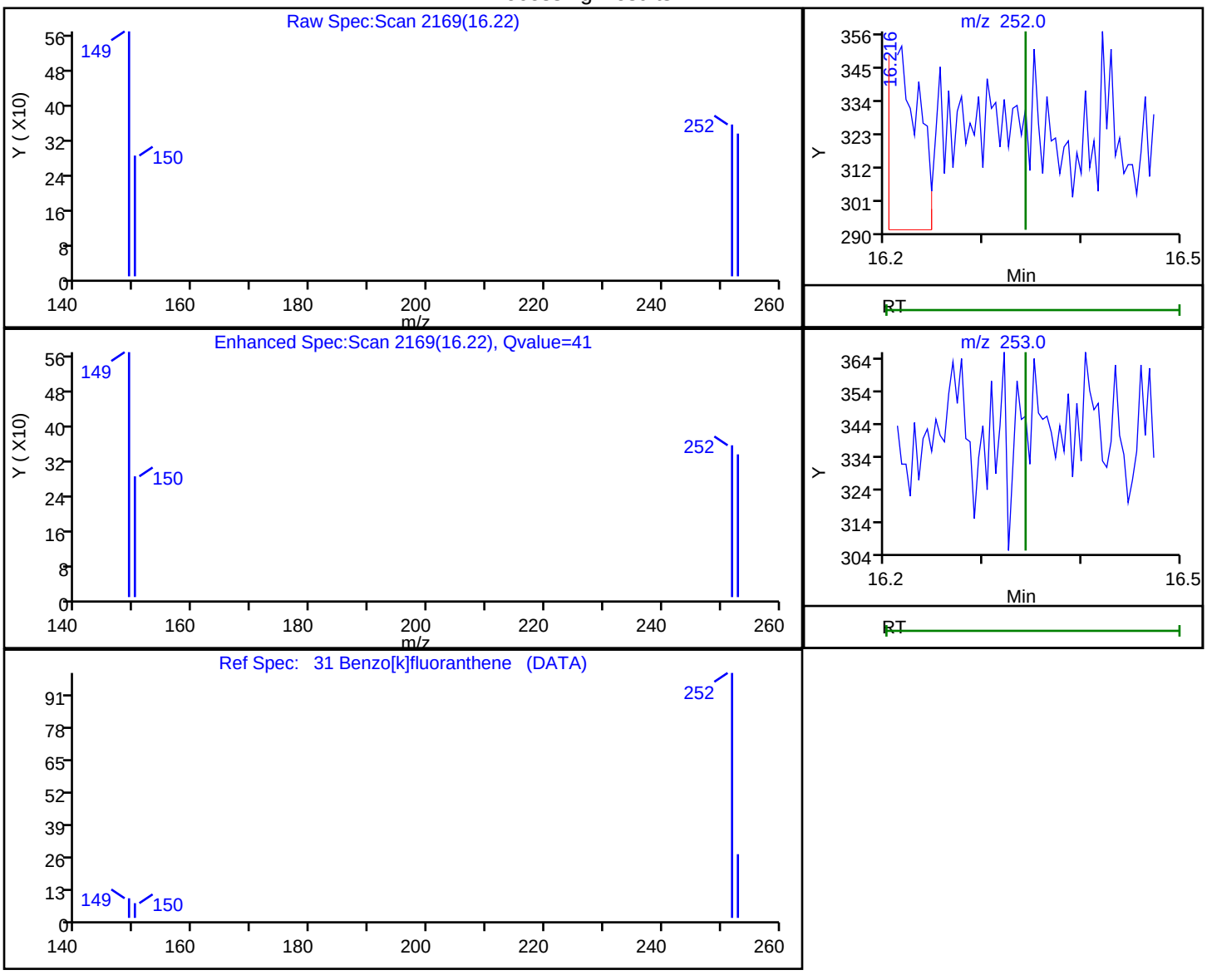
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4488.D				
Injection Date:	02-Nov-2018 01:28:30	Instrument ID:	SMS_F		
Lims ID:	280-116020-E-2-A	Lab Sample ID:	280-116020-2		
Client ID:	DET-003-181002-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	16	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

31 Benzo[k]fluoranthene, CAS: 207-08-9

Processing Results



RT	Mass	Response	Amount
16.22	252.00	110	1.244482
16.34	253.00	0	

Reviewer: wickhamm, 02-Nov-2018 17:14:20

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

TestAmerica Denver

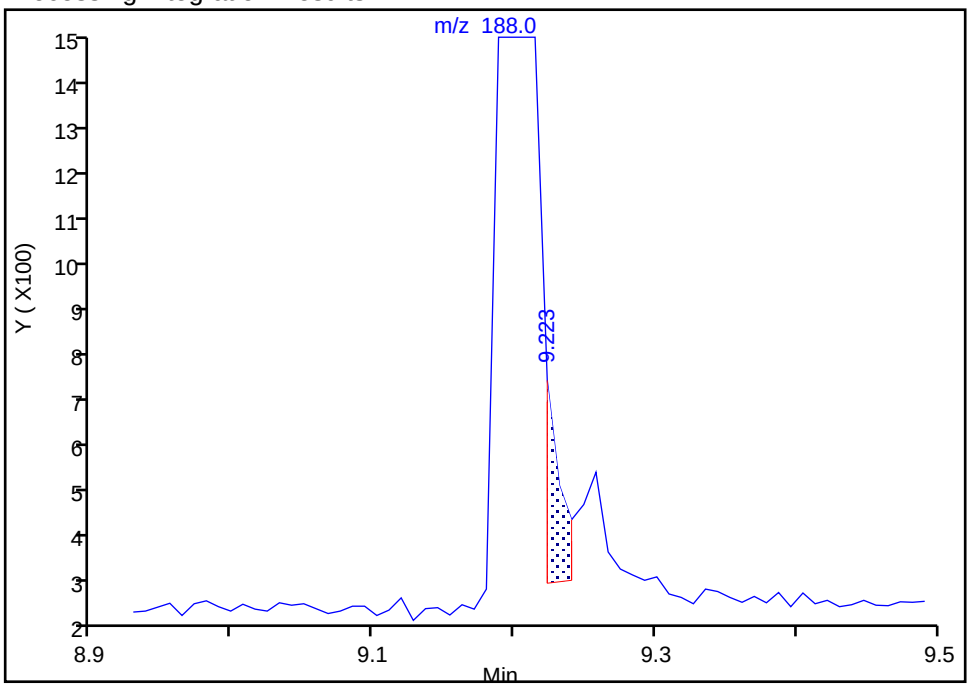
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4488.D				
Injection Date:	02-Nov-2018 01:28:30	Instrument ID:	SMS_F		
Lims ID:	280-116020-E-2-A	Lab Sample ID:	280-116020-2		
Client ID:	DET-003-181002-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	16	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

* 2 Phenanthrene-d10, CAS: 1517-22-2

Signal: 1

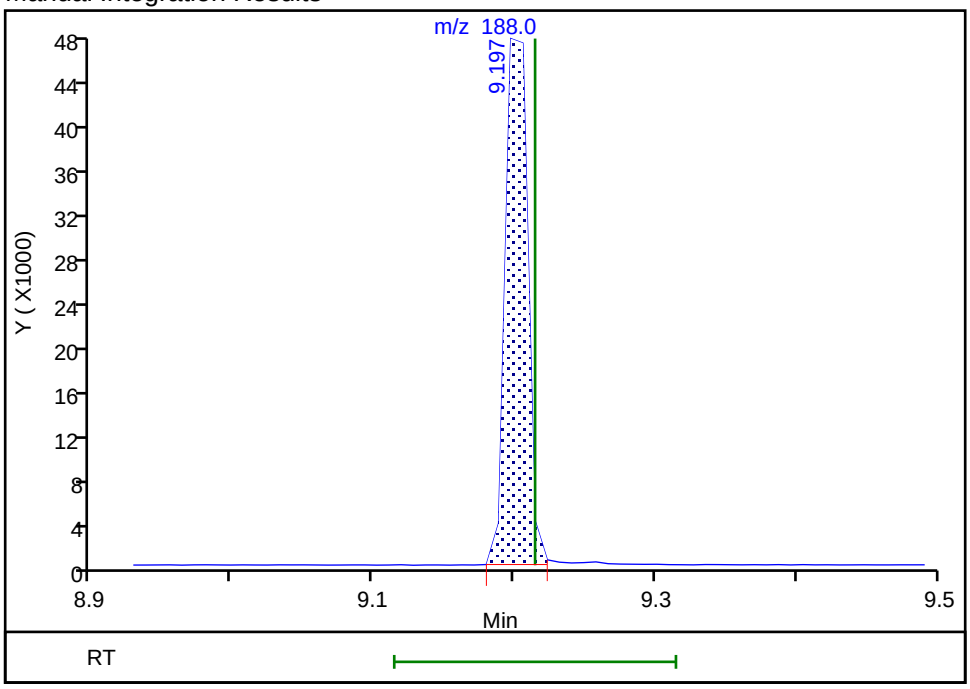
Processing Integration Results

RT: 9.22
Area: 382
Amount: 600.0000
Amount Units: ng/ml



Manual Integration Results

RT: 9.20
Area: 53154
Amount: 600.0000
Amount Units: ng/ml



Reviewer: wickhamm, 02-Nov-2018 17:14:15

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-004-181001-GW | Lab Sample ID: 280-116020-12

Matrix: Water | Lab File ID: F4489.D

Analysis Method: 8270D SIM | Date Collected: 10/24/2018 11:20

Extract. Method: 3510C | Date Extracted: 10/29/2018 21:02

Sample wt/vol: 221.8(mL) | Date Analyzed: 11/02/2018 01:58

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	0.014	U Q	0.11	0.014	0.0067
91-57-6	2-Methylnaphthalene	0.014	U Q	0.11	0.014	0.0068
83-32-9	Acenaphthene	0.045	U Q	0.11	0.045	0.0047
208-96-8	Acenaphthylene	0.045	U Q	0.11	0.045	0.0057
120-12-7	Anthracene	0.045	U Q	0.11	0.045	0.0063
56-55-3	Benzo[a]anthracene	0.014	U	0.11	0.014	0.0047
50-32-8	Benzo[a]pyrene	0.014	U	0.11	0.014	0.0078
205-99-2	Benzo[b]fluoranthene	0.014	U	0.11	0.014	0.0035
191-24-2	Benzo[g,h,i]perylene	0.014	U	0.11	0.014	0.0070
207-08-9	Benzo[k]fluoranthene	0.014	U	0.11	0.014	0.0071
218-01-9	Chrysene	0.014	U	0.11	0.014	0.0037
53-70-3	Dibenz(a,h)anthracene	0.014	U	0.11	0.014	0.0046
206-44-0	Fluoranthene	0.014	U Q	0.11	0.014	0.0054
86-73-7	Fluorene	0.045	U Q	0.11	0.045	0.0062
193-39-5	Indeno[1,2,3-cd]pyrene	0.045	U	0.11	0.045	0.0051
91-20-3	Naphthalene	0.014	U Q	0.11	0.014	0.0090
85-01-8	Phenanthrene	0.023	U Q	0.11	0.023	0.010
129-00-0	Pyrene	0.023	U Q	0.11	0.023	0.0069

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	47	Q	53-106
4165-60-0	Nitrobenzene-d5	52	Q	55-111
1718-51-0	Terphenyl-d14	78		58-132

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4489.D
Lims ID: 280-116020-H-12-A
Client ID: DET-004-181001-GW
Sample Type: Client
Inject. Date: 02-Nov-2018 01:58:30 ALS Bottle#: 17 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-h-12-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 17:15:23

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.721	-0.008	95	22952	600.0	a
* 2 Phenanthrene-d10	188	9.205	9.215	-0.010	97	52170	600.0	a
* 3 Chrysene-d12	240	13.348	13.376	-0.028	91	47069	600.0	
$ 4 Nitrobenzene-d5	82	5.251	5.256	-0.005	100	6263	261.7	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	100	13654	234.6	
$ 6 Terphenyl-d14	244	11.193	11.212	-0.019	99	29987	389.1	
10 Naphthalene	128		5.985				ND	
11 2-Methylnaphthalene	142		6.663				ND	
12 1-Methylnaphthalene	142		6.769				ND	
14 Acenaphthylene	152		7.575				ND	
15 Acenaphthene	153		7.747				ND	
18 Fluorene	166		8.264				ND	
20 Phenanthrene	178		9.232				ND	
21 Anthracene	178		9.284				ND	
23 Fluoranthene	202		10.641				ND	
24 Pyrene	202		10.987				ND	
26 Benzo[a]anthracene	228		13.349				ND	
27 Chrysene	228		13.439				ND	
30 Benzo[b]fluoranthene	252		16.264				ND	
31 Benzo[k]fluoranthene	252		16.342				ND	
32 Benzo[a]pyrene	252		17.204				ND	
33 Indeno[1,2,3-cd]pyrene	276		20.520				ND	
34 Dibenz(a,h)anthracene	278		20.612				ND	
35 Benzo[g,h,i]perylene	276		21.264				ND	

QC Flag Legend

Review Flags

a - User Assigned ID

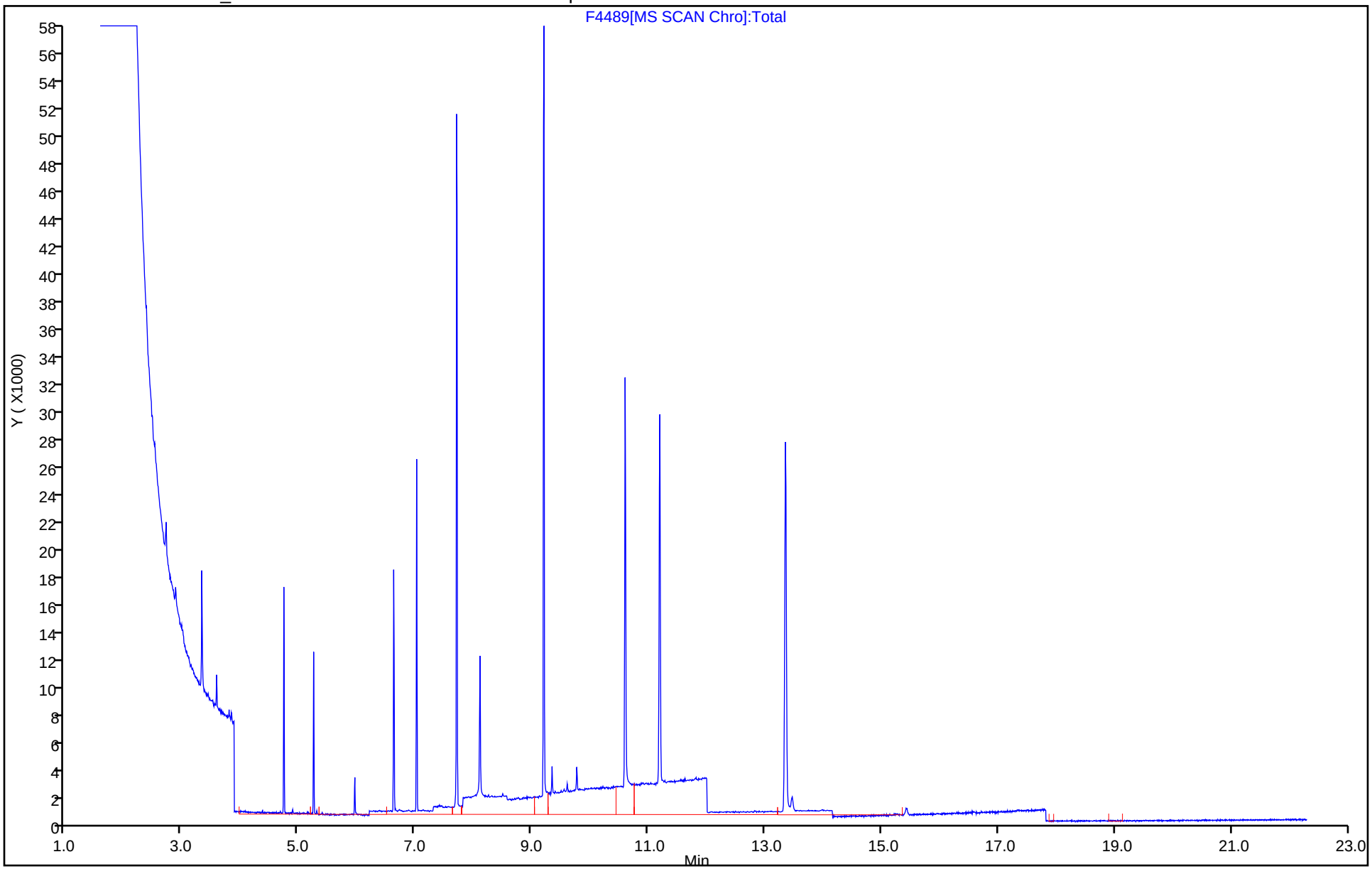
Reagents:

MS-SIM IS_00033 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 02-Nov-2018 17:20:28 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4489.D				
Injection Date:	02-Nov-2018 01:58:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	280-116020-H-12-A	Lab Sample ID:	280-116020-12	Worklist Smp#:	18
Client ID:	DET-004-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4489.D
Lims ID: 280-116020-H-12-A
Client ID: DET-004-181001-GW
Sample Type: Client
Inject. Date: 02-Nov-2018 01:58:30 ALS Bottle#: 17 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-h-12-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 17:15:23

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Nitrobenzene-d5	500.0	261.7	52.34
$ 5 2-Fluorobiphenyl	500.0	234.6	46.91
$ 6 Terphenyl-d14	500.0	389.1	77.82
$ 53 2-methylnaphthalene-d10	0.0	0	0.00
$ 54 Fluoranthene-d10	0.0	0	0.00

Manual Integration/User Assign Peak Report

TestAmerica Denver

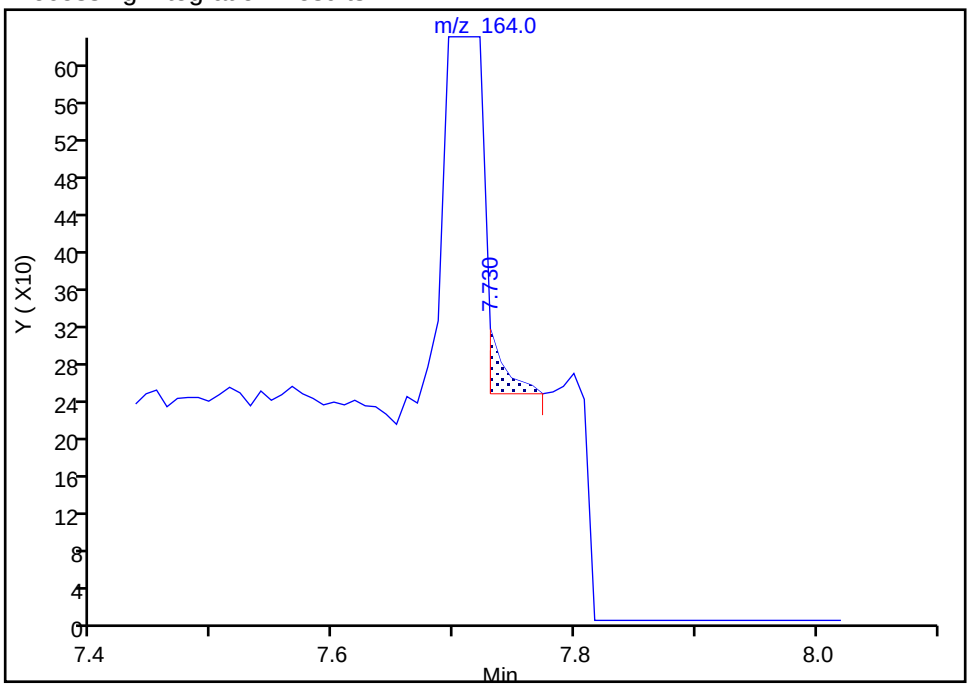
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4489.D				
Injection Date:	02-Nov-2018 01:58:30	Instrument ID:	SMS_F		
Lims ID:	280-116020-H-12-A	Lab Sample ID:	280-116020-12		
Client ID:	DET-004-181001-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	17	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

* 1 Acenaphthene-d10, CAS: 15067-26-2

Signal: 1

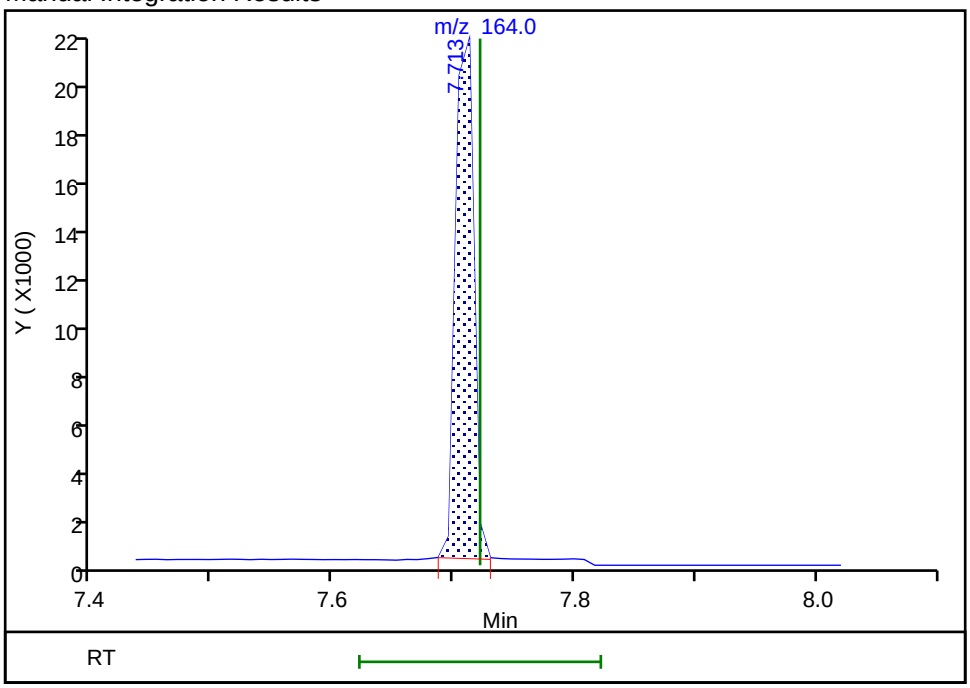
RT: 7.73
Area: 74
Amount: 600.0000
Amount Units: ng/ml

Processing Integration Results



RT: 7.71
Area: 22952
Amount: 600.0000
Amount Units: ng/ml

Manual Integration Results



Reviewer: wickhamm, 02-Nov-2018 17:14:32
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Denver

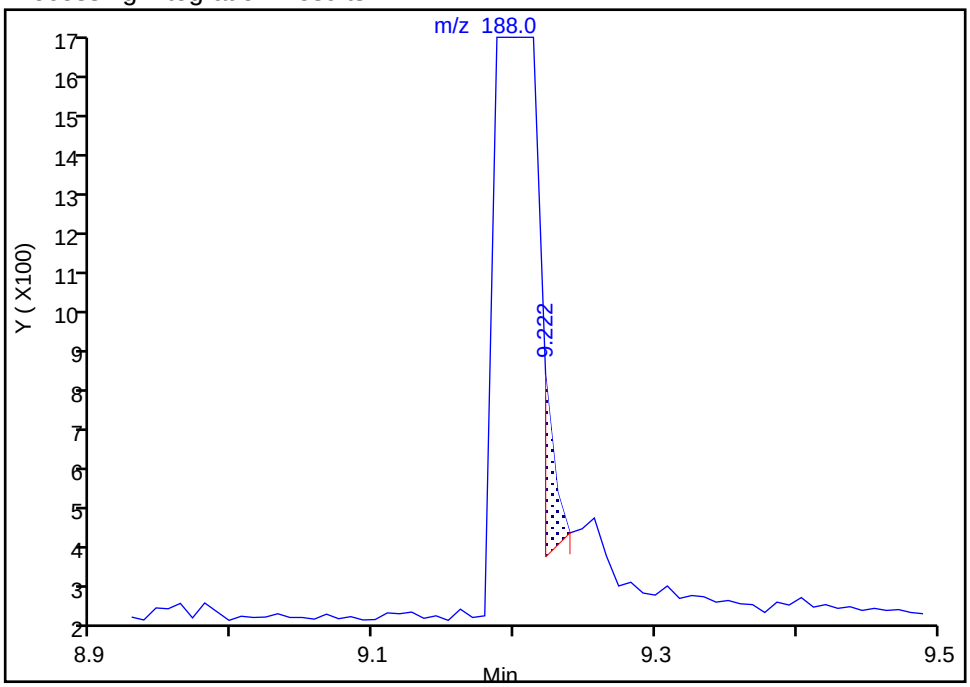
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4489.D				
Injection Date:	02-Nov-2018 01:58:30	Instrument ID:	SMS_F		
Lims ID:	280-116020-H-12-A	Lab Sample ID:	280-116020-12		
Client ID:	DET-004-181001-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	17	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

* 2 Phenanthrene-d10, CAS: 1517-22-2

Signal: 1

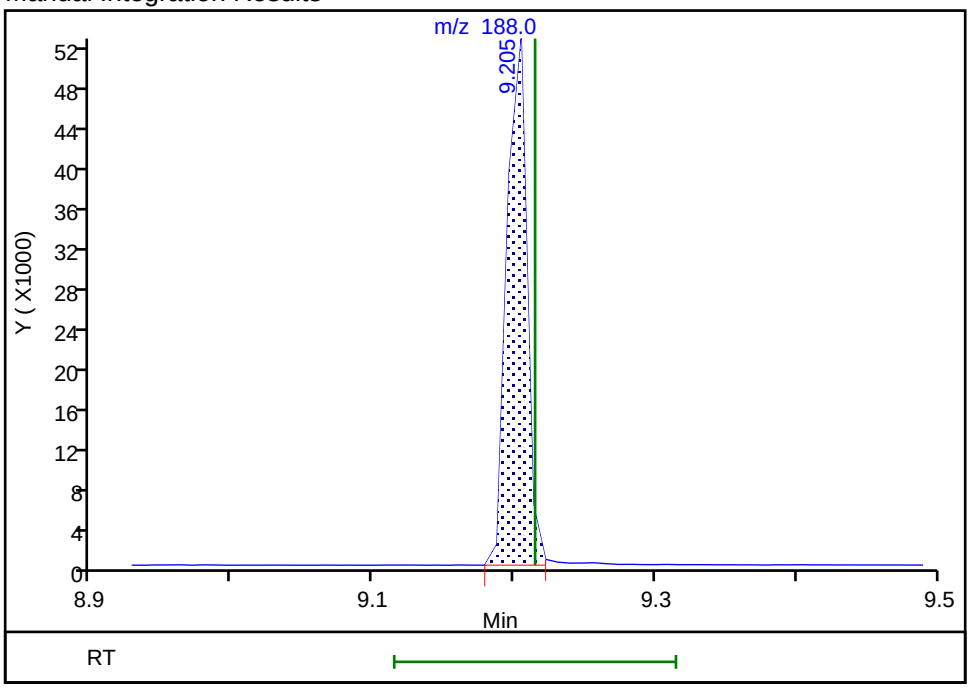
Processing Integration Results

RT: 9.22
Area: 293
Amount: 600.0000
Amount Units: ng/ml



Manual Integration Results

RT: 9.20
Area: 52170
Amount: 600.0000
Amount Units: ng/ml



Reviewer: wickhamm, 02-Nov-2018 17:14:35

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 435404

SDG No.:

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 16:02 Calibration End Date: 10/29/2018 20:00 Calibration ID: 34170

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0001 280-435404/4	F4399.D
Level 2	STD0002 280-435404/5	F4400.D
Level 3	STD0500 280-435404/6	F4401.D
Level 4	STD0100 280-435404/7	F4402.D
Level 5	STD0300 280-435404/8	F4403.D
Level 6	ICIS 280-435404/3	F4398.D
Level 7	STD1200 280-435404/9	F4404.D
Level 8	STD2500 280-435404/10	F4405.D
Level 9	STD5000 280-435404/11	F4406.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Naphthalene	2.1846 1.9317	2.1325 1.9242	1.9253 2.1369	2.0155 1.8473	1.9859	Ave		2.0093			0.7000	5.8		15.0			
2-Methylnaphthalene	1.4108 1.3067	1.4210 1.3357	1.2881 1.4942	1.3272 1.3101	1.3564	Ave		1.3611			0.4000	5.0		15.0			
1-Methylnaphthalene	1.2577 1.1758	1.3333 1.1903	1.1627 1.3407	1.1929 1.1799	1.2141	Ave		1.2275			0.0500	5.5		15.0			
Acenaphthylene	1.5393 1.4653	1.5290 1.5556	1.3767 1.8684	1.3803 1.7999	1.4370	Ave		1.5502			0.9000	11.2		15.0			
Acenaphthene	1.3971 1.2438	1.3888 1.2810	1.1957 1.4589	1.2847 1.2943	1.2982	Ave		1.3158			0.9000	6.3		15.0			
Fluorene	1.6924 1.4483	1.4532 1.5425	1.3833 1.8129	1.4356 1.5643	1.4878	Ave		1.5356			0.9000	9.0		15.0			
Phenanthrene	1.3869 1.1491	1.2554 1.1710	1.1148 1.3249	1.1521 1.2101	1.1765	Ave		1.2156			0.7000	7.4		15.0			
Anthracene	0.9752 0.8551	0.9151 0.9103	0.7843 1.1002	0.7672 1.0875	0.8217	Ave		0.9130			0.7000	13.4		15.0			
Fluoranthene	1.5024 1.2170	1.2737 1.2795	1.1208 1.5075	1.1335 1.3694	1.2213	Ave		1.2917			0.6000	11.0		15.0			
Pyrene	1.5440 1.1839	1.3828 1.2574	1.1509 1.4693	1.1557 1.3735	1.1972	Ave		1.3016			0.6000	11.2		15.0			
Benzo[a]anthracene	1.1454 0.9645	1.1393 0.9706	0.8939 1.1429	0.9025 1.0842	0.9172	Ave		1.0178			0.8000	10.7		15.0			
Chrysene	1.4073 1.2088	1.2828 1.2210	1.1494 1.3836	1.1879 1.2272	1.2189	Ave		1.2541			0.7000	7.0		15.0			
Benzo[b]fluoranthene	1.3643 1.1831	1.2519 1.1537	1.1198 1.3197	1.1430 1.1828	1.1485	Ave		1.2074			0.7000	7.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 435404

SDG No.:

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 16:02 Calibration End Date: 10/29/2018 20:00 Calibration ID: 34170

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Benzo[k]fluoranthene	+++++ 1.1826	1.0702 1.2834	1.0247 1.4444	1.0510 1.3213	1.1054	Ave		1.1854			0.7000	12.7		15.0			
Benzo[a]pyrene	+++++ 0.9879	1.0406 0.9140	0.8863 1.1244	0.8696 +++++	0.8472	Ave		0.9529			0.7000	10.7		15.0			
Indeno[1,2,3-cd]pyrene	1.4047 1.2420	1.3985 1.1114	1.1114 1.2556	1.1980 1.1220	1.1497	Ave		1.2215			0.5000	9.4		15.0			
Dibenz(a,h)anthracene	1.3839 1.3169	1.3083 1.2157	1.1503 1.3642	1.2406 1.2331	1.2137	Ave		1.2696			0.4000	6.1		15.0			
Benzo[g,h,i]perylene	1.9573 1.5238	1.7220 1.3909	1.4009 1.5476	1.5399 1.3376	1.4976	Ave		1.5464			0.5000	12.3		15.0			
Nitrobenzene-d5	0.7546 0.6055	0.6363 0.5921	0.5726 0.6809	0.5763 0.6359	0.5769	Ave		0.6257				9.6		15.0			
2-methylnaphthalene-d10	1.1620 0.9878	1.1351 0.9900	0.9766 1.1155	1.0065 0.9769	1.0174	Ave		1.0408				7.2		15.0			
2-Fluorobiphenyl	1.6541 1.4461	1.6275 1.4470	1.4592 1.6605	1.4692 1.4496	1.4823	Ave		1.5217				6.3		15.0			
Fluoranthene-d10	1.0103 0.9642	0.9922 1.0026	0.9242 1.1650	0.9182 1.0836	0.9638	Ave		1.0027				7.8		15.0			
Terphenyl-d14	0.9129 0.8120	0.9193 0.8628	0.7922 1.0015	0.8063 0.9261	0.9437	Ave		0.8863				8.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 435404

SDG No.:

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 16:02 Calibration End Date: 10/29/2018 20:00 Calibration ID: 34170

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0001 280-435404/4	F4399.D
Level 2	STD0002 280-435404/5	F4400.D
Level 3	STD0500 280-435404/6	F4401.D
Level 4	STD0100 280-435404/7	F4402.D
Level 5	STD0300 280-435404/8	F4403.D
Level 6	ICIS 280-435404/3	F4398.D
Level 7	STD1200 280-435404/9	F4404.D
Level 8	STD2500 280-435404/10	F4405.D
Level 9	STD5000 280-435404/11	F4406.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Naphthalene	ANT	Ave	799 48246	1689 129326	4085 208192	8519 448120	24560	10.0 600	20.0 1200	50.0 2500	100 5000	300
2-Methylnaphthalene	ANT	Ave	1032 65273	2251 179548	5466 291162	11219 635609	33550	20.0 1200	40.0 2400	100 5000	200 10000	600
1-Methylnaphthalene	ANT	Ave	460 29366	1056 79998	2467 130622	5042 286227	15015	10.0 600	20.0 1200	50.0 2500	100 5000	300
Acenaphthylene	ANT	Ave	563 36597	1211 104551	2921 182035	5834 436620	17771	10.0 600	20.0 1200	50.0 2500	100 5000	300
Acenaphthene	ANT	Ave	511 31066	1100 86093	2537 142141	5430 313964	16055	10.0 600	20.0 1200	50.0 2500	100 5000	300
Fluorene	ANT	Ave	619 36172	1151 103673	2935 176625	6068 379461	18400	10.0 600	20.0 1200	50.0 2500	100 5000	300
Phenanthrene	PHN	Ave	1068 60407	2118 172037	5059 284570	10412 611829	31665	10.0 600	20.0 1200	50.0 2500	100 5000	300
Anthracene	PHN	Ave	751 44949	1544 133735	3559 236321	6933 549841	22115	10.0 600	20.0 1200	50.0 2500	100 5000	300
Fluoranthene	PHN	Ave	1157 63976	2149 187968	5086 323789	10244 692368	32871	10.0 600	20.0 1200	50.0 2500	100 5000	300
Pyrene	PHN	Ave	1189 62237	2333 184722	5223 315592	10444 694454	32223	10.0 600	20.0 1200	50.0 2500	100 5000	300
Benzo[a]anthracene	CRY	Ave	879 50852	1881 152521	3978 267604	7777 612573	24476	10.0 600	20.0 1200	50.0 2500	100 5000	300
Chrysene	CRY	Ave	1080 63737	2118 191863	5115 323973	10237 693366	32528	10.0 600	20.0 1200	50.0 2500	100 5000	300
Benzo[b]fluoranthene	CRY	Ave	1047 62382	2067 181300	4983 309018	9850 668265	30648	10.0 600	20.0 1200	50.0 2500	100 5000	300
Benzo[k]fluoranthene	CRY	Ave	+++++ 62355	1767 201669	4560 338217	9057 746517	29499	+++++ 600	20.0 1200	50.0 2500	100 5000	300

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 435404

SDG No.:

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 16:02 Calibration End Date: 10/29/2018 20:00 Calibration ID: 34170

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Benzo[a]pyrene	CRY	Ave	+++++ 52087	1718 143629	3944 263293	7494 +++++	22609	+++++ 600	20.0 1200	50.0 2500	100 +++++	300
Indeno[1,2,3-cd]pyrene	CRY	Ave	1078 65485	2309 174647	4946 294007	10324 633911	30679	10.0 600	20.0 1200	50.0 2500	100 5000	300
Dibenz(a,h)anthracene	CRY	Ave	1062 69433	2160 191031	5119 319437	10691 696717	32389	10.0 600	20.0 1200	50.0 2500	100 5000	300
Benzo[g,h,i]perylene	CRY	Ave	1502 80345	2843 218564	6234 362369	13270 755750	39963	10.0 600	20.0 1200	50.0 2500	100 5000	300
Nitrobenzene-d5	ANT	Ave	276 15122	504 39792	1215 66335	2436 154261	7134	10.0 600	20.0 1200	50.0 2500	100 5000	300
2-methylnaphthalene-d10	ANT	Ave	425 24672	899 66535	2072 108683	4254 236976	12582	10.0 600	20.0 1200	50.0 2500	100 5000	300
2-Fluorobiphenyl	ANT	Ave	605 36119	1289 97251	3096 161780	6210 351658	18332	10.0 600	20.0 1200	50.0 2500	100 5000	300
Fluoranthene-d10	PHN	Ave	778 50686	1674 147296	4194 250239	8298 547857	25942	10.0 600	20.0 1200	50.0 2500	100 5000	300
Terphenyl-d14	PHN	Ave	703 42687	1551 126747	3595 215115	7287 468240	25400	10.0 600	20.0 1200	50.0 2500	100 5000	300

Curve Type Legend:
Ave = Average ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4398.D
Lims ID: icis
Client ID:
Sample Type: ICIS Calib Level: 6
Inject. Date: 29-Oct-2018 16:02:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: icis
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:24 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 18:55:26

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	82	24976	600.0	600.0	
* 2 Phenanthrene-d10	188	9.214	9.214	0.000	97	52568	600.0	600.0	
* 3 Chrysene-d12	240	13.376	13.376	0.000	98	52726	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	100	15122	600.0	580.6	
$ 5 2-Fluorobiphenyl	172	7.026	7.026	0.000	99	36119	600.0	570.2	
$ 6 Terphenyl-d14	244	11.211	11.211	0.000	98	42687	600.0	549.7	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.557	2.557	0.000	44	11236	600.0	585.3	
10 Naphthalene	128	5.985	5.985	0.000	100	48246	600.0	576.8	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	96	65273	1200.0	1152.0	
12 1-Methylnaphthalene	142	6.769	6.769	0.000	92	29366	600.0	574.7	
13 Dimethyl phthalate	163	7.419	7.419	0.000	1	55965	1200.0	1143.2	
14 Acenaphthylene	152	7.574	7.574	0.000	98	36597	600.0	567.2	
15 Acenaphthene	153	7.747	7.747	0.000	100	31066	600.0	567.2	
16 Dibenzofuran	168	7.915	7.915	0.000	98	46652	600.6	564.6	
17 Diethyl phthalate	149	8.118	8.118	0.000	97	50922	1204.8	1067.7	
18 Fluorene	166	8.264	8.264	0.000	100	36172	600.0	565.9	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	100	23094	600.0	590.5	
20 Phenanthrene	178	9.232	9.232	0.000	100	60407	600.0	567.2	
21 Anthracene	178	9.284	9.284	0.000	1	44949	600.0	562.0	
22 Di-n-butyl phthalate	149	9.785	9.785	0.000	1	64945	1200.0	1220.7	
23 Fluoranthene	202	10.641	10.641	0.000	100	63976	600.0	565.3	
24 Pyrene	202	10.987	10.987	0.000	100	62237	600.0	545.7	
25 Butyl benzyl phthalate	149	10.987	10.987	0.000	1	531	1200.0	0	
26 Benzo[a]anthracene	228	13.358	13.358	0.000	50	50852	600.0	568.5	
27 Chrysene	228	13.439	13.439	0.000	95	63737	600.0	578.3	
28 Bis(2-ethylhexyl) phthalat	149	12.115	12.115	0.000	1	22182	1200.0	1165.6	
29 Di-n-octyl phthalate	149	15.332	15.332	0.000	1	42928	1200.0	1273.1	
30 Benzo[b]fluoranthene	252	16.268	16.268	0.000	99	62382	600.0	587.9	
31 Benzo[k]fluoranthene	252	16.347	16.347	0.000	99	62355	600.0	598.6	
32 Benzo[a]pyrene	252	17.213	17.213	0.000	98	52087	600.0	622.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.529	20.529	0.000	91	65485	600.0	610.1	
34 Dibenz(a,h)anthracene	278	20.616	20.616	0.000	84	69433	600.0	622.3	
35 Benzo[g,h,i]perylene	276	21.272	21.272	0.000	94	80345	600.0	591.2	
$ 53 2-methylnaphthalene-d10	152	6.633	6.633	0.000	96	24672	600.0	569.4	
$ 54 Fluoranthene-d10	212	10.615	10.615	0.000	98	50686	600.0	577.0	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

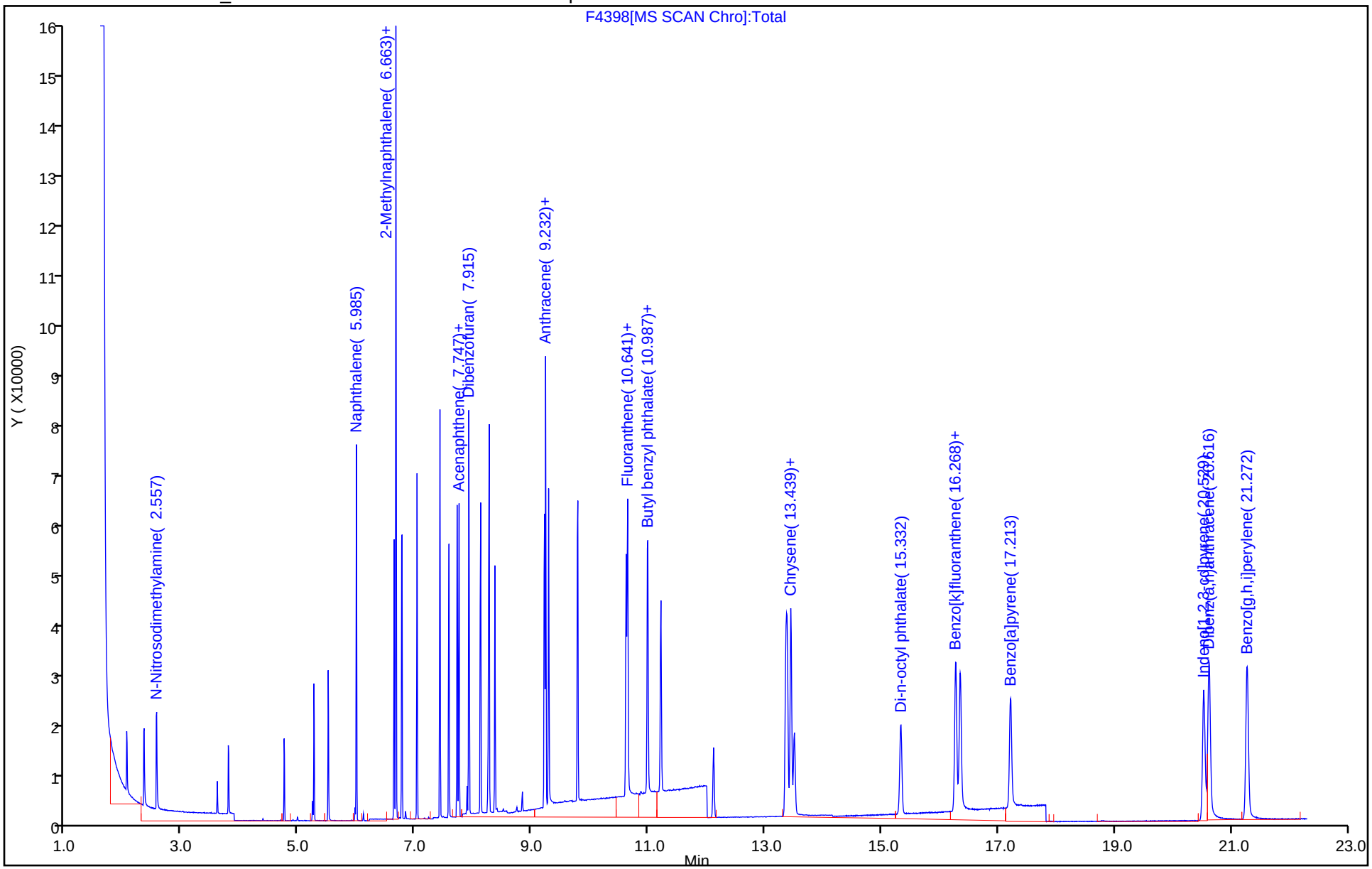
MS-SIMSL 0.6_00144 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:25 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4398.D

Injection Date:	29-Oct-2018 16:02:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	icis			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Report Date: 29-Oct-2018 21:58:29 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Lims ID: STD0001
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Oct-2018 16:32:30 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0001
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:28 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 19:09:35

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	90	21945	600.0	600.0	M
* 2 Phenanthrene-d10	188	9.206	9.214	-0.008	99	46205	600.0	600.0	
* 3 Chrysene-d12	240	13.367	13.376	-0.009	91	46044	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	85	276	10.0	12.1	Ma
$ 5 2-Fluorobiphenyl	172	7.026	7.026	0.000	91	605	10.0	10.9	a
$ 6 Terphenyl-d14	244	11.203	11.211	-0.008	24	703	10.0	10.3	a
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.564	2.557	0.007	15	266	10.0	15.8	
10 Naphthalene	128	5.985	5.985	0.000	95	799	10.0	10.9	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	97	1032	20.0	20.7	
12 1-Methylnaphthalene	142	6.761	6.769	-0.008	96	460	10.0	10.2	Ma
13 Dimethyl phthalate	163	7.419	7.419	0.000	1	896	20.0	20.8	
14 Acenaphthylene	152	7.566	7.574	-0.008	86	563	10.0	9.93	
15 Acenaphthene	153	7.739	7.747	-0.008	75	511	10.0	10.6	
16 Dibenzofuran	168	7.915	7.915	0.000	94	812	10.0	11.2	
17 Diethyl phthalate	149	8.109	8.118	-0.009	98	1420	20.1	33.9	
18 Fluorene	166	8.264	8.264	0.000	90	619	10.0	11.0	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	82	396	10.0	11.5	Ma
20 Phenanthrene	178	9.232	9.232	0.000	75	1068	10.0	11.4	
21 Anthracene	178	9.284	9.284	0.000	1	751	10.0	10.7	
22 Di-n-butyl phthalate	149	9.776	9.785	-0.009	1	974	20.0	24.8	
23 Fluoranthene	202	10.632	10.641	-0.009	33	1157	10.0	11.6	
24 Pyrene	202	10.978	10.987	-0.009	30	1189	10.0	11.9	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.349	13.358	-0.009	74	879	10.0	11.3	
27 Chrysene	228	13.430	13.439	-0.009	71	1080	10.0	11.2	
28 Bis(2-ethylhexyl) phthalat	149		12.115				ND	ND	
29 Di-n-octyl phthalate	149		15.332				ND	ND	U
30 Benzo[b]fluoranthene	252	16.255	16.268	-0.013	49	1047	10.0	11.3	
31 Benzo[k]fluoranthene	252		16.347				ND	ND	MU
32 Benzo[a]pyrene	252	17.195	17.213	-0.018	41	812	10.0	11.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.520	20.529	-0.009	70	1078	10.0	11.5	M
34 Dibenz(a,h)anthracene	278	20.599	20.616	-0.017	78	1062	10.0	10.9	
35 Benzo[g,h,i]perylene	276	21.255	21.272	-0.017	72	1502	10.0	12.7	
$ 53 2-methylnaphthalene-d10	152	6.633	6.633	0.001	96	425	10.0	11.2	
$ 54 Fluoranthene-d10	212	10.606	10.615	-0.009	0	778	10.0	10.1	M

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Reagents:

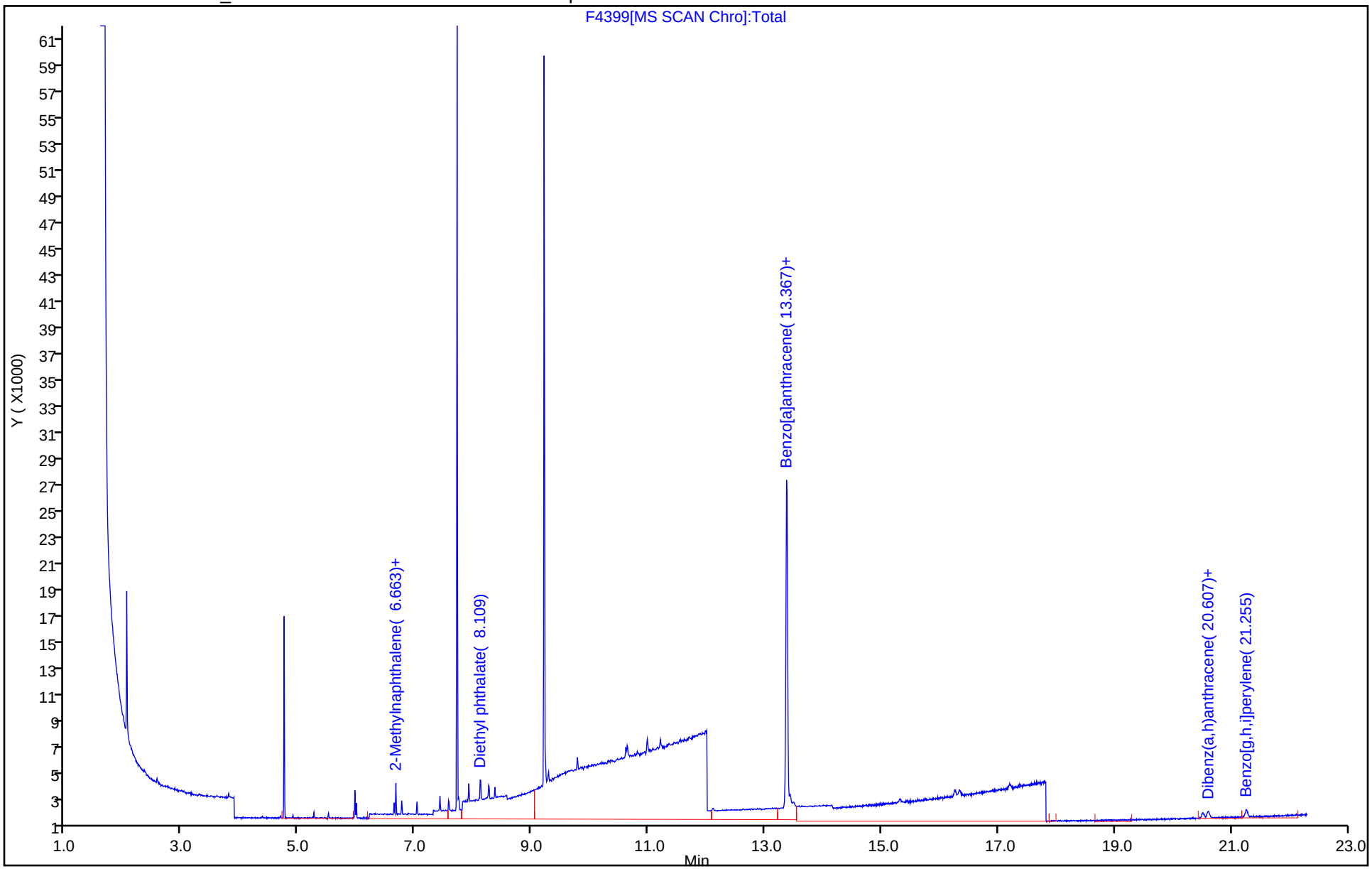
MS-SIMSL 0.01_00005 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:29 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D

Injection Date:	29-Oct-2018 16:32:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0001			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Manual Integration/User Assign Peak Report

TestAmerica Denver

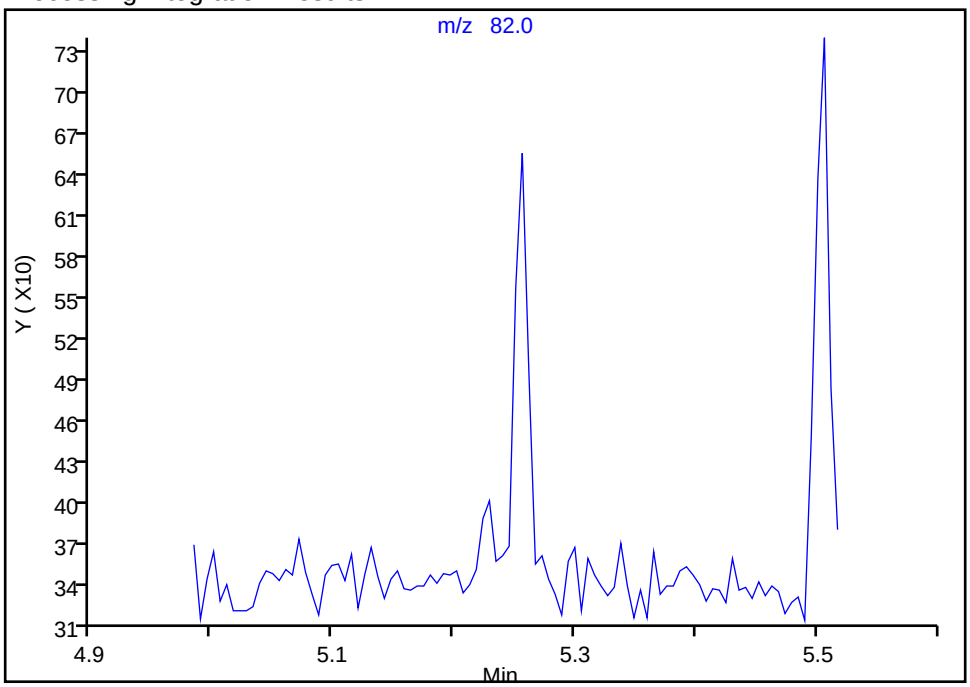
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Injection Date: 29-Oct-2018 16:32:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 4 Nitrobenzene-d5, CAS: 4165-60-0

Signal: 1

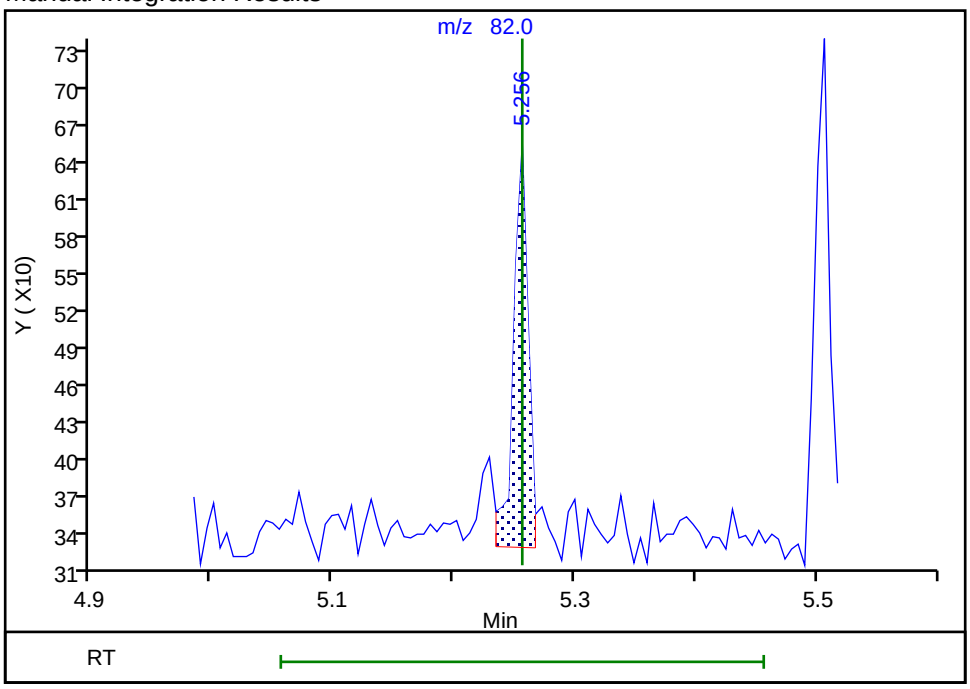
Not Detected
Expected RT: 5.26

Processing Integration Results



Manual Integration Results

RT: 5.26
Area: 276
Amount: 12.060809
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:07:52
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

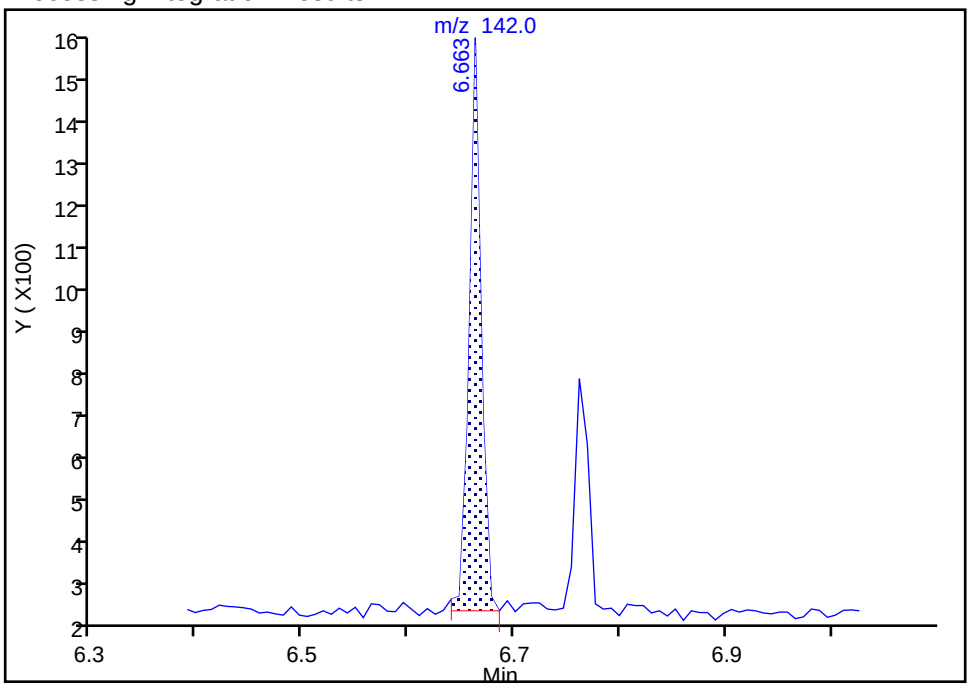
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Injection Date: 29-Oct-2018 16:32:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

12 1-Methylnaphthalene, CAS: 90-12-0

Signal: 1

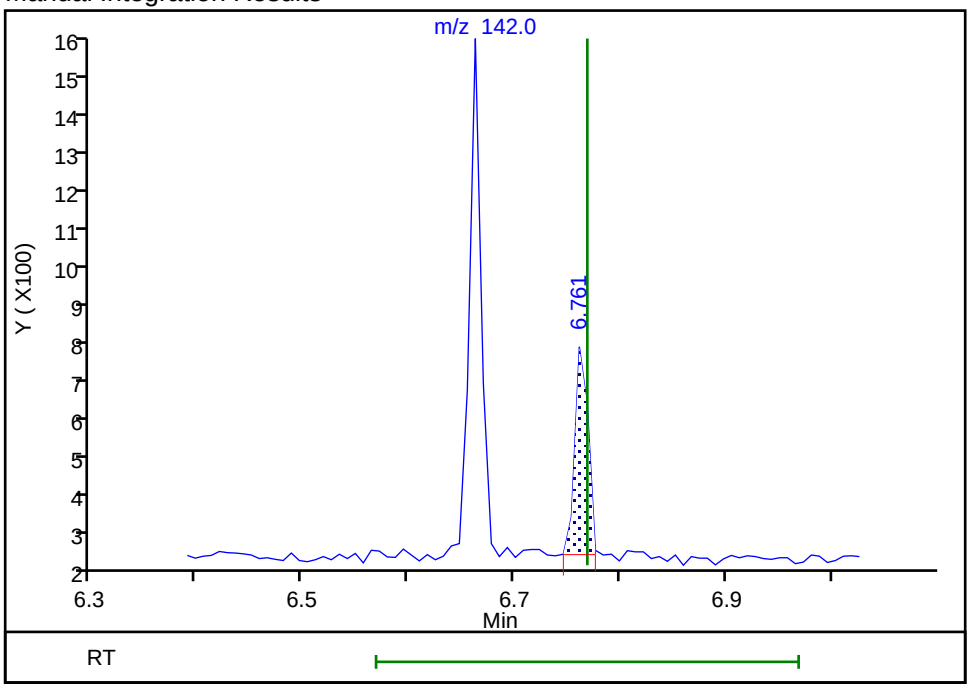
Processing Integration Results

RT: 6.66
Area: 1032
Amount: 14.920564
Amount Units: ng/ml



Manual Integration Results

RT: 6.76
Area: 460
Amount: 10.246089
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:08:12
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

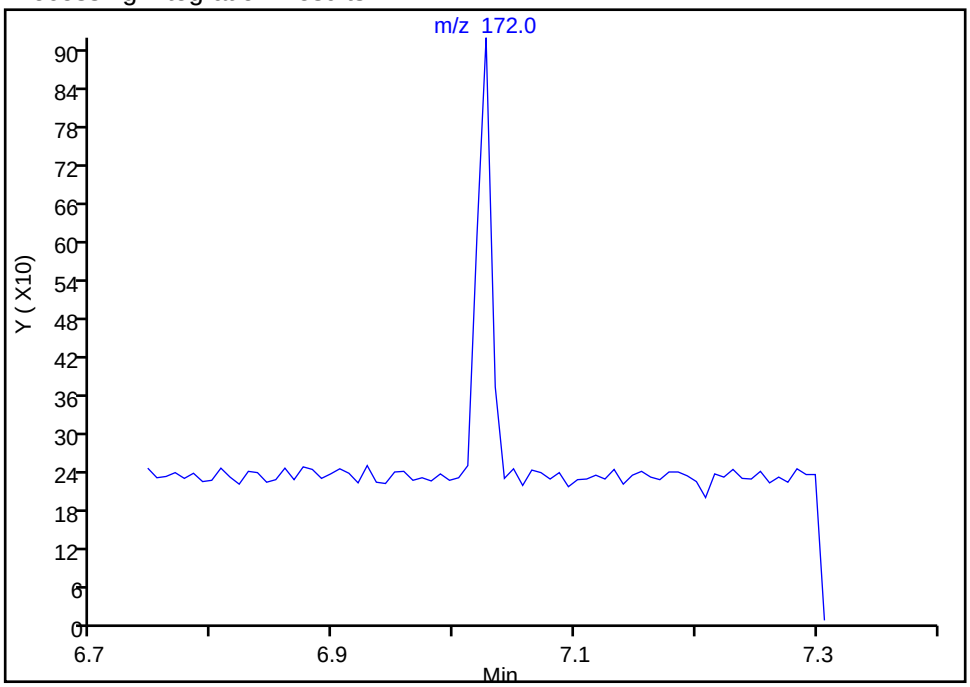
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Injection Date: 29-Oct-2018 16:32:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 5 2-Fluorobiphenyl, CAS: 321-60-8

Signal: 1

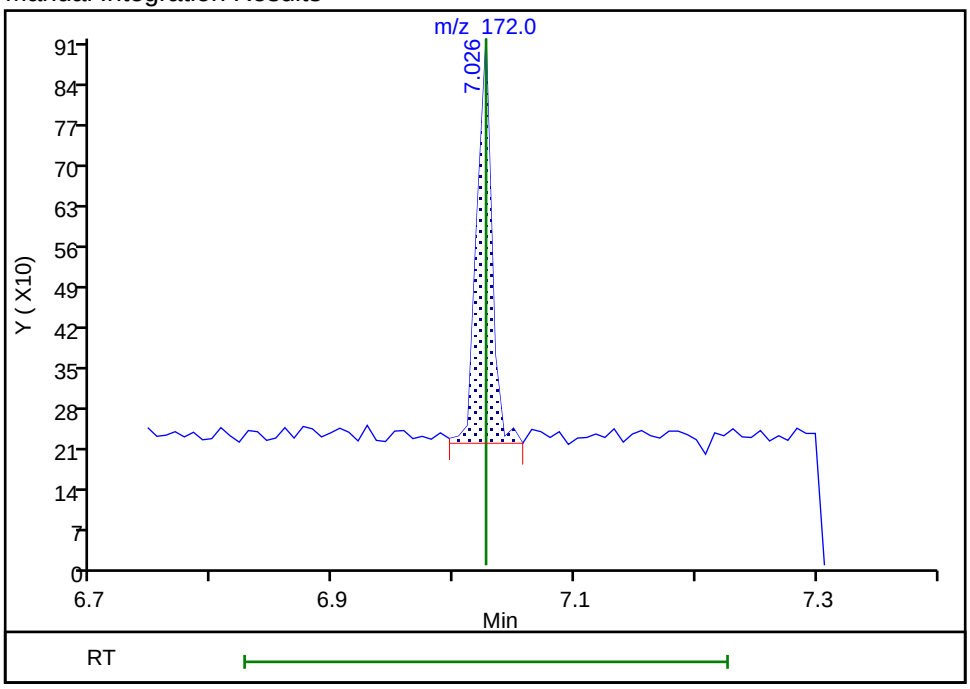
Not Detected
Expected RT: 7.03

Processing Integration Results



Manual Integration Results

RT: 7.03
Area: 605
Amount: 10.870084
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:07:57
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

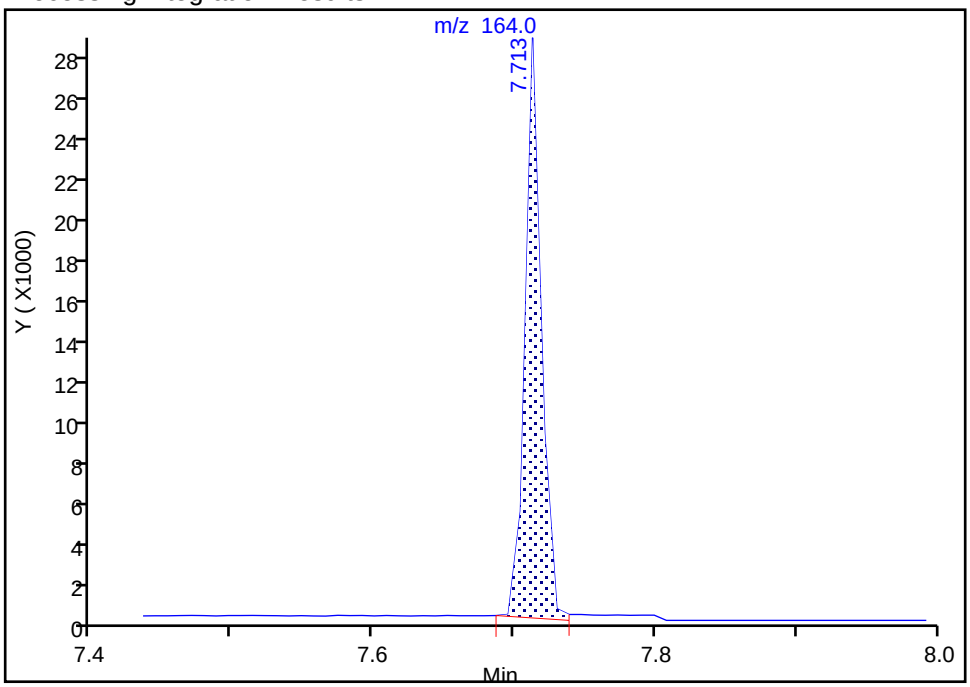
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Injection Date: 29-Oct-2018 16:32:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

* 1 Acenaphthene-d10, CAS: 15067-26-2

Signal: 1

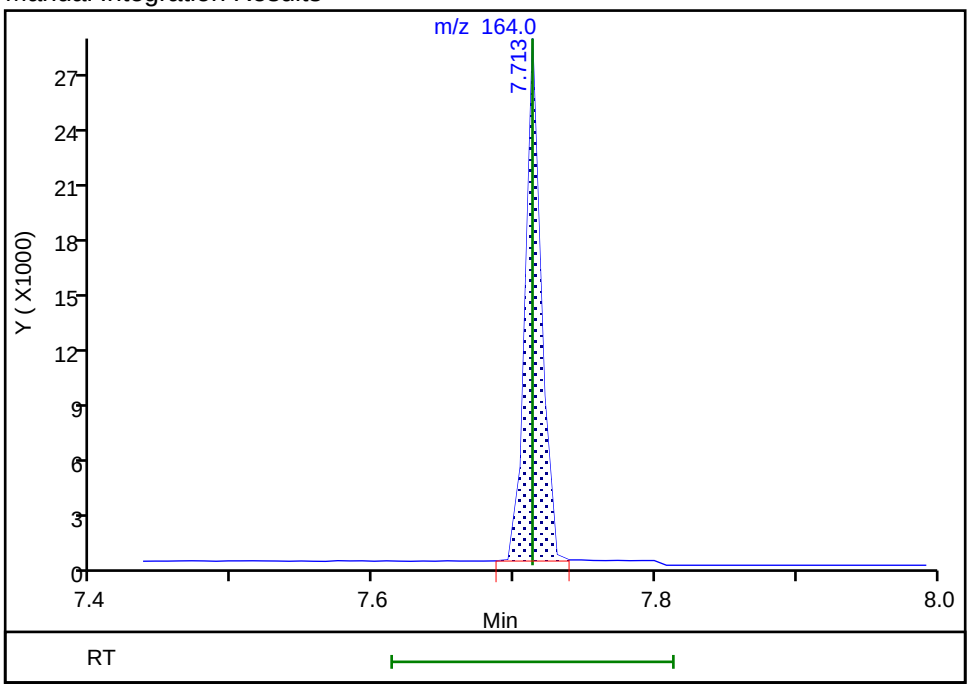
Processing Integration Results

RT: 7.71
Area: 22335
Amount: 600.0000
Amount Units: ng/ml



Manual Integration Results

RT: 7.71
Area: 21945
Amount: 600.0000
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:07:30
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

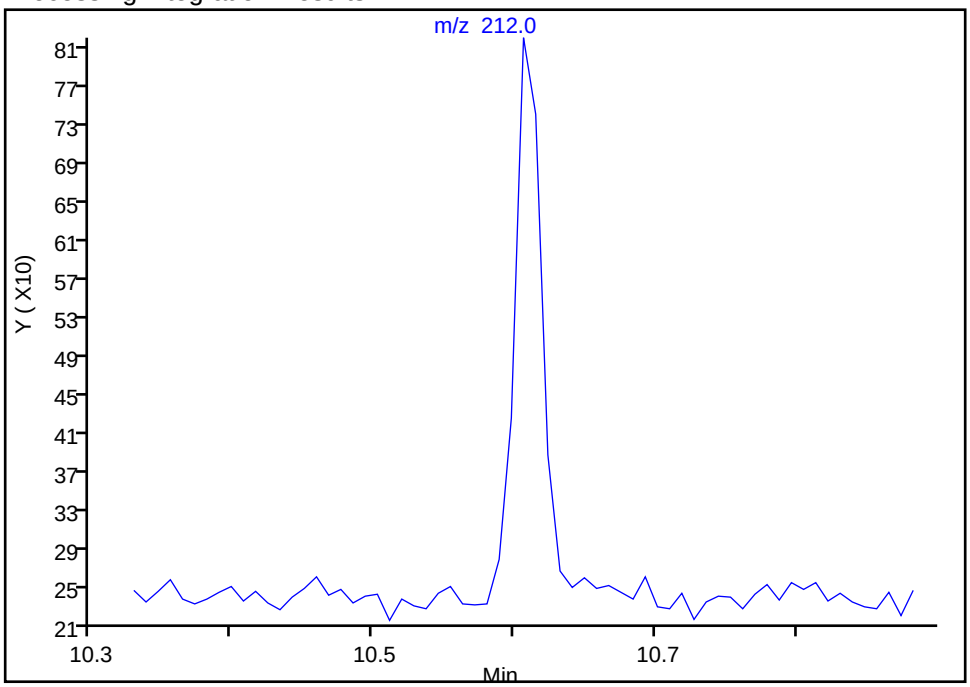
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Injection Date: 29-Oct-2018 16:32:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 54 Fluoranthene-d10, CAS: 93951-69-0

Signal: 1

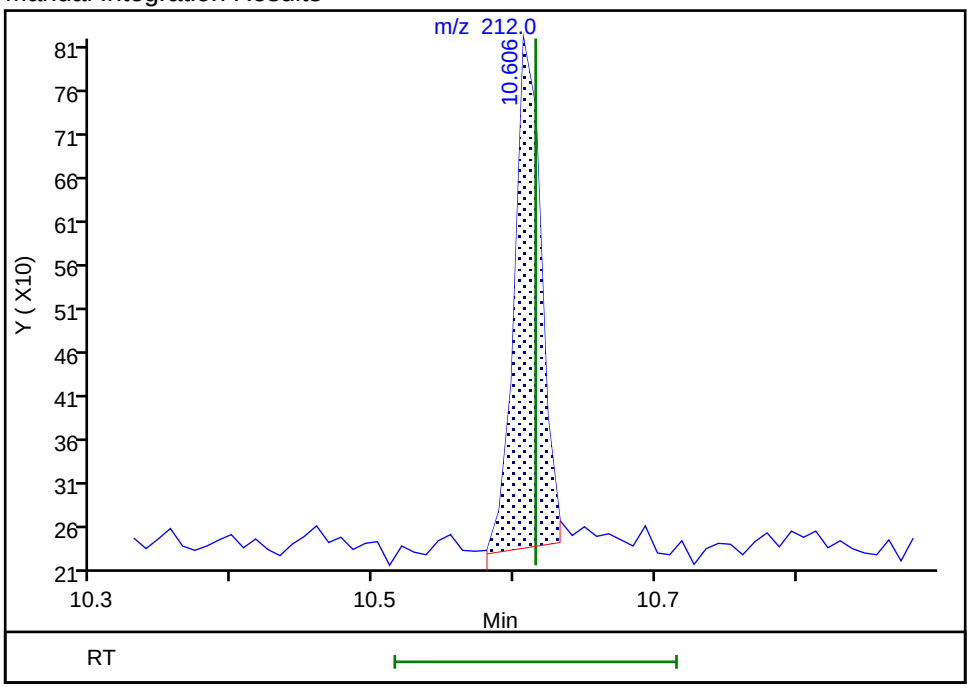
Not Detected
Expected RT: 10.61

Processing Integration Results



Manual Integration Results

RT: 10.61
Area: 778
Amount: 10.075750
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:09:31
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

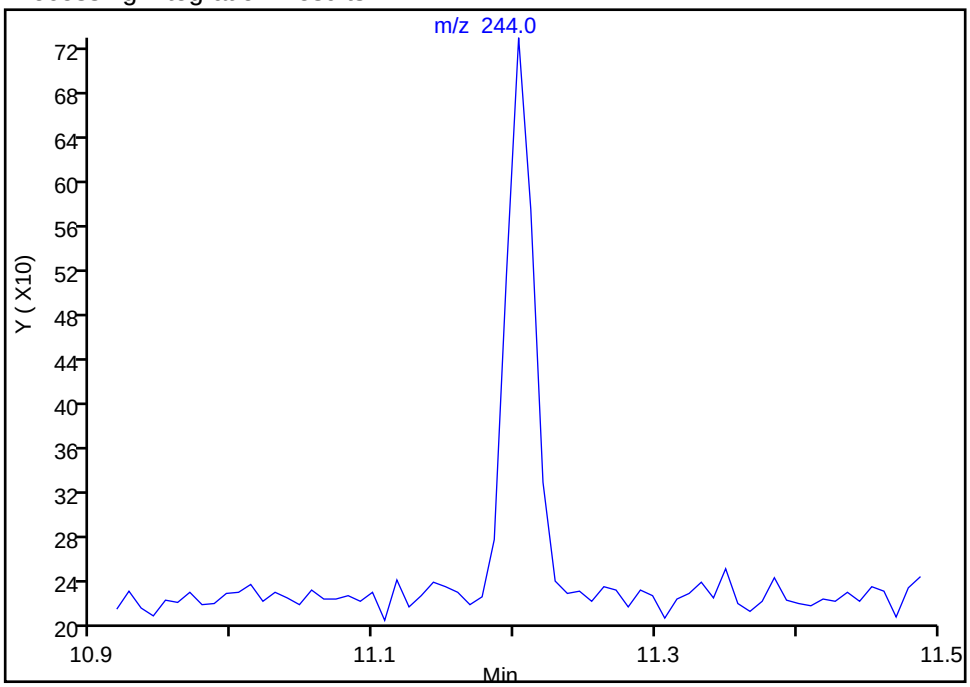
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Injection Date: 29-Oct-2018 16:32:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 6 Terphenyl-d14, CAS: 1718-51-0

Signal: 1

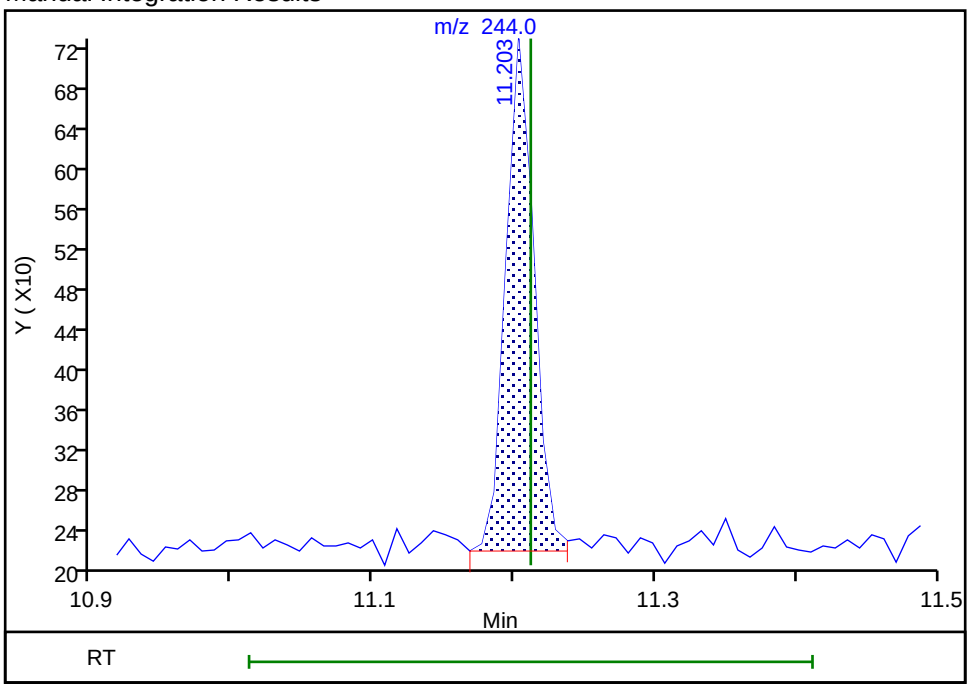
Not Detected
Expected RT: 11.21

Processing Integration Results



Manual Integration Results

RT: 11.20
Area: 703
Amount: 10.299826
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:08:01
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

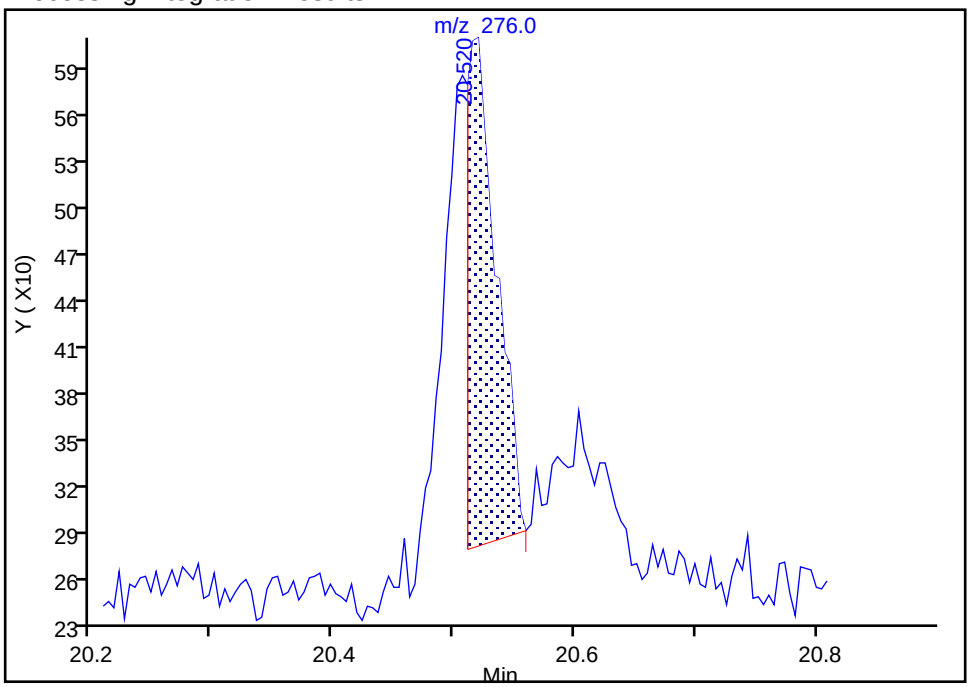
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Injection Date: 29-Oct-2018 16:32:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

33 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

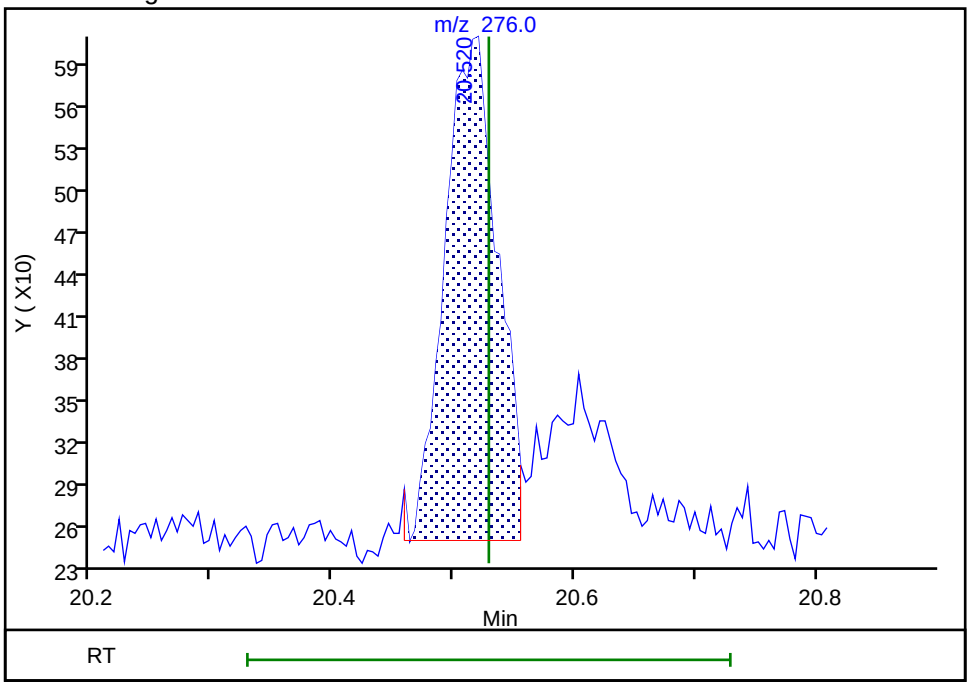
Processing Integration Results

RT: 20.52
Area: 543
Amount: 11.679407
Amount Units: ng/ml



Manual Integration Results

RT: 20.52
Area: 1078
Amount: 11.500284
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:09:10
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

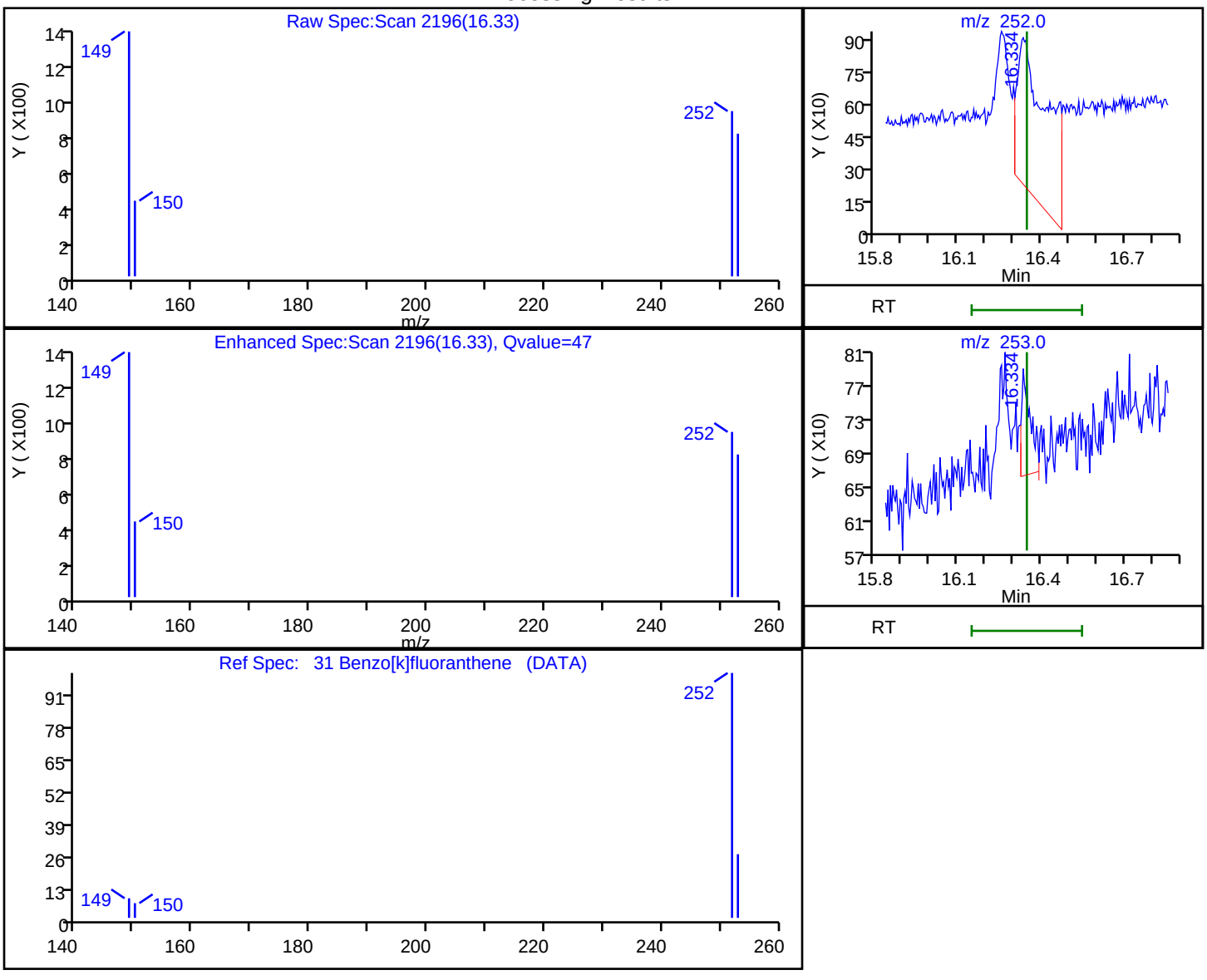
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D				
Injection Date:	29-Oct-2018 16:32:30	Instrument ID:	SMS_F		
Lims ID:	STD0001				
Client ID:					
Operator ID:	WICKHAMM	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

31 Benzo[k]fluoranthene, CAS: 207-08-9

Processing Results



RT	Mass	Response	Amount
16.33	252.00	5536	31.733538
16.33	253.00	276	

Reviewer: wickhamm, 29-Oct-2018 19:09:02

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Lims ID: STD0002
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 29-Oct-2018 17:02:30 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0002
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:32 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 21:53:19

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	-0.001	89	23761	600.0	600.0	M
* 2 Phenanthrene-d10	188	9.206	9.214	-0.008	99	50615	600.0	600.0	
* 3 Chrysene-d12	240	13.376	13.376	0.000	90	49531	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	91	504	20.0	20.3	a
$ 5 2-Fluorobiphenyl	172	7.026	7.026	0.000	97	1289	20.0	21.4	a
$ 6 Terphenyl-d14	244	11.203	11.211	-0.008	34	1551	20.0	20.7	a
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.563	2.557	0.006	17	404	20.0	22.1	
10 Naphthalene	128	5.985	5.985	0.000	98	1689	20.0	21.2	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	100	2251	40.0	41.8	
12 1-Methylnaphthalene	142	6.761	6.769	-0.008	97	1056	20.0	21.7	
13 Dimethyl phthalate	163	7.419	7.419	0.000	1	1815	40.0	39.0	
14 Acenaphthylene	152	7.566	7.574	-0.008	93	1211	20.0	19.7	
15 Acenaphthene	153	7.747	7.747	0.000	92	1100	20.0	21.1	M
16 Dibenzofuran	168	7.914	7.915	-0.001	96	1669	20.0	21.2	
17 Diethyl phthalate	149	8.109	8.118	-0.009	98	2364	40.2	52.1	
18 Fluorene	166	8.264	8.264	0.000	94	1151	20.0	18.9	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	92	767	20.0	20.4	
20 Phenanthrene	178	9.232	9.232	0.000	93	2118	20.0	20.7	
21 Anthracene	178	9.283	9.284	-0.001	1	1544	20.0	20.0	
22 Di-n-butyl phthalate	149	9.776	9.785	-0.009	1	2026	40.0	46.5	
23 Fluoranthene	202	10.632	10.641	-0.009	50	2149	20.0	19.7	
24 Pyrene	202	10.978	10.987	-0.009	50	2333	20.0	21.2	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.349	13.358	-0.009	77	1881	20.0	22.4	
27 Chrysene	228	13.430	13.439	-0.009	84	2118	20.0	20.5	
28 Bis(2-ethylhexyl) phthalat	149	12.106	12.115	-0.009	1	723	40.0	39.5	
29 Di-n-octyl phthalate	149		15.332				ND	ND	U
30 Benzo[b]fluoranthene	252	16.259	16.268	-0.009	72	2067	20.0	20.7	
31 Benzo[k]fluoranthene	252	16.338	16.347	-0.009	66	1767	20.0	18.1	M
32 Benzo[a]pyrene	252	17.195	17.213	-0.018	51	1718	20.0	21.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.511	20.529	-0.018	84	2309	20.0	22.9	M
34 Dibenz(a,h)anthracene	278	20.607	20.616	-0.009	93	2160	20.0	20.6	
35 Benzo[g,h,i]perylene	276	21.259	21.272	-0.013	86	2843	20.0	22.3	
$ 53 2-methylnaphthalene-d10	152	6.632	6.633	0.000	98	899	20.0	21.8	
$ 54 Fluoranthene-d10	212	10.615	10.615	0.000	21	1674	20.0	19.8	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Reagents:

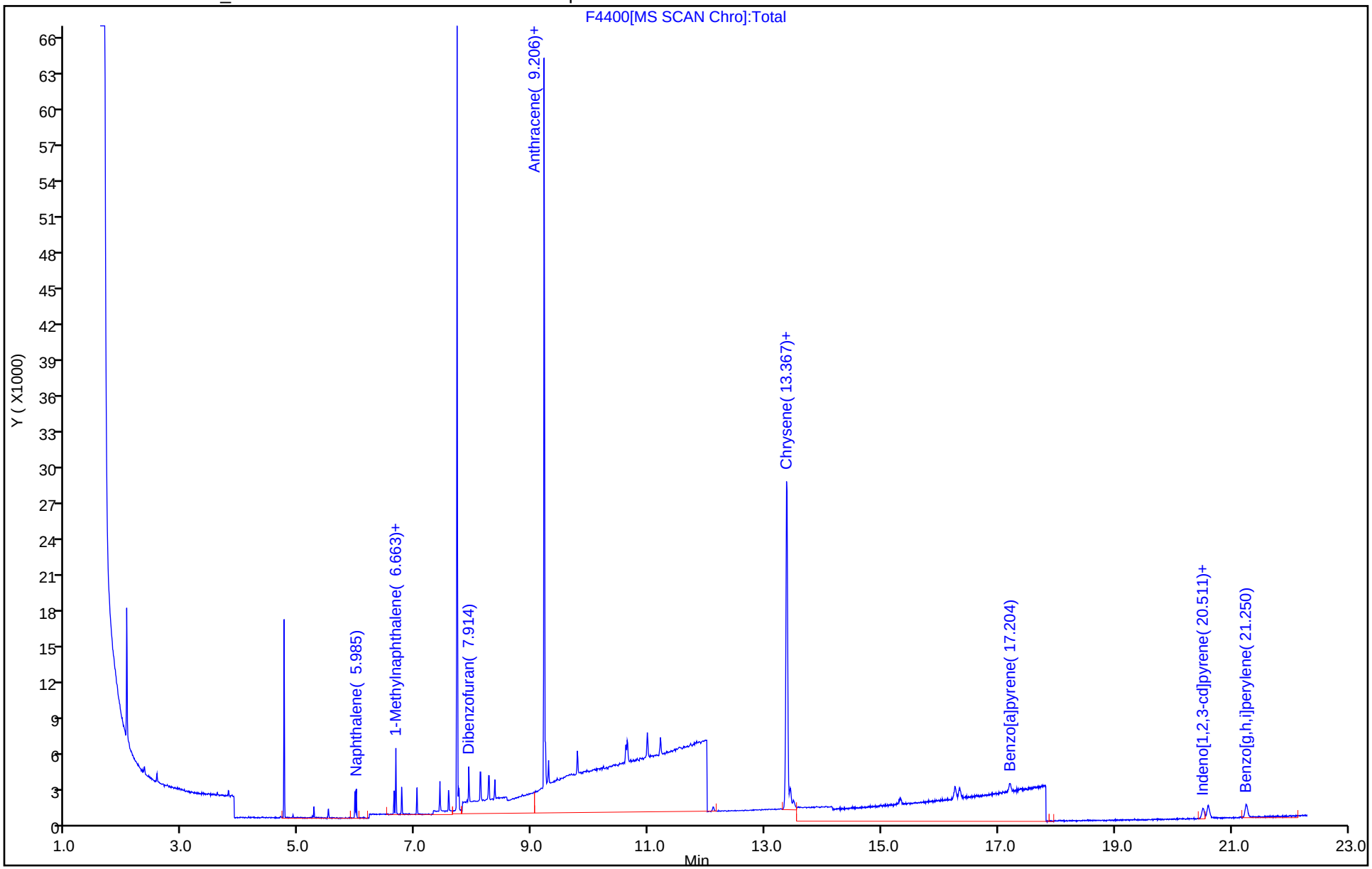
MS-SIMSL 0.02_00079 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:32 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D

Injection Date:	29-Oct-2018 17:02:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0002			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Manual Integration/User Assign Peak Report

TestAmerica Denver

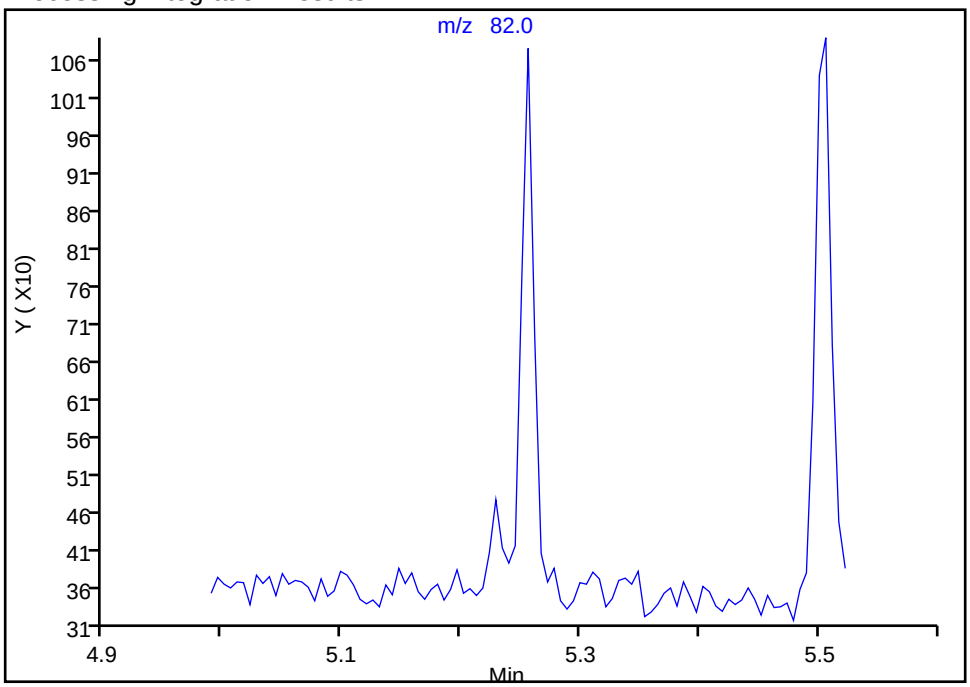
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Injection Date: 29-Oct-2018 17:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 4 Nitrobenzene-d5, CAS: 4165-60-0

Signal: 1

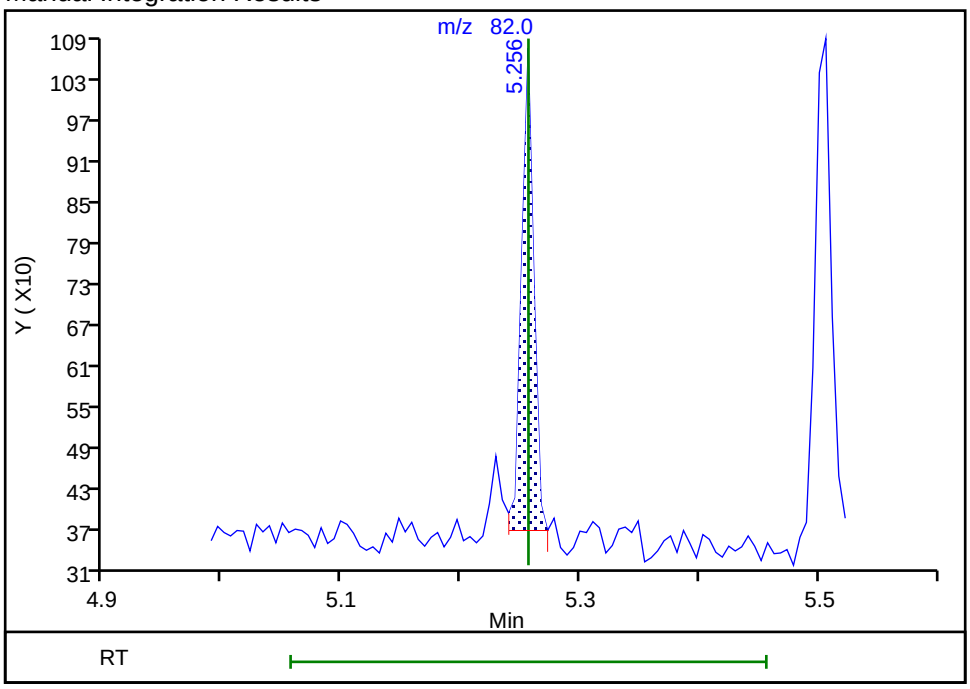
Processing Integration Results

Not Detected
Expected RT: 5.26



Manual Integration Results

RT: 5.26
Area: 504
Amount: 20.340835
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:10:03
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

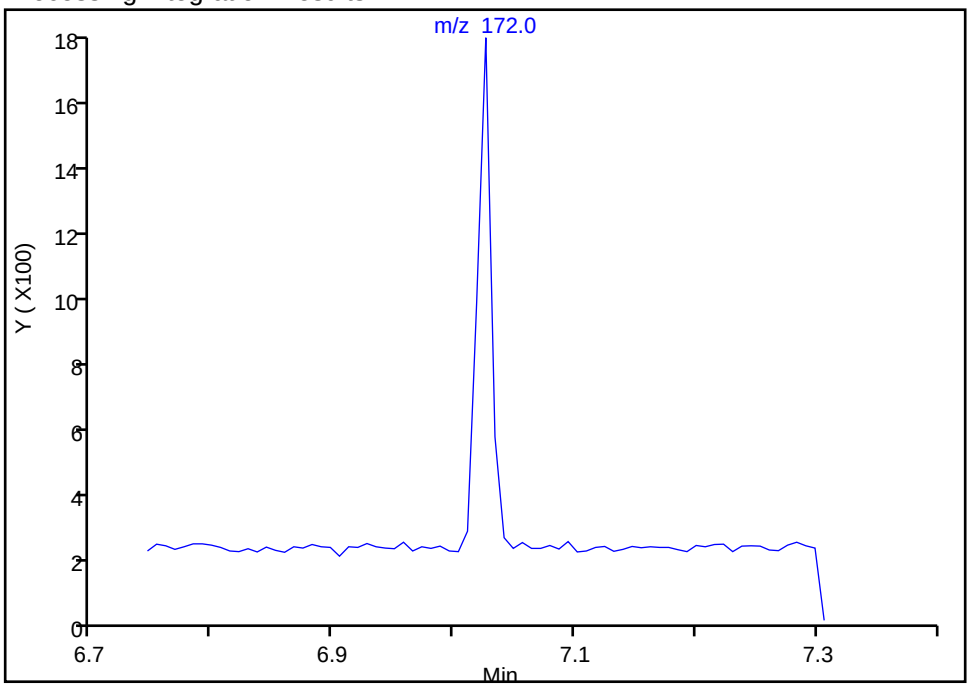
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Injection Date: 29-Oct-2018 17:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 5 2-Fluorobiphenyl, CAS: 321-60-8

Signal: 1

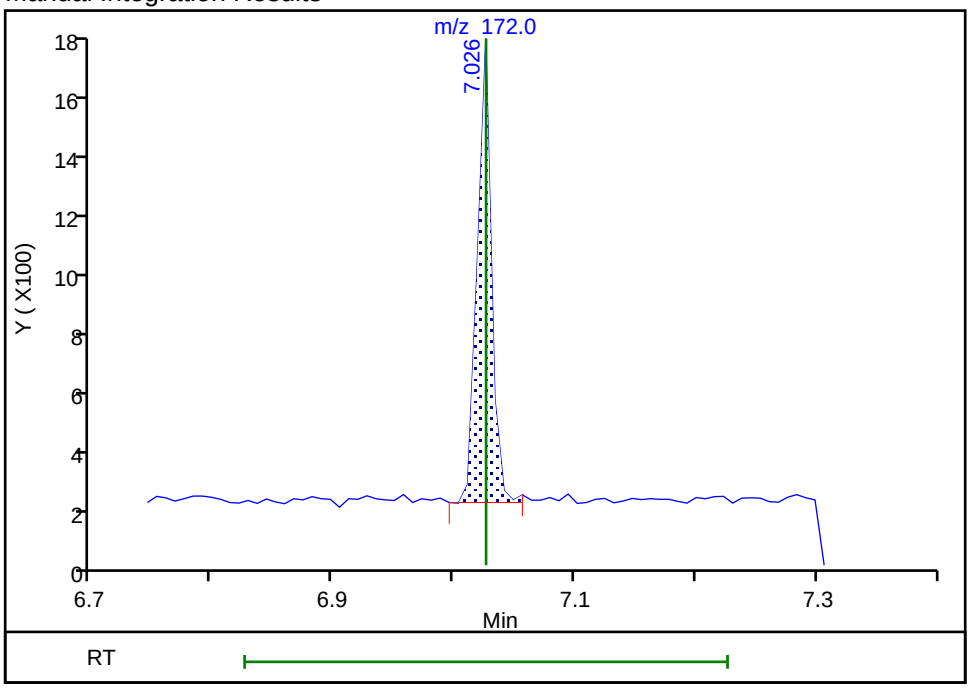
Not Detected
Expected RT: 7.03

Processing Integration Results



Manual Integration Results

RT: 7.03
Area: 1289
Amount: 21.389534
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:10:06
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

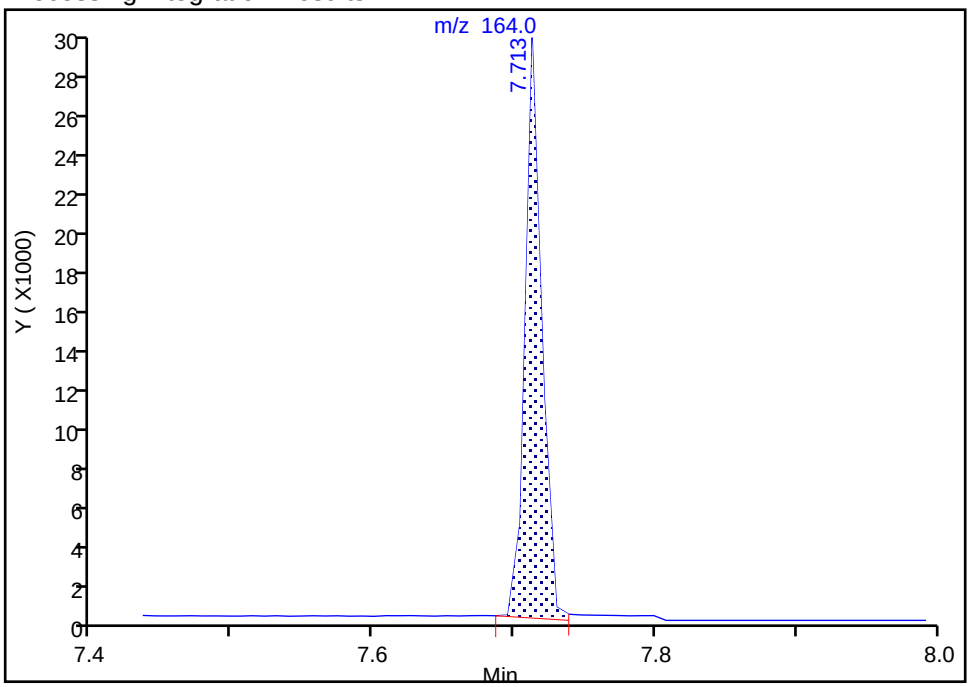
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Injection Date: 29-Oct-2018 17:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

* 1 Acenaphthene-d10, CAS: 15067-26-2

Signal: 1

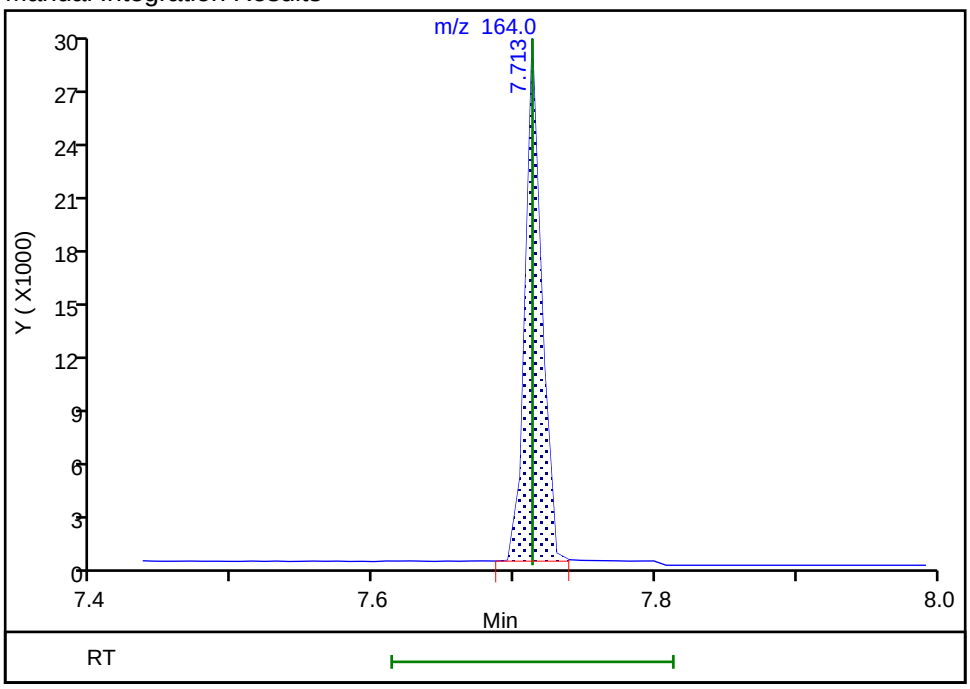
RT: 7.71
Area: 24169
Amount: 600.0000
Amount Units: ng/ml

Processing Integration Results



RT: 7.71
Area: 23761
Amount: 600.0000
Amount Units: ng/ml

Manual Integration Results



Reviewer: wickhamm, 29-Oct-2018 19:09:51
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

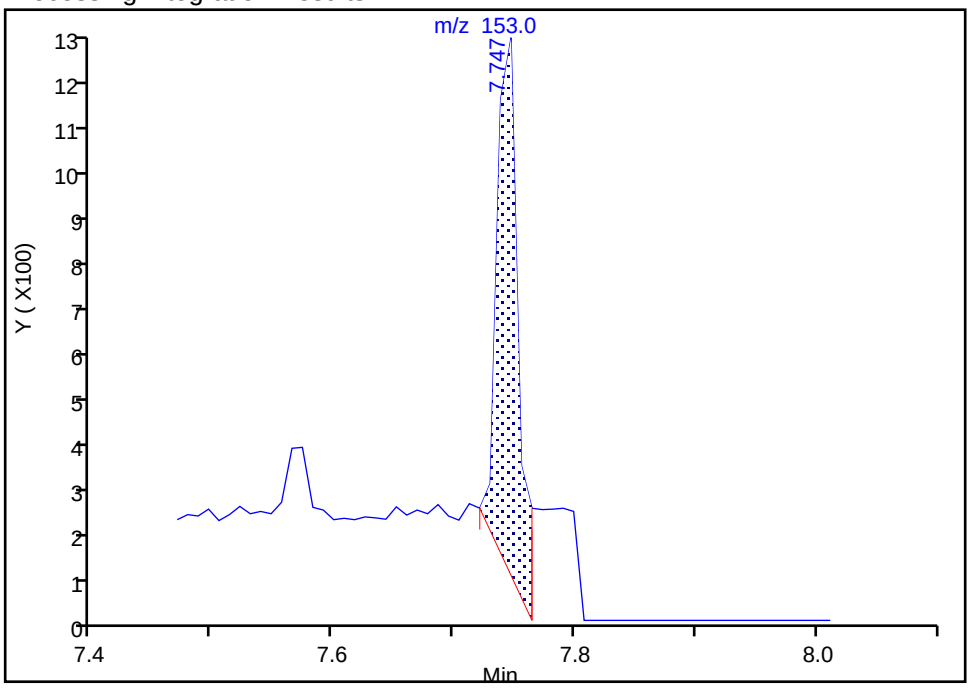
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Injection Date: 29-Oct-2018 17:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

15 Acenaphthene, CAS: 83-32-9

Signal: 1

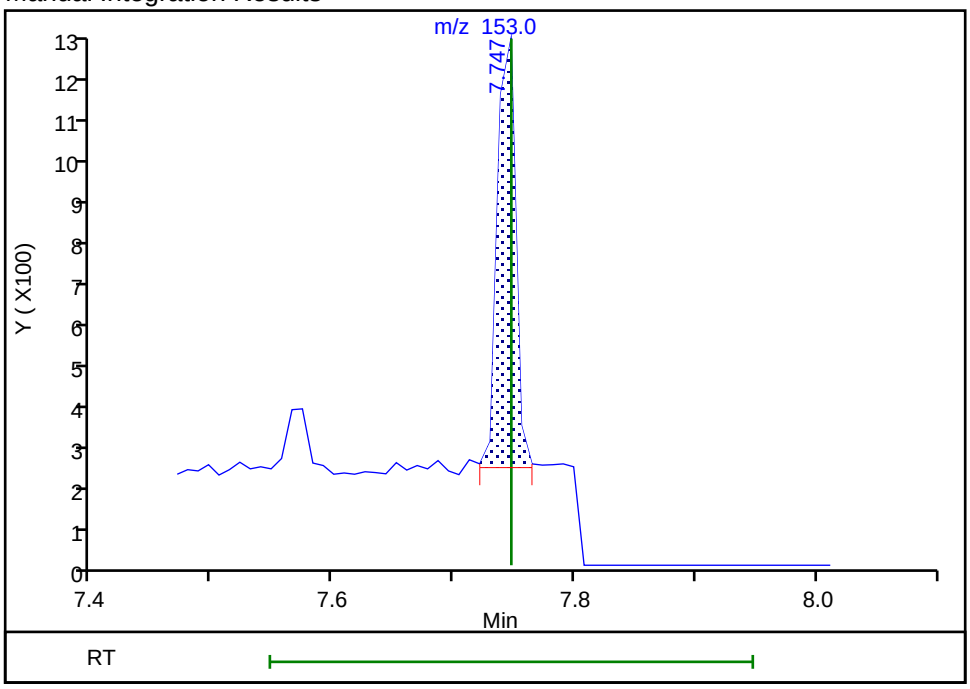
Processing Integration Results

RT: 7.75
Area: 1454
Amount: 25.981549
Amount Units: ng/ml



Manual Integration Results

RT: 7.75
Area: 1100
Amount: 21.109445
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:10:20
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

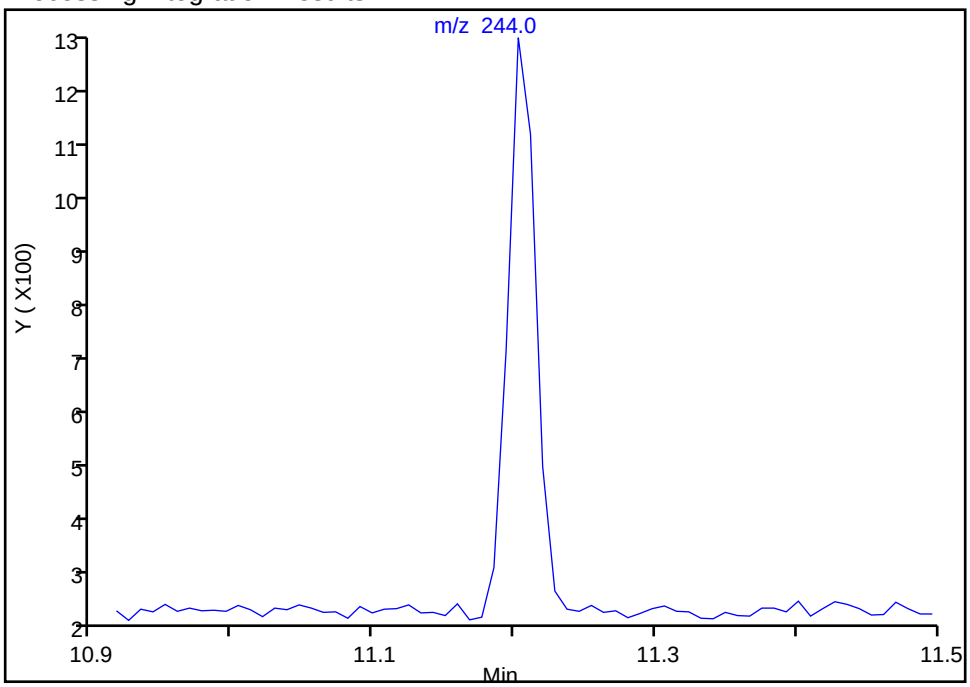
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Injection Date: 29-Oct-2018 17:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 6 Terphenyl-d14, CAS: 1718-51-0

Signal: 1

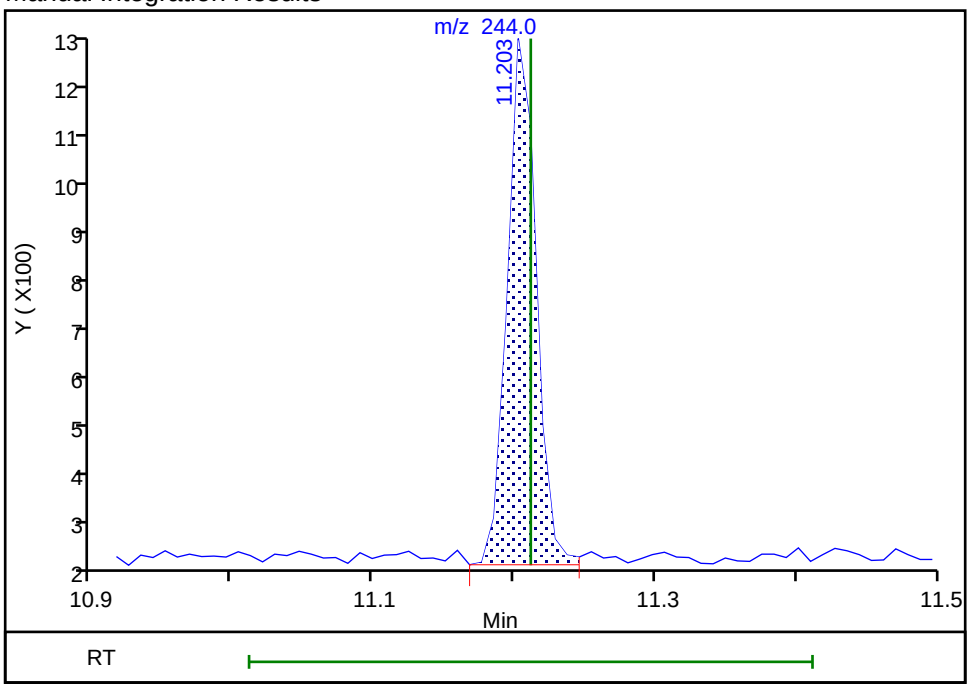
Not Detected
Expected RT: 11.21

Processing Integration Results



Manual Integration Results

RT: 11.20
Area: 1551
Amount: 20.744171
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:10:10
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

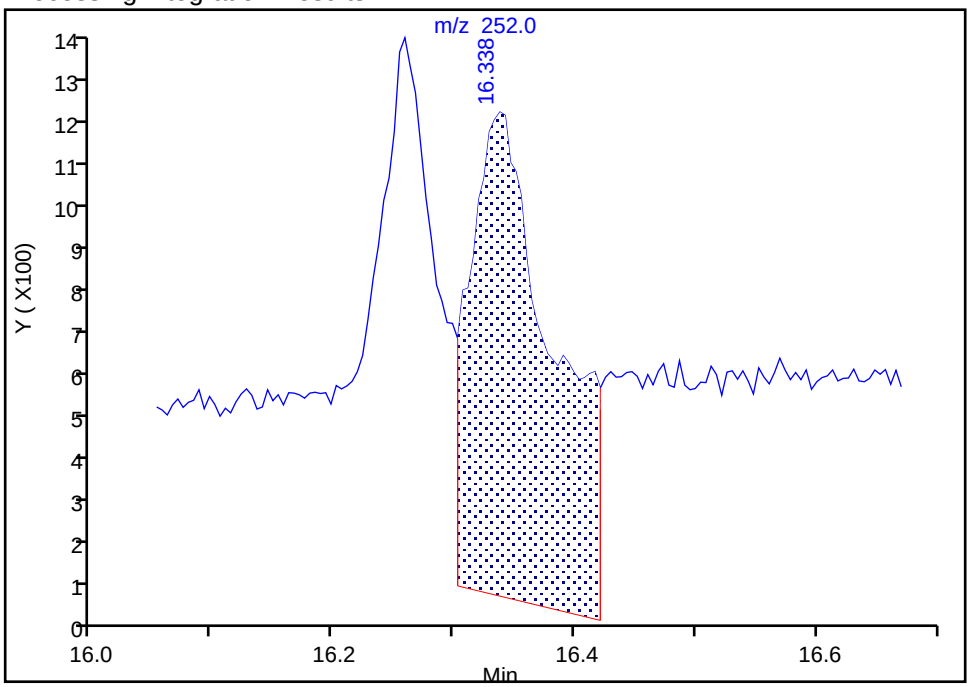
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Injection Date: 29-Oct-2018 17:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

31 Benzo[k]fluoranthene, CAS: 207-08-9

Signal: 1

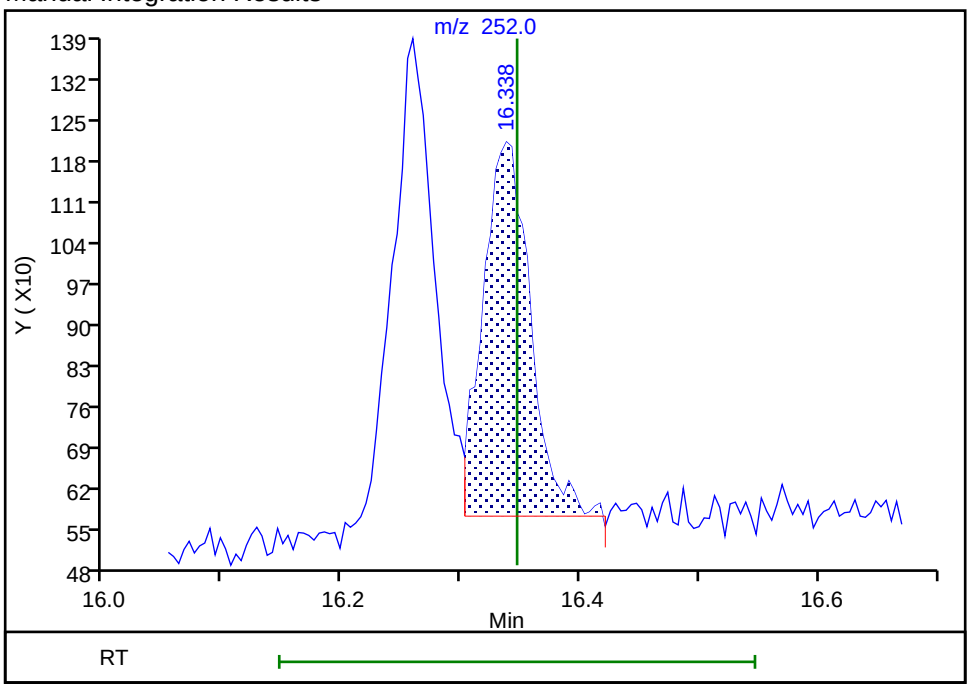
Processing Integration Results

RT: 16.34
Area: 5654
Amount: 40.212900
Amount Units: ng/ml



Manual Integration Results

RT: 16.34
Area: 1767
Amount: 18.057246
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:10:41
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

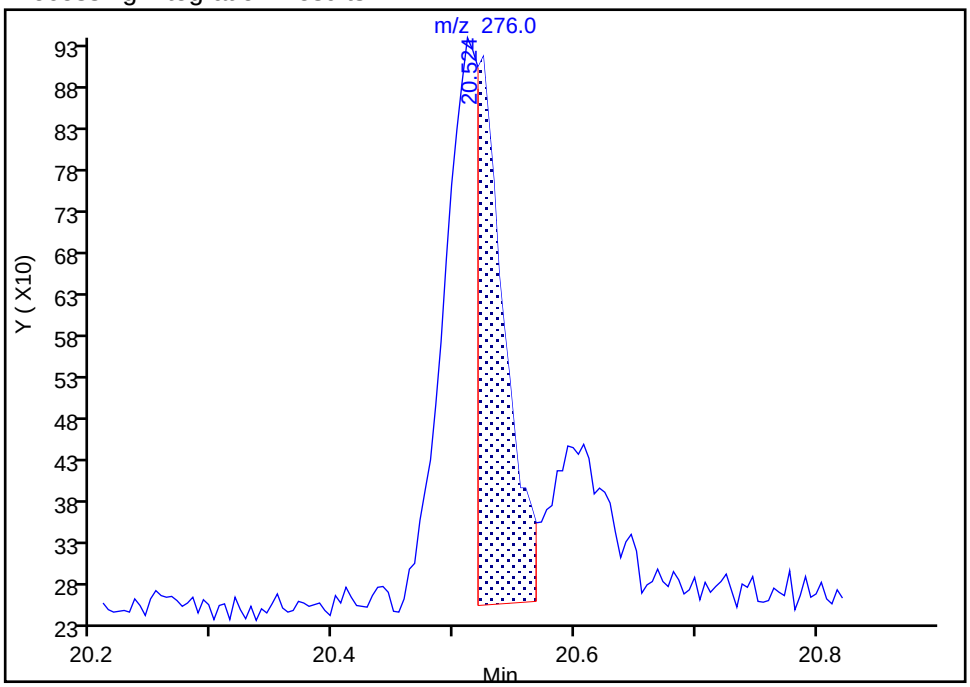
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Injection Date: 29-Oct-2018 17:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

33 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

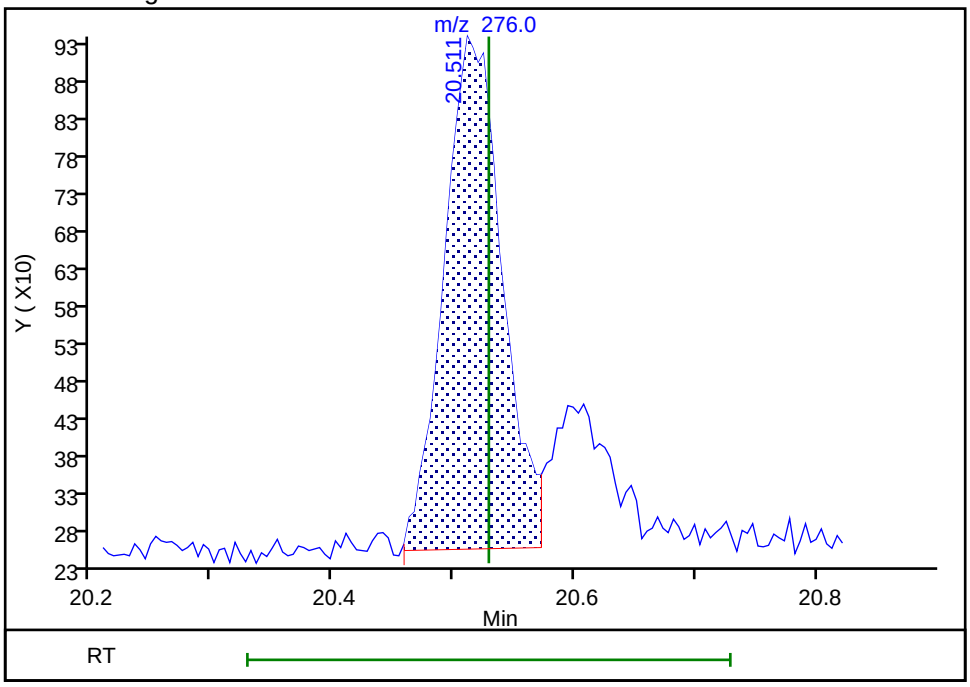
Processing Integration Results

RT: 20.52
Area: 1079
Amount: 13.124137
Amount Units: ng/ml



Manual Integration Results

RT: 20.51
Area: 2309
Amount: 22.898639
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:10:50
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4401.D
Lims ID: STD0500
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 29-Oct-2018 17:32:30 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0500
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:35 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 21:54:34

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	93	25461	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.214	-0.008	98	54456	600.0	600.0	
* 3 Chrysene-d12	240	13.367	13.376	-0.009	91	53401	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	96	1215	50.0	45.8	a
$ 5 2-Fluorobiphenyl	172	7.026	7.026	0.000	97	3096	50.0	47.9	
$ 6 Terphenyl-d14	244	11.203	11.211	-0.008	61	3595	50.0	44.7	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.564	2.557	0.007	24	1021	50.0	52.2	
10 Naphthalene	128	5.985	5.985	0.000	99	4085	50.0	47.9	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	100	5466	100.0	94.6	
12 1-Methylnaphthalene	142	6.761	6.769	-0.008	99	2467	50.0	47.4	
13 Dimethyl phthalate	163	7.419	7.419	0.000	1	4253	100.0	85.2	
14 Acenaphthylene	152	7.566	7.574	-0.008	98	2921	50.0	44.4	
15 Acenaphthene	153	7.739	7.747	-0.008	92	2537	50.0	45.4	
16 Dibenzofuran	168	7.915	7.915	0.000	96	3911	50.1	46.4	
17 Diethyl phthalate	149	8.109	8.118	-0.009	98	4645	100.4	95.5	
18 Fluorene	166	8.254	8.264	-0.010	89	2935	50.0	45.0	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	93	1864	50.0	46.0	
20 Phenanthrene	178	9.232	9.232	0.000	96	5059	50.0	45.9	
21 Anthracene	178	9.284	9.284	0.000	1	3559	50.0	43.0	
22 Di-n-butyl phthalate	149	9.776	9.785	-0.009	1	4749	100.0	99.7	
23 Fluoranthene	202	10.632	10.641	-0.009	92	5086	50.0	43.4	
24 Pyrene	202	10.978	10.987	-0.009	91	5223	50.0	44.2	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.340	13.358	-0.018	90	3978	50.0	43.9	
27 Chrysene	228	13.430	13.439	-0.009	97	5115	50.0	45.8	
28 Bis(2-ethylhexyl) phthalat	149	12.106	12.115	-0.009	1	1736	100.0	88.1	
29 Di-n-octyl phthalate	149	15.310	15.332	-0.022	1	3137	100.0	116.7	
30 Benzo[b]fluoranthene	252	16.251	16.268	-0.017	87	4983	50.0	46.4	
31 Benzo[k]fluoranthene	252	16.334	16.347	-0.013	82	4560	50.0	43.2	
32 Benzo[a]pyrene	252	17.191	17.213	-0.022	75	3944	50.0	46.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.511	20.529	-0.018	99	4946	50.0	45.5	
34 Dibenz(a,h)anthracene	278	20.599	20.616	-0.017	95	5119	50.0	45.3	
35 Benzo[g,h,i]perylene	276	21.251	21.272	-0.021	98	6234	50.0	45.3	
$ 53 2-methylnaphthalene-d10	152	6.633	6.633	0.001	93	2072	50.0	46.9	
$ 54 Fluoranthene-d10	212	10.606	10.615	-0.009	62	4194	50.0	46.1	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

a - User Assigned ID

Reagents:

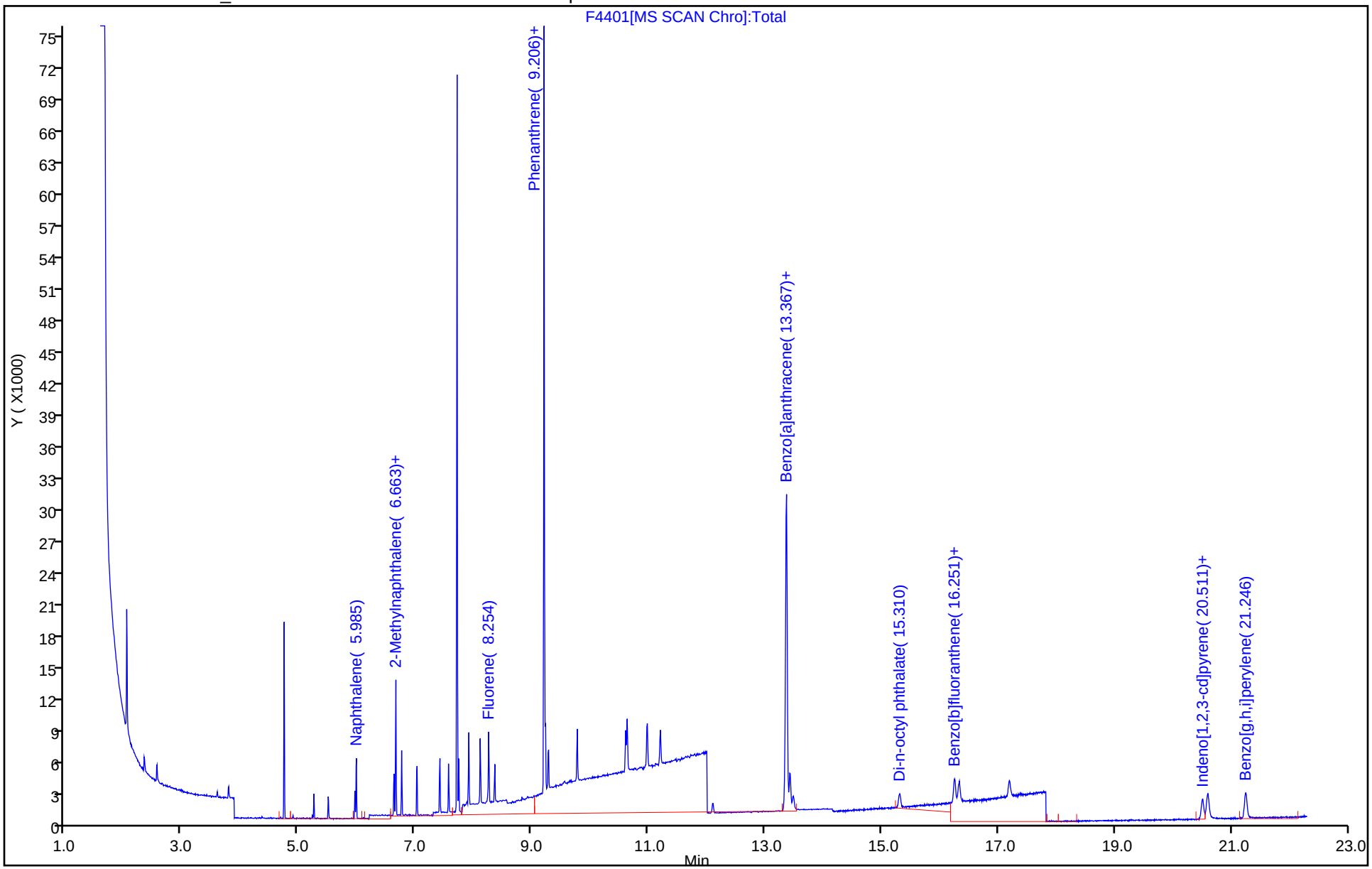
MS-SIMSL 0.05_00007 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:35 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4401.D

Injection Date:	29-Oct-2018 17:32:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0500			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Manual Integration/User Assign Peak Report

TestAmerica Denver

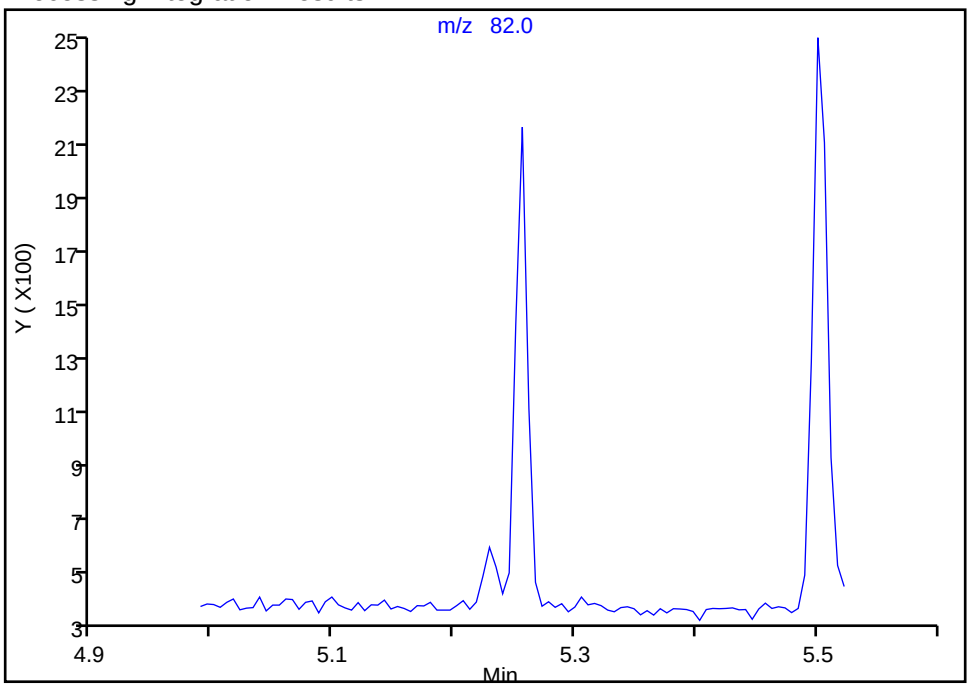
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4401.D
Injection Date: 29-Oct-2018 17:32:30 Instrument ID: SMS_F
Lims ID: STD0500
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 4 Nitrobenzene-d5, CAS: 4165-60-0

Signal: 1

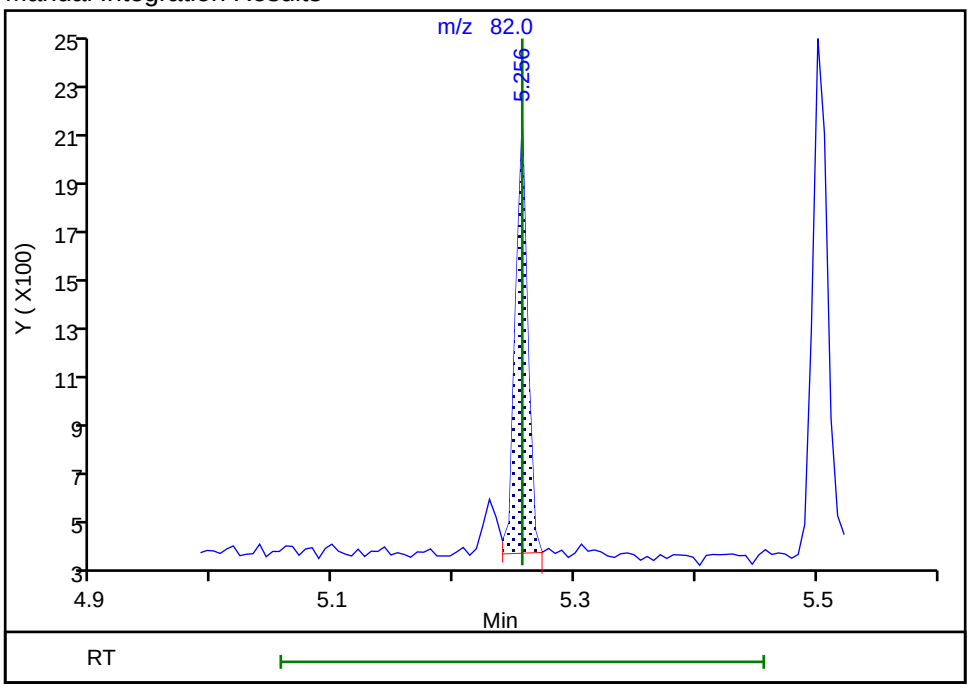
Not Detected
Expected RT: 5.26

Processing Integration Results



Manual Integration Results

RT: 5.26
Area: 1215
Amount: 45.761870
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:11:13
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4402.D
Lims ID: STD0100
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 29-Oct-2018 18:01:30 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0100
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:37 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 19:12:41

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	96	25360	600.0	600.0	M
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	54223	600.0	600.0	
* 3 Chrysene-d12	240	13.367	13.367	0.000	91	51705	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	97	2436	100.0	92.1	
$ 5 2-Fluorobiphenyl	172	7.026	7.026	0.000	98	6210	100.0	96.6	
$ 6 Terphenyl-d14	244	11.203	11.203	0.000	88	7287	100.0	91.0	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.563	2.563	0.000	32	1907	100.0	97.8	
10 Naphthalene	128	5.980	5.980	0.000	100	8519	100.0	100.3	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	99	11219	200.0	195.0	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	99	5042	100.0	97.2	
13 Dimethyl phthalate	163	7.419	7.419	0.000	1	8891	200.0	178.9	
14 Acenaphthylene	152	7.566	7.566	0.000	100	5834	100.0	89.0	
15 Acenaphthene	153	7.739	7.739	0.000	95	5430	100.0	97.6	M
16 Dibenzofuran	168	7.915	7.915	0.000	95	8017	100.1	95.5	
17 Diethyl phthalate	149	8.109	8.109	0.000	98	8830	200.8	182.3	
18 Fluorene	166	8.254	8.254	0.000	91	6068	100.0	93.5	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	94	3831	100.0	95.0	
20 Phenanthrene	178	9.223	9.223	0.000	99	10412	100.0	94.8	
21 Anthracene	178	9.275	9.275	0.000	1	6933	100.0	84.0	
22 Di-n-butyl phthalate	149	9.776	9.776	0.000	1	9634	200.0	199.8	
23 Fluoranthene	202	10.632	10.632	0.000	96	10244	100.0	87.8	
24 Pyrene	202	10.969	10.969	0.000	95	10444	100.0	88.8	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.340	13.340	0.000	93	7777	100.0	88.7	
27 Chrysene	228	13.430	13.430	0.000	97	10237	100.0	94.7	
28 Bis(2-ethylhexyl) phthalat	149	12.097	12.097	0.000	1	3311	200.0	168.7	
29 Di-n-octyl phthalate	149	15.306	15.306	0.000	1	6237	200.0	218.5	
30 Benzo[b]fluoranthene	252	16.251	16.251	0.000	95	9850	100.0	94.7	
31 Benzo[k]fluoranthene	252	16.329	16.329	0.000	92	9057	100.0	88.7	M
32 Benzo[a]pyrene	252	17.186	17.186	0.000	87	7494	100.0	91.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.507	20.507	0.000	97	10324	100.0	98.1	
34 Dibenz(a,h)anthracene	278	20.599	20.599	0.000	89	10691	100.0	97.7	
35 Benzo[g,h,i]perylene	276	21.250	21.250	0.000	99	13270	100.0	99.6	
$ 53 2-methylnaphthalene-d10	152	6.632	6.632	0.000	92	4254	100.0	96.7	
$ 54 Fluoranthene-d10	212	10.606	10.606	0.000	84	8298	100.0	91.6	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

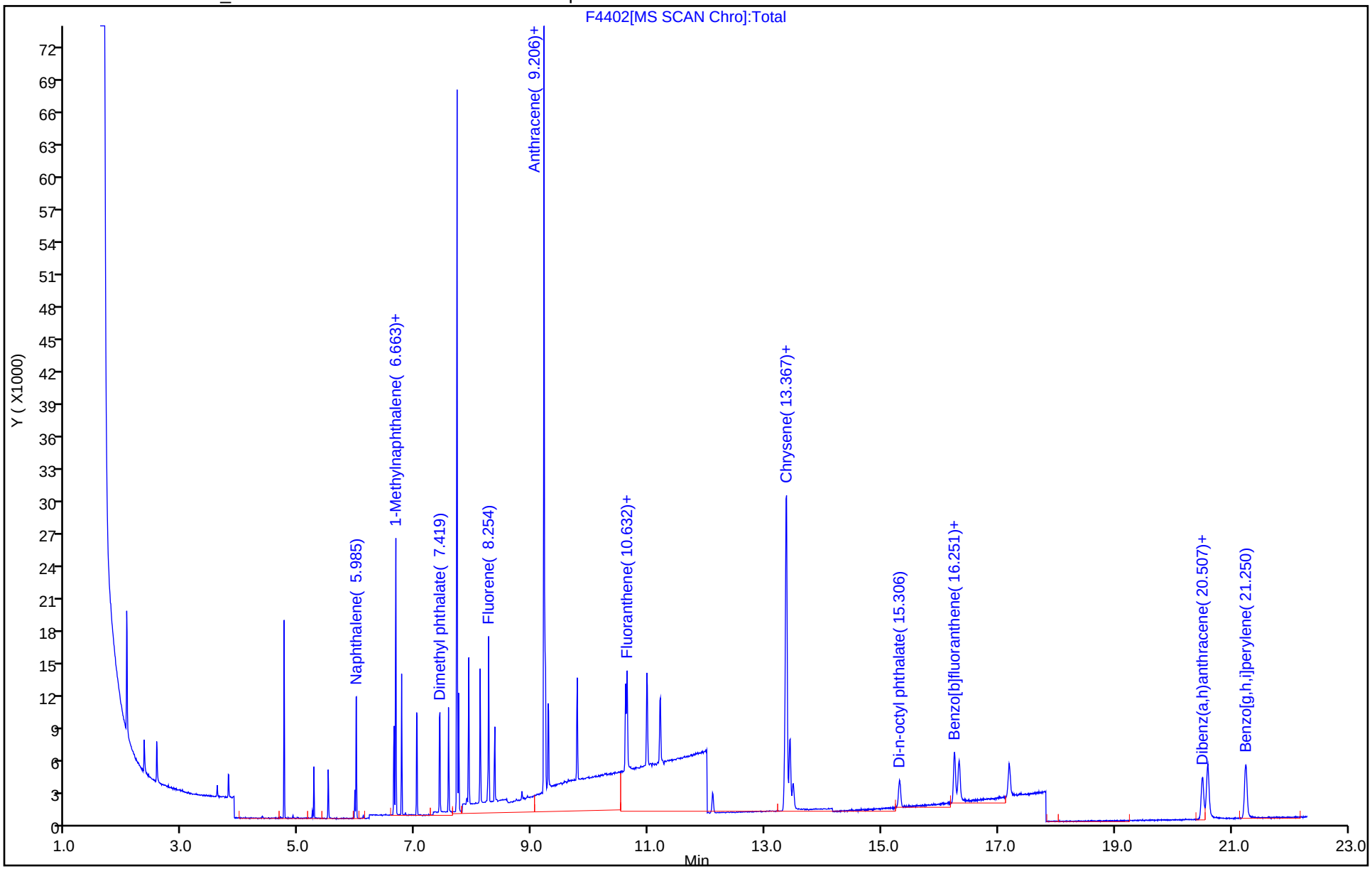
MS-SIMSL 0.1_00075 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:38 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4402.D

Injection Date:	29-Oct-2018 18:01:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0100			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Manual Integration/User Assign Peak Report

TestAmerica Denver

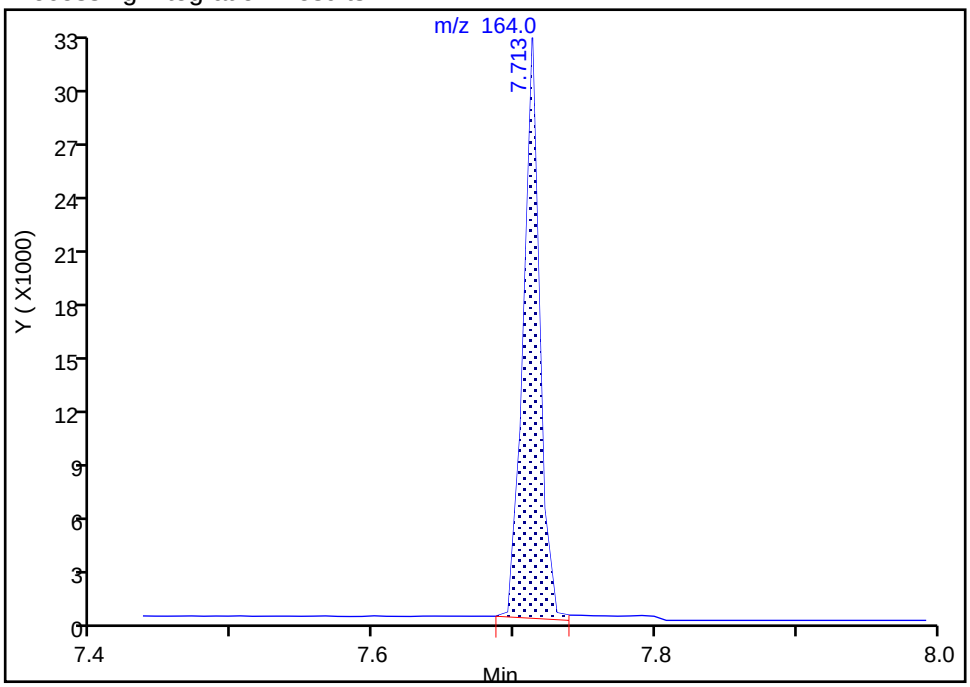
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4402.D
Injection Date: 29-Oct-2018 18:01:30 Instrument ID: SMS_F
Lims ID: STD0100
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

* 1 Acenaphthene-d10, CAS: 15067-26-2

Signal: 1

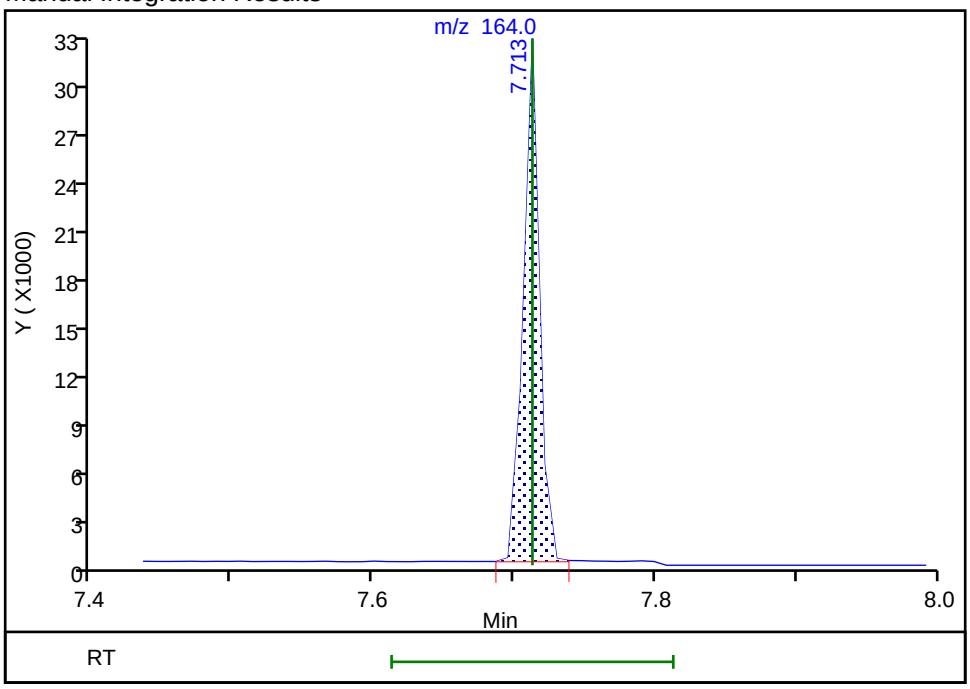
Processing Integration Results

RT: 7.71
Area: 25715
Amount: 600.0000
Amount Units: ng/ml



Manual Integration Results

RT: 7.71
Area: 25360
Amount: 600.0000
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:11:59
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

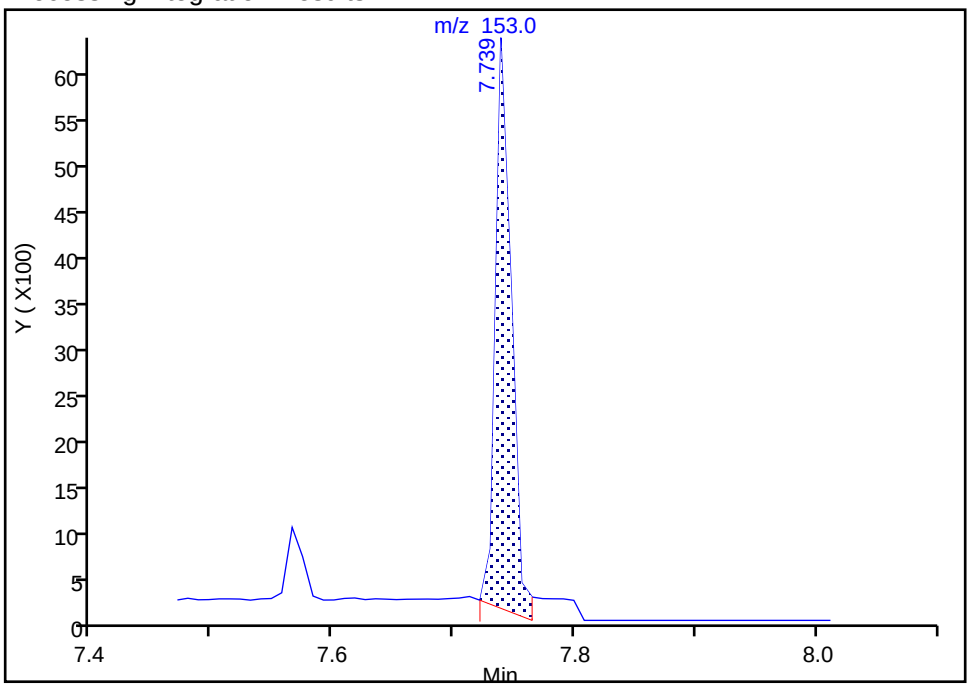
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4402.D
Injection Date: 29-Oct-2018 18:01:30 Instrument ID: SMS_F
Lims ID: STD0100
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

15 Acenaphthene, CAS: 83-32-9

Signal: 1

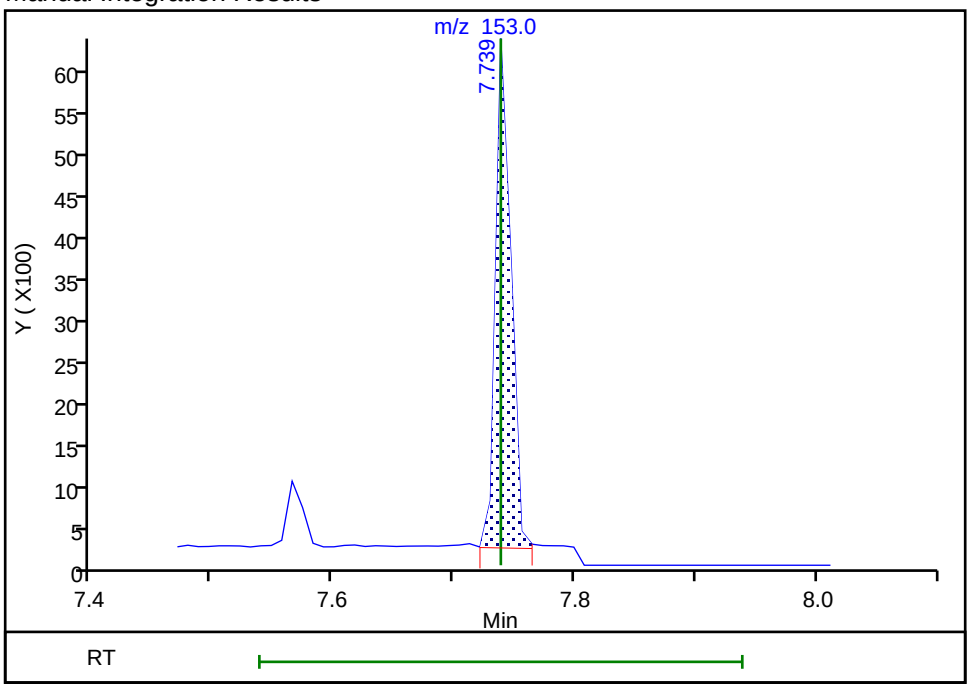
Processing Integration Results

RT: 7.74
Area: 5737
Amount: 103.0078
Amount Units: ng/ml



Manual Integration Results

RT: 7.74
Area: 5430
Amount: 97.633625
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:12:13
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

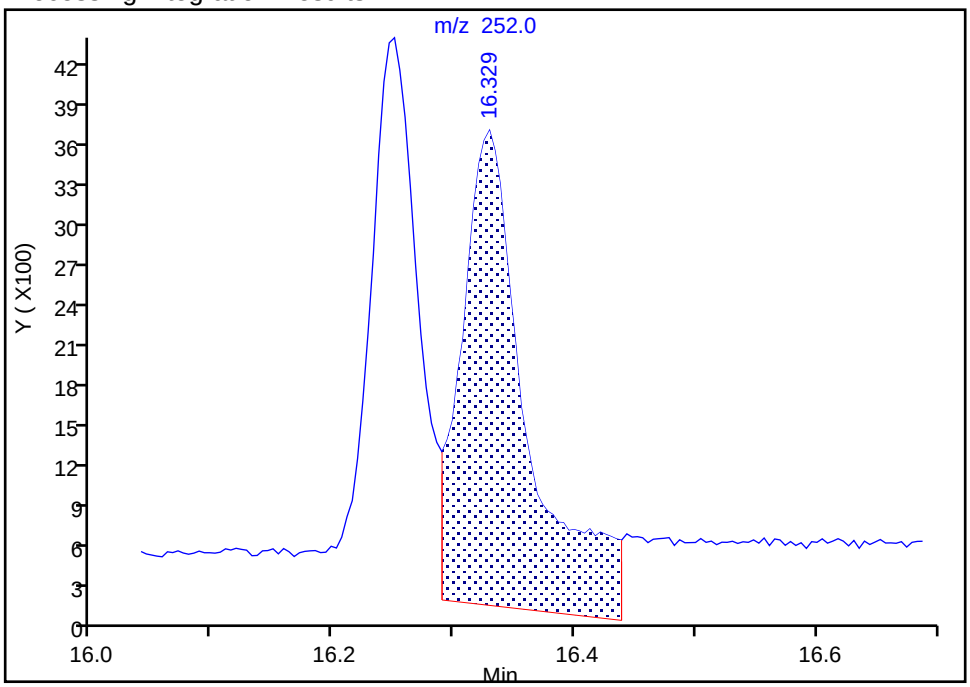
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4402.D
Injection Date: 29-Oct-2018 18:01:30 Instrument ID: SMS_F
Lims ID: STD0100
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

31 Benzo[k]fluoranthene, CAS: 207-08-9

Signal: 1

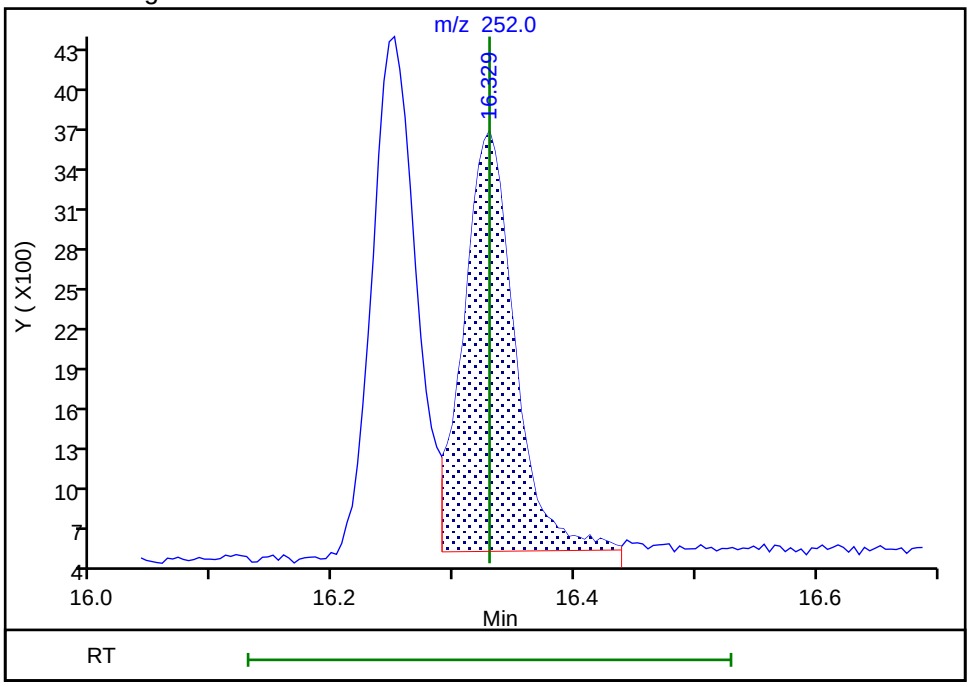
Processing Integration Results

RT: 16.33
Area: 13516
Amount: 116.2875
Amount Units: ng/ml



Manual Integration Results

RT: 16.33
Area: 9057
Amount: 88.663297
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:12:31
Audit Action: Assigned New Baseline Audit Reason: Baseline

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4403.D
Lims ID: STD0300
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 29-Oct-2018 18:31:30 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0300
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:40 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 19:14:00

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	97	24734	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	98	53830	600.0	600.0	
* 3 Chrysene-d12	240	13.367	13.367	0.000	93	53371	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	99	7134	300.0	276.6	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	99	18332	300.0	292.2	
$ 6 Terphenyl-d14	244	11.203	11.203	0.000	97	25400	300.0	319.4	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.557	2.563	-0.006	31	5372	300.0	282.6	
10 Naphthalene	128	5.980	5.980	0.000	100	24560	300.0	296.5	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	98	33550	600.0	597.9	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	98	15015	300.0	296.7	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	27212	600.0	561.3	
14 Acenaphthylene	152	7.566	7.566	0.000	100	17771	300.0	278.1	
15 Acenaphthene	153	7.739	7.739	0.000	96	16055	300.0	296.0	M
16 Dibenzofuran	168	7.915	7.915	0.001	94	23943	300.3	292.6	
17 Diethyl phthalate	149	8.109	8.109	0.000	98	24452	602.4	517.7	
18 Fluorene	166	8.254	8.254	0.000	93	18400	300.0	290.7	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	93	11463	300.0	286.2	
20 Phenanthrene	178	9.223	9.223	0.000	100	31665	300.0	290.3	
21 Anthracene	178	9.275	9.275	0.000	1	22115	300.0	270.0	
22 Di-n-butyl phthalate	149	9.776	9.776	0.000	1	29593	600.0	586.9	
23 Fluoranthene	202	10.632	10.632	0.000	100	32871	300.0	283.7	
24 Pyrene	202	10.969	10.969	0.000	98	32223	300.0	275.9	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.340	13.340	0.000	60	24476	300.0	270.3	
27 Chrysene	228	13.430	13.430	0.000	95	32528	300.0	291.6	
28 Bis(2-ethylhexyl) phthalat	149	12.097	12.097	0.000	1	9865	600.0	506.2	
29 Di-n-octyl phthalate	149	15.306	15.306	0.000	1	18714	600.0	584.7	
30 Benzo[b]fluoranthene	252	16.251	16.251	0.000	100	30648	300.0	285.4	
31 Benzo[k]fluoranthene	252	16.325	16.329	-0.004	99	29499	300.0	279.8	M
32 Benzo[a]pyrene	252	17.191	17.186	0.005	99	22609	300.0	266.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.502	20.507	-0.005	92	30679	300.0	282.4	
34 Dibenz(a,h)anthracene	278	20.594	20.599	-0.005	85	32389	300.0	286.8	
35 Benzo[g,h,i]perylene	276	21.246	21.250	-0.004	95	39963	300.0	290.5	
$ 53 2-methylnaphthalene-d10	152	6.633	6.632	0.001	90	12582	300.0	293.2	
$ 54 Fluoranthene-d10	212	10.606	10.606	0.000	96	25942	300.0	288.4	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

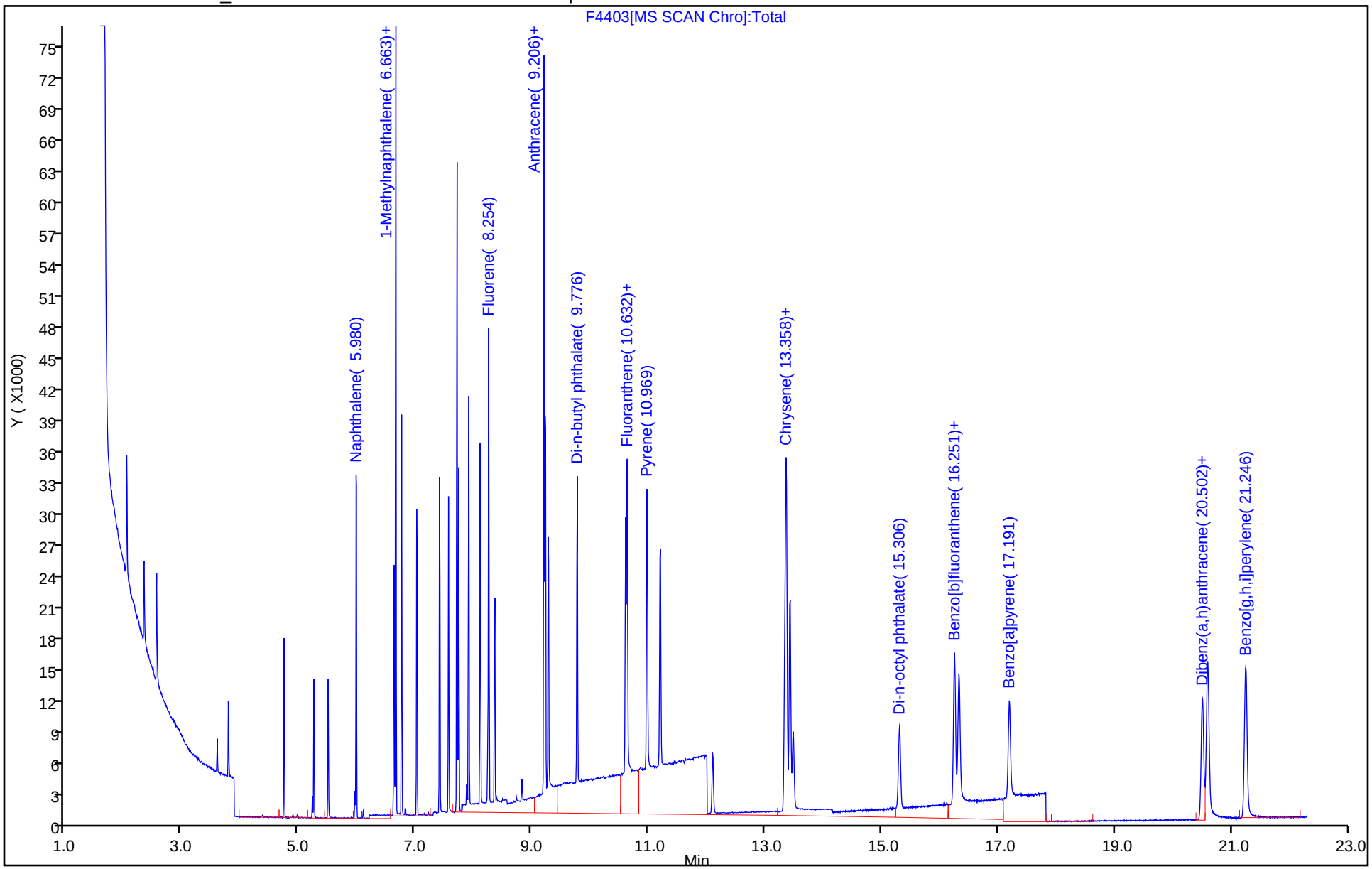
MS-SIMSL 0.3_00074 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:41 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4403.D

Injection Date:	29-Oct-2018 18:31:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0300			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Manual Integration/User Assign Peak Report

TestAmerica Denver

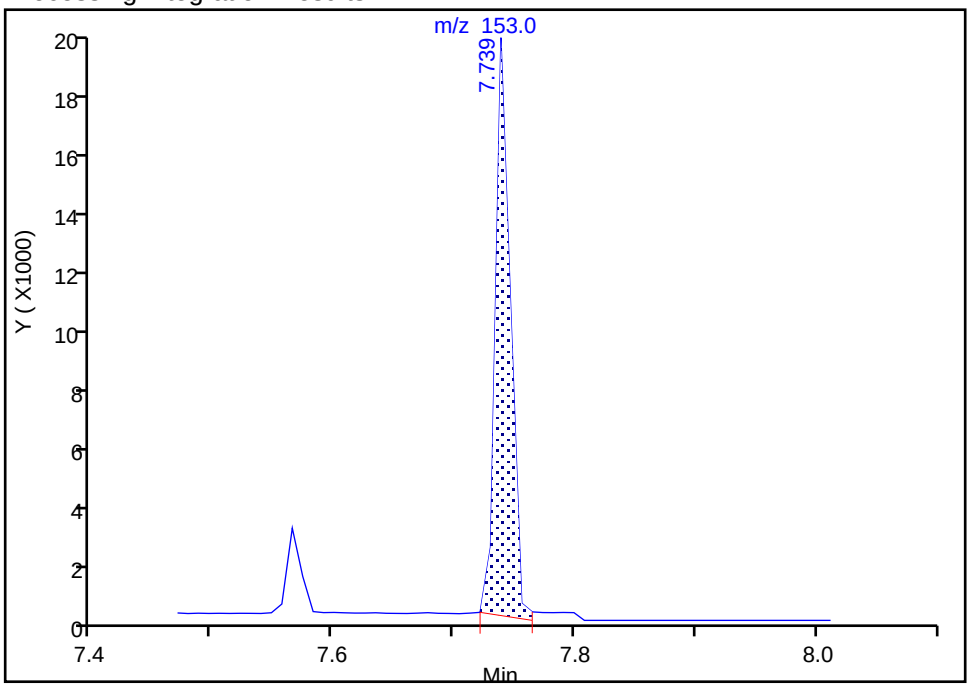
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4403.D
Injection Date: 29-Oct-2018 18:31:30 Instrument ID: SMS_F
Lims ID: STD0300
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

15 Acenaphthene, CAS: 83-32-9

Signal: 1

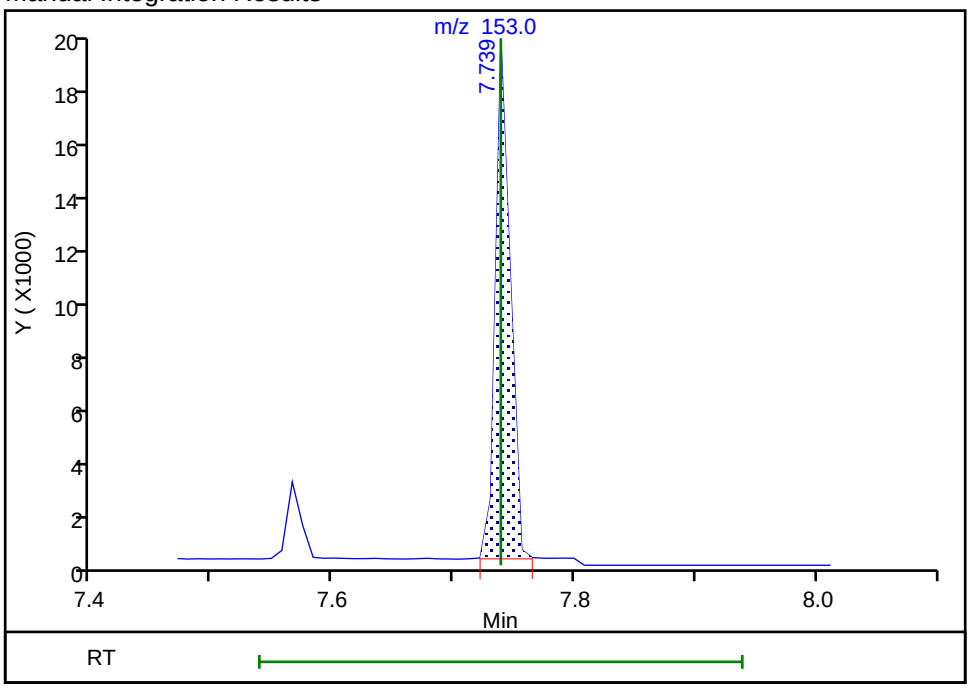
Processing Integration Results

RT: 7.74
Area: 16366
Amount: 304.0823
Amount Units: ng/ml



Manual Integration Results

RT: 7.74
Area: 16055
Amount: 295.9817
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:13:25
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

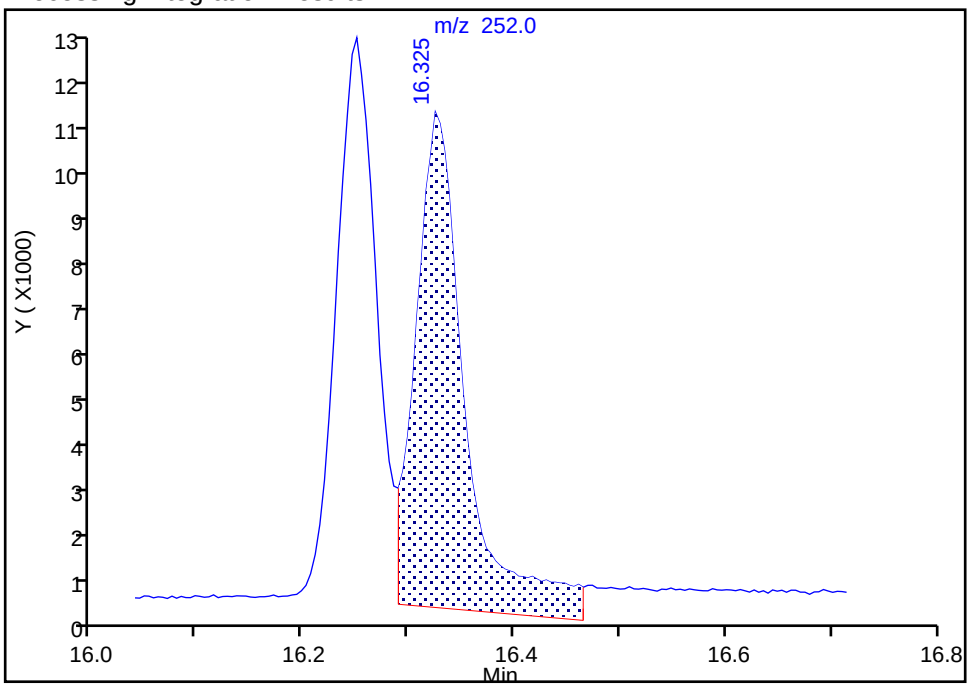
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4403.D
Injection Date: 29-Oct-2018 18:31:30 Instrument ID: SMS_F
Lims ID: STD0300
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

31 Benzo[k]fluoranthene, CAS: 207-08-9

Signal: 1

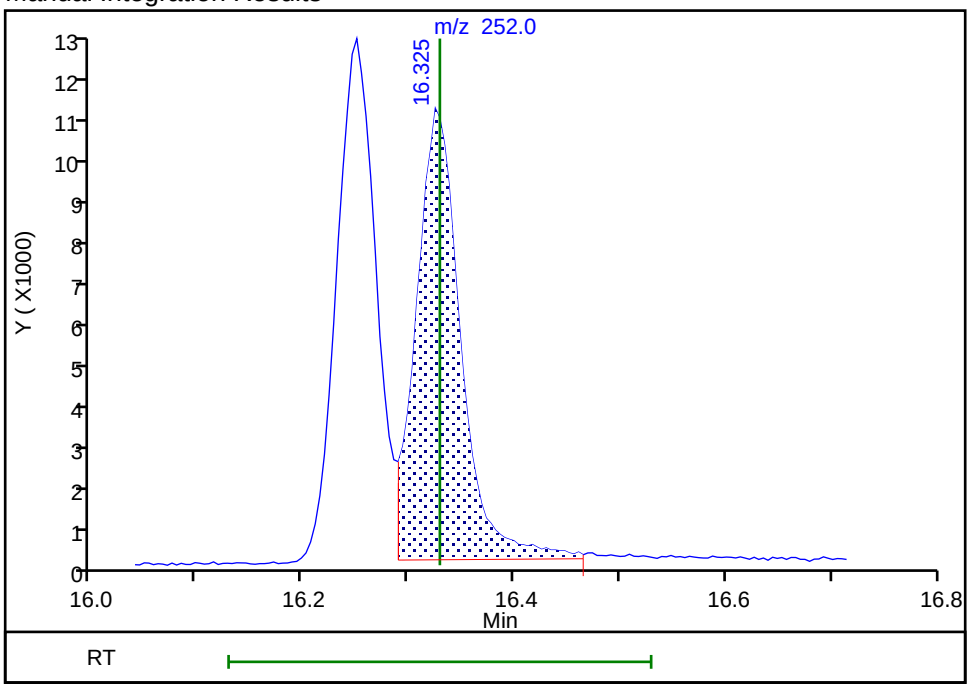
Processing Integration Results

RT: 16.32
Area: 34013
Amount: 341.2154
Amount Units: ng/ml



Manual Integration Results

RT: 16.32
Area: 29499
Amount: 279.7654
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:13:49
Audit Action: Assigned New Baseline Audit Reason: Baseline

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4404.D
Lims ID: STD1200
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 29-Oct-2018 19:01:30 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std1200
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:43 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 21:55:31

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	98	33605	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	73455	600.0	600.0	
* 3 Chrysene-d12	240	13.367	13.367	0.000	98	78570	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	98	39792	1200.0	1135.5	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	100	97251	1200.0	1141.0	
$ 6 Terphenyl-d14	244	11.203	11.203	0.000	99	126747	1200.0	1168.1	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.551	2.563	-0.012	43	30045	1200.0	1163.2	
10 Naphthalene	128	5.980	5.980	0.000	100	129326	1200.0	1149.2	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	97	179548	2400.0	2355.2	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	97	79998	1200.0	1163.6	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	159540	2400.0	2422.1	
14 Acenaphthylene	152	7.566	7.566	0.000	99	104551	1200.0	1204.2	
15 Acenaphthene	153	7.739	7.739	0.000	97	86093	1200.0	1168.2	
16 Dibenzofuran	168	7.915	7.915	0.001	92	129484	1201.2	1164.6	
17 Diethyl phthalate	149	8.109	8.109	0.000	98	157153	2409.6	2449.0	
18 Fluorene	166	8.255	8.254	0.001	95	103673	1200.0	1205.4	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	92	61347	1200.0	1122.6	
20 Phenanthrene	178	9.223	9.223	0.000	100	172037	1200.0	1156.0	
21 Anthracene	178	9.275	9.275	0.000	1	133735	1200.0	1196.5	
22 Di-n-butyl phthalate	149	9.776	9.776	0.000	1	202164	2400.0	2391.8	
23 Fluoranthene	202	10.632	10.632	0.000	100	187968	1200.0	1188.7	
24 Pyrene	202	10.970	10.969	0.001	99	184722	1200.0	1159.2	
25 Butyl benzyl phthalate	149	10.970	10.987	-0.017	1	1353	2400.0	0	
26 Benzo[a]anthracene	228	13.340	13.340	0.000	42	152521	1200.0	1144.3	
27 Chrysene	228	13.421	13.430	-0.009	95	191863	1200.0	1168.3	
28 Bis(2-ethylhexyl) phthalat	149	12.106	12.097	0.009	1	68082	2400.0	2560.2	
29 Di-n-octyl phthalate	149	15.310	15.306	0.004	1	121239	2400.0	2251.6	
30 Benzo[b]fluoranthene	252	16.246	16.251	-0.005	97	181300	1200.0	1146.6	
31 Benzo[k]fluoranthene	252	16.325	16.329	-0.004	98	201669	1200.0	1299.2	
32 Benzo[a]pyrene	252	17.191	17.186	0.005	95	143629	1200.0	1151.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.507	20.507	0.000	90	174647	1200.0	1091.9	
34 Dibenz(a,h)anthracene	278	20.594	20.599	-0.005	83	191031	1200.0	1149.0	
35 Benzo[g,h,i]perylene	276	21.251	21.250	0.001	93	218564	1200.0	1079.3	
$ 53 2-methylnaphthalene-d10	152	6.633	6.632	0.001	89	66535	1200.0	1141.3	
$ 54 Fluoranthene-d10	212	10.606	10.606	0.000	100	147296	1200.0	1199.9	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

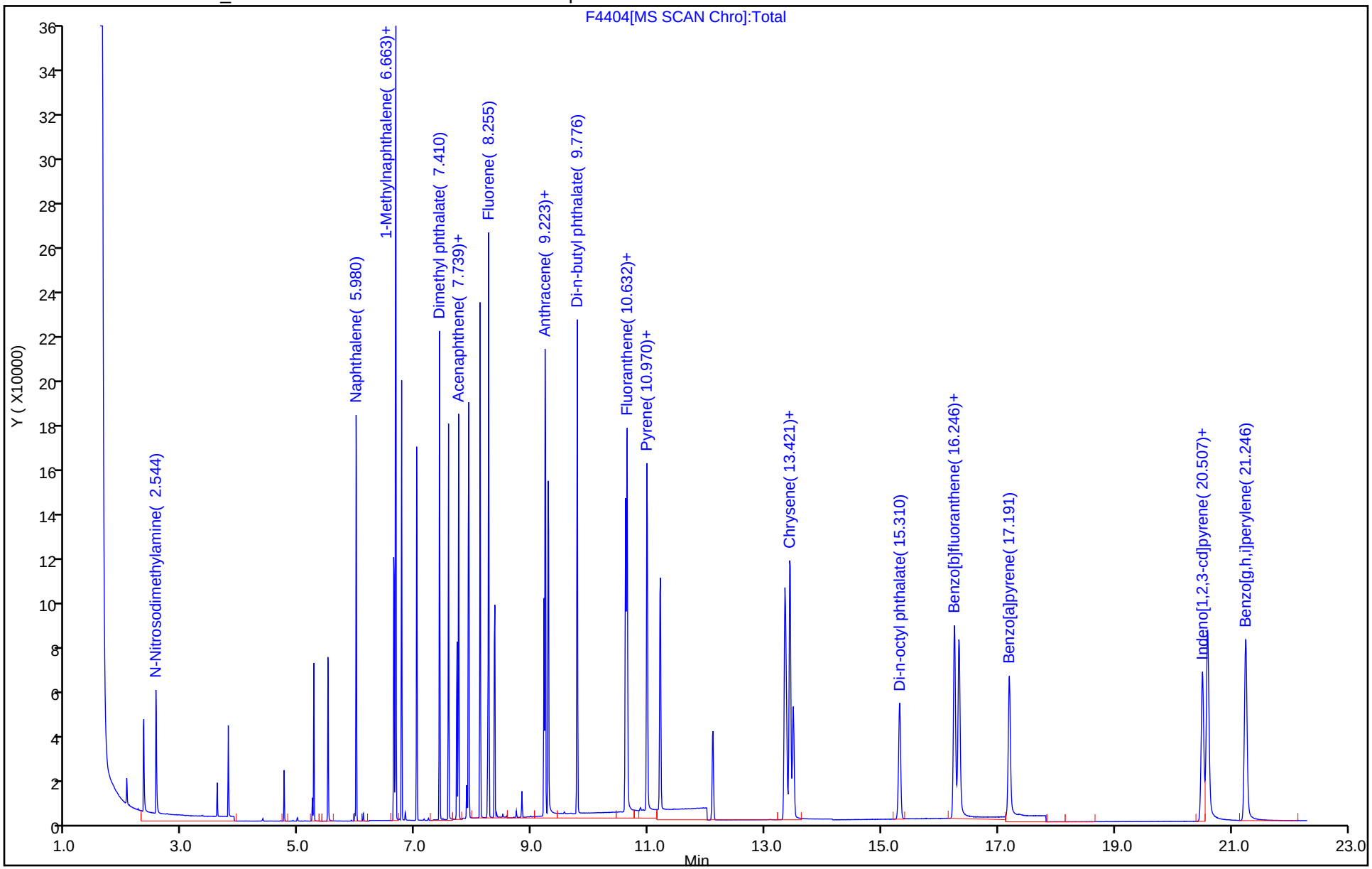
MS-SIMSL 1.2_00075 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:43 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4404.D

Injection Date:	29-Oct-2018 19:01:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD1200			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Report Date: 29-Oct-2018 21:58:46 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4405.D
Lims ID: STD2500
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 29-Oct-2018 19:31:30 ALS Bottle#: 9 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std2500
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:45 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 20:07:56

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	97	23383	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	51550	600.0	600.0	
* 3 Chrysene-d12	240	13.358	13.367	-0.009	47	56197	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	98	66335	2500.0	2720.5	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	100	161780	2500.0	2728.0	
$ 6 Terphenyl-d14	244	11.194	11.203	-0.009	98	215115	2500.0	2824.9	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.544	2.563	-0.019	44	47383	2500.0	2636.4	
10 Naphthalene	128	5.980	5.980	0.000	100	208192	2500.0	2658.7	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	97	291162	5000.0	5488.9	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	97	130622	2500.0	2730.6	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	278989	5000.0	6087.2	
14 Acenaphthylene	152	7.566	7.566	0.000	99	182035	2500.0	3013.2	
15 Acenaphthene	153	7.739	7.739	0.000	97	142141	2500.0	2771.8	
16 Dibenzofuran	168	7.915	7.915	0.001	91	215284	2502.5	2782.8	
17 Diethyl phthalate	149	8.109	8.109	0.000	99	274435	5020.0	6146.1	
18 Fluorene	166	8.254	8.254	0.000	96	176625	2500.0	2951.4	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	91	104402	2500.0	2722.2	
20 Phenanthrene	178	9.223	9.223	0.000	100	284570	2500.0	2724.6	
21 Anthracene	178	9.275	9.275	0.000	1	236321	2500.0	3012.8	
22 Di-n-butyl phthalate	149	9.776	9.776	0.000	1	376147	5000.0	5000.8	
23 Fluoranthene	202	10.632	10.632	0.000	100	323789	2500.0	2917.6	
24 Pyrene	202	10.969	10.969	0.000	99	315592	2500.0	2822.0	
25 Butyl benzyl phthalate	149	10.969	10.987	-0.018	1	2047	5000.0	0	
26 Benzo[a]anthracene	228	13.340	13.340	0.000	38	267604	2500.0	2807.1	
27 Chrysene	228	13.421	13.430	-0.009	94	323973	2500.0	2758.1	
28 Bis(2-ethylhexyl) phthalat	149	12.097	12.097	0.000	1	131365	5000.0	7039.1	
29 Di-n-octyl phthalate	149	15.310	15.306	0.004	1	230150	5000.0	5063.6	
30 Benzo[b]fluoranthene	252	16.251	16.251	0.000	97	309018	2500.0	2732.5	
31 Benzo[k]fluoranthene	252	16.325	16.329	-0.004	97	338217	2500.0	3046.3	
32 Benzo[a]pyrene	252	17.191	17.186	0.005	95	263293	2500.0	2950.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.502	20.507	-0.005	90	294007	2500.0	2569.8	
34 Dibenz(a,h)anthracene	278	20.594	20.599	-0.005	83	319437	2500.0	2686.2	
35 Benzo[g,h,i]perylene	276	21.251	21.250	0.001	93	362369	2500.0	2501.9	
$ 53 2-methylnaphthalene-d10	152	6.633	6.632	0.001	88	108683	2500.0	2679.3	
$ 54 Fluoranthene-d10	212	10.606	10.606	0.000	100	250239	2500.0	2904.8	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

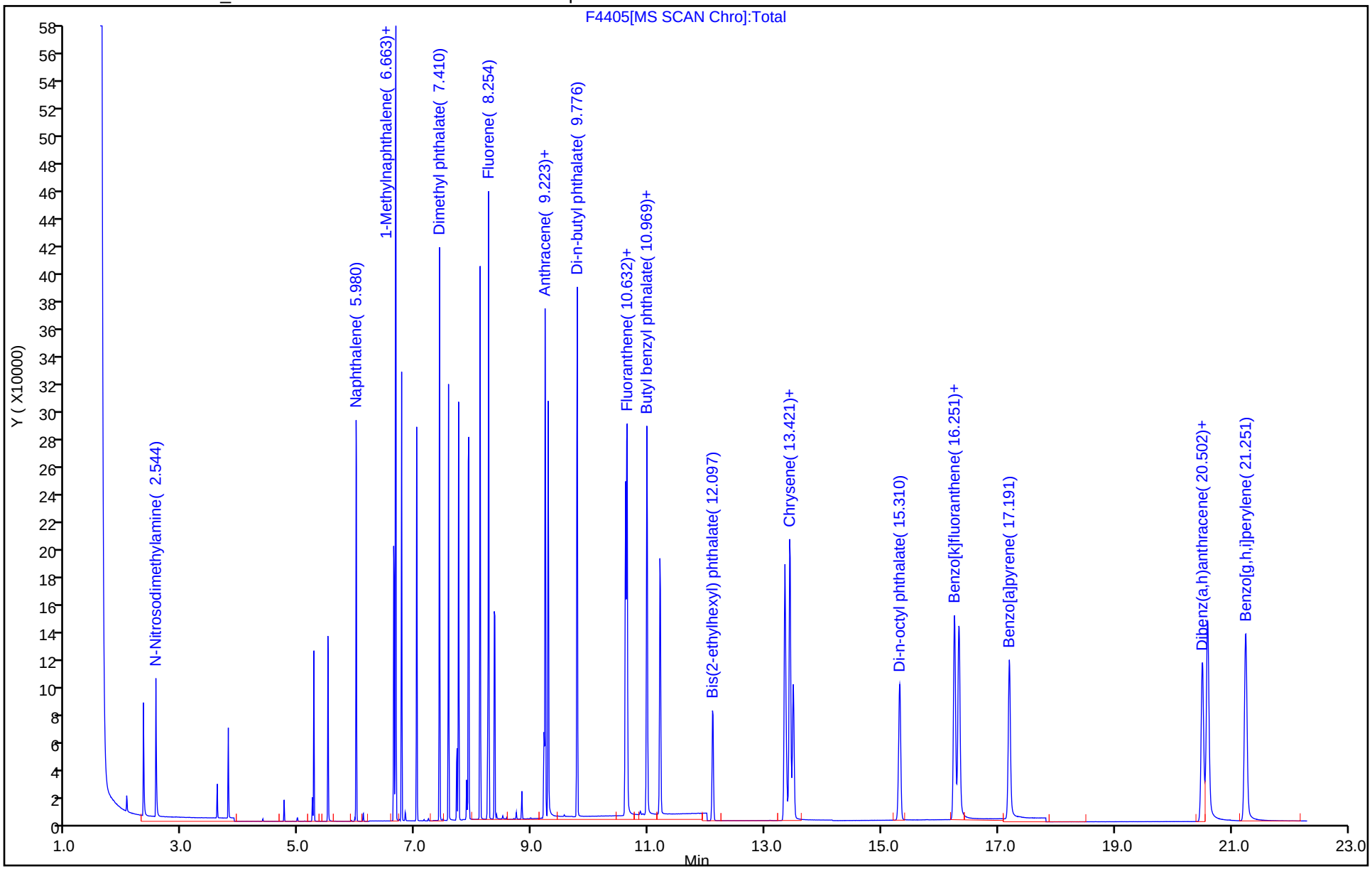
MS-SIMSL 2.5_00074 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:46 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4405.D

Injection Date:	29-Oct-2018 19:31:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD2500			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D
Lims ID: STD5000
Client ID:
Sample Type: IC Calib Level: 9
Inject. Date: 29-Oct-2018 20:00:30 ALS Bottle#: 10 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std5000
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:48 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 21:00:17

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	97	29110	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	60672	600.0	600.0	
* 3 Chrysene-d12	240	13.358	13.367	-0.009	32	67799	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	97	154261	5000.0	5081.8	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	100	351658	5000.0	4763.1	
$ 6 Terphenyl-d14	244	11.194	11.203	-0.009	98	468240	5000.0	5224.5	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.544	2.563	-0.019	42	104151	5000.0	4654.8	
10 Naphthalene	128	5.980	5.980	0.000	100	448120	5000.0	4596.8	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	97	635609	10000	9624.9	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	97	286227	5000.0	4806.2	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	640600	10000	11227	
14 Acenaphthylene	152	7.566	7.566	0.000	99	436620	5000.0	5805.5	
15 Acenaphthene	153	7.739	7.739	0.000	98	313964	5000.0	4918.0	
16 Dibenzofuran	168	7.915	7.915	0.001	91	455166	5005.0	4726.0	
17 Diethyl phthalate	149	8.109	8.109	0.000	100	644109	10040	11587	
18 Fluorene	166	8.255	8.254	0.000	97	379461	5000.0	5093.3	
19 N-Nitrosodiphenylamine	169	8.352	8.361	-0.009	97	225054	5000.0	4985.8	
20 Phenanthrene	178	9.223	9.223	0.000	100	611829	5000.0	4977.2	
21 Anthracene	178	9.275	9.275	0.000	1	549841	5000.0	5956.0	
22 Di-n-butyl phthalate	149	9.776	9.776	0.000	1	974337	10000	8549.0	
23 Fluoranthene	202	10.632	10.632	0.000	100	692368	5000.0	5300.9	
24 Pyrene	202	10.970	10.969	0.001	99	694454	5000.0	5276.1	
25 Butyl benzyl phthalate	149	10.970	10.987	-0.017	1	4451	10000	0	
26 Benzo[a]anthracene	228	13.340	13.340	0.000	37	612573	5000.0	5326.1	
27 Chrysene	228	13.421	13.430	-0.009	95	693366	5000.0	4892.7	
28 Bis(2-ethylhexyl) phthalat	149	12.097	12.097	0.000	1	370566	10000	16871	
29 Di-n-octyl phthalate	149	15.310	15.306	0.004	1	692105	10000	9993.0	
30 Benzo[b]fluoranthene	252	16.251	16.251	0.000	97	668265	5000.0	4897.9	
31 Benzo[k]fluoranthene	252	16.325	16.329	-0.004	97	746517	5000.0	5573.2	
32 Benzo[a]pyrene	252	17.187	17.186	0.001	94	608628	5000.0	5652.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.503	20.507	-0.005	90	633911	5000.0	4592.7	
34 Dibenz(a,h)anthracene	278	20.594	20.599	-0.005	83	696717	5000.0	4856.3	
35 Benzo[g,h,i]perylene	276	21.246	21.250	-0.004	93	755750	5000.0	4325.0	
$ 53 2-methylnaphthalene-d10	152	6.633	6.632	0.001	88	236976	5000.0	4692.7	
$ 54 Fluoranthene-d10	212	10.606	10.606	0.000	100	547857	5000.0	5403.4	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

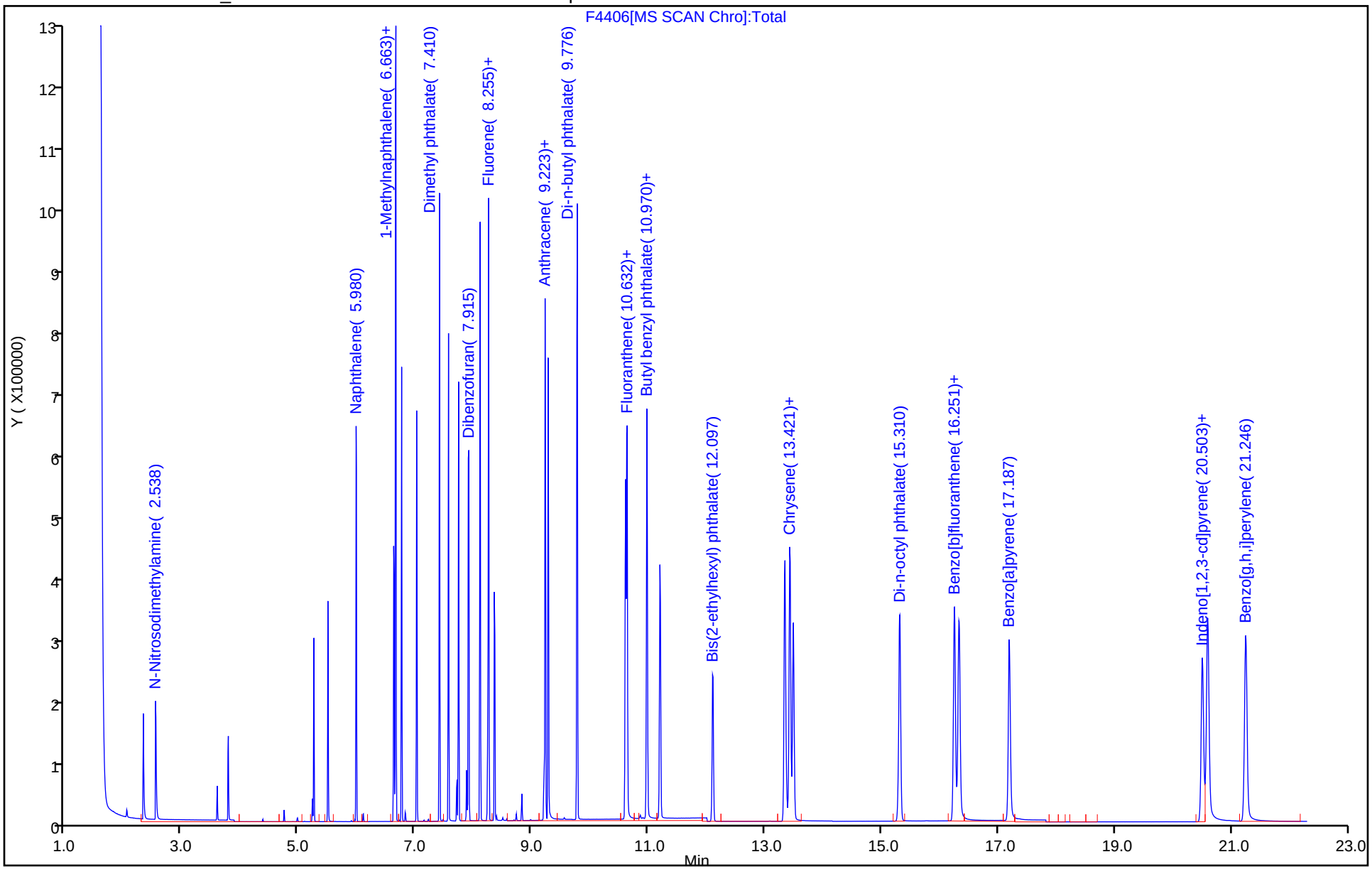
MS-SIMSL 5_00076 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:49 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Injection Date:	29-Oct-2018 20:00:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD5000			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 436730

SDG No.:

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/07/2018 20:06 Calibration End Date: 11/07/2018 23:58 Calibration ID: 34235

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0001 280-436730/4	F4565.D
Level 2	STD0002 280-436730/5	F4566.D
Level 3	STD0500 280-436730/6	F4563.D
Level 4	STD0100 280-436730/7	F4564.D
Level 5	STD0300 280-436730/8	F4567.D
Level 6	ICIS 280-436730/3	F4562.D
Level 7	STD1200 280-436730/9	F4568.D
Level 8	STD2500 280-436730/10	F4569.D
Level 9	STD5000 280-436730/11	F4570.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Naphthalene	+++++ 1.8896	2.1445 1.9283	1.8733 2.1472	2.0062 1.9422	2.0484	Ave		1.9975			0.7000	5.4		15.0			
2-Methylnaphthalene	1.4121 1.2881	1.4812 1.3250	1.2890 1.4983	1.3505 1.3533	1.3876	Ave		1.3761			0.4000	5.5		15.0			
1-Methylnaphthalene	1.2373 1.1598	1.2609 1.1851	1.1389 1.3562	1.2138 1.2277	1.2346	Ave		1.2238			0.0500	5.2		15.0			
Acenaphthylene	2.0557 1.8704	1.9111 1.9164	1.7864 2.2096	1.8440 2.0341	1.8556	Ave		1.9426			0.9000	6.8		15.0			
Acenaphthene	1.3846 1.2538	1.4309 1.2692	1.2663 1.4486	1.3013 1.3430	1.2817	Ave		1.3310			0.9000	5.6		15.0			
Fluorene	1.4755 1.4770	1.6314 1.5007	1.4111 1.7794	1.4645 1.6087	1.5055	Ave		1.5393			0.9000	7.4		15.0			
Phenanthrene	1.5559 1.1431	1.3529 1.2083	1.1510 1.3733	1.1974 1.2205	1.1733	Ave		1.2640			0.7000	10.8		15.0			
Anthracene	1.0647 1.0518	1.0666 1.1000	1.0081 1.2876	1.0478 1.1985	1.0139	Ave		1.0932			0.7000	8.4		15.0			
Fluoranthene	1.4740 1.2536	1.2830 1.3030	1.2061 1.5028	1.2501 1.3841	1.2193	Ave		1.3196			0.6000	8.3		15.0			
Pyrene	1.5814 1.2634	1.4571 1.3103	1.2488 1.4932	1.2865 1.3806	1.2522	Ave		1.3637			0.6000	8.9		15.0			
Benzo[a]anthracene	1.3256 1.2631	1.2655 1.2310	1.1954 1.3991	1.2238 1.2580	1.1780	Ave		1.2599			0.8000	5.4		15.0			
Chrysene	1.4756 1.3029	1.3345 1.3269	1.2660 1.4946	1.2611 1.3421	1.3097	Ave		1.3459			0.7000	6.2		15.0			
Benzo[b]fluoranthene	1.4376 1.2782	1.2842 1.2455	1.1758 1.3823	1.2521 1.2641	1.2064	Ave		1.2807			0.7000	6.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 436730

SDG No.:

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/07/2018 20:06 Calibration End Date: 11/07/2018 23:58 Calibration ID: 34235

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Benzo[k]fluoranthene	1.2799 1.3088	1.2030 1.3172	1.2013 1.5013	1.2502 1.3642	1.2593	Ave		1.2984			0.7000	7.1		15.0			
Benzo[a]pyrene	+++++ 1.2189	1.1369 1.1335	1.0920 1.3162	1.1304 1.2017	1.0709	Ave		1.1625			0.7000	6.8		15.0			
Indeno[1,2,3-cd]pyrene	1.3353 1.1911	1.1375 1.1079	1.0948 1.2392	1.1615 1.1268	1.1113	Ave		1.1673			0.5000	6.7		15.0			
Dibenz(a,h)anthracene	1.3678 1.2218	1.1217 1.1740	1.0670 1.3046	1.1162 1.2094	1.1299	Ave		1.1903			0.4000	8.1		15.0			
Benzo[g,h,i]perylene	1.6478 1.3491	1.3496 1.3131	1.2345 1.4731	1.3460 1.3399	1.3695	Ave		1.3803			0.5000	8.5		15.0			
Nitrobenzene-d5	1.0490 0.7833	0.9117 0.7750	0.7731 0.8917	0.8244 0.8169	0.8171	Ave		0.8491				10.5		15.0			
2-methylnaphthalene-d10	1.1681 0.9653	1.1268 0.9730	0.9501 1.0997	1.0166 1.0110	1.0320	Ave		1.0381				7.4		15.0			
2-Fluorobiphenyl	1.5203 1.4095	1.5278 1.4115	1.3584 1.6404	1.4539 1.4457	1.4777	Ave		1.4717				5.7		15.0			
Fluoranthene-d10	1.1114 0.9574	1.0017 0.9849	0.9490 1.1231	0.9687 1.0341	0.9430	Ave		1.0081				6.7		15.0			
Terphenyl-d14	0.8185 0.7228	0.7818 0.7439	0.7009 0.8711	0.7474 0.7899	0.8171	Ave		0.7771				6.9		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 436730

SDG No.:

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/07/2018 20:06 Calibration End Date: 11/07/2018 23:58 Calibration ID: 34235

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0001 280-436730/4	F4565.D
Level 2	STD0002 280-436730/5	F4566.D
Level 3	STD0500 280-436730/6	F4563.D
Level 4	STD0100 280-436730/7	F4564.D
Level 5	STD0300 280-436730/8	F4567.D
Level 6	ICIS 280-436730/3	F4562.D
Level 7	STD1200 280-436730/9	F4568.D
Level 8	STD2500 280-436730/10	F4569.D
Level 9	STD5000 280-436730/11	F4570.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Naphthalene	ANT	Ave	+++++ 95508	3519 270997	8561 420014	16960 820904	49708	+++++ 600	20.0 1200	50.0 2500	100 5000	300
2-Methylnaphthalene	ANT	Ave	2205 130204	4861 372422	11782 586180	22834 1143934	67346	20.0 1200	40.0 2400	100 5000	200 10000	600
1-Methylnaphthalene	ANT	Ave	966 58619	2069 166552	5205 265288	10261 518905	29960	10.0 600	20.0 1200	50.0 2500	100 5000	300
Acenaphthylene	ANT	Ave	1605 94536	3136 269313	8164 432217	15589 859733	45029	10.0 600	20.0 1200	50.0 2500	100 5000	300
Acenaphthene	ANT	Ave	1081 63373	2348 178359	5787 283364	11001 567640	31103	10.0 600	20.0 1200	50.0 2500	100 5000	300
Fluorene	ANT	Ave	1152 74650	2677 210897	6449 348073	12381 679941	36533	10.0 600	20.0 1200	50.0 2500	100 5000	300
Phenanthrene	PHN	Ave	2433 123691	4608 351768	11032 566782	21223 1080892	61549	10.0 600	20.0 1200	50.0 2500	100 5000	300
Anthracene	PHN	Ave	1665 113808	3633 320239	9662 531403	18572 1061361	53190	10.0 600	20.0 1200	50.0 2500	100 5000	300
Fluoranthene	PHN	Ave	2305 135646	4370 379350	11560 620225	22157 1225720	63964	10.0 600	20.0 1200	50.0 2500	100 5000	300
Pyrene	PHN	Ave	2473 136701	4963 381466	11969 616287	22803 1222666	65687	10.0 600	20.0 1200	50.0 2500	100 5000	300
Benzo[a]anthracene	CRY	Ave	1917 126806	3926 335416	10619 553378	20161 1104438	56147	10.0 600	20.0 1200	50.0 2500	100 5000	300
Chrysene	CRY	Ave	2134 130792	4140 361542	11246 591161	20775 1178276	62423	10.0 600	20.0 1200	50.0 2500	100 5000	300
Benzo[b]fluoranthene	CRY	Ave	2079 128320	3984 339373	10445 546727	20627 1109773	57496	10.0 600	20.0 1200	50.0 2500	100 5000	300
Benzo[k]fluoranthene	CRY	Ave	1851 131391	3732 358923	10672 593793	20596 1197691	60021	10.0 600	20.0 1200	50.0 2500	100 5000	300

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 436730

SDG No.:

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/07/2018 20:06 Calibration End Date: 11/07/2018 23:58 Calibration ID: 34235

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Benzo[a]pyrene	CRY	Ave	+++++ 122360	3527 308843	9701 520578	18623 1055000	51040	+++++ 600	20.0 1200	50.0 2500	100 5000	300
Indeno[1,2,3-cd]pyrene	CRY	Ave	1931 119573	3529 301879	9726 490132	19135 989234	52968	10.0 600	20.0 1200	50.0 2500	100 5000	300
Dibenz(a,h)anthracene	CRY	Ave	1978 122657	3480 319889	9479 515992	18388 1061813	53851	10.0 600	20.0 1200	50.0 2500	100 5000	300
Benzo[g,h,i]perylene	CRY	Ave	2383 135436	4187 357796	10967 582641	22175 1176381	65273	10.0 600	20.0 1200	50.0 2500	100 5000	300
Nitrobenzene-d5	ANT	Ave	819 39588	1496 108907	3533 174434	6969 345279	19828	10.0 600	20.0 1200	50.0 2500	100 5000	300
2-methylnaphthalene-d10	ANT	Ave	912 48789	1849 136733	4342 215119	8594 427312	25043	10.0 600	20.0 1200	50.0 2500	100 5000	300
2-Fluorobiphenyl	ANT	Ave	1187 71242	2507 198363	6208 320884	12291 611045	35859	10.0 600	20.0 1200	50.0 2500	100 5000	300
Fluoranthene-d10	PHN	Ave	1738 103591	3412 286731	9096 463531	17169 915739	49470	10.0 600	20.0 1200	50.0 2500	100 5000	300
Terphenyl-d14	PHN	Ave	1280 78215	2663 216583	6718 359524	13247 699494	42862	10.0 600	20.0 1200	50.0 2500	100 5000	300

Curve Type Legend:
Ave = Average ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4562.D
Lims ID: icis
Client ID:
Sample Type: ICIS Calib Level: 6
Inject. Date: 07-Nov-2018 20:06:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: icis
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 20:59:52 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: XAWRK007

First Level Reviewer: wickhamm Date: 07-Nov-2018 20:46:19

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.626	7.626	0.000	84	50543	600.0	600.0	
* 2 Phenanthrene-d10	188	9.119	9.119	0.000	98	108205	600.0	600.0	
* 3 Chrysene-d12	240	13.178	13.178	0.000	99	100389	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.169	5.169	0.000	98	39588	600.0	553.5	
$ 5 2-Fluorobiphenyl	172	6.943	6.943	0.000	99	71242	600.0	574.7	
$ 6 Terphenyl-d14	244	11.073	11.073	0.000	100	78215	600.0	558.1	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.407	2.407	0.000	41	25196	600.0	569.8	
10 Naphthalene	128	5.904	5.904	0.000	100	95508	600.0	567.6	
11 2-Methylnaphthalene	142	6.579	6.579	0.000	97	130204	1200.0	1123.2	
12 1-Methylnaphthalene	142	6.678	6.678	0.000	98	58619	600.0	568.6	
13 Dimethyl phthalate	163	7.332	7.332	0.000	1	144962	1200.0	1144.9	
14 Acenaphthylene	152	7.488	7.488	0.000	98	94536	600.0	577.7	
15 Acenaphthene	153	7.661	7.661	0.000	100	63373	600.0	565.2	
16 Dibenzofuran	168	7.827	7.827	0.000	99	92246	600.6	571.7	
17 Diethyl phthalate	149	8.031	8.031	0.000	98	148384	1204.8	1048.1	
18 Fluorene	166	8.177	8.177	0.000	98	74650	600.0	575.7	
19 N-Nitrosodiphenylamine	169	8.274	8.274	0.000	100	53346	600.0	572.5	
20 Phenanthrene	178	9.137	9.137	0.000	100	123691	600.0	542.6	
21 Anthracene	178	9.197	9.197	0.000	1	113808	600.0	577.3	
22 Di-n-butyl phthalate	149	9.681	9.681	0.000	1	283262	1200.0	1317.1	
23 Fluoranthene	202	10.511	10.511	0.000	100	135646	600.0	570.0	
24 Pyrene	202	10.848	10.848	0.000	100	136701	600.0	555.8	
25 Butyl benzyl phthalate	149	11.946	11.946	0.000	1	109816	1200.0	1276.0	a
26 Benzo[a]anthracene	228	13.160	13.160	0.000	48	126806	600.0	601.5	
27 Chrysene	228	13.241	13.241	0.000	95	130792	600.0	580.8	
28 Bis(2-ethylhexyl) phthalat	149	13.304	13.304	0.000	1	142281	1200.0	1302.6	a
29 Di-n-octyl phthalate	149	15.096	15.096	0.000	1	231074	1200.0	1184.1	
30 Benzo[b]fluoranthene	252	16.014	16.014	0.000	98	128320	600.0	598.9	
31 Benzo[k]fluoranthene	252	16.089	16.089	0.000	98	131391	600.0	604.8	
32 Benzo[a]pyrene	252	16.937	16.937	0.000	95	122360	600.0	629.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.218	20.218	0.000	93	119573	600.0	612.2	
34 Dibenz(a,h)anthracene	278	20.314	20.314	0.000	87	122657	600.0	615.9	
35 Benzo[g,h,i]perylene	276	20.957	20.957	0.000	96	135436	600.0	586.4	
$ 53 2-methylnaphthalene-d10	152	6.549	6.549	0.000	96	48789	600.0	557.9	
$ 54 Fluoranthene-d10	212	10.485	10.485	0.000	100	103591	600.0	569.8	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

a - User Assigned ID

Reagents:

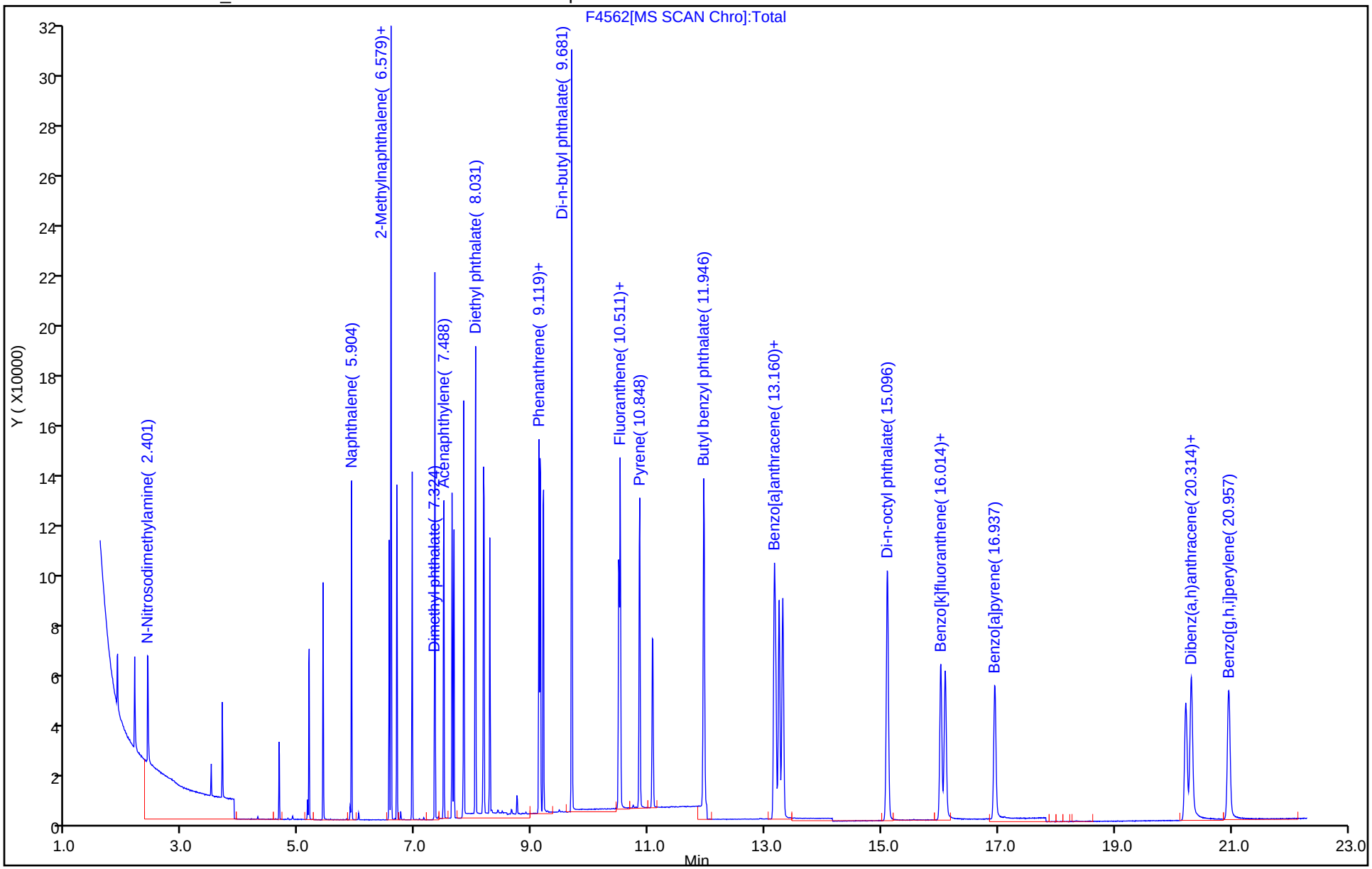
MS-SIMSL 0.6_00144 Amount Added: 200.00 Units: uL

Report Date: 09-Nov-2018 20:59:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4562.D

Injection Date:	07-Nov-2018 20:06:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	icis			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4565.D
Lims ID: STD0001
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 07-Nov-2018 21:34:30 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0001
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 21:00:01 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: XAWRK007

First Level Reviewer: wickhamm Date: 09-Nov-2018 20:58:47

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.626	7.626	0.000	93	46845	600.0	600.0	
* 2 Phenanthrene-d10	188	9.119	9.120	-0.001	97	93826	600.0	600.0	
* 3 Chrysene-d12	240	13.169	13.169	0.000	91	86770	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.169	5.169	0.000	92	819	10.0	12.4	a
$ 5 2-Fluorobiphenyl	172	6.943	6.943	0.000	95	1187	10.0	10.3	a
$ 6 Terphenyl-d14	244	11.064	11.065	-0.001	40	1280	10.0	10.5	a
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.414	2.414	0.000	1	379	10.0	9.25	
10 Naphthalene	128	5.898	5.898	0.000	96	1684	10.0	10.8	
11 2-Methylnaphthalene	142	6.579	6.580	-0.001	98	2205	20.0	20.5	
12 1-Methylnaphthalene	142	6.678	6.678	0.000	96	966	10.0	10.1	
13 Dimethyl phthalate	163	7.332	7.333	-0.001	1	4286	20.0	26.2	
14 Acenaphthylene	152	7.479	7.480	-0.001	91	1605	10.0	10.6	
15 Acenaphthene	153	7.652	7.652	0.000	78	1081	10.0	10.4	
16 Dibenzofuran	168	7.827	7.827	0.000	93	1653	10.0	11.1	
17 Diethyl phthalate	149	8.021	8.022	-0.001	99	3806	20.1	29.0	
18 Fluorene	166	8.167	8.167	0.000	80	1152	10.0	9.59	
19 N-Nitrosodiphenylamine	169	8.274	8.274	0.000	89	935	10.0	11.6	
20 Phenanthrene	178	9.137	9.137	-0.001	91	2433	10.0	12.3	
21 Anthracene	178	9.188	9.189	-0.001	1	1665	10.0	9.74	
22 Di-n-butyl phthalate	149	9.672	9.673	-0.001	1	3897	20.0	20.9	
23 Fluoranthene	202	10.511	10.511	0.000	77	2305	10.0	11.2	
24 Pyrene	202	10.840	10.840	0.000	82	2473	10.0	11.6	
25 Butyl benzyl phthalate	149	11.938	11.938	0.000	1	1520	20.0	20.4	
26 Benzo[a]anthracene	228	13.142	13.142	0.000	76	1917	10.0	10.5	
27 Chrysene	228	13.232	13.232	0.000	79	2134	10.0	11.0	
28 Bis(2-ethylhexyl) phthalat	149	13.286	13.295	-0.009	1	2027	20.0	21.4	
29 Di-n-octyl phthalate	149	15.083	15.087	-0.004	1	2048	20.0	34.0	
30 Benzo[b]fluoranthene	252	16.001	16.001	0.000	74	2079	10.0	11.2	
31 Benzo[k]fluoranthene	252	16.080	16.076	0.004	73	1851	10.0	9.86	
32 Benzo[a]pyrene	252	16.928	16.929	-0.001	63	1906	10.0	11.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.200	20.201	-0.001	67	1931	10.0	11.4	M
34 Dibenz(a,h)anthracene	278	20.297	20.297	0.000	70	1978	10.0	11.5	M
35 Benzo[g,h,i]perylene	276	20.940	20.940	0.000	66	2383	10.0	11.9	
$ 53 2-methylnaphthalene-d10	152	6.549	6.549	0.000	99	912	10.0	11.3	
$ 54 Fluoranthene-d10	212	10.485	10.485	0.000	42	1738	10.0	11.0	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

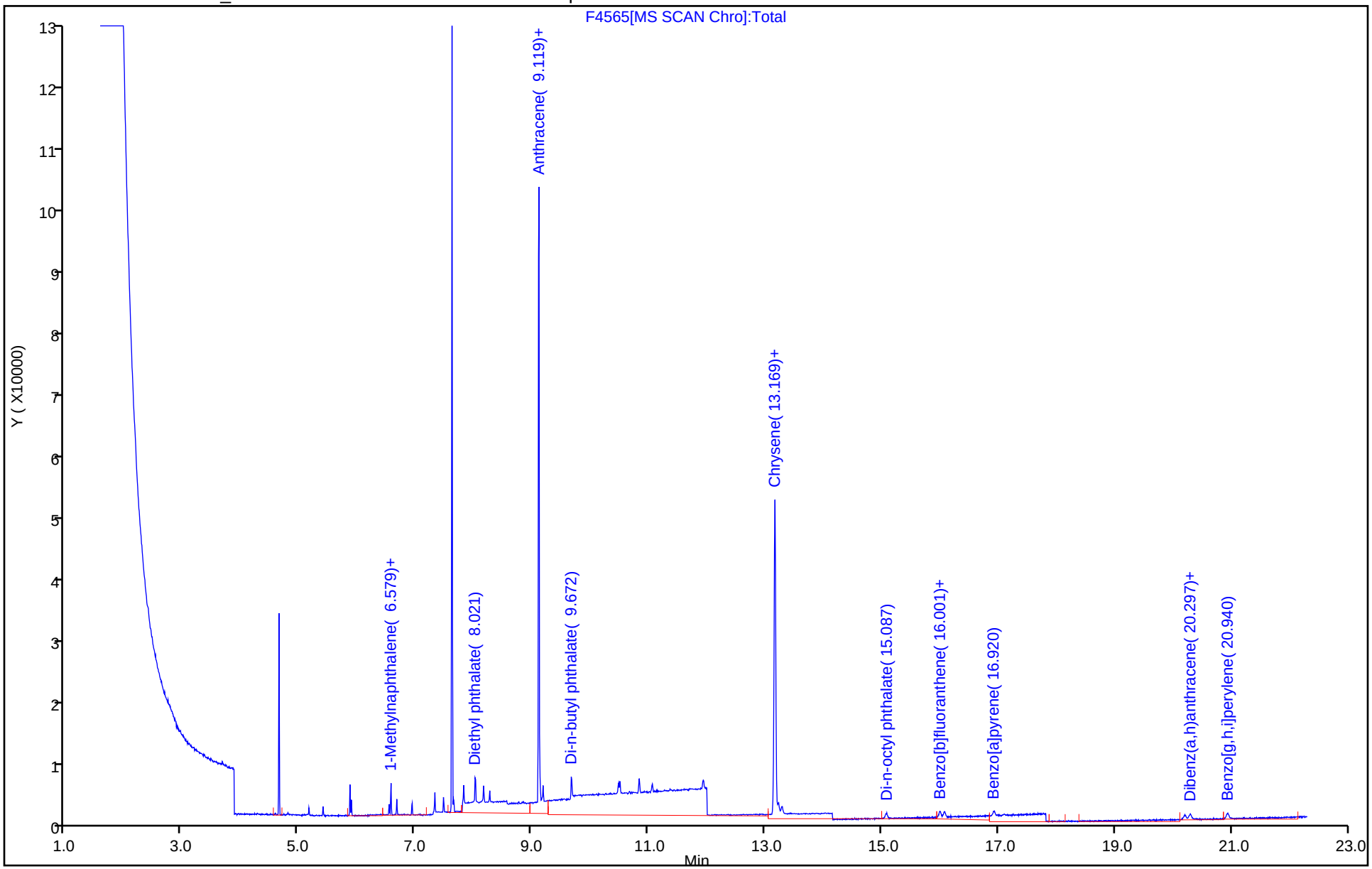
MS-SIMSL 0.01_00005 Amount Added: 200.00 Units: uL

Report Date: 09-Nov-2018 21:00:02 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4565.D

Injection Date:	07-Nov-2018 21:34:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0001			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Manual Integration/User Assign Peak Report

TestAmerica Denver

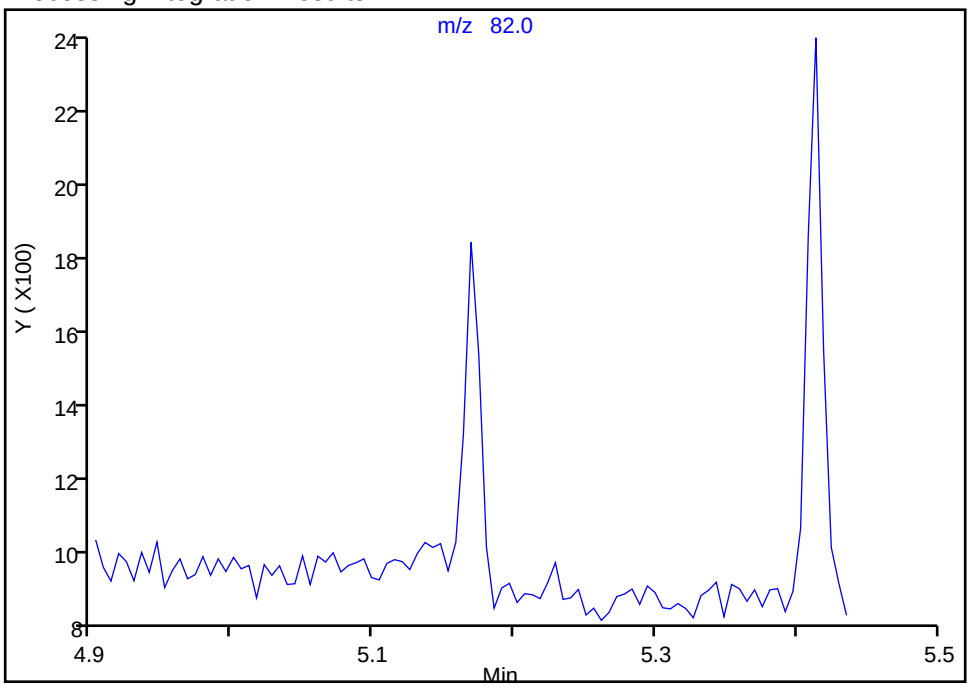
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4565.D
Injection Date: 07-Nov-2018 21:34:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 4 Nitrobenzene-d5, CAS: 4165-60-0

Signal: 1

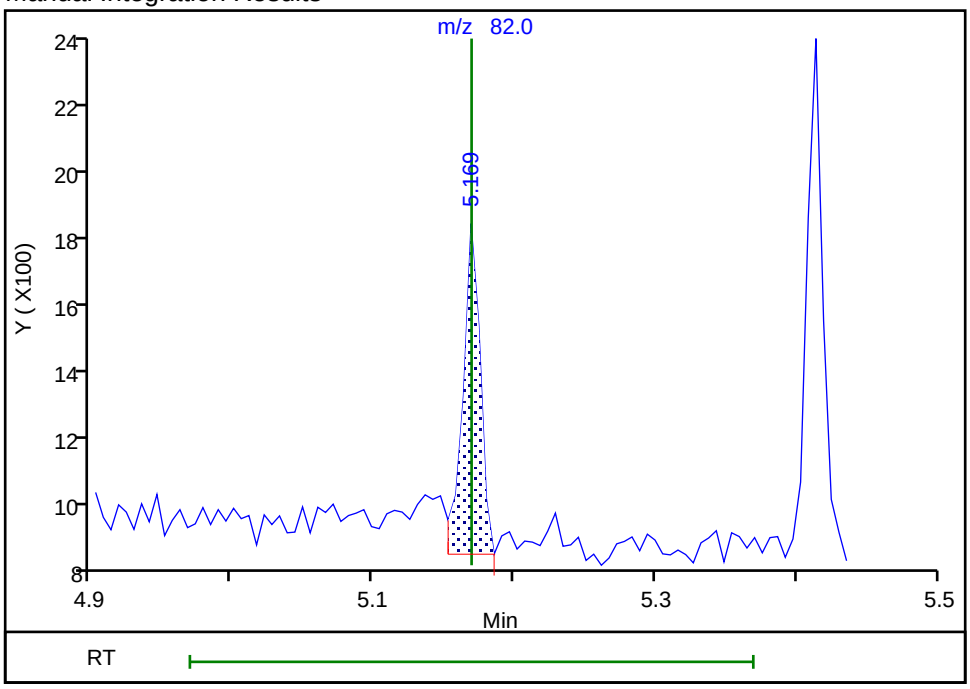
Not Detected
Expected RT: 5.17

Processing Integration Results



Manual Integration Results

RT: 5.17
Area: 819
Amount: 12.353910
Amount Units: ng/ml



Reviewer: wickhamm, 08-Nov-2018 17:21:54
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Denver

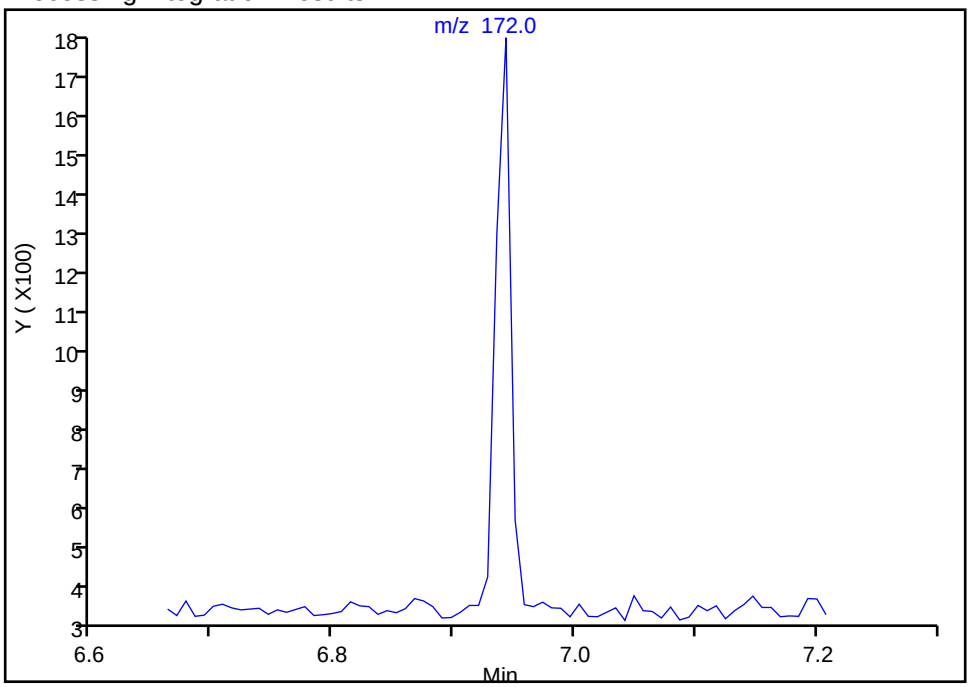
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4565.D
Injection Date: 07-Nov-2018 21:34:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 5 2-Fluorobiphenyl, CAS: 321-60-8

Signal: 1

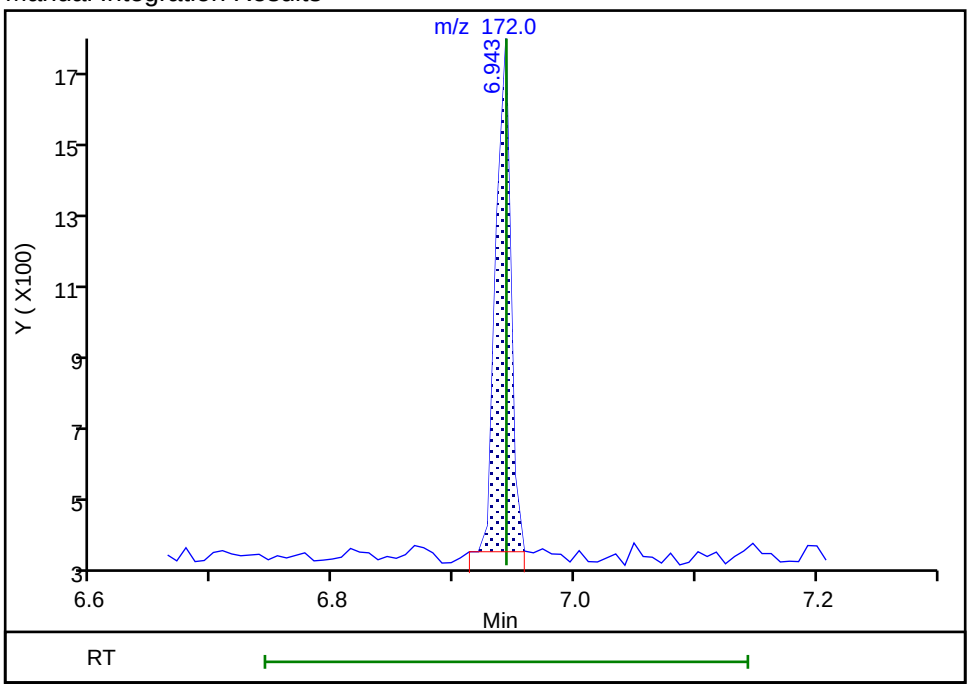
Not Detected
Expected RT: 6.94

Processing Integration Results



Manual Integration Results

RT: 6.94
Area: 1187
Amount: 10.330465
Amount Units: ng/ml



Reviewer: wickhamm, 08-Nov-2018 17:21:58
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Denver

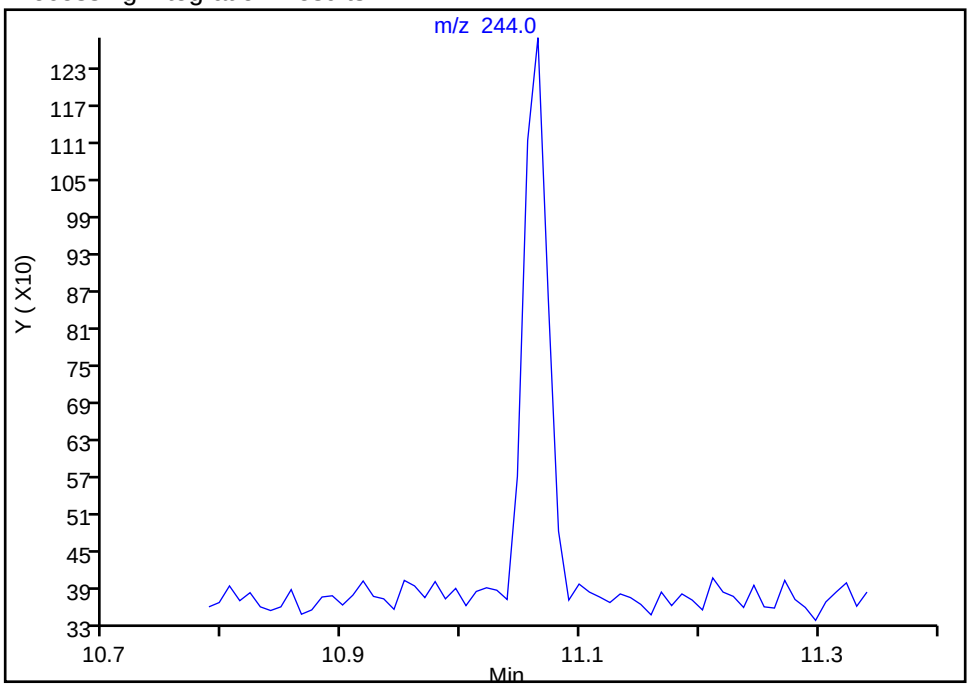
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4565.D
Injection Date: 07-Nov-2018 21:34:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 6 Terphenyl-d14, CAS: 1718-51-0

Signal: 1

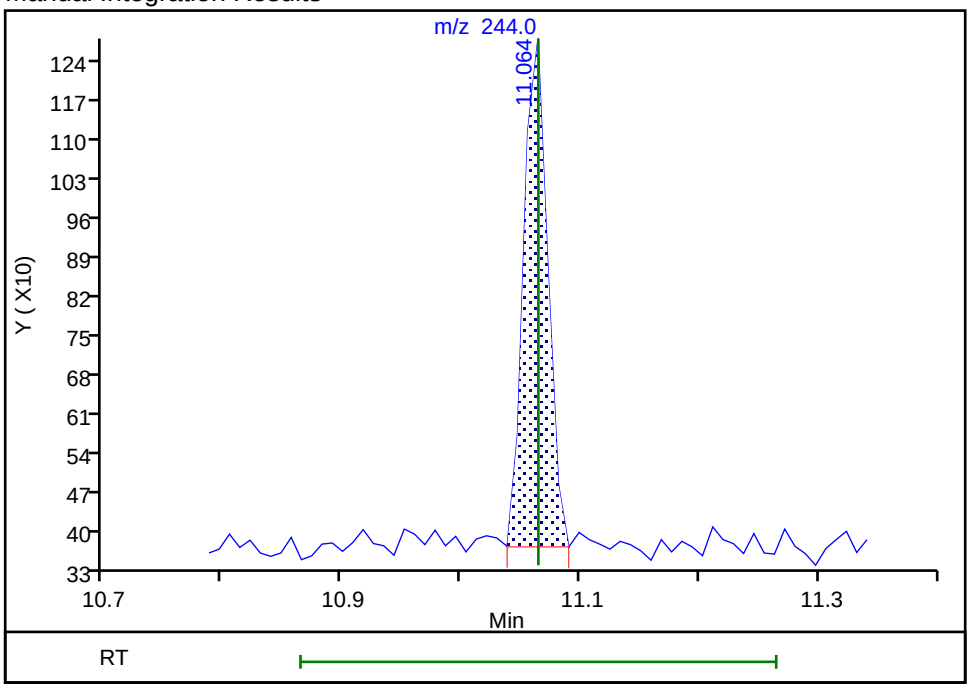
Not Detected
Expected RT: 11.06

Processing Integration Results



Manual Integration Results

RT: 11.06
Area: 1280
Amount: 10.533834
Amount Units: ng/ml



Reviewer: wickhamm, 08-Nov-2018 17:22:05
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Denver

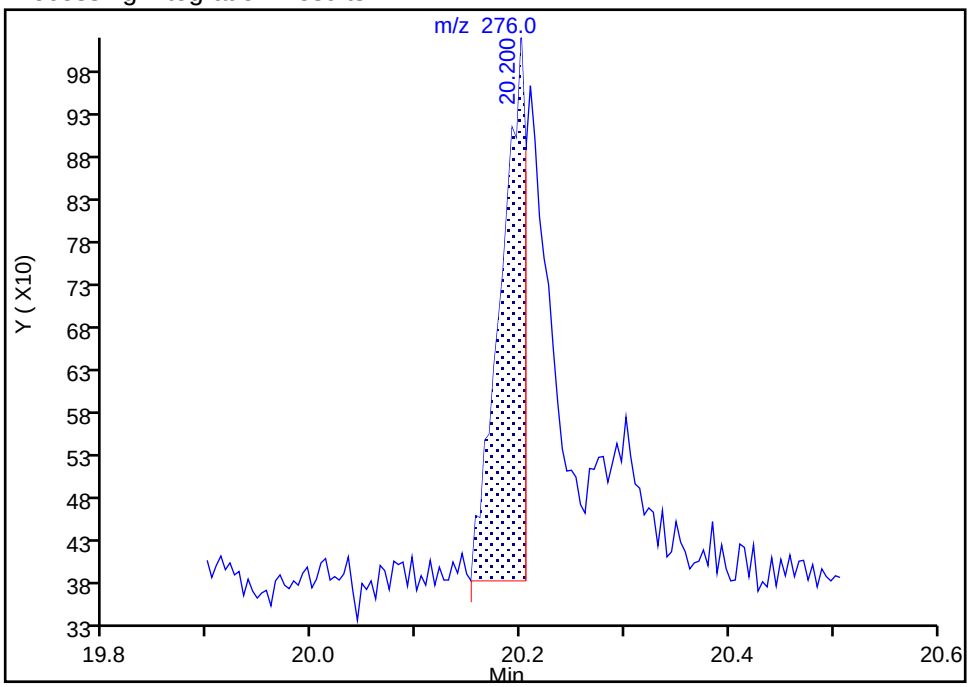
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4565.D
Injection Date: 07-Nov-2018 21:34:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

33 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

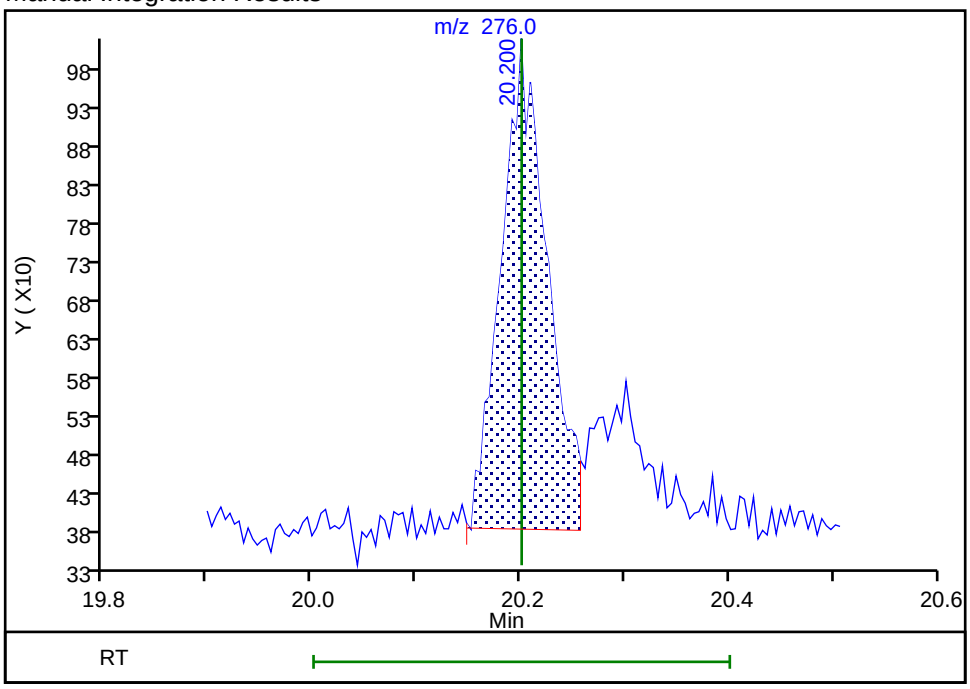
Processing Integration Results

RT: 20.20
Area: 1056
Amount: 6.637994
Amount Units: ng/ml



Manual Integration Results

RT: 20.20
Area: 1931
Amount: 11.439138
Amount Units: ng/ml



Reviewer: wickhamm, 08-Nov-2018 17:22:39
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

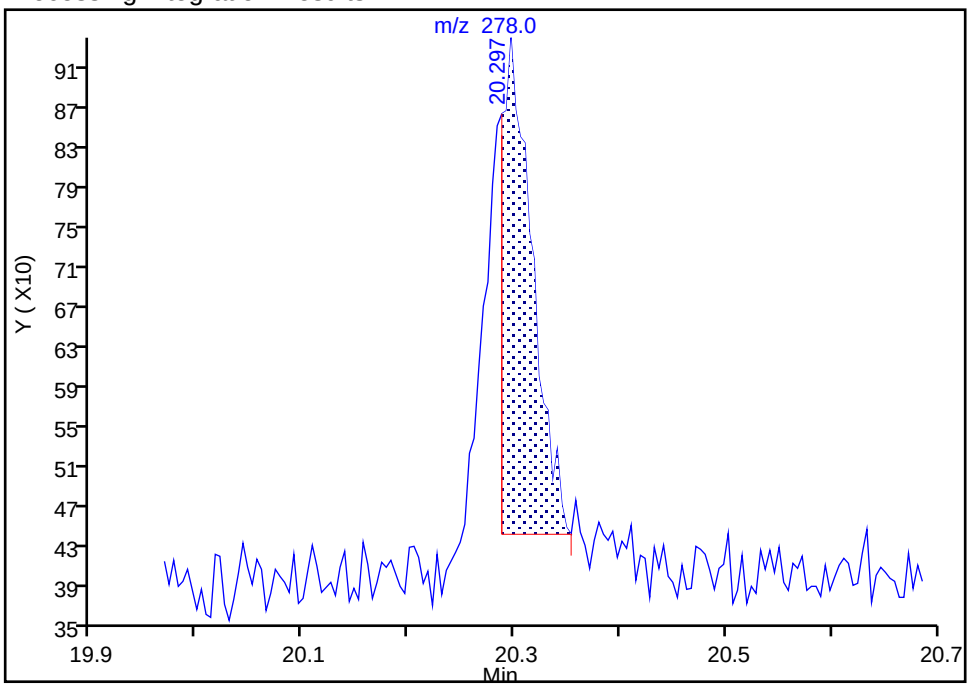
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4565.D
Injection Date: 07-Nov-2018 21:34:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

34 Dibenz(a,h)anthracene, CAS: 53-70-3

Signal: 1

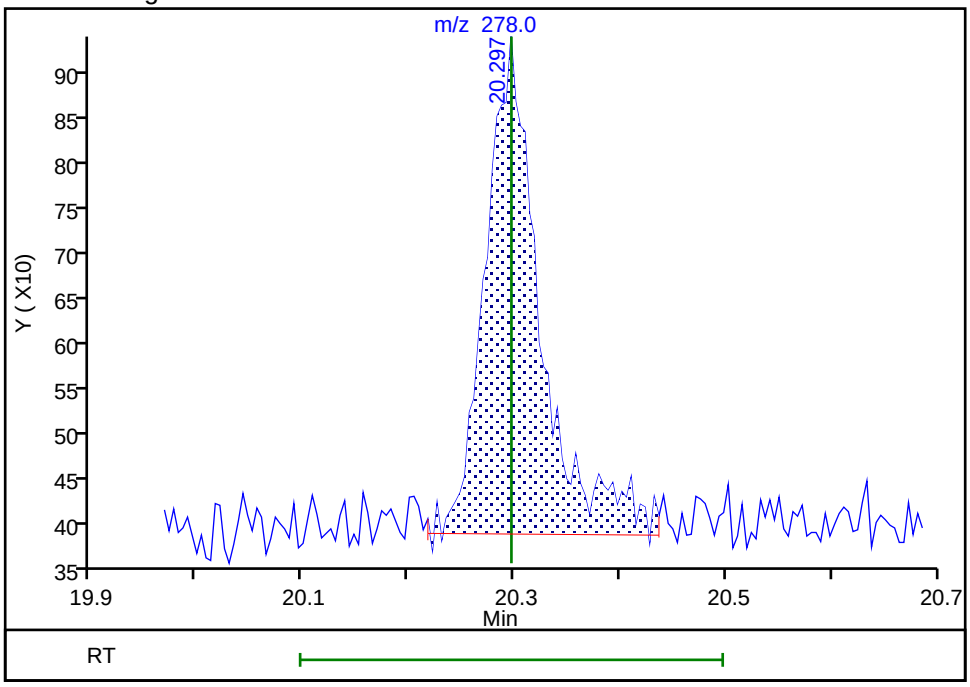
Processing Integration Results

RT: 20.30
Area: 974
Amount: 9.520668
Amount Units: ng/ml



Manual Integration Results

RT: 20.30
Area: 1978
Amount: 11.491193
Amount Units: ng/ml



Reviewer: wickhamm, 08-Nov-2018 17:22:45
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4566.D
Lims ID: STD0002
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 07-Nov-2018 22:02:30 ALS Bottle#: 6 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0002
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 21:00:04 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: XAWRK007

First Level Reviewer: wickhamm Date: 08-Nov-2018 15:50:18

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.626	7.626	0.000	96	49228	600.0	600.0	
* 2 Phenanthrene-d10	188	9.119	9.120	-0.001	97	102182	600.0	600.0	
* 3 Chrysene-d12	240	13.169	13.169	0.000	91	93071	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.169	5.169	0.000	97	1496	20.0	21.5	a
$ 5 2-Fluorobiphenyl	172	6.943	6.943	0.000	97	2507	20.0	20.8	
$ 6 Terphenyl-d14	244	11.056	11.065	-0.009	67	2663	20.0	20.1	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.414	2.414	0.000	1	868	20.0	20.2	
10 Naphthalene	128	5.898	5.898	0.000	98	3519	20.0	21.5	
11 2-Methylnaphthalene	142	6.580	6.580	0.000	98	4861	40.0	43.1	
12 1-Methylnaphthalene	142	6.678	6.678	0.000	97	2069	20.0	20.6	
13 Dimethyl phthalate	163	7.333	7.333	0.000	1	6408	40.0	41.7	
14 Acenaphthylene	152	7.479	7.480	-0.001	95	3136	20.0	19.7	
15 Acenaphthene	153	7.652	7.652	0.000	89	2348	20.0	21.5	
16 Dibenzofuran	168	7.827	7.827	0.000	97	3236	20.0	20.6	
17 Diethyl phthalate	149	8.021	8.022	-0.001	97	6641	40.2	48.2	
18 Fluorene	166	8.167	8.167	0.000	90	2677	20.0	21.2	
19 N-Nitrosodiphenylamine	169	8.274	8.274	0.000	91	1943	20.0	22.1	
20 Phenanthrene	178	9.137	9.137	0.000	96	4608	20.0	21.4	
21 Anthracene	178	9.189	9.189	0.000	1	3633	20.0	19.5	
22 Di-n-butyl phthalate	149	9.673	9.673	0.000	1	7611	40.0	37.5	
23 Fluoranthene	202	10.503	10.511	-0.008	90	4370	20.0	19.4	
24 Pyrene	202	10.840	10.840	0.000	91	4963	20.0	21.4	
25 Butyl benzyl phthalate	149	11.938	11.938	0.000	1	2842	40.0	35.0	
26 Benzo[a]anthracene	228	13.142	13.142	0.000	78	3926	20.0	20.1	
27 Chrysene	228	13.223	13.232	-0.009	89	4140	20.0	19.8	
28 Bis(2-ethylhexyl) phthalat	149	13.286	13.295	-0.009	1	3428	40.0	33.2	
29 Di-n-octyl phthalate	149	15.070	15.087	-0.017	1	3853	40.0	43.0	
30 Benzo[b]fluoranthene	252	16.001	16.001	0.000	85	3984	20.0	20.1	M
31 Benzo[k]fluoranthene	252	16.076	16.076	0.000	83	3732	20.0	18.5	
32 Benzo[a]pyrene	252	16.924	16.929	-0.005	80	3527	20.0	19.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.196	20.201	-0.005	82	3529	20.0	19.5	
34 Dibenz(a,h)anthracene	278	20.293	20.297	-0.005	87	3480	20.0	18.8	
35 Benzo[g,h,i]perylene	276	20.931	20.940	-0.009	81	4187	20.0	19.6	
$ 53 2-methylnaphthalene-d10	152	6.549	6.549	0.000	96	1849	20.0	21.7	
$ 54 Fluoranthene-d10	212	10.485	10.485	0.000	73	3412	20.0	19.9	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

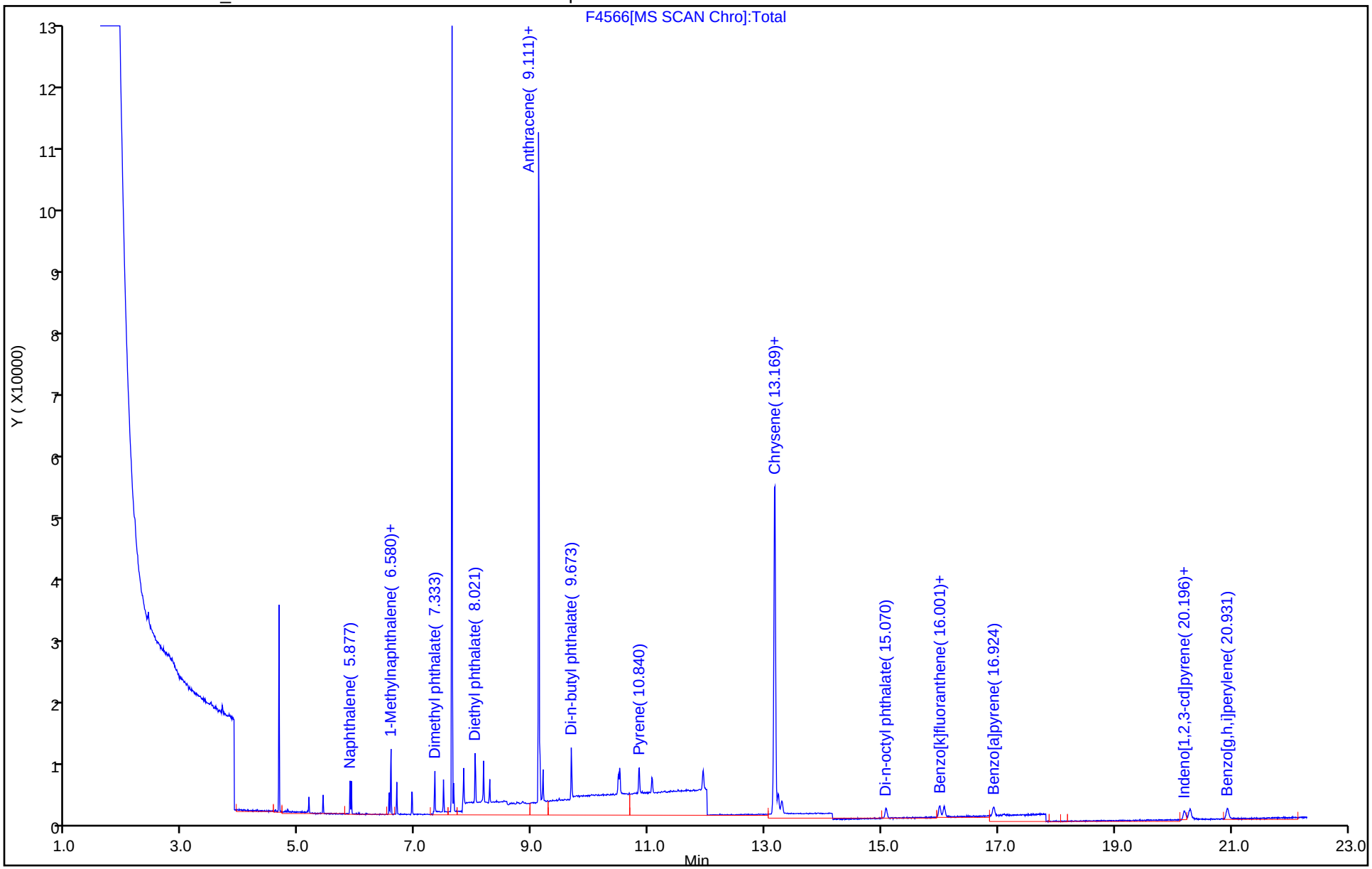
MS-SIMSL 0.02_00079 Amount Added: 200.00 Units: uL

Report Date: 09-Nov-2018 21:00:05 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4566.D

Injection Date:	07-Nov-2018 22:02:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0002			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Manual Integration/User Assign Peak Report

TestAmerica Denver

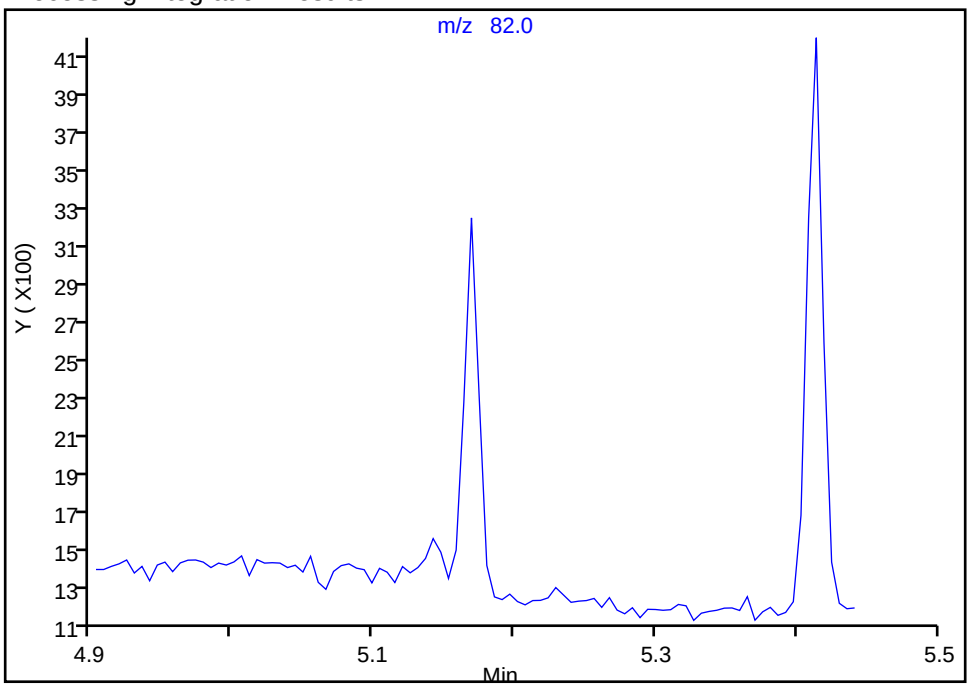
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4566.D
Injection Date: 07-Nov-2018 22:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 6 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 4 Nitrobenzene-d5, CAS: 4165-60-0

Signal: 1

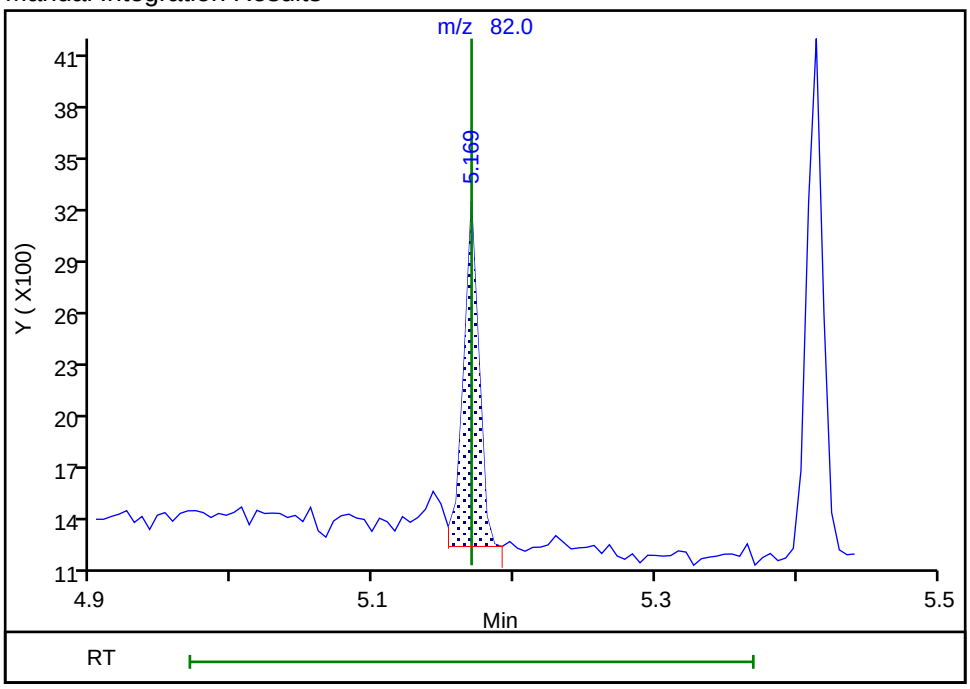
Not Detected
Expected RT: 5.17

Processing Integration Results



Manual Integration Results

RT: 5.17
Area: 1496
Amount: 21.473517
Amount Units: ng/ml



Reviewer: wickhamm, 08-Nov-2018 17:23:09
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Denver

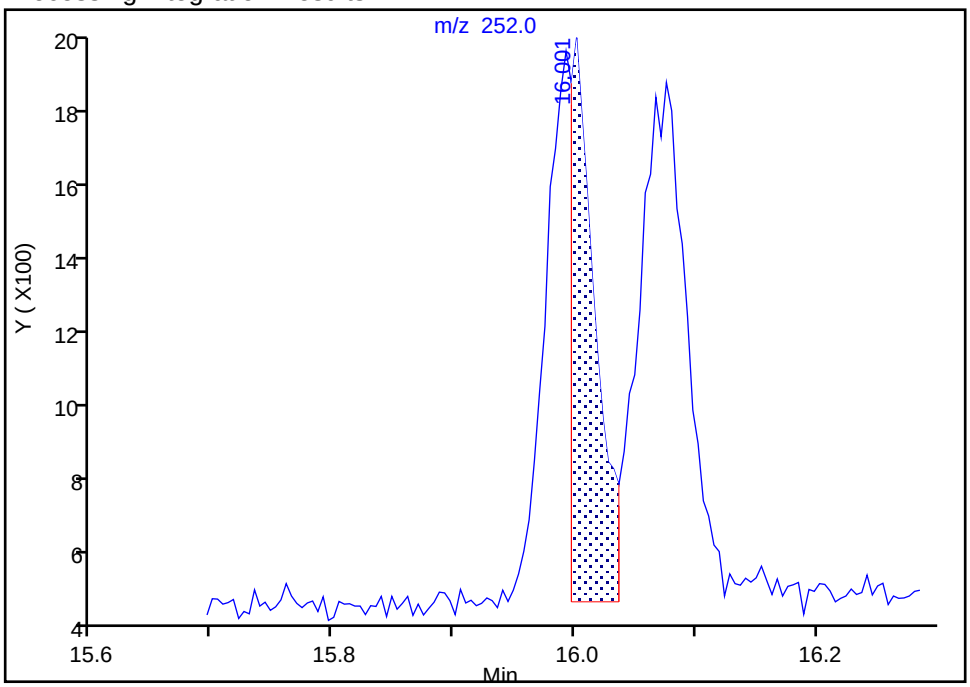
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4566.D
Injection Date: 07-Nov-2018 22:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 6 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

30 Benzo[b]fluoranthene, CAS: 205-99-2

Signal: 1

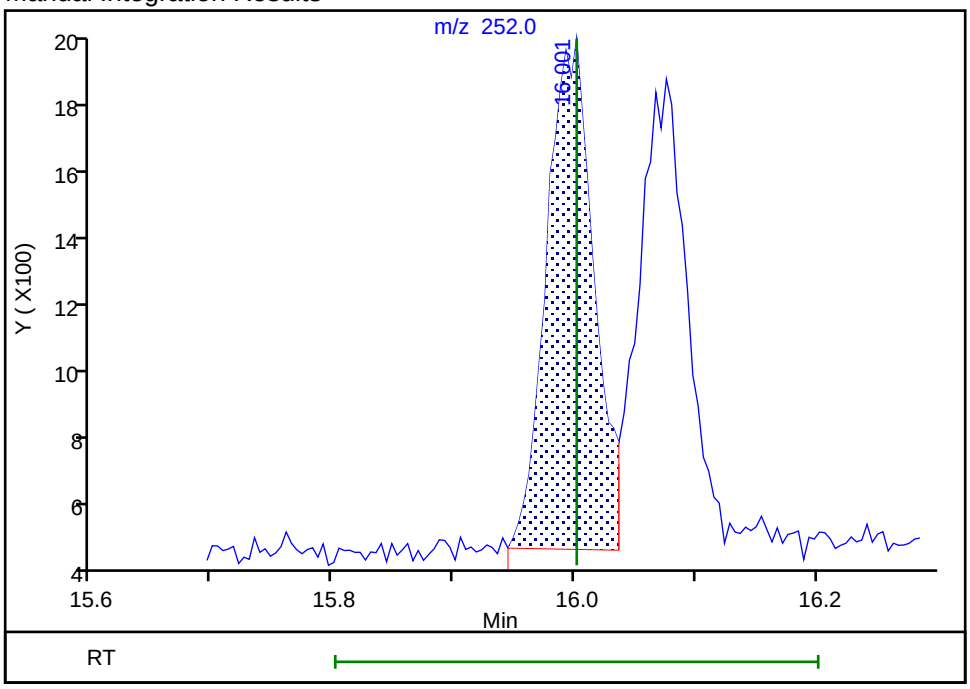
Processing Integration Results

RT: 16.00
Area: 2119
Amount: 13.519873
Amount Units: ng/ml



Manual Integration Results

RT: 16.00
Area: 3984
Amount: 20.054812
Amount Units: ng/ml



Reviewer: wickhamm, 08-Nov-2018 17:23:32
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Report Date: 09-Nov-2018 20:59:56 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4563.D
Lims ID: STD0500
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 07-Nov-2018 20:35:30 ALS Bottle#: 3 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0001
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 20:59:55 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: XAWRK007

First Level Reviewer: wickhamm Date: 07-Nov-2018 21:56:00

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.626	7.626	0.000	88	54841	600.0	600.0	
* 2 Phenanthrene-d10	188	9.120	9.119	0.001	97	115013	600.0	600.0	
* 3 Chrysene-d12	240	13.169	13.178	-0.009	92	106601	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.169	5.169	0.000	98	3533	50.0	45.5	
$ 5 2-Fluorobiphenyl	172	6.943	6.943	0.000	99	6208	50.0	46.2	
$ 6 Terphenyl-d14	244	11.065	11.073	-0.008	87	6718	50.0	45.1	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.414	2.407	0.007	22	2440	50.0	50.9	
10 Naphthalene	128	5.898	5.904	-0.006	99	8561	50.0	46.9	
11 2-Methylnaphthalene	142	6.580	6.579	0.001	100	11782	100.0	93.7	
12 1-Methylnaphthalene	142	6.678	6.678	0.000	97	5205	50.0	46.5	
13 Dimethyl phthalate	163	7.333	7.332	0.001	1	12767	100.0	83.1	
14 Acenaphthylene	152	7.480	7.488	-0.008	98	8164	50.0	46.0	
15 Acenaphthene	153	7.661	7.661	0.000	99	5787	50.0	47.6	
16 Dibenzofuran	168	7.827	7.827	0.000	99	8262	50.1	47.2	
17 Diethyl phthalate	149	8.022	8.031	-0.009	96	14140	100.4	92.0	
18 Fluorene	166	8.167	8.177	-0.010	84	6449	50.0	45.8	
19 N-Nitrosodiphenylamine	169	8.274	8.274	0.000	96	4749	50.0	48.0	
20 Phenanthrene	178	9.137	9.137	0.000	99	11032	50.0	45.5	
21 Anthracene	178	9.189	9.197	-0.008	1	9662	50.0	46.1	
22 Di-n-butyl phthalate	149	9.673	9.681	-0.008	1	20336	100.0	89.0	
23 Fluoranthene	202	10.511	10.511	0.000	97	11560	50.0	45.7	
24 Pyrene	202	10.840	10.848	-0.008	96	11969	50.0	45.8	
25 Butyl benzyl phthalate	149	11.946	11.946	0.000	1	7869	100.0	86.0	
26 Benzo[a]anthracene	228	13.151	13.160	-0.009	85	10619	50.0	47.4	
27 Chrysene	228	13.232	13.241	-0.009	97	11246	50.0	47.0	
28 Bis(2-ethylhexyl) phthalat	149	13.295	13.304	-0.009	1	10147	100.0	87.4	
29 Di-n-octyl phthalate	149	15.087	15.096	-0.009	1	14362	100.0	90.1	
30 Benzo[b]fluoranthene	252	16.006	16.014	-0.008	95	10445	50.0	45.9	
31 Benzo[k]fluoranthene	252	16.080	16.089	-0.009	94	10672	50.0	46.3	
32 Benzo[a]pyrene	252	16.933	16.937	-0.004	93	9701	50.0	47.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.205	20.218	-0.013	93	9726	50.0	46.9	
34 Dibenz(a,h)anthracene	278	20.301	20.314	-0.013	92	9479	50.0	44.8	
35 Benzo[g,h,i]perylene	276	20.940	20.957	-0.017	91	10967	50.0	44.7	
$ 53 2-methylnaphthalene-d10	152	6.549	6.549	0.000	96	4342	50.0	45.8	
$ 54 Fluoranthene-d10	212	10.485	10.485	0.000	90	9096	50.0	47.1	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

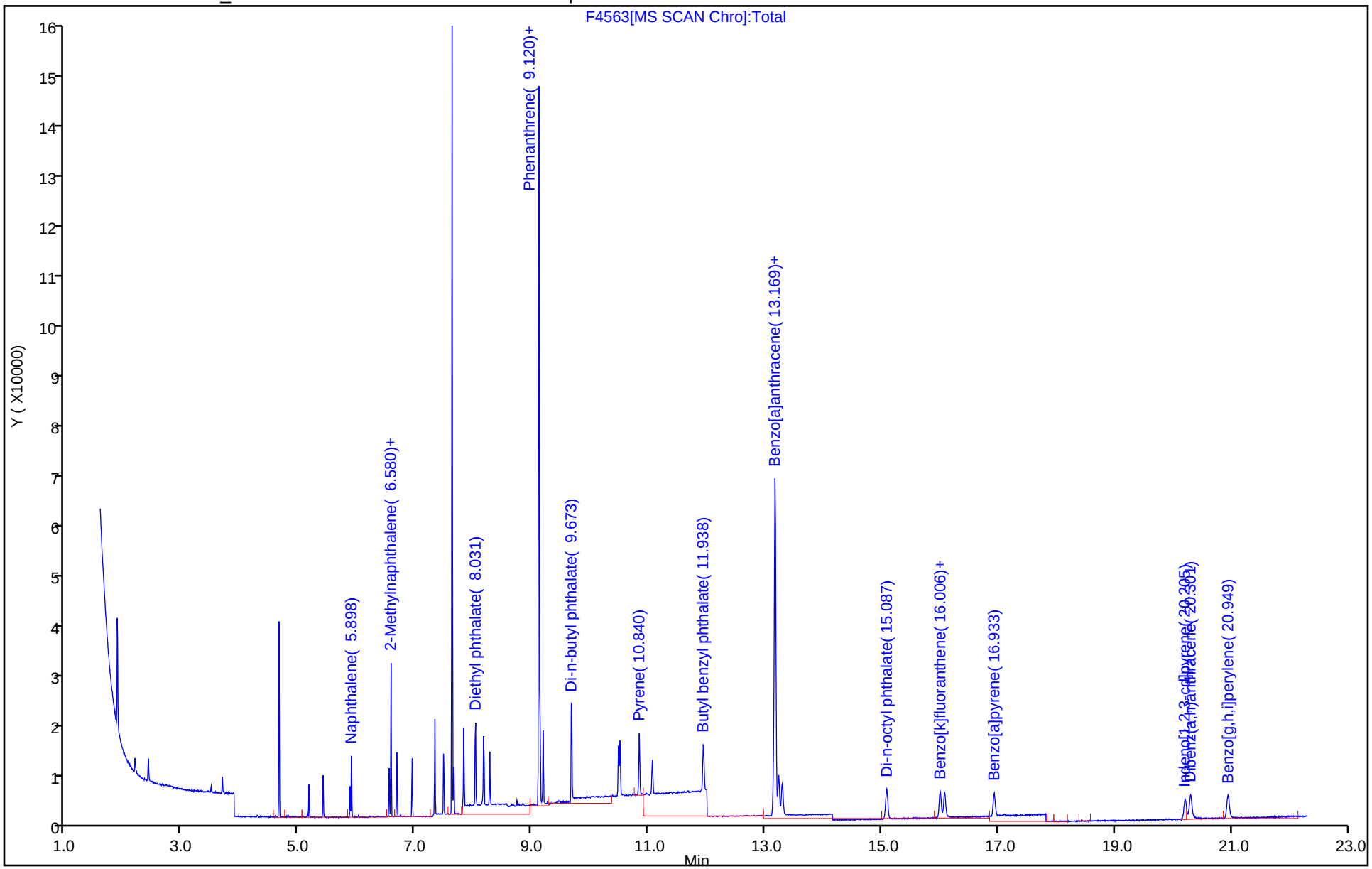
MS-SIMSL 0.05_00007 Amount Added: 200.00 Units: uL

Report Date: 09-Nov-2018 20:59:56 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4563.D

Injection Date:	07-Nov-2018 20:35:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0500			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Report Date: 09-Nov-2018 20:59:59 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4564.D
Lims ID: STD0100
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 07-Nov-2018 21:05:30 ALS Bottle#: 4 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0002
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 20:59:58 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: XAWRK007

First Level Reviewer: wickhamm Date: 07-Nov-2018 21:56:29

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.626	7.626	0.000	91	50723	600.0	600.0	
* 2 Phenanthrene-d10	188	9.120	9.120	0.000	97	106347	600.0	600.0	
* 3 Chrysene-d12	240	13.169	13.169	0.000	93	98846	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.169	5.169	0.000	100	6969	100.0	97.1	
$ 5 2-Fluorobiphenyl	172	6.943	6.943	0.000	98	12291	100.0	98.8	
$ 6 Terphenyl-d14	244	11.065	11.065	0.000	95	13247	100.0	96.2	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.414	2.414	0.000	10	4483	100.0	101.0	
10 Naphthalene	128	5.898	5.898	0.000	100	16960	100.0	100.4	
11 2-Methylnaphthalene	142	6.580	6.580	0.000	100	22834	200.0	196.3	
12 1-Methylnaphthalene	142	6.678	6.678	0.000	99	10261	100.0	99.2	
13 Dimethyl phthalate	163	7.333	7.333	0.000	1	23782	200.0	178.2	
14 Acenaphthylene	152	7.480	7.480	0.000	100	15589	100.0	94.9	
15 Acenaphthene	153	7.652	7.652	0.000	92	11001	100.0	97.8	
16 Dibenzofuran	168	7.827	7.827	0.000	98	15857	100.1	97.9	
17 Diethyl phthalate	149	8.022	8.022	0.000	96	25217	200.8	177.5	
18 Fluorene	166	8.167	8.167	0.000	90	12381	100.0	95.1	
19 N-Nitrosodiphenylamine	169	8.274	8.274	0.000	96	9123	100.0	99.6	
20 Phenanthrene	178	9.137	9.137	0.000	100	21223	100.0	94.7	
21 Anthracene	178	9.189	9.189	0.000	1	18572	100.0	95.8	
22 Di-n-butyl phthalate	149	9.673	9.673	0.000	1	38630	200.0	182.8	
23 Fluoranthene	202	10.511	10.511	0.000	99	22157	100.0	94.7	
24 Pyrene	202	10.840	10.840	0.000	98	22803	100.0	94.3	
25 Butyl benzyl phthalate	149	11.938	11.938	0.000	1	15014	200.0	177.5	
26 Benzo[a]anthracene	228	13.142	13.142	0.000	59	20161	100.0	97.1	
27 Chrysene	228	13.232	13.232	0.000	97	20775	100.0	93.7	
28 Bis(2-ethylhexyl) phthalat	149	13.295	13.295	0.000	1	17805	200.0	165.9	
29 Di-n-octyl phthalate	149	15.087	15.087	0.000	1	26210	200.0	156.0	
30 Benzo[b]fluoranthene	252	16.001	16.001	0.000	100	20627	100.0	97.8	
31 Benzo[k]fluoranthene	252	16.076	16.076	0.000	99	20596	100.0	96.3	
32 Benzo[a]pyrene	252	16.929	16.929	0.000	99	18623	100.0	97.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.201	20.201	0.000	98	19135	100.0	99.5	
34 Dibenz(a,h)anthracene	278	20.297	20.297	0.000	94	18388	100.0	93.8	
35 Benzo[g,h,i]perylene	276	20.940	20.940	0.000	97	22175	100.0	97.5	
$ 53 2-methylnaphthalene-d10	152	6.549	6.549	0.000	93	8594	100.0	97.9	
$ 54 Fluoranthene-d10	212	10.485	10.485	0.000	95	17169	100.0	96.1	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

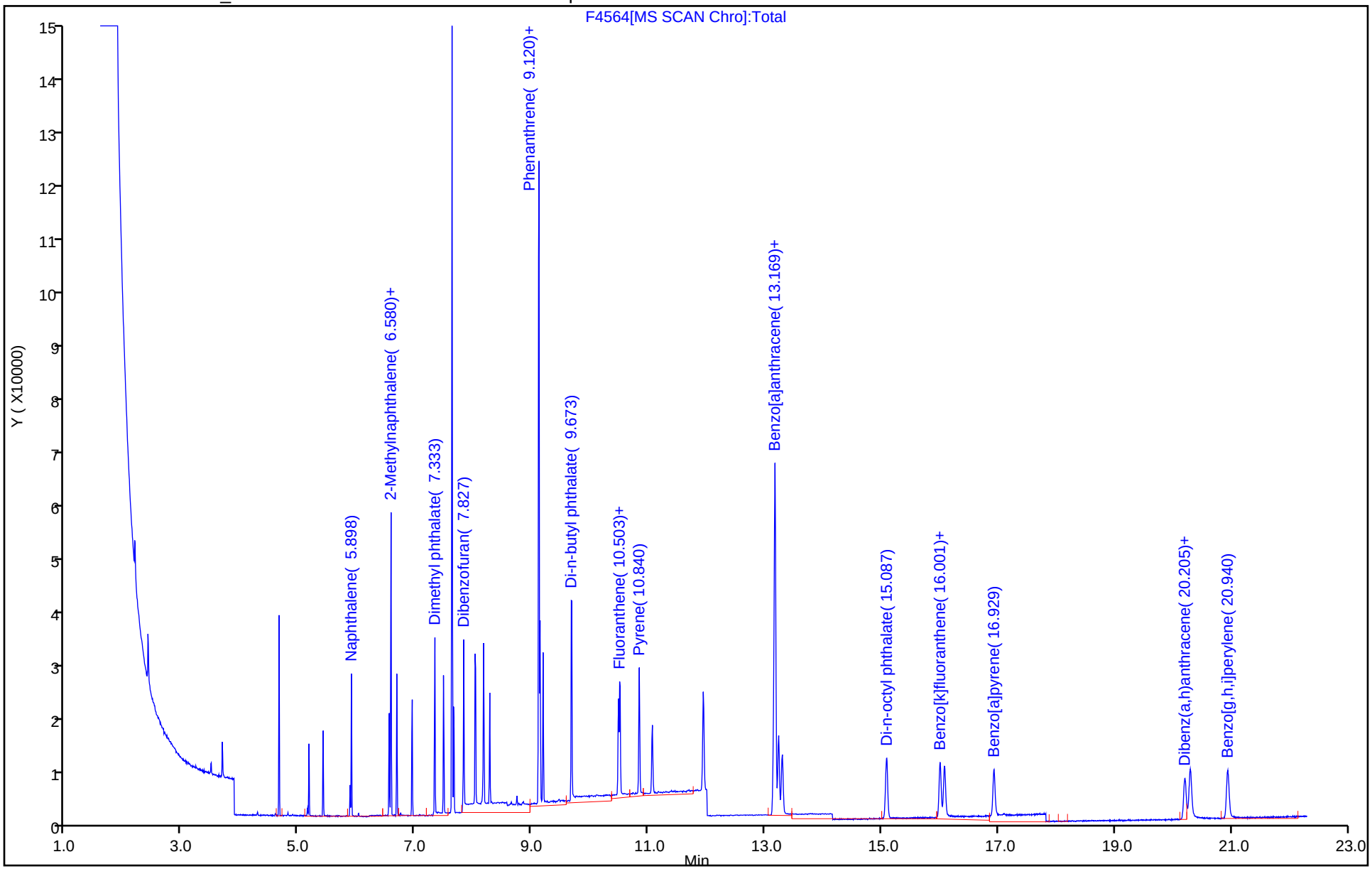
MS-SIMSL 0.1_00075 Amount Added: 200.00 Units: uL

Report Date: 09-Nov-2018 20:59:59 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4564.D

Injection Date:	07-Nov-2018 21:05:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0100			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4567.D
Lims ID: STD0300
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 07-Nov-2018 22:31:30 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0300
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 21:00:10 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: XAWRK007

First Level Reviewer: wickhamm Date: 08-Nov-2018 15:51:09

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.626	7.626	0.000	95	48533	600.0	600.0	
* 2 Phenanthrene-d10	188	9.111	9.120	-0.009	100	104918	600.0	600.0	
* 3 Chrysene-d12	240	13.169	13.169	0.000	93	95322	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.169	5.169	0.000	100	19828	300.0	288.7	
$ 5 2-Fluorobiphenyl	172	6.943	6.943	0.000	97	35859	300.0	301.2	
$ 6 Terphenyl-d14	244	11.056	11.065	-0.009	98	42862	300.0	315.4	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.407	2.414	-0.007	31	12769	300.0	300.7	
10 Naphthalene	128	5.898	5.898	0.000	100	49708	300.0	307.7	
11 2-Methylnaphthalene	142	6.579	6.580	-0.001	98	67346	600.0	605.0	
12 1-Methylnaphthalene	142	6.678	6.678	0.000	96	29960	300.0	302.7	
13 Dimethyl phthalate	163	7.324	7.333	-0.009	1	70019	600.0	570.6	
14 Acenaphthylene	152	7.479	7.480	-0.001	100	45029	300.0	286.6	
15 Acenaphthene	153	7.652	7.652	0.000	94	31103	300.0	288.9	
16 Dibenzofuran	168	7.827	7.827	0.000	95	45708	300.3	295.0	
17 Diethyl phthalate	149	8.021	8.022	-0.001	96	71092	602.4	522.9	
18 Fluorene	166	8.167	8.167	0.000	92	36533	300.0	293.4	
19 N-Nitrosodiphenylamine	169	8.274	8.274	0.000	95	25496	300.0	282.2	
20 Phenanthrene	178	9.137	9.137	0.000	100	61549	300.0	278.5	
21 Anthracene	178	9.189	9.189	0.000	1	53190	300.0	278.2	
22 Di-n-butyl phthalate	149	9.673	9.673	0.000	1	112057	600.0	537.3	
23 Fluoranthene	202	10.503	10.511	-0.008	99	63964	300.0	277.2	
24 Pyrene	202	10.840	10.840	0.000	100	65687	300.0	275.5	
25 Butyl benzyl phthalate	149	11.938	11.938	0.000	1	40371	600.0	483.8	
26 Benzo[a]anthracene	228	13.142	13.142	0.000	55	56147	300.0	280.5	
27 Chrysene	228	13.223	13.232	-0.009	96	62423	300.0	291.9	
28 Bis(2-ethylhexyl) phthalat	149	13.286	13.295	-0.009	1	46573	600.0	439.7	
29 Di-n-octyl phthalate	149	15.078	15.087	-0.009	1	66608	600.0	374.9	
30 Benzo[b]fluoranthene	252	15.997	16.001	-0.004	98	57496	300.0	282.6	
31 Benzo[k]fluoranthene	252	16.071	16.076	-0.005	98	60021	300.0	291.0	
32 Benzo[a]pyrene	252	16.920	16.929	-0.009	96	51040	300.0	276.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.201	20.201	0.000	93	52968	300.0	285.6	
34 Dibenz(a,h)anthracene	278	20.292	20.297	-0.005	87	53851	300.0	284.8	
35 Benzo[g,h,i]perylene	276	20.936	20.940	-0.004	97	65273	300.0	297.7	
$ 53 2-methylnaphthalene-d10	152	6.549	6.549	0.000	90	25043	300.0	298.2	
$ 54 Fluoranthene-d10	212	10.477	10.485	-0.008	99	49470	300.0	280.6	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

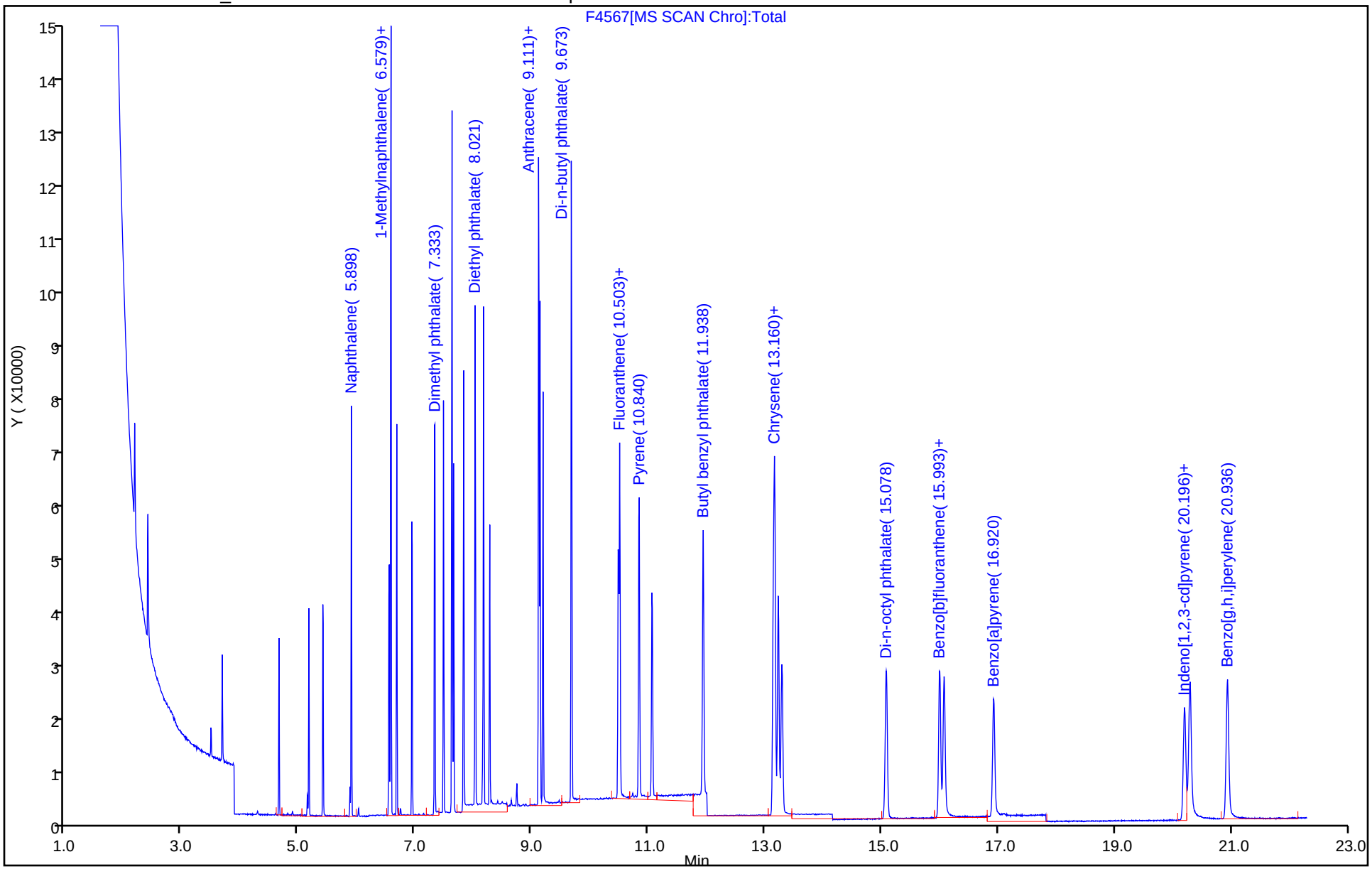
MS-SIMSL 0.3_00074 Amount Added: 200.00 Units: uL

Report Date: 09-Nov-2018 21:00:10 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4567.D

Injection Date:	07-Nov-2018 22:31:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0300			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4568.D
Lims ID: STD1200
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 07-Nov-2018 23:00:30 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std1200
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 21:00:14 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: XAWRK007

First Level Reviewer: wickhamm Date: 08-Nov-2018 15:51:35

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.626	7.626	0.000	98	70267	600.0	600.0	
* 2 Phenanthrene-d10	188	9.111	9.120	-0.009	100	145567	600.0	600.0	
* 3 Chrysene-d12	240	13.169	13.169	0.000	98	136240	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.169	5.169	0.000	99	108907	1200.0	1095.2	
$ 5 2-Fluorobiphenyl	172	6.936	6.943	-0.007	100	198363	1200.0	1150.9	
$ 6 Terphenyl-d14	244	11.056	11.065	-0.009	98	216583	1200.0	1148.8	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.394	2.414	-0.020	35	74163	1200.0	1206.5	
10 Naphthalene	128	5.898	5.898	0.000	100	270997	1200.0	1158.5	
11 2-Methylnaphthalene	142	6.580	6.580	0.000	97	372422	2400.0	2310.9	
12 1-Methylnaphthalene	142	6.678	6.678	0.000	96	166552	1200.0	1162.1	
13 Dimethyl phthalate	163	7.324	7.333	-0.009	1	400986	2400.0	2288.7	
14 Acenaphthylene	152	7.479	7.480	-0.001	99	269313	1200.0	1183.8	
15 Acenaphthene	153	7.652	7.652	0.000	97	178359	1200.0	1144.2	
16 Dibenzofuran	168	7.827	7.827	0.000	93	254474	1201.2	1134.3	
17 Diethyl phthalate	149	8.021	8.022	-0.001	97	413926	2409.6	2102.9	
18 Fluorene	166	8.167	8.167	0.000	95	210897	1200.0	1169.9	
19 N-Nitrosodiphenylamine	169	8.274	8.274	0.000	93	140602	1200.0	1121.7	
20 Phenanthrene	178	9.137	9.137	0.000	100	351768	1200.0	1147.1	
21 Anthracene	178	9.189	9.189	0.000	1	320239	1200.0	1207.4	
22 Di-n-butyl phthalate	149	9.673	9.673	0.000	1	687156	2400.0	2375.0	
23 Fluoranthene	202	10.503	10.511	-0.008	99	379350	1200.0	1185.0	
24 Pyrene	202	10.840	10.840	0.000	100	381466	1200.0	1153.0	
25 Butyl benzyl phthalate	149	11.938	11.938	0.000	1	289446	2400.0	2499.9	
26 Benzo[a]anthracene	228	13.142	13.142	0.000	40	335416	1200.0	1172.4	
27 Chrysene	228	13.223	13.232	-0.009	95	361542	1200.0	1183.0	
28 Bis(2-ethylhexyl) phthalat	149	13.286	13.295	-0.009	1	365456	2400.0	2487.0	
29 Di-n-octyl phthalate	149	15.079	15.087	-0.008	1	547551	2400.0	2051.1	
30 Benzo[b]fluoranthene	252	15.997	16.001	-0.004	97	339373	1200.0	1167.0	
31 Benzo[k]fluoranthene	252	16.076	16.076	0.000	97	358923	1200.0	1217.5	
32 Benzo[a]pyrene	252	16.920	16.929	-0.009	94	308843	1200.0	1170.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.196	20.201	-0.005	92	301879	1200.0	1139.0	
34 Dibenz(a,h)anthracene	278	20.288	20.297	-0.009	85	319889	1200.0	1183.6	
35 Benzo[g,h,i]perylene	276	20.936	20.940	-0.004	95	357796	1200.0	1141.6	
$ 53 2-methylnaphthalene-d10	152	6.549	6.549	0.000	89	136733	1200.0	1124.7	
$ 54 Fluoranthene-d10	212	10.477	10.485	-0.008	100	286731	1200.0	1172.3	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

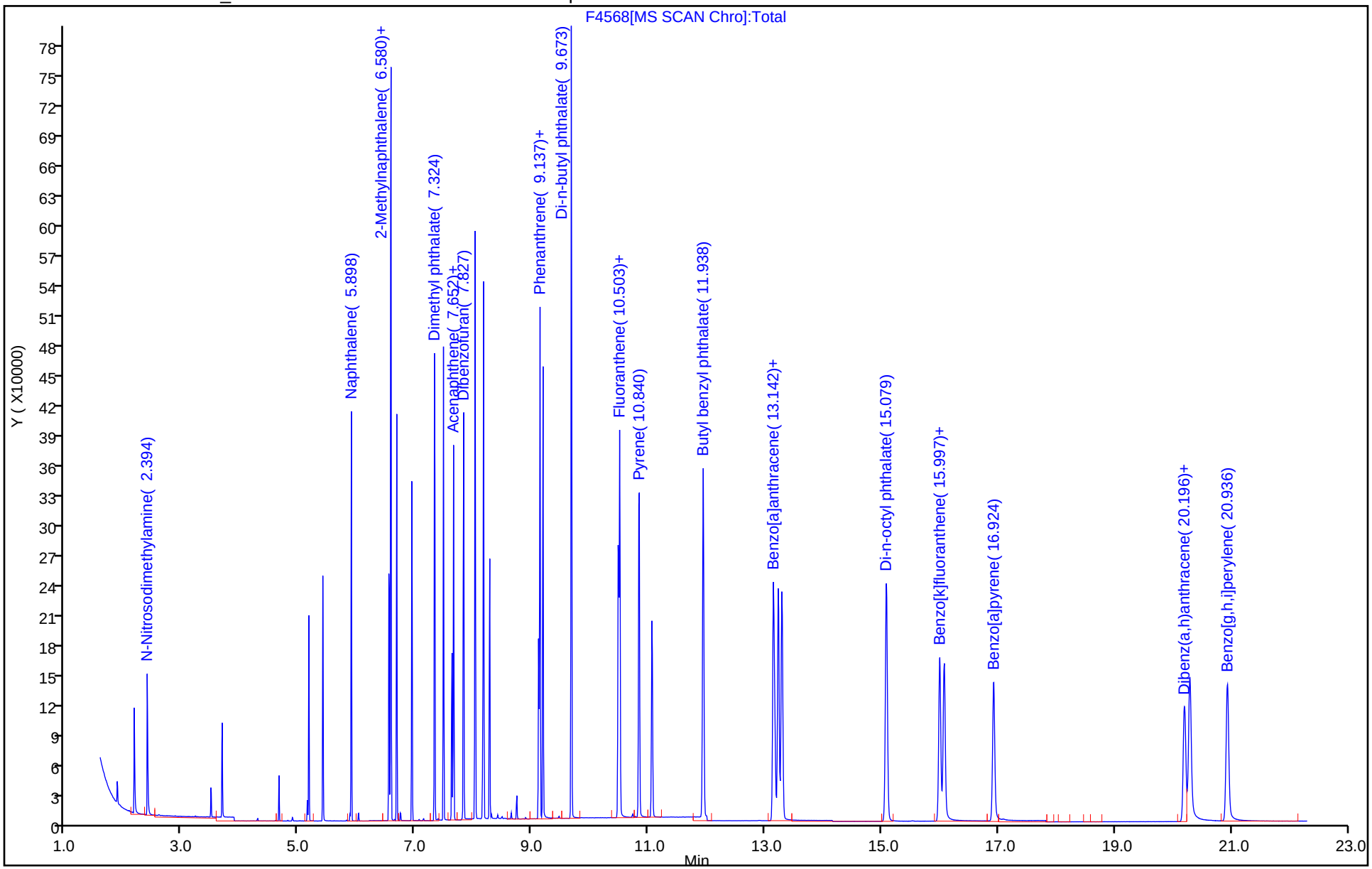
MS-SIMSL 1.2_00075 Amount Added: 200.00 Units: uL

Report Date: 09-Nov-2018 21:00:16 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4568.D

Injection Date:	07-Nov-2018 23:00:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD1200			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4569.D
Lims ID: STD2500
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 07-Nov-2018 23:29:30 ALS Bottle#: 9 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std2500
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 21:00:21 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: XAWRK007

First Level Reviewer: wickhamm Date: 08-Nov-2018 15:53:23

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.626	7.626	0.000	98	46947	600.0	600.0	
* 2 Phenanthrene-d10	188	9.111	9.120	-0.009	99	99053	600.0	600.0	
* 3 Chrysene-d12	240	13.160	13.169	-0.009	47	94926	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.169	5.169	0.000	98	174434	2500.0	2625.5	
$ 5 2-Fluorobiphenyl	172	6.935	6.943	-0.008	100	320884	2500.0	2786.6	
$ 6 Terphenyl-d14	244	11.056	11.065	-0.009	98	359524	2500.0	2802.6	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.394	2.414	-0.020	45	108846	2500.0	2650.3	
10 Naphthalene	128	5.898	5.898	0.000	100	420014	2500.0	2687.4	
11 2-Methylnaphthalene	142	6.579	6.580	-0.001	96	586180	5000.0	5444.0	
12 1-Methylnaphthalene	142	6.678	6.678	0.000	95	265288	2500.0	2770.4	
13 Dimethyl phthalate	163	7.324	7.333	-0.009	1	636697	5000.0	5453.9	
14 Acenaphthylene	152	7.479	7.480	-0.001	99	432217	2500.0	2843.6	
15 Acenaphthene	153	7.652	7.652	0.000	97	283364	2500.0	2720.8	
16 Dibenzofuran	168	7.827	7.827	0.000	92	405448	2502.5	2705.1	
17 Diethyl phthalate	149	8.021	8.022	-0.001	98	679868	5020.0	5169.8	
18 Fluorene	166	8.167	8.167	0.000	97	348073	2500.0	2889.9	
19 N-Nitrosodiphenylamine	169	8.274	8.274	0.000	92	220669	2500.0	2587.1	
20 Phenanthrene	178	9.137	9.137	0.000	100	566782	2500.0	2716.2	
21 Anthracene	178	9.189	9.189	-0.001	1	531403	2500.0	2944.4	
22 Di-n-butyl phthalate	149	9.673	9.673	0.000	1	1138874	5000.0	5784.6	
23 Fluoranthene	202	10.503	10.511	-0.009	100	620225	2500.0	2847.1	
24 Pyrene	202	10.831	10.840	-0.009	99	616287	2500.0	2737.4	
25 Butyl benzyl phthalate	149	11.938	11.938	0.000	1	487995	5000.0	6194.0	
26 Benzo[a]anthracene	228	13.142	13.142	0.000	38	553378	2500.0	2776.1	
27 Chrysene	228	13.223	13.232	-0.009	94	591161	2500.0	2776.2	
28 Bis(2-ethylhexyl) phthalat	149	13.286	13.295	-0.009	1	631116	5000.0	6311.8	
29 Di-n-octyl phthalate	149	15.078	15.087	-0.009	1	964558	5000.0	5151.9	
30 Benzo[b]fluoranthene	252	15.992	16.001	-0.009	97	546727	2500.0	2698.4	
31 Benzo[k]fluoranthene	252	16.071	16.076	-0.005	97	593793	2500.0	2890.7	
32 Benzo[a]pyrene	252	16.919	16.929	-0.010	94	520578	2500.0	2830.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.196	20.201	-0.005	92	490132	2500.0	2654.0	
34 Dibenz(a,h)anthracene	278	20.288	20.297	-0.009	86	515992	2500.0	2740.1	
35 Benzo[g,h,i]perylene	276	20.931	20.940	-0.009	95	582641	2500.0	2668.0	
$ 53 2-methylnaphthalene-d10	152	6.542	6.549	-0.007	96	215119	2500.0	2648.5	
$ 54 Fluoranthene-d10	212	10.477	10.485	-0.008	100	463531	2500.0	2785.1	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

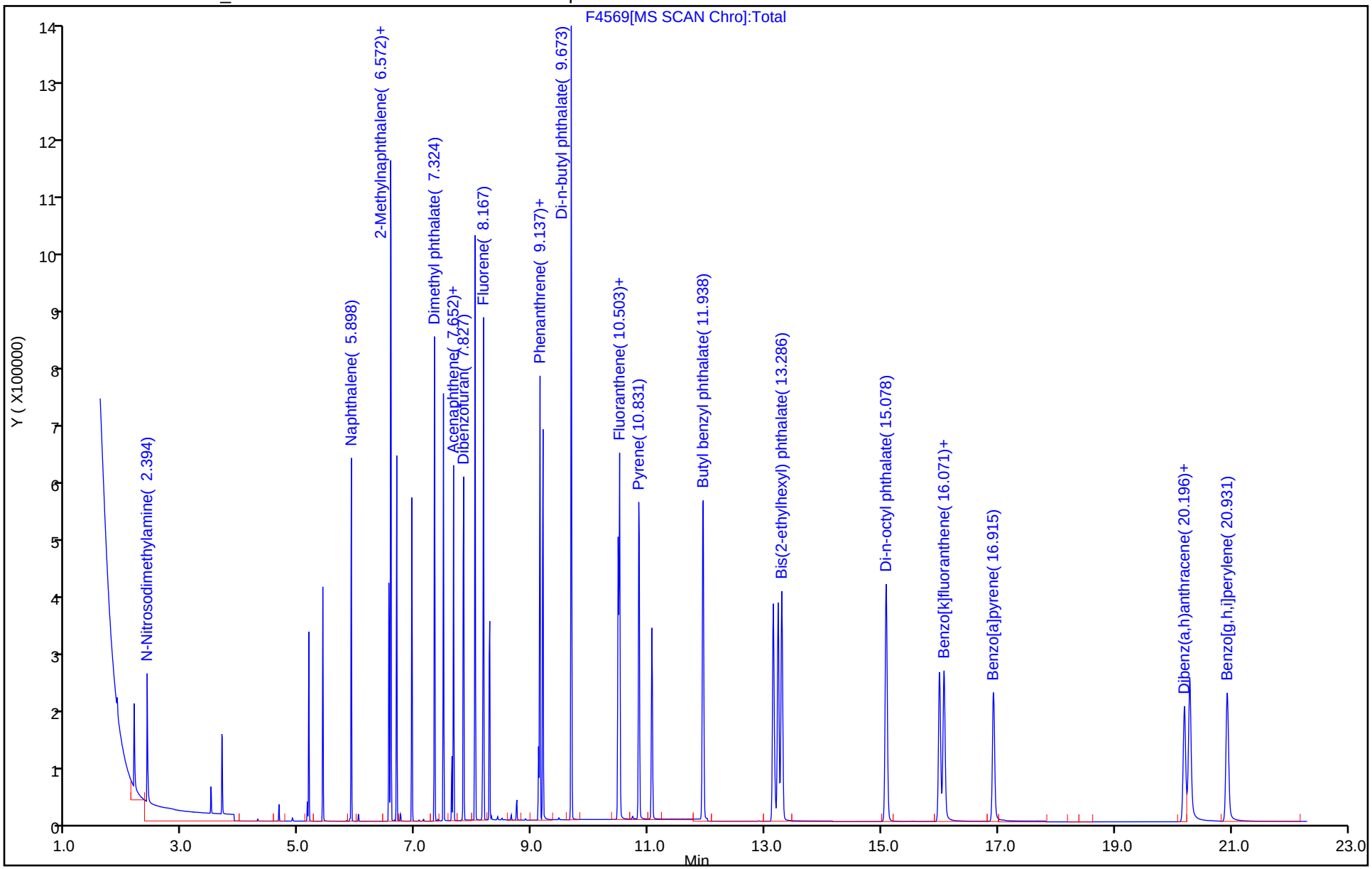
MS-SIMSL 2.5_00074 Amount Added: 200.00 Units: uL

Report Date: 09-Nov-2018 21:00:22 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4569.D

Injection Date:	07-Nov-2018 23:29:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD2500			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D
Lims ID: STD5000
Client ID:
Sample Type: IC Calib Level: 9
Inject. Date: 07-Nov-2018 23:58:30 ALS Bottle#: 10 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std5000
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 21:00:26 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: XAWRK007

First Level Reviewer: wickhamm Date: 08-Nov-2018 16:24:18

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.626	7.626	0.000	96	50719	600.0	600.0	
* 2 Phenanthrene-d10	188	9.111	9.120	-0.009	99	106270	600.0	600.0	
* 3 Chrysene-d12	240	13.160	13.169	-0.009	35	105354	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.169	5.169	0.000	96	345279	5000.0	4810.4	
$ 5 2-Fluorobiphenyl	172	6.936	6.943	-0.007	100	611045	5000.0	4911.7	
$ 6 Terphenyl-d14	244	11.056	11.065	-0.009	98	699494	5000.0	5082.4	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.388	2.414	-0.026	38	226780	5000.0	5111.1	
10 Naphthalene	128	5.898	5.898	0.000	100	820904	5000.0	4861.7	
11 2-Methylnaphthalene	142	6.572	6.580	-0.008	94	1143934	10000	9833.9	
12 1-Methylnaphthalene	142	6.678	6.678	0.000	93	518905	5000.0	5016.0	
13 Dimethyl phthalate	163	7.324	7.333	-0.009	1	1231485	10000	9772.7	
14 Acenaphthylene	152	7.480	7.480	0.000	98	859733	5000.0	5235.6	
15 Acenaphthene	153	7.652	7.652	0.000	98	567640	5000.0	5045.0	
16 Dibenzofuran	168	7.827	7.827	0.000	91	799915	5005.0	4939.9	
17 Diethyl phthalate	149	8.021	8.022	-0.001	99	1305459	10040	9188.6	
18 Fluorene	166	8.167	8.167	0.000	97	679941	5000.0	5225.5	
19 N-Nitrosodiphenylamine	169	8.274	8.274	0.000	91	420439	5000.0	4594.5	
20 Phenanthrene	178	9.137	9.137	0.000	99	1080892	5000.0	4828.2	
21 Anthracene	178	9.189	9.189	0.000	1	1061361	5000.0	5481.4	
22 Di-n-butyl phthalate	149	9.673	9.673	0.000	1	2271515	10000	10754	
23 Fluoranthene	202	10.503	10.511	-0.008	100	1225720	5000.0	5244.5	
24 Pyrene	202	10.831	10.840	-0.009	99	1222666	5000.0	5062.0	
25 Butyl benzyl phthalate	149	11.938	11.938	0.000	1	1022536	10000	12097	
26 Benzo[a]anthracene	228	13.142	13.142	0.000	38	1104438	5000.0	4992.2	
27 Chrysene	228	13.223	13.232	-0.009	94	1178276	5000.0	4985.7	
28 Bis(2-ethylhexyl) phthalat	149	13.286	13.295	-0.009	1	1371909	10000	12789	
29 Di-n-octyl phthalate	149	15.074	15.087	-0.013	1	2181405	10000	10475	
30 Benzo[b]fluoranthene	252	15.993	16.001	-0.008	97	1109773	5000.0	4935.1	
31 Benzo[k]fluoranthene	252	16.067	16.076	-0.009	97	1197691	5000.0	5253.5	
32 Benzo[a]pyrene	252	16.915	16.929	-0.014	94	1055000	5000.0	5168.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.196	20.201	-0.005	91	989234	5000.0	4826.5	
34 Dibenz(a,h)anthracene	278	20.288	20.297	-0.009	85	1061813	5000.0	5080.5	
35 Benzo[g,h,i]perylene	276	20.931	20.940	-0.009	95	1176381	5000.0	4853.7	
$ 53 2-methylnaphthalene-d10	152	6.542	6.549	-0.007	100	427312	5000.0	4869.7	
$ 54 Fluoranthene-d10	212	10.477	10.485	-0.008	100	915739	5000.0	5128.5	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

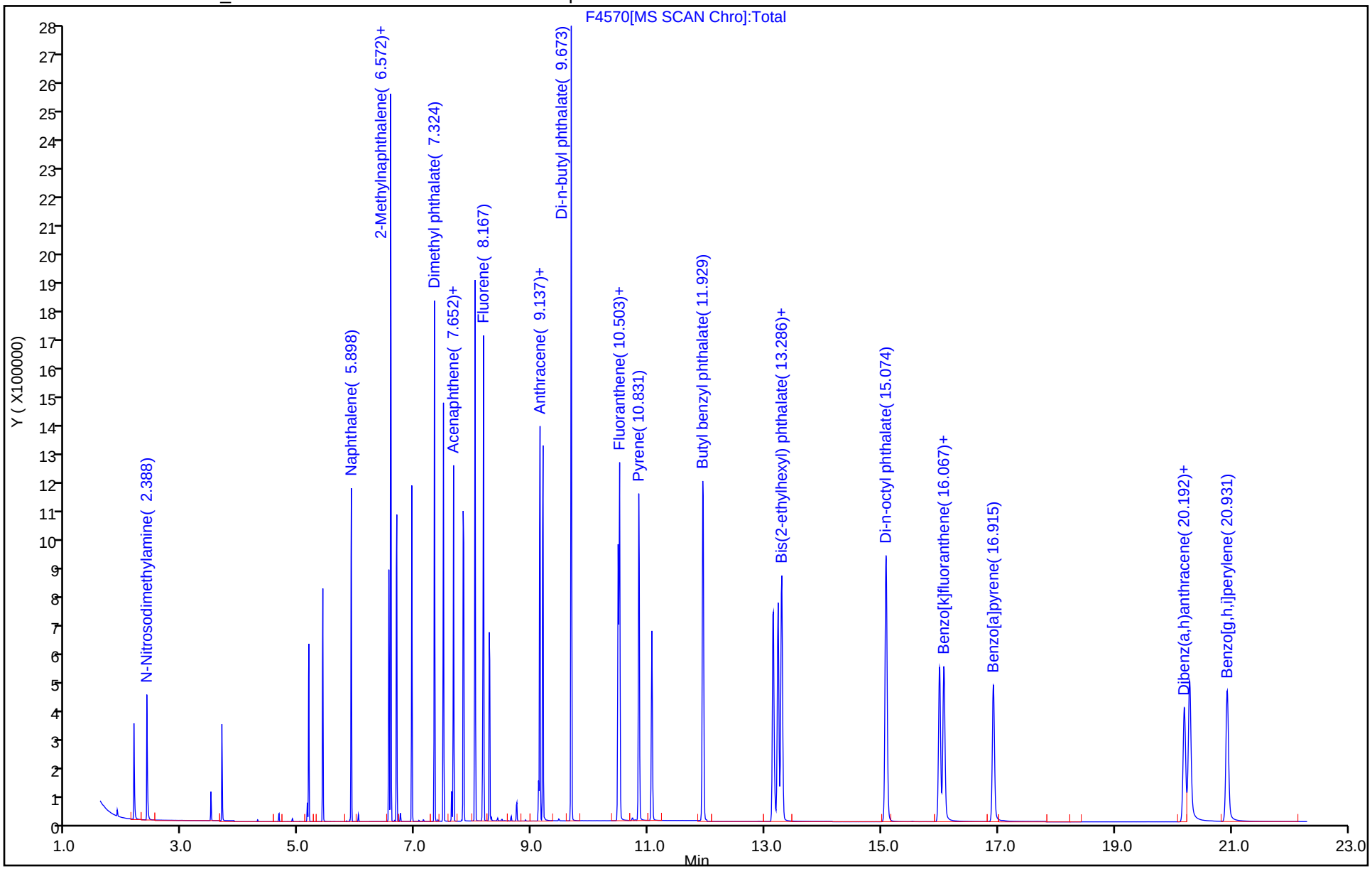
MS-SIMSL 5_00076 Amount Added: 200.00 Units: uL

Report Date: 09-Nov-2018 21:00:28 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Injection Date:	07-Nov-2018 23:58:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD5000			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-435404/12 Calibration Date: 10/29/2018 20:30

Instrument ID: SMS_F Calib Start Date: 10/29/2018 16:02

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/29/2018 20:00

Lab File ID: F4407.D Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	2.009	1.988	0.7000	594000	600000	-1.0	20.0
2-Methylnaphthalene	Ave	1.361	1.341	0.4000	591000	600000	-1.5	20.0
1-Methylnaphthalene	Ave	1.227	1.282	0.0500	626000	600000	4.4	20.0
Acenaphthylene	Ave	1.550	1.482	0.9000	573000	600000	-4.4	20.0
Acenaphthene	Ave	1.316	1.296	0.9000	591000	600000	-1.5	20.0
Fluorene	Ave	1.536	1.568	0.9000	613000	600000	2.1	20.0
Phenanthrene	Ave	1.216	1.208	0.7000	596000	600000	-0.6	20.0
Anthracene	Ave	0.9130	0.8833	0.7000	580000	600000	-3.3	20.0
Fluoranthene	Ave	1.292	1.193	0.6000	554000	600000	-7.6	20.0
Pyrene	Ave	1.302	1.239	0.6000	571000	600000	-4.8	20.0
Benzo[a]anthracene	Ave	1.018	0.9412	0.8000	555000	600000	-7.5	20.0
Chrysene	Ave	1.254	1.330	0.7000	636000	600000	6.0	20.0
Benzo[b]fluoranthene	Ave	1.207	1.111	0.7000	552000	600000	-8.0	20.0
Benzo[k]fluoranthene	Ave	1.185	1.197	0.7000	606000	600000	1.0	20.0
Benzo[a]pyrene	Ave	0.9529	0.8365	0.7000	527000	600000	-12.2	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.221	1.061	0.5000	521000	600000	-13.2	20.0
Dibenz(a,h)anthracene	Ave	1.270	1.190	0.4000	562000	600000	-6.3	20.0
Benzo[g,h,i]perylene	Ave	1.546	1.388	0.5000	539000	600000	-10.2	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4407.D
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 29-Oct-2018 20:30:30 ALS Bottle#: 11 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: icv
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist:

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:48 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 21:00:55

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	98	24945	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	53849	600.0	600.0	
* 3 Chrysene-d12	240	13.358	13.367	-0.009	99	53312	600.0	600.0	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.551	2.563	-0.012	38	11591	600.0	604.5	
10 Naphthalene	128	5.980	5.980	0.000	100	49602	600.0	593.8	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	97	33457	600.0	591.2	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	97	31971	600.0	626.5	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	28341	600.0	579.6	
14 Acenaphthylene	152	7.566	7.566	0.000	99	36958	600.0	573.5	
15 Acenaphthene	153	7.739	7.739	0.000	97	32331	600.0	591.0	
16 Dibenzofuran	168	7.915	7.915	0.001	92	49912	600.0	604.8	
17 Diethyl phthalate	149	8.109	8.109	0.000	99	26909	600.0	564.9	
18 Fluorene	166	8.255	8.254	0.001	96	39120	600.0	612.8	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	92	23887	600.0	596.2	
20 Phenanthrene	178	9.223	9.223	0.000	100	65050	600.0	596.2	
21 Anthracene	178	9.275	9.275	0.000	1	47562	600.0	580.5	
22 Di-n-butyl phthalate	149	9.777	9.776	0.000	1	30011	600.0	594.4	
23 Fluoranthene	202	10.632	10.632	0.000	100	64262	600.0	554.3	
24 Pyrene	202	10.970	10.969	0.001	99	66709	600.0	571.0	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.340	13.340	0.000	51	50177	600.0	554.8	
27 Chrysene	228	13.421	13.430	-0.009	95	70890	600.0	636.2	
28 Bis(2-ethylhexyl) phthalat	149	12.097	12.097	0.000	1	9620	600.0	493.5	
29 Di-n-octyl phthalate	149	15.302	15.306	-0.004	1	17200	600.0	541.1	
30 Benzo[b]fluoranthene	252	16.246	16.251	-0.005	99	59221	600.0	552.0	
31 Benzo[k]fluoranthene	252	16.321	16.329	-0.008	98	63832	600.0	606.0	
32 Benzo[a]pyrene	252	17.191	17.186	0.005	97	44594	600.0	526.7	
33 Indeno[1,2,3-cd]pyrene	276	20.503	20.507	-0.004	91	56553	600.0	521.1	
34 Dibenz(a,h)anthracene	278	20.590	20.599	-0.009	84	63428	600.0	562.2	
35 Benzo[g,h,i]perylene	276	21.246	21.250	-0.004	94	74019	600.0	538.7	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

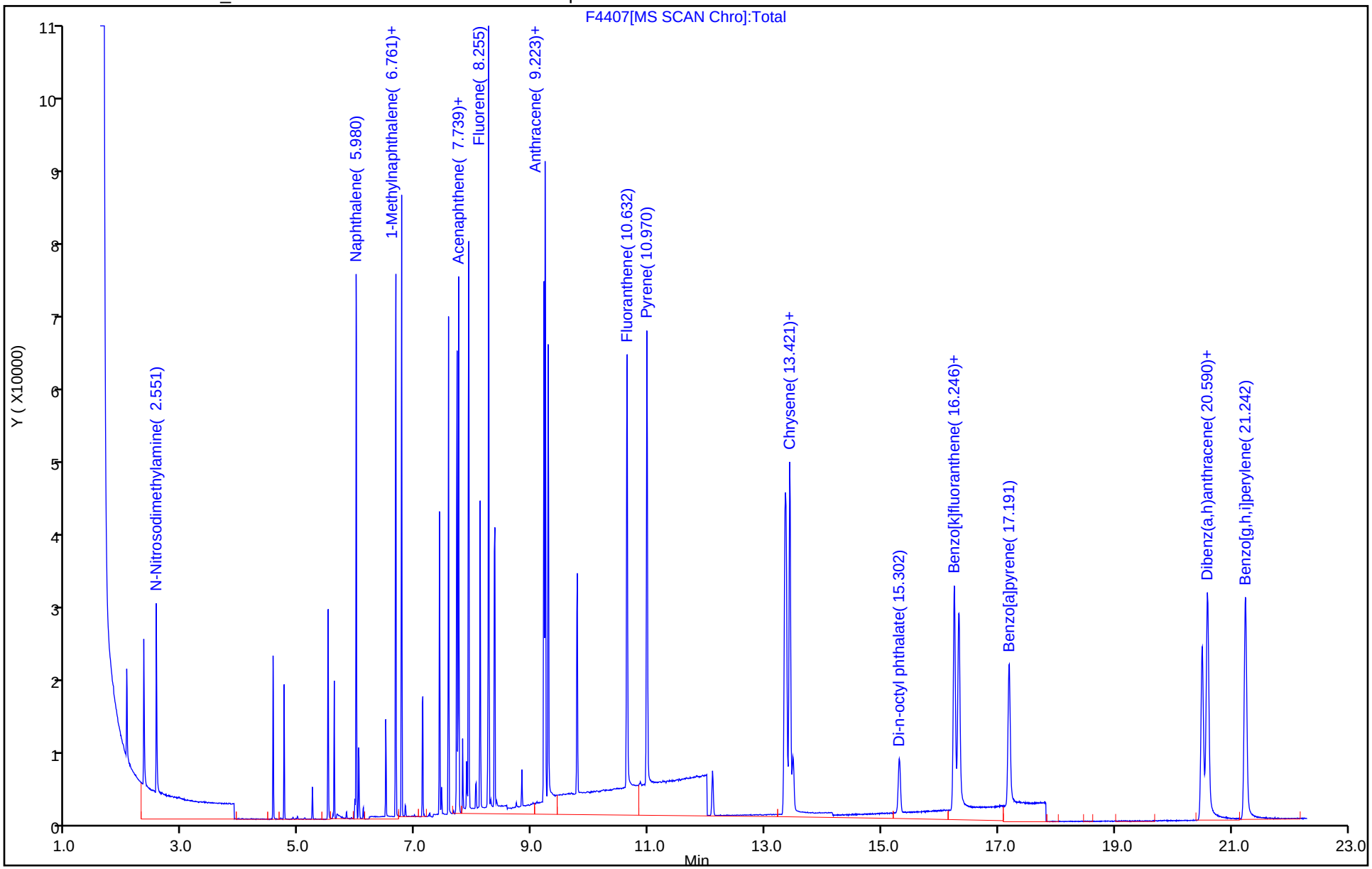
MS-SIM SSV2_00004 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:52 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4407.D

Injection Date:	29-Oct-2018 20:30:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	icv			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435950/3 Calibration Date: 11/01/2018 18:29

Instrument ID: SMS_F Calib Start Date: 10/29/2018 16:02

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/29/2018 20:00

Lab File ID: F4474.D Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	2.009	2.014	0.7000	601000	600000	0.2	20.0
2-Methylnaphthalene	Ave	1.361	1.359	0.4000	1200000	1200000	-0.2	20.0
1-Methylnaphthalene	Ave	1.227	1.210	0.0500	591000	600000	-1.5	20.0
Acenaphthylene	Ave	1.550	1.593	0.9000	616000	600000	2.7	20.0
Acenaphthene	Ave	1.316	1.303	0.9000	594000	600000	-1.0	20.0
Fluorene	Ave	1.536	1.558	0.9000	609000	600000	1.5	20.0
Phenanthrene	Ave	1.216	1.223	0.7000	603000	600000	0.6	20.0
Anthracene	Ave	0.9130	0.9306	0.7000	612000	600000	1.9	20.0
Fluoranthene	Ave	1.292	1.279	0.6000	594000	600000	-1.0	20.0
Pyrene	Ave	1.302	1.236	0.6000	570000	600000	-5.0	20.0
Benzo[a]anthracene	Ave	1.018	0.9645	0.8000	569000	600000	-5.2	20.0
Chrysene	Ave	1.254	1.292	0.7000	618000	600000	3.0	20.0
Benzo[b]fluoranthene	Ave	1.207	1.106	0.7000	550000	600000	-8.4	20.0
Benzo[k]fluoranthene	Ave	1.185	1.167	0.7000	591000	600000	-1.5	20.0
Benzo[a]pyrene	Ave	0.9529	0.9335	0.7000	588000	600000	-2.0	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.221	1.062	0.5000	522000	600000	-13.1	20.0
Dibenz(a,h)anthracene	Ave	1.270	1.135	0.4000	536000	600000	-10.6	20.0
Benzo[g,h,i]perylene	Ave	1.546	1.366	0.5000	530000	600000	-11.7	20.0
Nitrobenzene-d5	Ave	0.6257	0.6481		622000	600000	3.6	20.0
2-methylnaphthalene-d10	Ave	1.041	1.012		583000	600000	-2.8	35.0
2-Fluorobiphenyl	Ave	1.522	1.514		597000	600000	-0.5	20.0
Fluoranthene-d10	Ave	1.003	0.9891		592000	600000	-1.4	35.0
Terphenyl-d14	Ave	0.8863	0.8390		568000	600000	-5.3	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4474.D
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 01-Nov-2018 18:29:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 01-Nov-2018 18:55:24

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.721	7.721	0.000	93	24170	600.0	600.0	M
* 2 Phenanthrene-d10	188	9.215	9.215	0.000	97	53542	600.0	600.0	
* 3 Chrysene-d12	240	13.376	13.376	0.000	98	51365	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	99	15665	600.0	621.5	
$ 5 2-Fluorobiphenyl	172	7.026	7.026	0.000	100	36585	600.0	596.8	
$ 6 Terphenyl-d14	244	11.212	11.212	0.000	100	44919	600.0	567.9	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.531	2.531	0.000	40	11935	600.0	642.4	
10 Naphthalene	128	5.985	5.985	0.000	100	48684	600.0	601.5	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	95	65676	1200.0	1197.8	
12 1-Methylnaphthalene	142	6.769	6.769	0.000	93	29234	600.0	591.2	
13 Dimethyl phthalate	163	7.419	7.419	0.000	1	66030	1200.0	1393.8	
14 Acenaphthylene	152	7.575	7.575	0.000	98	38491	600.0	616.4	
15 Acenaphthene	153	7.747	7.747	0.000	99	31495	600.0	594.2	
16 Dibenzofuran	168	7.915	7.915	0.000	95	47591	600.6	595.1	
17 Diethyl phthalate	149	8.119	8.119	0.000	96	72560	1204.8	1572.1	
18 Fluorene	166	8.264	8.264	0.000	99	37663	600.0	608.9	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	100	24915	600.0	625.5	
20 Phenanthrene	178	9.232	9.232	0.000	100	65456	600.0	603.4	
21 Anthracene	178	9.284	9.284	0.000	1	49825	600.0	611.6	
22 Di-n-butyl phthalate	149	9.785	9.785	0.000	1	80379	1200.0	1445.3	
23 Fluoranthene	202	10.641	10.641	0.000	100	68485	600.0	594.2	
24 Pyrene	202	10.987	10.987	0.000	100	66189	600.0	569.8	
25 Butyl benzyl phthalate	149	10.987	10.987	0.000	1	620	1200.0	0	
26 Benzo[a]anthracene	228	13.349	13.349	0.000	42	49541	600.0	568.6	
27 Chrysene	228	13.439	13.439	0.000	95	66359	600.0	618.1	
28 Bis(2-ethylhexyl) phthalat	149	12.115	12.115	0.000	1	24637	1200.0	1271.0	
29 Di-n-octyl phthalate	149	15.319	15.319	0.000	1	41316	1200.0	1259.2	
30 Benzo[b]fluoranthene	252	16.264	16.264	0.000	98	56824	600.0	549.7	
31 Benzo[k]fluoranthene	252	16.342	16.342	0.000	98	59957	600.0	590.8	
32 Benzo[a]pyrene	252	17.204	17.204	0.000	96	47947	600.0	587.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.520	20.520	0.000	91	54539	600.0	521.6	
34 Dibenz(a,h)anthracene	278	20.612	20.612	0.000	85	58298	600.0	536.4	
35 Benzo[g,h,i]perylene	276	21.264	21.264	0.000	95	70150	600.0	529.9	
$ 53 2-methylnaphthalene-d10	152	6.633	6.633	0.000	99	24456	600.0	583.3	
$ 54 Fluoranthene-d10	212	10.615	10.615	0.000	100	52959	600.0	591.9	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

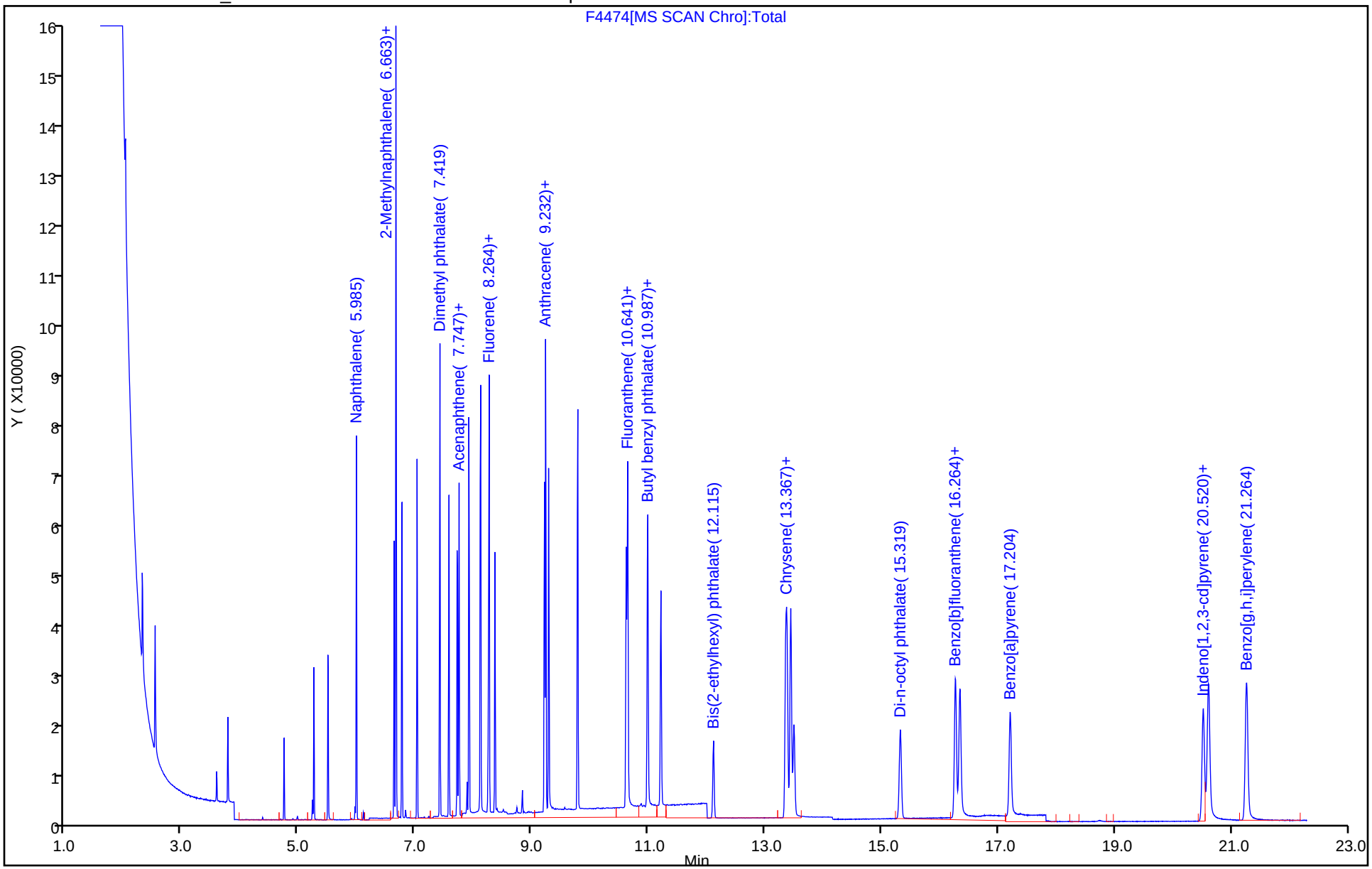
MS-SIM CCV_00080 Amount Added: 200.00 Units: uL

Report Date: 02-Nov-2018 17:19:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4474.D

Injection Date:	01-Nov-2018 18:29:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	ccv			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Manual Integration/User Assign Peak Report

TestAmerica Denver

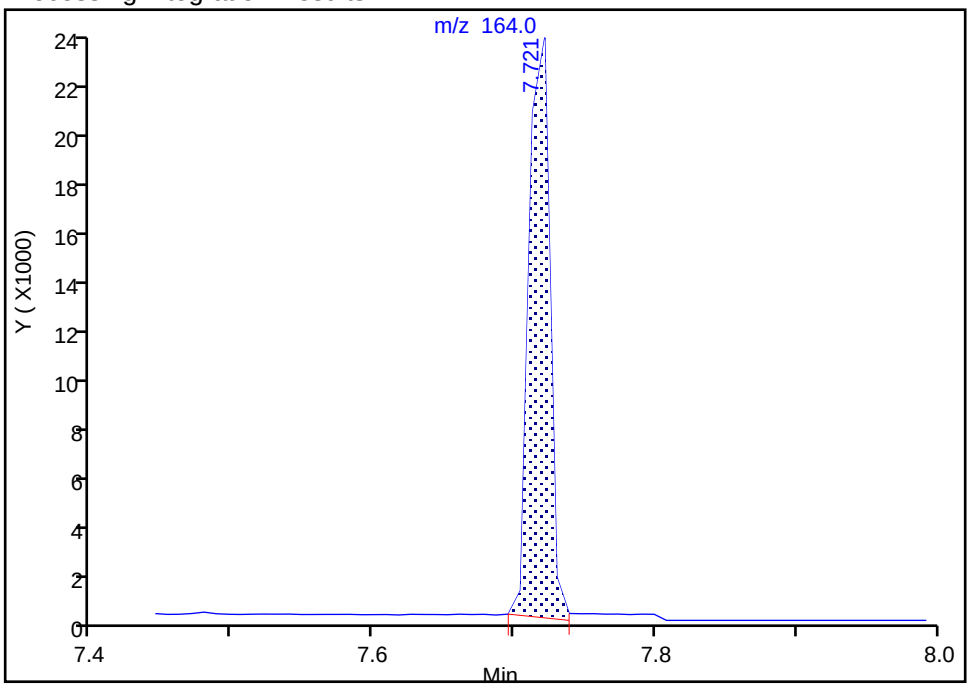
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4474.D
Injection Date: 01-Nov-2018 18:29:30 Instrument ID: SMS_F
Lims ID: ccv
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

* 1 Acenaphthene-d10, CAS: 15067-26-2

Signal: 1

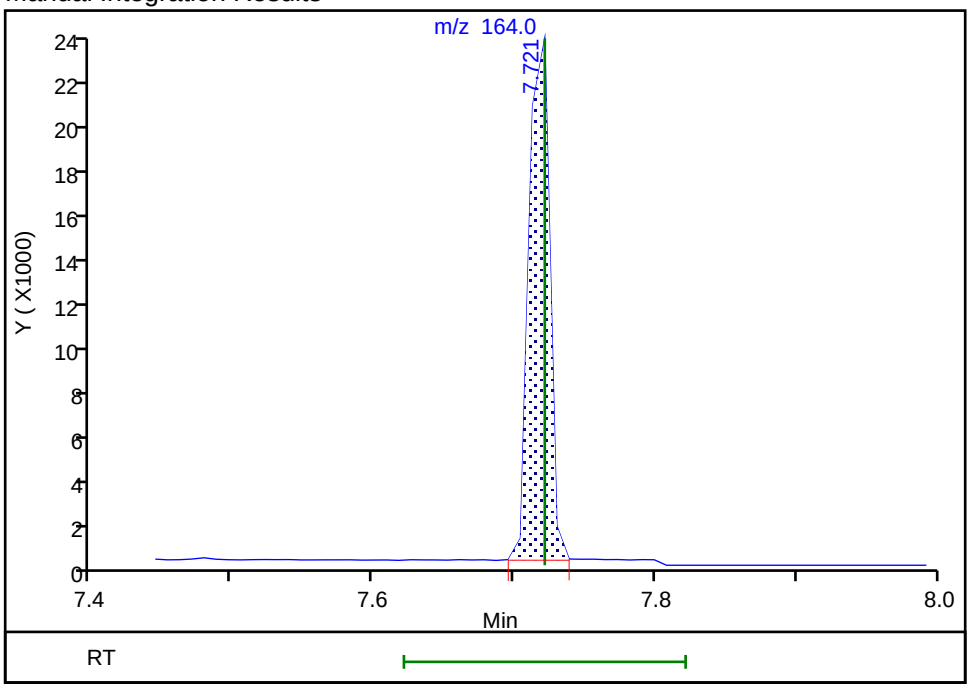
Processing Integration Results

RT: 7.72
Area: 24481
Amount: 600.0000
Amount Units: ng/ml



Manual Integration Results

RT: 7.72
Area: 24170
Amount: 600.0000
Amount Units: ng/ml



Reviewer: wickhamm, 01-Nov-2018 18:55:14
Audit Action: Assigned New Baseline Audit Reason: Baseline

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVC 280-435950/25 Calibration Date: 11/02/2018 05:24

Instrument ID: SMS_F Calib Start Date: 10/29/2018 16:02

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/29/2018 20:00

Lab File ID: F4496.D Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	2.009	2.093	0.7000	625000	600000	4.2	50.0
2-Methylnaphthalene	Ave	1.361	1.409	0.4000	1240000	1200000	3.5	50.0
1-Methylnaphthalene	Ave	1.227	1.259	0.0500	615000	600000	2.6	50.0
Acenaphthylene	Ave	1.550	1.440	0.9000	557000	600000	-7.1	50.0
Acenaphthene	Ave	1.316	1.291	0.9000	589000	600000	-1.9	50.0
Fluorene	Ave	1.536	1.499	0.9000	586000	600000	-2.4	50.0
Phenanthrene	Ave	1.216	1.242	0.7000	613000	600000	2.1	50.0
Anthracene	Ave	0.9130	0.8292	0.7000	545000	600000	-9.2	50.0
Fluoranthene	Ave	1.292	1.236	0.6000	574000	600000	-4.3	50.0
Pyrene	Ave	1.302	1.147	0.6000	529000	600000	-11.8	50.0
Benzo[a]anthracene	Ave	1.018	0.7952*	0.8000	469000	600000	-21.9	50.0
Chrysene	Ave	1.254	1.318	0.7000	630000	600000	5.1	50.0
Benzo[b]fluoranthene	Ave	1.207	0.9256	0.7000	460000	600000	-23.3	50.0
Benzo[k]fluoranthene	Ave	1.185	1.110	0.7000	562000	600000	-6.4	50.0
Benzo[a]pyrene	Ave	0.9529	0.5911*	0.7000	372000	600000	-38.0	50.0
Indeno[1,2,3-cd]pyrene	Ave	1.221	0.7397	0.5000	363000	600000	-39.4	50.0
Dibenz(a,h)anthracene	Ave	1.270	0.8811	0.4000	416000	600000	-30.6	50.0
Benzo[g,h,i]perylene	Ave	1.546	1.084	0.5000	421000	600000	-29.9	50.0
Nitrobenzene-d5	Ave	0.6257	0.5867		563000	600000	-6.2	50.0
2-methylnaphthalene-d10	Ave	1.041	1.028		593000	600000	-1.2	50.0
2-Fluorobiphenyl	Ave	1.522	1.562		616000	600000	2.7	50.0
Fluoranthene-d10	Ave	1.003	0.9152		548000	600000	-8.7	50.0
Terphenyl-d14	Ave	0.8863	0.8129		550000	600000	-8.3	50.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4496.D
Lims ID: ccvc
Client ID:
Sample Type: CCVC
Inject. Date: 02-Nov-2018 05:24:30 ALS Bottle#: 24 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVC
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:20:37 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 14:42:35

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.704	7.721	-0.017	79	25141	600.0	600.0	
* 2 Phenanthrene-d10	188	9.197	9.215	-0.018	100	53342	600.0	600.0	
* 3 Chrysene-d12	240	13.349	13.376	-0.027	96	48919	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.251	5.256	-0.005	100	14749	600.0	562.6	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	99	39276	600.0	616.0	
$ 6 Terphenyl-d14	244	11.185	11.212	-0.027	99	43359	600.0	550.3	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.531	2.531	0.000	45	11742	600.0	607.6	
10 Naphthalene	128	5.980	5.985	-0.005	100	52616	600.0	624.9	
11 2-Methylnaphthalene	142	6.655	6.663	-0.008	96	70848	1200.0	1242.2	
12 1-Methylnaphthalene	142	6.761	6.769	-0.008	93	31655	600.0	615.5	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	55851	1200.0	1133.4	a
14 Acenaphthylene	152	7.566	7.575	-0.008	98	36191	600.0	557.2	
15 Acenaphthene	153	7.739	7.747	-0.008	100	32467	600.0	588.9	
16 Dibenzofuran	168	7.905	7.915	-0.010	94	49703	600.6	597.5	
17 Diethyl phthalate	149	8.099	8.119	-0.020	95	57499	1204.8	1197.7	
18 Fluorene	166	8.254	8.264	-0.010	100	37680	600.0	585.6	
19 N-Nitrosodiphenylamine	169	8.351	8.361	-0.010	100	20399	600.0	514.0	
20 Phenanthrene	178	9.223	9.232	-0.009	100	66230	600.0	612.8	
21 Anthracene	178	9.275	9.284	-0.009	1	44231	600.0	545.0	
22 Di-n-butyl phthalate	149	9.768	9.785	-0.017	1	54315	1200.0	1029.2	
23 Fluoranthene	202	10.624	10.641	-0.017	100	65950	600.0	574.3	
24 Pyrene	202	10.961	10.987	-0.026	99	61208	600.0	528.9	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.322	13.349	-0.027	45	38902	600.0	468.8	
27 Chrysene	228	13.412	13.439	-0.027	95	64455	600.0	630.4	
28 Bis(2-ethylhexyl) phthalat	149	12.088	12.115	-0.027	1	15380	1200.0	796.4	
29 Di-n-octyl phthalate	149	15.284	15.319	-0.035	1	27611	1200.0	909.8	
30 Benzo[b]fluoranthene	252	16.229	16.264	-0.035	98	45280	600.0	460.0	
31 Benzo[k]fluoranthene	252	16.307	16.342	-0.035	98	54303	600.0	561.9	
32 Benzo[a]pyrene	252	17.169	17.204	-0.035	97	28915	600.0	372.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.480	20.520	-0.040	92	36184	600.0	363.3	
34 Dibenz(a,h)anthracene	278	20.568	20.612	-0.044	86	43100	600.0	416.4	
35 Benzo[g,h,i]perylene	276	21.224	21.264	-0.040	95	53019	600.0	420.5	
$ 53 2-methylnaphthalene-d10	152	6.625	6.633	-0.008	98	25852	600.0	592.8	
$ 54 Fluoranthene-d10	212	10.598	10.615	-0.017	100	48818	600.0	547.6	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

a - User Assigned ID

Reagents:

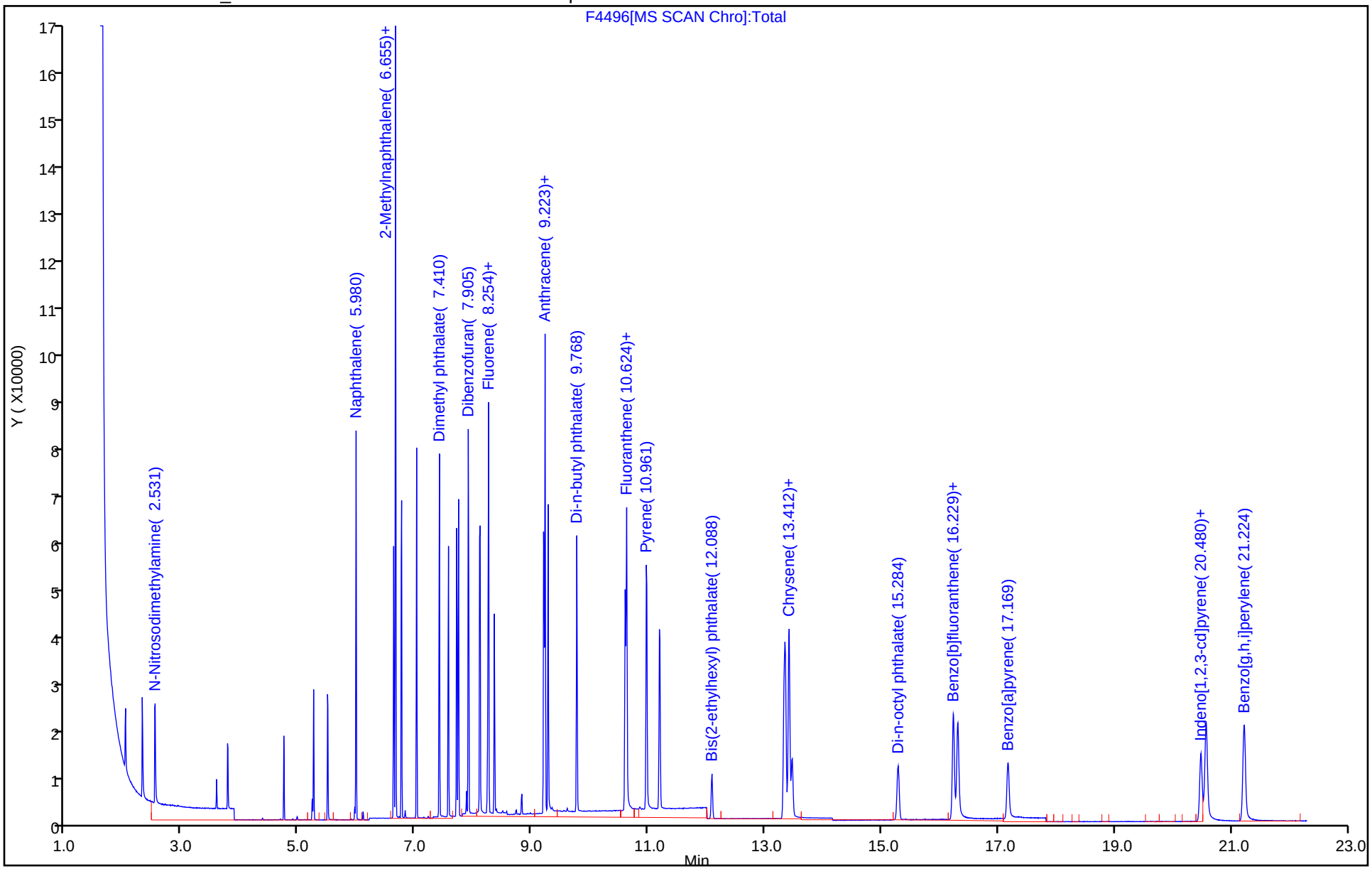
MS-SIM CCV_00080 Amount Added: 200.00 Units: uL

Report Date: 02-Nov-2018 17:20:38 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4496.D

Injection Date:	02-Nov-2018 05:24:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	ccvc			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-436730/12 Calibration Date: 11/08/2018 00:27

Instrument ID: SMS_F Calib Start Date: 11/07/2018 20:06

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/07/2018 23:58

Lab File ID: F4571.D Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	1.997	2.058	0.7000	618000	600000	3.0	20.0
2-Methylnaphthalene	Ave	1.376	1.382	0.4000	603000	600000	0.5	20.0
1-Methylnaphthalene	Ave	1.224	1.318	0.0500	646000	600000	7.7	20.0
Acenaphthylene	Ave	1.943	1.865	0.9000	576000	600000	-4.0	20.0
Acenaphthene	Ave	1.331	1.329	0.9000	599000	600000	-0.2	20.0
Fluorene	Ave	1.539	1.587	0.9000	619000	600000	3.1	20.0
Phenanthrene	Ave	1.264	1.228	0.7000	583000	600000	-2.8	20.0
Anthracene	Ave	1.093	1.042	0.7000	572000	600000	-4.6	20.0
Fluoranthene	Ave	1.320	1.208	0.6000	549000	600000	-8.5	20.0
Pyrene	Ave	1.364	1.255	0.6000	552000	600000	-8.0	20.0
Benzo[a]anthracene	Ave	1.260	1.148	0.8000	547000	600000	-8.9	20.0
Chrysene	Ave	1.346	1.417	0.7000	632000	600000	5.3	20.0
Benzo[b]fluoranthene	Ave	1.281	1.173	0.7000	549000	600000	-8.4	20.0
Benzo[k]fluoranthene	Ave	1.298	1.253	0.7000	579000	600000	-3.5	20.0
Benzo[a]pyrene	Ave	1.163	1.021	0.7000	527000	600000	-12.2	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.167	1.024	0.5000	526000	600000	-12.3	20.0
Dibenz(a,h)anthracene	Ave	1.190	1.106	0.4000	557000	600000	-7.1	20.0
Benzo[g,h,i]perylene	Ave	1.380	1.281	0.5000	557000	600000	-7.2	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4571.D
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 08-Nov-2018 00:27:30 ALS Bottle#: 11 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: icv
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist:

Method: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 21:00:26 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: XAWRK007

First Level Reviewer: wickhamm Date: 08-Nov-2018 17:26:00

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.626	7.626	0.000	96	45866	600.0	600.0	
* 2 Phenanthrene-d10	188	9.111	9.120	-0.009	98	99357	600.0	600.0	
* 3 Chrysene-d12	240	13.160	13.169	-0.009	100	87955	600.0	600.0	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.401	2.414	-0.013	40	25370	600.0	632.3	
10 Naphthalene	128	5.898	5.898	0.000	100	94409	600.0	618.3	
11 2-Methylnaphthalene	142	6.572	6.580	-0.008	93	63404	600.0	602.7	
12 1-Methylnaphthalene	142	6.678	6.678	0.000	93	60457	600.0	646.2	
13 Dimethyl phthalate	163	7.324	7.333	-0.009	1	66167	600.0	570.6	
14 Acenaphthylene	152	7.480	7.480	0.000	99	85537	600.0	576.0	
15 Acenaphthene	153	7.652	7.652	0.000	98	60949	600.0	599.0	
16 Dibenzofuran	168	7.827	7.827	0.000	92	88643	600.0	605.3	
17 Diethyl phthalate	149	8.022	8.022	0.000	98	68147	600.0	530.4	
18 Fluorene	166	8.167	8.167	0.000	98	72801	600.0	618.7	
19 N-Nitrosodiphenylamine	169	8.274	8.274	0.000	91	49601	600.0	579.7	
20 Phenanthrene	178	9.137	9.137	0.000	99	122042	600.0	583.1	
21 Anthracene	178	9.189	9.189	0.000	1	103576	600.0	572.1	
22 Di-n-butyl phthalate	149	9.673	9.673	0.000	1	93675	600.0	474.3	
23 Fluoranthene	202	10.503	10.511	-0.008	100	119974	600.0	549.1	
24 Pyrene	202	10.831	10.840	-0.009	99	124692	600.0	552.2	
25 Butyl benzyl phthalate	149	11.938	11.938	0.000	1	31685	600.0	400.9	
26 Benzo[a]anthracene	228	13.133	13.142	-0.009	41	100943	600.0	546.5	
27 Chrysene	228	13.223	13.232	-0.009	95	124641	600.0	631.7	
28 Bis(2-ethylhexyl) phthalat	149	13.277	13.295	-0.018	1	35051	600.0	349.5	
29 Di-n-octyl phthalate	149	15.070	15.087	-0.017	1	46607	600.0	289.6	
30 Benzo[b]fluoranthene	252	15.988	16.001	-0.013	98	103139	600.0	549.4	
31 Benzo[k]fluoranthene	252	16.063	16.076	-0.013	97	110218	600.0	579.1	
32 Benzo[a]pyrene	252	16.916	16.929	-0.013	95	89817	600.0	527.0	
33 Indeno[1,2,3-cd]pyrene	276	20.188	20.201	-0.013	93	90075	600.0	526.4	
34 Dibenz(a,h)anthracene	278	20.279	20.297	-0.018	86	97262	600.0	557.4	
35 Benzo[g,h,i]perylene	276	20.927	20.940	-0.013	96	112702	600.0	557.0	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

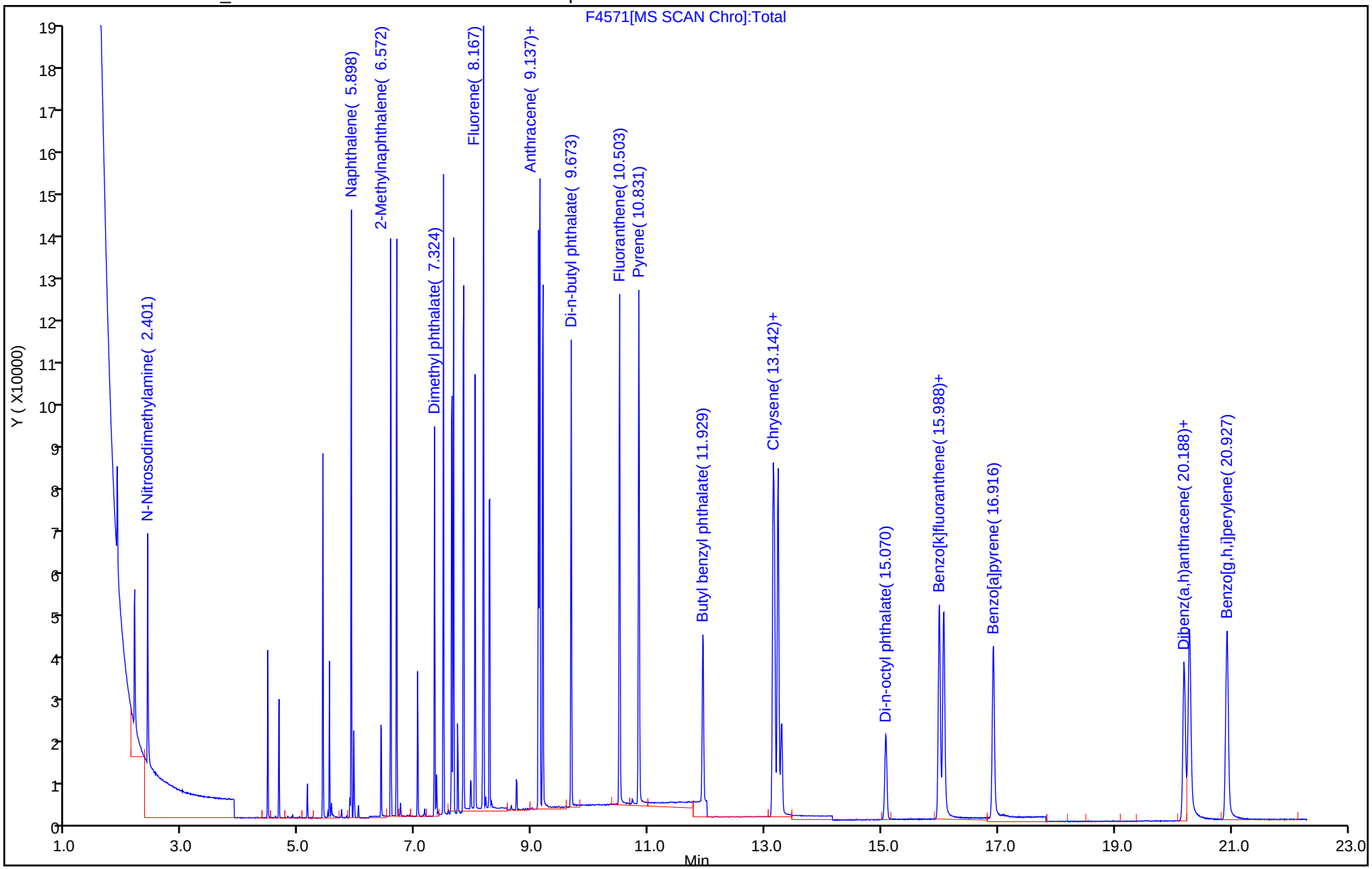
MS-SIM SSV2_00004 Amount Added: 200.00 Units: uL

Report Date: 09-Nov-2018 21:00:31 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4571.D

Injection Date:	08-Nov-2018 00:27:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	icv			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436903/3 Calibration Date: 11/08/2018 15:54

Instrument ID: SMS_F Calib Start Date: 11/07/2018 20:06

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/07/2018 23:58

Lab File ID: F4554.D Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	1.997	2.217	0.7000	666000	600000	11.0	20.0
2-Methylnaphthalene	Ave	1.376	1.494	0.4000	1300000	1200000	8.5	20.0
1-Methylnaphthalene	Ave	1.224	1.337	0.0500	655000	600000	9.2	20.0
Acenaphthylene	Ave	1.943	1.825	0.9000	564000	600000	-6.1	20.0
Acenaphthene	Ave	1.331	1.371	0.9000	618000	600000	3.0	20.0
Fluorene	Ave	1.539	1.602	0.9000	624000	600000	4.0	20.0
Phenanthrene	Ave	1.264	1.311	0.7000	622000	600000	3.7	20.0
Anthracene	Ave	1.093	1.031	0.7000	566000	600000	-5.7	20.0
Fluoranthene	Ave	1.320	1.327	0.6000	603000	600000	0.5	20.0
Pyrene	Ave	1.364	1.299	0.6000	572000	600000	-4.7	20.0
Benzo[a]anthracene	Ave	1.260	1.104	0.8000	526000	600000	-12.4	20.0
Chrysene	Ave	1.346	1.411	0.7000	629000	600000	4.8	20.0
Benzo[b]fluoranthene	Ave	1.281	1.157	0.7000	542000	600000	-9.6	20.0
Benzo[k]fluoranthene	Ave	1.298	1.268	0.7000	586000	600000	-2.3	20.0
Benzo[a]pyrene	Ave	1.163	0.9384	0.7000	484000	600000	-19.3	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.167	1.042	0.5000	536000	600000	-10.7	20.0
Dibenz(a,h)anthracene	Ave	1.190	1.125	0.4000	567000	600000	-5.5	20.0
Benzo[g,h,i]perylene	Ave	1.380	1.326	0.5000	576000	600000	-3.9	20.0
Nitrobenzene-d5	Ave	0.8491	0.8163		577000	600000	-3.9	20.0
2-methylnaphthalene-d10	Ave	1.038	1.101		636000	600000	6.1	35.0
2-Fluorobiphenyl	Ave	1.472	1.594		650000	600000	8.3	20.0
Fluoranthene-d10	Ave	1.008	0.9803		583000	600000	-2.8	35.0
Terphenyl-d14	Ave	0.7771	0.7473		577000	600000	-3.8	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4554.D
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 08-Nov-2018 15:54:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 21:26:54 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: CTX0302

First Level Reviewer: wickhamm Date: 08-Nov-2018 18:40:00

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.626	7.626	0.000	94	45662	600.0	600.0	
* 2 Phenanthrene-d10	188	9.111	9.111	0.000	98	92694	600.0	600.0	
* 3 Chrysene-d12	240	13.160	13.160	0.000	99	80280	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.169	5.169	0.000	98	37274	600.0	576.8	
$ 5 2-Fluorobiphenyl	172	6.935	6.935	0.000	100	72770	600.0	649.7	
$ 6 Terphenyl-d14	244	11.056	11.056	0.000	99	69270	600.0	577.0	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.401	2.401	0.000	33	26837	600.0	671.8	
10 Naphthalene	128	5.898	5.898	0.000	100	101243	600.0	666.0	
11 2-Methylnaphthalene	142	6.572	6.572	0.000	94	136393	1200.0	1302.4	
12 1-Methylnaphthalene	142	6.678	6.678	0.000	93	61033	600.0	655.3	
13 Dimethyl phthalate	163	7.324	7.324	0.000	1	126130	1200.0	1102.3	
14 Acenaphthylene	152	7.479	7.479	0.000	98	83335	600.0	563.7	
15 Acenaphthene	153	7.652	7.652	0.000	98	62625	600.0	618.2	
16 Dibenzofuran	168	7.827	7.827	0.000	91	91937	600.6	630.6	
17 Diethyl phthalate	149	8.021	8.021	0.000	99	125127	1204.8	978.3	
18 Fluorene	166	8.167	8.167	0.000	100	73130	600.0	624.3	
19 N-Nitrosodiphenylamine	169	8.264	8.264	0.000	98	44288	600.0	554.9	
20 Phenanthrene	178	9.128	9.128	0.000	100	121524	600.0	622.3	
21 Anthracene	178	9.180	9.180	0.000	1	95580	600.0	565.9	
22 Di-n-butyl phthalate	149	9.673	9.673	0.000	1	167334	1200.0	908.2	
23 Fluoranthene	202	10.502	10.502	0.000	100	122970	600.0	603.2	
24 Pyrene	202	10.831	10.831	0.000	99	120436	600.0	571.6	
25 Butyl benzyl phthalate	149	11.929	11.929	0.000	1	53840	1200.0	730.3	
26 Benzo[a]anthracene	228	13.133	13.133	0.000	42	88615	600.0	525.7	
27 Chrysene	228	13.223	13.223	0.000	95	113290	600.0	629.1	
28 Bis(2-ethylhexyl) phthalat	149	13.277	13.277	0.000	1	58682	1200.0	627.1	
29 Di-n-octyl phthalate	149	15.070	15.070	0.000	1	84927	1200.0	556.2	
30 Benzo[b]fluoranthene	252	15.988	15.988	0.000	98	92909	600.0	542.2	
31 Benzo[k]fluoranthene	252	16.062	16.062	0.000	98	101794	600.0	586.0	
32 Benzo[a]pyrene	252	16.911	16.911	0.000	95	75334	600.0	484.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.187	20.187	0.000	92	83643	600.0	535.6	
34 Dibenz(a,h)anthracene	278	20.279	20.279	0.000	86	90275	600.0	566.9	
35 Benzo[g,h,i]perylene	276	20.922	20.922	0.000	96	106439	600.0	576.3	
$ 53 2-methylnaphthalene-d10	152	6.542	6.542	0.000	100	50277	600.0	636.4	
$ 54 Fluoranthene-d10	212	10.477	10.477	0.000	100	90872	600.0	583.5	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

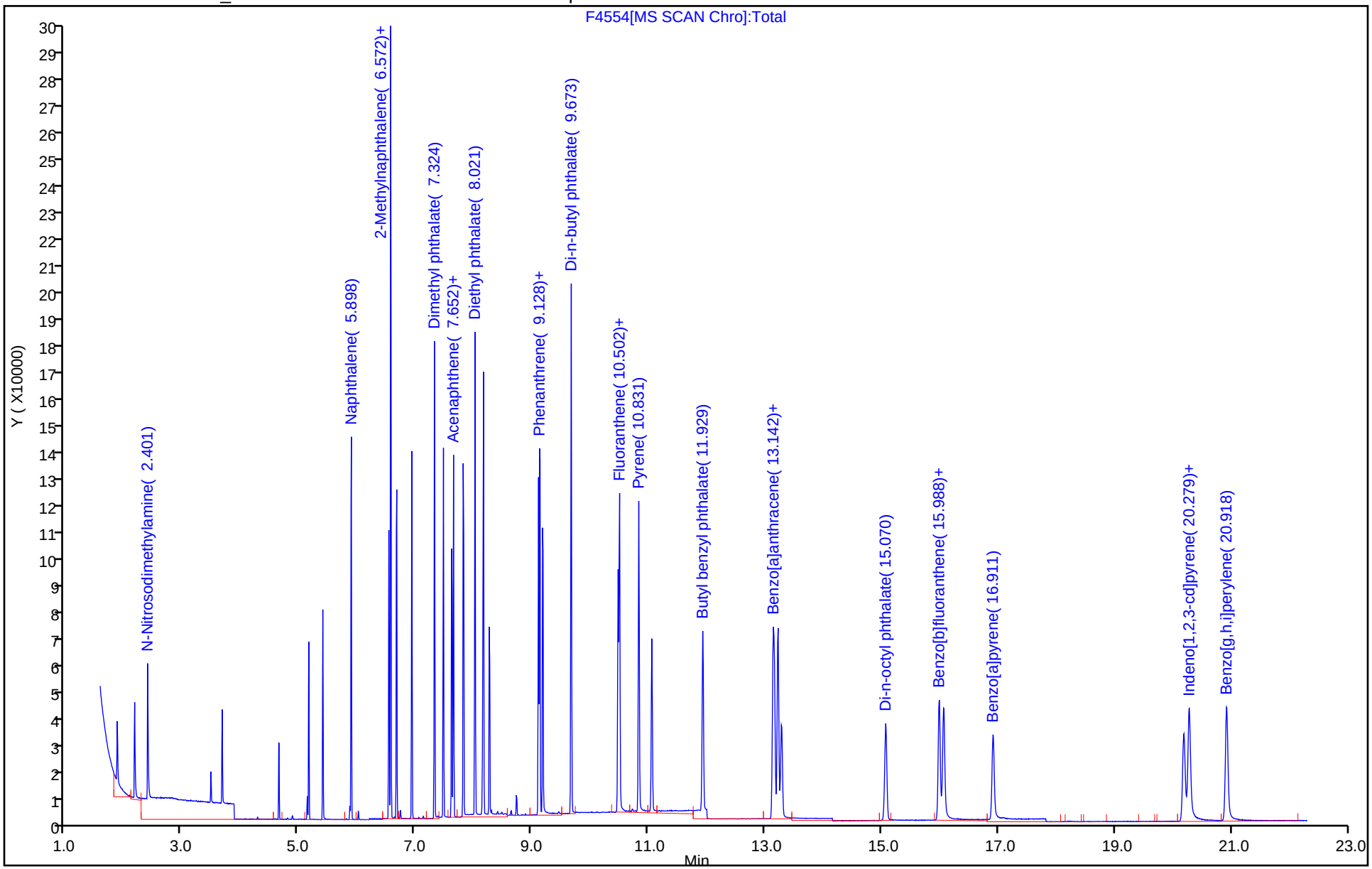
MS-SIMSL 0.6_00144 Amount Added: 200.00 Units: uL

Report Date: 09-Nov-2018 21:26:55 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4554.D

Injection Date:	08-Nov-2018 15:54:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	ccv			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVC 280-436903/23 Calibration Date: 11/09/2018 02:22

Instrument ID: SMS_F Calib Start Date: 11/07/2018 20:06

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/07/2018 23:58

Lab File ID: F4574.D Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	1.997	2.266	0.7000	681000	600000	13.4	50.0
2-Methylnaphthalene	Ave	1.376	1.509	0.4000	1320000	1200000	9.7	50.0
1-Methylnaphthalene	Ave	1.224	1.330	0.0500	652000	600000	8.7	50.0
Acenaphthylene	Ave	1.943	1.774	0.9000	548000	600000	-8.7	50.0
Acenaphthene	Ave	1.331	1.365	0.9000	615000	600000	2.5	50.0
Fluorene	Ave	1.539	1.542	0.9000	601000	600000	0.2	50.0
Phenanthrene	Ave	1.264	1.334	0.7000	633000	600000	5.5	50.0
Anthracene	Ave	1.093	1.004	0.7000	551000	600000	-8.2	50.0
Fluoranthene	Ave	1.320	1.295	0.6000	589000	600000	-1.8	50.0
Pyrene	Ave	1.364	1.247	0.6000	549000	600000	-8.5	50.0
Benzo[a]anthracene	Ave	1.260	0.9840	0.8000	469000	600000	-21.9	50.0
Chrysene	Ave	1.346	1.448	0.7000	645000	600000	7.6	50.0
Benzo[b]fluoranthene	Ave	1.281	1.045	0.7000	490000	600000	-18.4	50.0
Benzo[k]fluoranthene	Ave	1.298	1.146	0.7000	530000	600000	-11.7	50.0
Benzo[a]pyrene	Ave	1.163	0.7432	0.7000	384000	600000	-36.1	50.0
Indeno[1,2,3-cd]pyrene	Ave	1.167	0.8150	0.5000	419000	600000	-30.2	50.0
Dibenz(a,h)anthracene	Ave	1.190	0.9346	0.4000	471000	600000	-21.5	50.0
Benzo[g,h,i]perylene	Ave	1.380	1.162	0.5000	505000	600000	-15.8	50.0
Nitrobenzene-d5	Ave	0.8491	0.7933		561000	600000	-6.6	50.0
2-methylnaphthalene-d10	Ave	1.038	1.091		631000	600000	5.1	50.0
2-Fluorobiphenyl	Ave	1.472	1.598		651000	600000	8.5	50.0
Fluoranthene-d10	Ave	1.008	0.9324		555000	600000	-7.5	50.0
Terphenyl-d14	Ave	0.7771	0.7197		556000	600000	-7.4	50.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4574.D
Lims ID: ccvc
Client ID:
Sample Type: CCVC
Inject. Date: 09-Nov-2018 02:22:30 ALS Bottle#: 22 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVC
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 21:27:34 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: CTX0302

First Level Reviewer: wickhamm Date: 09-Nov-2018 15:53:09

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.618	7.626	-0.008	88	41494	600.0	600.0	
* 2 Phenanthrene-d10	188	9.111	9.111	0.000	97	82505	600.0	600.0	
* 3 Chrysene-d12	240	13.151	13.160	-0.009	97	68666	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.164	5.169	-0.005	99	32918	600.0	560.6	
$ 5 2-Fluorobiphenyl	172	6.936	6.935	0.001	98	66287	600.0	651.3	
$ 6 Terphenyl-d14	244	11.047	11.056	-0.009	99	59375	600.0	555.7	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.401	2.401	0.000	42	23594	600.0	650.0	
10 Naphthalene	128	5.893	5.898	-0.005	100	94025	600.0	680.7	
11 2-Methylnaphthalene	142	6.572	6.572	0.000	100	125227	1200.0	1315.9	
12 1-Methylnaphthalene	142	6.670	6.678	-0.008	100	55205	600.0	652.3	
13 Dimethyl phthalate	163	7.324	7.324	0.000	1	111344	1200.0	1070.5	
14 Acenaphthylene	152	7.471	7.479	-0.008	100	73611	600.0	547.9	
15 Acenaphthene	153	7.652	7.652	0.000	99	56633	600.0	615.2	
16 Dibenzofuran	168	7.818	7.827	-0.009	100	85971	600.6	649.0	
17 Diethyl phthalate	149	8.012	8.021	-0.009	95	103375	1204.8	889.4	
18 Fluorene	166	8.157	8.167	-0.010	89	63981	600.0	601.0	
19 N-Nitrosodiphenylamine	169	8.264	8.264	0.000	97	37665	600.0	530.2	
20 Phenanthrene	178	9.128	9.128	0.000	100	110024	600.0	633.0	
21 Anthracene	178	9.180	9.180	0.000	1	82814	600.0	550.9	
22 Di-n-butyl phthalate	149	9.664	9.673	-0.009	1	121863	1200.0	743.1	
23 Fluoranthene	202	10.494	10.502	-0.008	100	106867	600.0	589.0	
24 Pyrene	202	10.823	10.831	-0.009	99	102906	600.0	548.8	
25 Butyl benzyl phthalate	149	11.920	11.929	-0.009	1	34926	1200.0	532.2	
26 Benzo[a]anthracene	228	13.124	13.133	-0.009	47	67570	600.0	468.6	
27 Chrysene	228	13.205	13.223	-0.018	95	99422	600.0	645.5	
28 Bis(2-ethylhexyl) phthalat	149	13.268	13.277	-0.009	1	37008	1200.0	444.3	
29 Di-n-octyl phthalate	149	15.057	15.070	-0.013	1	49624	1200.0	386.9	
30 Benzo[b]fluoranthene	252	15.971	15.988	-0.017	98	71787	600.0	489.8	
31 Benzo[k]fluoranthene	252	16.049	16.062	-0.013	98	78698	600.0	529.6	
32 Benzo[a]pyrene	252	16.894	16.911	-0.017	95	51029	600.0	383.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.170	20.187	-0.017	93	55965	600.0	418.9	
34 Dibenz(a,h)anthracene	278	20.262	20.279	-0.017	88	64178	600.0	471.1	
35 Benzo[g,h,i]perylene	276	20.905	20.922	-0.017	96	79778	600.0	505.0	
$ 53 2-methylnaphthalene-d10	152	6.542	6.542	0.000	93	45268	600.0	630.6	
$ 54 Fluoranthene-d10	212	10.468	10.477	-0.009	100	76924	600.0	554.9	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

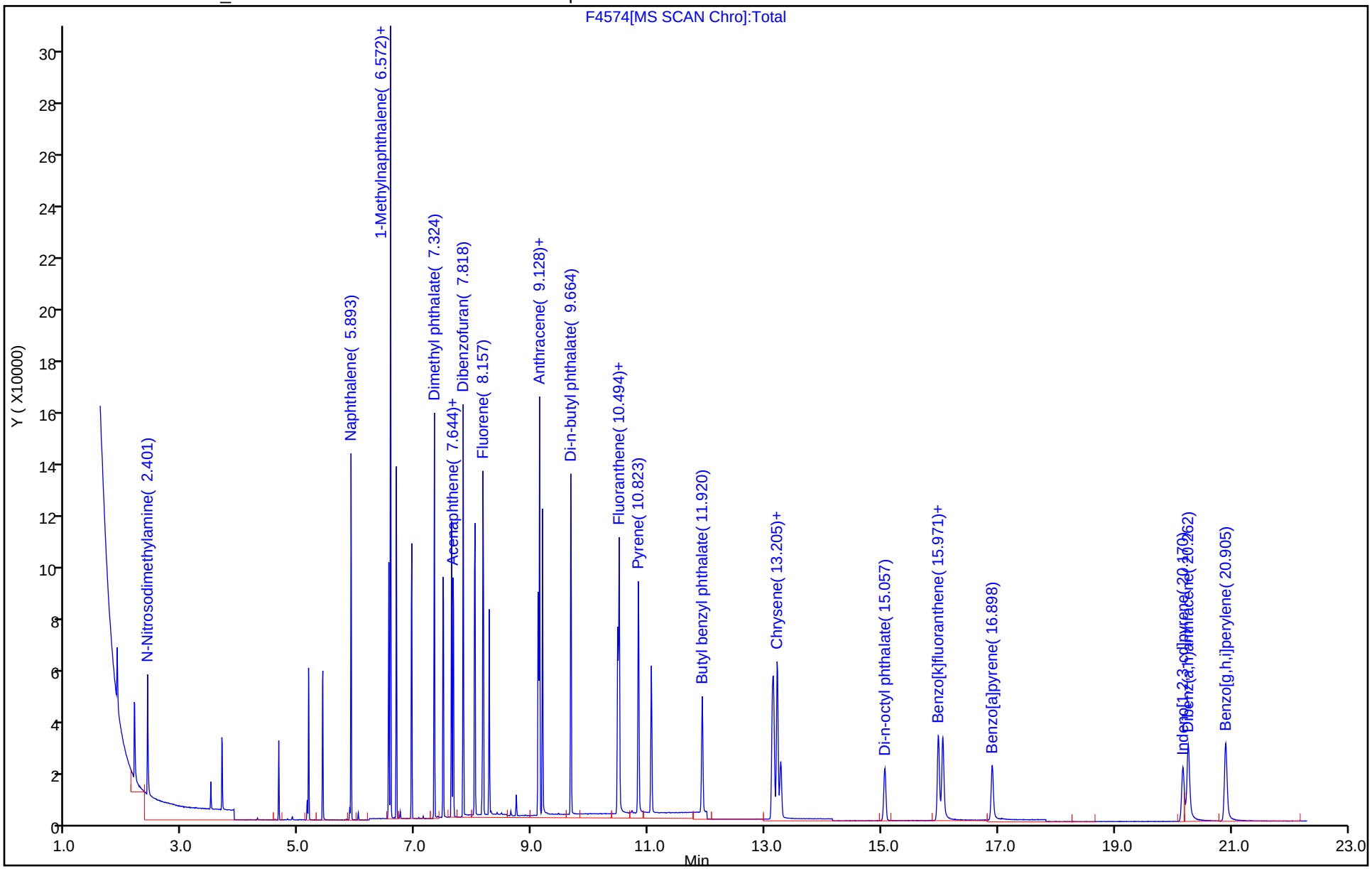
MS-SIMSL 0.6_00144 Amount Added: 200.00 Units: uL

Report Date: 09-Nov-2018 21:27:34 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4574.D

Injection Date:	09-Nov-2018 02:22:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	ccvc			Worklist Smp#:	23
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 29-Oct-2018 15:45:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:20 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 18:56:21

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
38 Pentachlorophenol_T	266	3.885	3.885	0.000	80	328371	NR	NR	
39 DFTPP									
40 Benzidine_T	184	4.977	4.977	0.000	96	2499541	NR	NR	
41 4,4'-DDE	246	4.149	4.149	0.000	42	7831	NR	NR	
42 4,4'-DDD	235	5.415	5.415	0.000	62	12474	NR	NR	a
43 4,4'-DDT	235	5.642	5.642	0.000	96	1044699	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
a - User Assigned ID

Reagents:

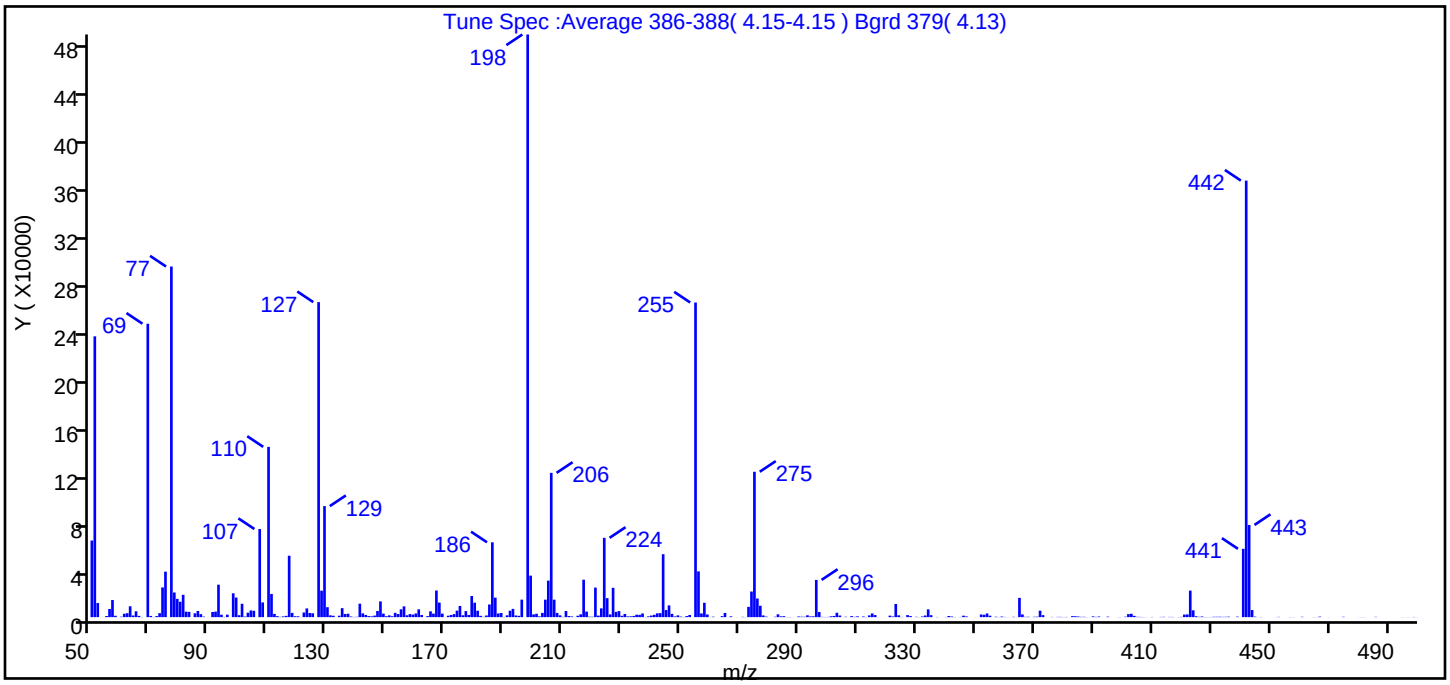
MS-DFTPP_00047 Amount Added: 0.50 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D
Injection Date: 29-Oct-2018 15:45:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Tune Method: DFTPP Method 8270

39 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	48.2
68	<2% of mass 69	0.0 (0.0)
69	Present	50.4
70	<2% of mass 69	0.2 (0.4)
127	40-60% of mass 198	54.1
197	<1% of mass 198	0.0
199	5-9% of mass 198	7.1
275	10-30% of mass 198	25.0
365	>1% of mass 198	3.3
441	Present but less than mass 443	11.7 (74.1)
442	>40% of mass 198	74.9
443	17-23% of mass 442	15.8 (21.1)

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 29-Oct-2018 15:45:30
Spectrum: Tune Spec :Average 386-388(4.15-4.15) Bgrd 379(4.13)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 365

m/z	Y	m/z	Y	m/z	Y	m/z	Y
50.00	63336	154.00	2550	248.00	602	361.00	56
51.00	232192	155.00	6473	249.00	1470	363.00	261
52.00	11685	156.00	8905	250.00	434	364.00	35
55.00	958	157.00	1569	251.00	132	365.00	15938
56.00	6769	158.00	2527	252.00	894	366.00	2232
57.00	14139	159.00	2126	253.00	1778	367.00	247
58.00	1137	160.00	3009	255.00	260160	368.00	304
60.00	368	161.00	6442	256.00	37832	370.00	306
61.00	2801	162.00	1769	257.00	3075	371.00	395
62.00	3263	164.00	844	258.00	11876	372.00	5362
63.00	9000	165.00	4819	259.00	2194	373.00	1635
64.00	1342	166.00	2896	260.00	48	376.00	191
65.00	4853	167.00	22016	261.00	391	378.00	214
66.00	1052	168.00	12056	264.00	814	379.00	239
67.00	129	169.00	2910	265.00	3479	380.00	132
69.00	242624	170.00	34	266.00	39	381.00	189
70.00	1003	171.00	1194	267.00	661	383.00	840
71.00	112	172.00	1796	269.00	45	384.00	752
72.00	875	173.00	2498	271.00	231	385.00	521
73.00	3276	174.00	5371	272.00	92	386.00	245
74.00	24576	175.00	9260	273.00	8499	387.00	272
75.00	37608	176.00	1547	274.00	21184	388.00	103
77.00	289920	177.00	4987	275.00	120208	390.00	629
78.00	20376	178.00	1798	276.00	15389	391.00	209
79.00	15127	179.00	17472	277.00	9398	392.00	532
80.00	12746	180.00	11923	278.00	1402	393.00	3
81.00	18456	181.00	5305	279.00	443	395.00	432
82.00	4553	182.00	1093	282.00	343	396.00	9
83.00	4352	183.00	244	283.00	2338	398.00	19
85.00	3173	184.00	1380	284.00	677	399.00	123
86.00	5067	185.00	10470	285.00	808	401.00	360
87.00	2466	186.00	61872	286.00	75	402.00	2491
88.00	436	187.00	16130	287.00	135	403.00	2782

Report Date: 29-Oct-2018 21:58:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 29-Oct-2018 15:45:30
Spectrum: Tune Spec :Average 386-388(4.15-4.15) Bgrd 379(4.13)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 365

m/z	Y	m/z	Y	m/z	Y	m/z	Y
90.00	43	188.00	3025	288.00	26	404.00	1056
91.00	4254	189.00	3425	290.00	539	405.00	279
92.00	4594	190.00	153	291.00	354	406.00	204
93.00	26848	191.00	1512	292.00	320	407.00	125
94.00	1991	192.00	5323	293.00	1537	408.00	69
95.00	203	193.00	6843	294.00	607	410.00	160
96.00	2057	194.00	1386	295.00	674	413.00	169
98.00	19736	195.00	1082	296.00	30800	414.00	274
99.00	16224	196.00	14476	297.00	4266	416.00	195
100.00	1593	198.00	481792	298.00	223	417.00	189
101.00	11069	199.00	34320	299.00	154	419.00	100
102.00	466	200.00	2272	300.00	202	420.00	239
103.00	3671	201.00	2780	301.00	701	421.00	2125
104.00	5535	202.00	645	302.00	984	422.00	2237
105.00	5269	203.00	3511	303.00	3630	423.00	21944
107.00	72872	204.00	14443	304.00	1342	424.00	5644
108.00	12162	205.00	30208	305.00	12	425.00	767
110.00	140800	206.00	119304	306.00	329	426.00	238
111.00	19192	207.00	14443	308.00	855	427.00	542
112.00	2680	208.00	3478	309.00	249	428.00	142
113.00	815	209.00	1498	310.00	681	429.00	101
114.00	234	210.00	222	312.00	534	430.00	141
115.00	621	211.00	5081	313.00	121	431.00	304
116.00	1067	212.00	888	314.00	1459	432.00	302
117.00	50800	213.00	570	315.00	3073	433.00	360
118.00	3505	214.00	59	316.00	1702	434.00	237
119.00	746	215.00	1138	317.00	85	435.00	269
120.00	718	216.00	2314	319.00	2	436.00	398
121.00	46	217.00	30952	320.00	18	438.00	10
122.00	3857	218.00	4575	321.00	1237	439.00	437
123.00	7219	219.00	396	322.00	527	441.00	56496
124.00	3426	220.00	309	323.00	10900	442.00	360960
125.00	3187	221.00	24440	324.00	1498	443.00	76232
127.00	260480	222.00	1279	325.00	167	444.00	5850

Report Date: 29-Oct-2018 21:58:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 29-Oct-2018 15:45:30
Spectrum: Tune Spec :Average 386-388(4.15-4.15) Bgrd 379(4.13)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 365

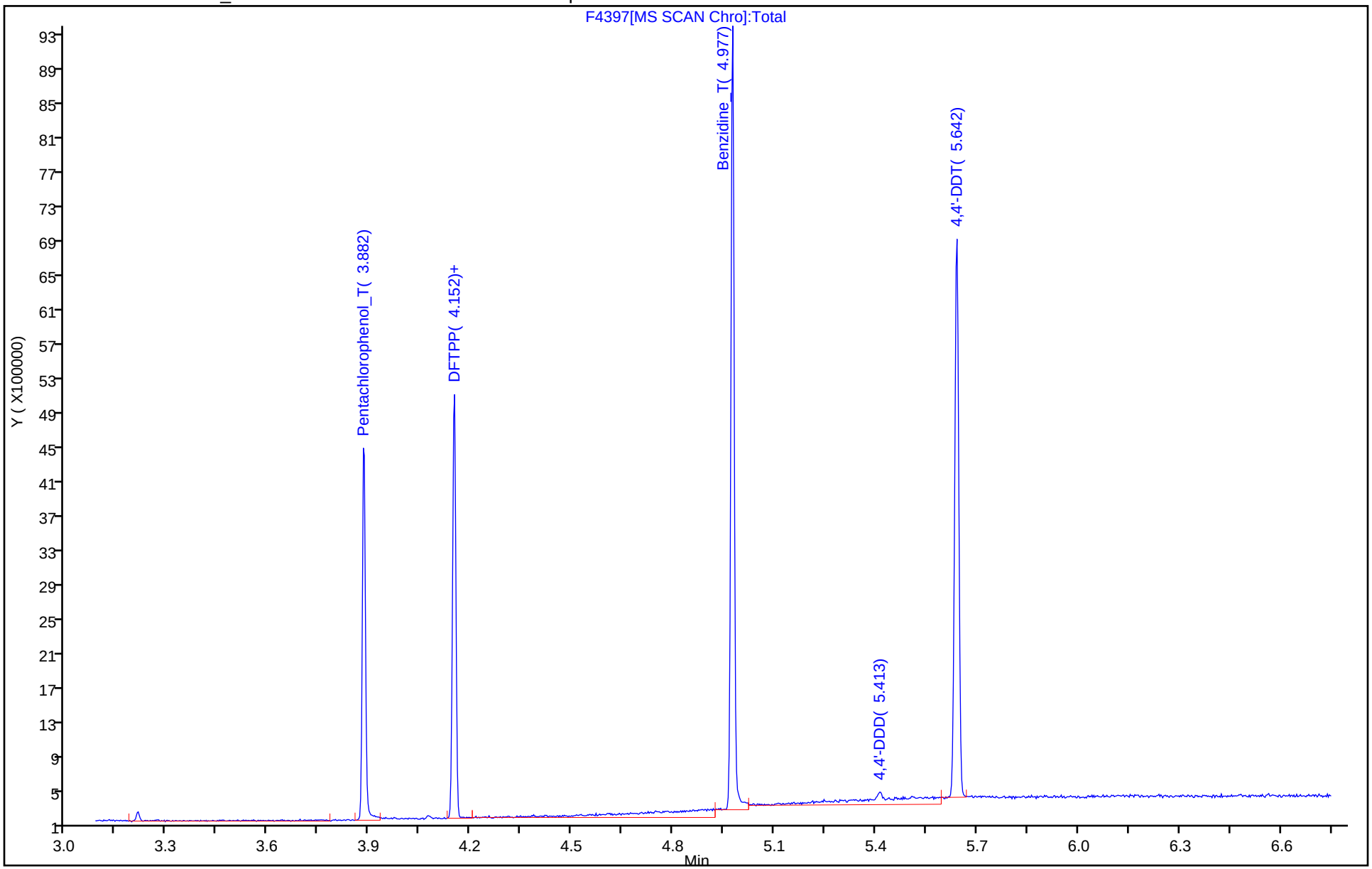
m/z	Y	m/z	Y	m/z	Y	m/z	Y
128.00	21880	223.00	7257	327.00	1721	445.00	418
129.00	91816	224.00	65576	328.00	880	447.00	147
130.00	8210	225.00	15720	330.00	282	452.00	47
131.00	1494	226.00	2279	331.00	73	453.00	219
132.00	1143	227.00	24248	332.00	557	457.00	121
134.00	1199	228.00	4334	333.00	1357	458.00	72
135.00	7460	229.00	5023	334.00	6428	461.00	292
136.00	2605	230.00	1135	335.00	1618	465.00	104
137.00	2830	231.00	2630	337.00	156	466.00	70
138.00	520	232.00	623	340.00	146	467.00	427
139.00	177	233.00	674	341.00	938	470.00	66
140.00	270	234.00	1012	342.00	546	472.00	7
141.00	11129	235.00	2021	343.00	146	475.00	292
142.00	3117	236.00	1904	345.00	180	480.00	43
143.00	1824	237.00	3059	346.00	1216	481.00	71
144.00	866	238.00	144	347.00	597	482.00	108
145.00	665	239.00	643	350.00	49	486.00	235
146.00	1273	240.00	1335	352.00	2214	490.00	4
147.00	5122	241.00	1930	353.00	1965	495.00	102
148.00	13021	242.00	3169	354.00	3036	497.00	98
149.00	2917	243.00	3275	355.00	1204	499.00	167
150.00	772	244.00	52048	357.00	361	500.00	51
151.00	1494	245.00	5880	358.00	77		
152.00	725	246.00	9721	359.00	504		
153.00	3545	247.00	2746	360.00	171		

Report Date: 29-Oct-2018 21:58:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D

Injection Date:	29-Oct-2018 15:45:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		

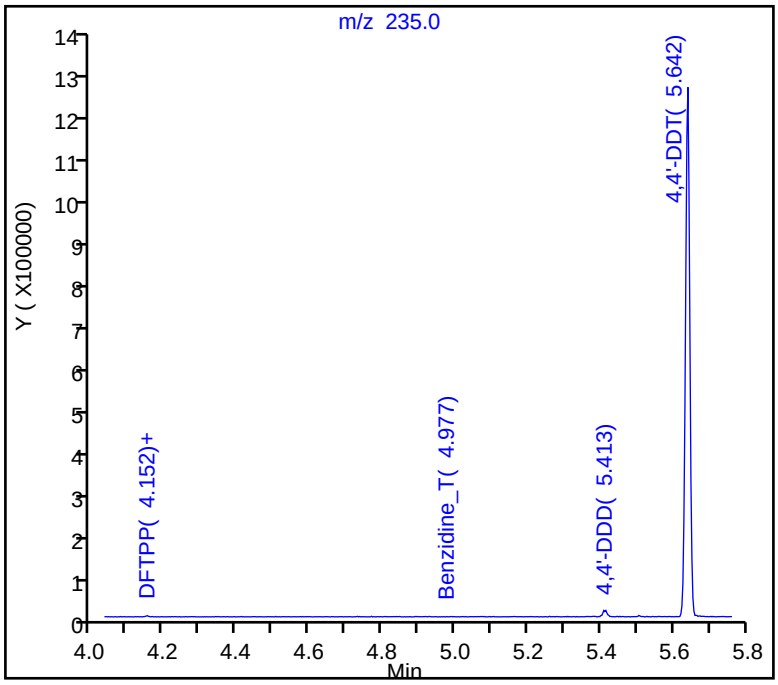


Breakdown Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D
Injection Date: 29-Oct-2018 15:45:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

43 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

43 4,4'-DDT, Area = 1044699
41 4,4'-DDE, Area = 7831
42 4,4'-DDD, Area = 12474

%Breakdown: 1.91%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Denver

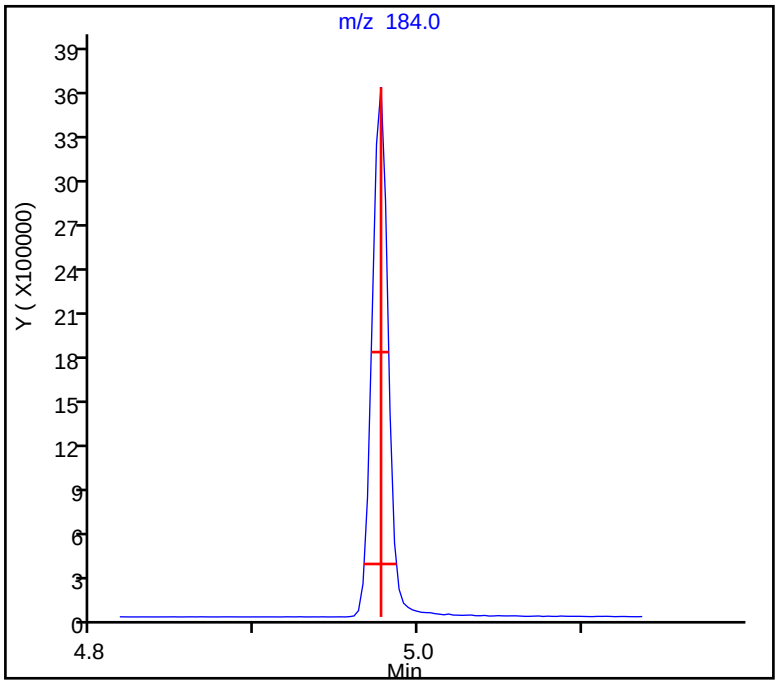
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D
Injection Date: 29-Oct-2018 15:45:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

40 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.010 (min.)
Front Width = 0.010 (min.)

Tailing Factor = 0.9, Max. Tailing < 2.00
Passed



Peak Tailing Report

TestAmerica Denver

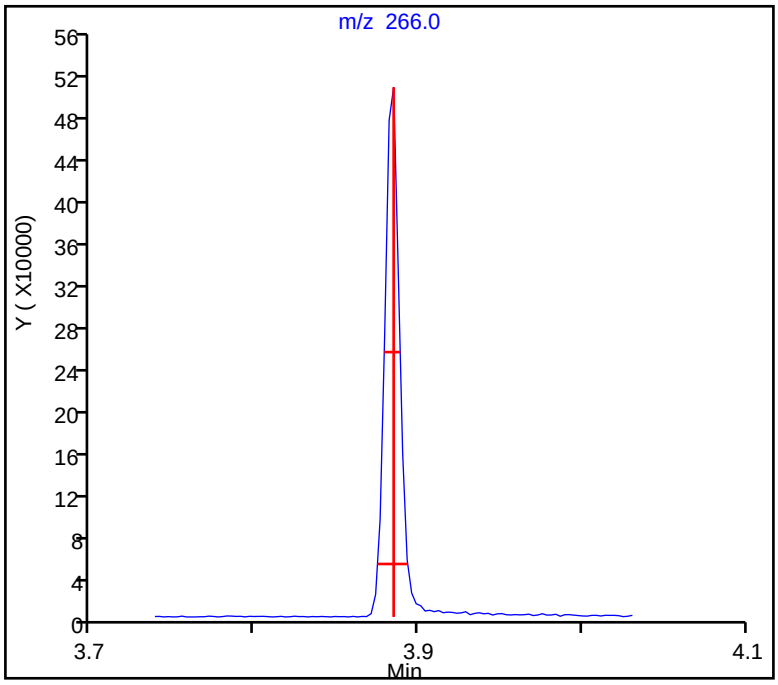
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D
Injection Date: 29-Oct-2018 15:45:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

38 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.009 (min.)
Front Width = 0.010 (min.)

Tailing Factor = 0.9, Max. Tailing < 2.00
Passed



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 01-Nov-2018 18:15:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:48 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 01-Nov-2018 18:54:56

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
38 Pentachlorophenol_T	266	3.879	3.879	0.000	75	357815	NR	NR	
39 DFTPP									
40 Benzidine_T	184	4.963	4.963	0.000	96	3121217	NR	NR	
41 4,4'-DDE	246	4.147	4.147	0.000	35	7438	NR	NR	
42 4,4'-DDD	235	5.396	5.396	0.000	79	16236	NR	NR	a
43 4,4'-DDT	235	5.620	5.620	0.000	95	1290022	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
a - User Assigned ID

Reagents:

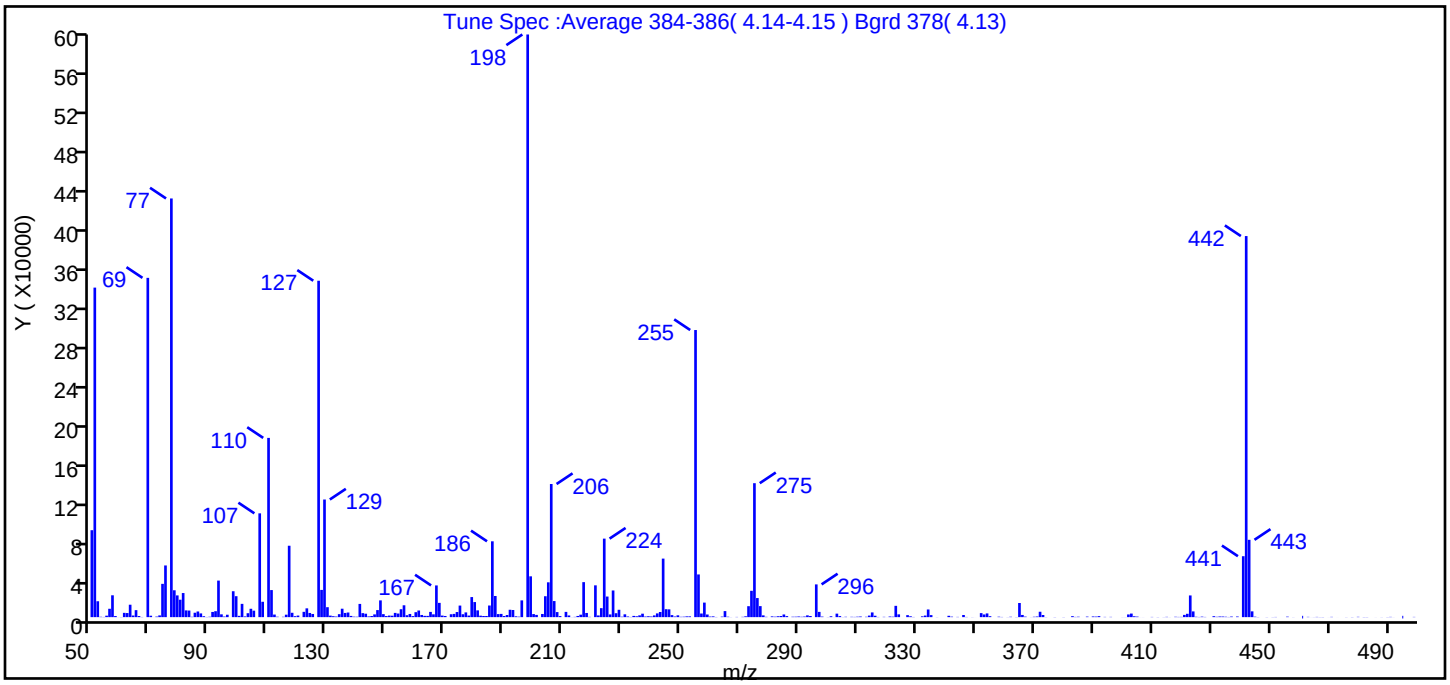
MS-DFTPP_00047 Amount Added: 0.50 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D
Injection Date: 01-Nov-2018 18:15:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Tune Method: DFTPP Method 8270

39 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	56.6
68	<2% of mass 69	0.0 (0.0)
69	Present	58.2
70	<2% of mass 69	0.2 (0.4)
127	40-60% of mass 198	57.7
197	<1% of mass 198	0.0
199	5-9% of mass 198	7.0
275	10-30% of mass 198	23.0
365	>1% of mass 198	2.4
441	Present but less than mass 443	10.5 (78.8)
442	>40% of mass 198	65.4
443	17-23% of mass 442	13.3 (20.3)

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 01-Nov-2018 18:15:30
Spectrum: Tune Spec :Average 384-386(4.14-4.15) Bgrd 378(4.13)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 364

m/z	Y	m/z	Y	m/z	Y	m/z	Y
50.00	88928	148.00	17144	244.00	59880	358.00	457
51.00	337088	149.00	3076	245.00	8123	359.00	199
52.00	16255	150.00	1108	246.00	7967	361.00	87
53.00	363	151.00	1591	247.00	2070	362.00	388
54.00	187	152.00	1468	248.00	649	364.00	134
55.00	1494	153.00	4343	249.00	1860	365.00	14467
56.00	8561	154.00	3678	250.00	348	366.00	2245
57.00	22352	155.00	8100	251.00	455	367.00	523
58.00	1122	156.00	12128	252.00	780	369.00	66
59.00	51	157.00	1980	253.00	789	370.00	401
60.00	135	158.00	3255	255.00	293696	371.00	622
61.00	4389	159.00	1062	256.00	43680	372.00	5523
62.00	4196	160.00	5077	257.00	3720	373.00	2187
63.00	12713	161.00	6789	258.00	14874	374.00	105
64.00	1653	162.00	2215	259.00	2695	377.00	138
65.00	7154	163.00	1326	260.00	594	380.00	124
66.00	1139	164.00	1295	261.00	777	383.00	989
67.00	166	165.00	5362	262.00	174	384.00	237
69.00	347072	166.00	2882	264.00	531	385.00	437
70.00	1444	167.00	32448	265.00	6179	388.00	551
71.00	29	168.00	14604	266.00	448	390.00	693
72.00	560	169.00	1587	267.00	80	391.00	571
73.00	1773	170.00	1191	269.00	219	392.00	1029
74.00	34056	172.00	2970	271.00	301	394.00	252
75.00	52872	173.00	3320	272.00	846	396.00	263
77.00	428288	174.00	5212	273.00	11206	398.00	4
78.00	27480	175.00	11835	274.00	26944	400.00	71
79.00	22240	176.00	2966	275.00	137024	401.00	78
80.00	17824	177.00	4852	276.00	19520	402.00	2747
81.00	24656	178.00	1609	277.00	11281	403.00	3659
82.00	6902	179.00	20528	278.00	1805	404.00	867
83.00	6730	180.00	15417	279.00	325	405.00	549
84.00	348	181.00	6937	281.00	780	406.00	26

Report Date: 02-Nov-2018 17:19:49 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 01-Nov-2018 18:15:30
Spectrum: Tune Spec :Average 384-386(4.14-4.15) Bgrd 378(4.13)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 364

m/z	Y	m/z	Y	m/z	Y	m/z	Y
85.00	4512	182.00	1498	282.00	481	407.00	37
86.00	5787	183.00	1175	283.00	921	410.00	219
87.00	3818	184.00	1180	284.00	1161	412.00	125
88.00	936	185.00	11897	285.00	2731	414.00	92
89.00	179	186.00	77576	286.00	1059	415.00	286
90.00	400	187.00	21640	288.00	413	416.00	49
91.00	5311	188.00	3114	289.00	460	418.00	372
92.00	6082	189.00	3315	290.00	675	419.00	229
93.00	37384	190.00	1136	291.00	380	420.00	268
94.00	2877	191.00	2165	292.00	625	421.00	2294
95.00	598	192.00	7561	293.00	1825	422.00	3425
96.00	2468	193.00	7298	294.00	1162	423.00	22200
98.00	26504	194.00	843	296.00	33504	424.00	5868
99.00	21432	195.00	481	297.00	5380	425.00	392
100.00	1330	196.00	17152	298.00	570	426.00	190
101.00	13586	198.00	596032	300.00	106	427.00	505
102.00	731	199.00	41752	301.00	913	428.00	208
103.00	4021	200.00	3142	302.00	46	431.00	961
104.00	8564	201.00	2289	303.00	3584	432.00	354
105.00	6619	203.00	3248	304.00	1073	433.00	657
107.00	106176	204.00	21392	305.00	96	434.00	621
108.00	15722	205.00	35624	306.00	362	435.00	422
110.00	183360	206.00	136192	307.00	11	436.00	187
111.00	27696	207.00	16456	308.00	330	437.00	614
112.00	2644	208.00	5182	309.00	245	439.00	651
113.00	432	209.00	1088	310.00	449	441.00	62328
115.00	364	211.00	5374	311.00	651	442.00	389824
116.00	2510	212.00	1711	313.00	371	443.00	79104
117.00	73048	213.00	76	314.00	1592	444.00	5934
118.00	4463	214.00	257	315.00	4816	445.00	458
119.00	990	215.00	1211	316.00	1427	446.00	143
120.00	1614	216.00	2513	317.00	201	449.00	110
121.00	21	217.00	35800	319.00	302	451.00	111
122.00	5424	218.00	4272	320.00	30	452.00	200

Report Date: 02-Nov-2018 17:19:49 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 01-Nov-2018 18:15:30
Spectrum: Tune Spec :Average 384-386(4.14-4.15) Bgrd 378(4.13)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 364

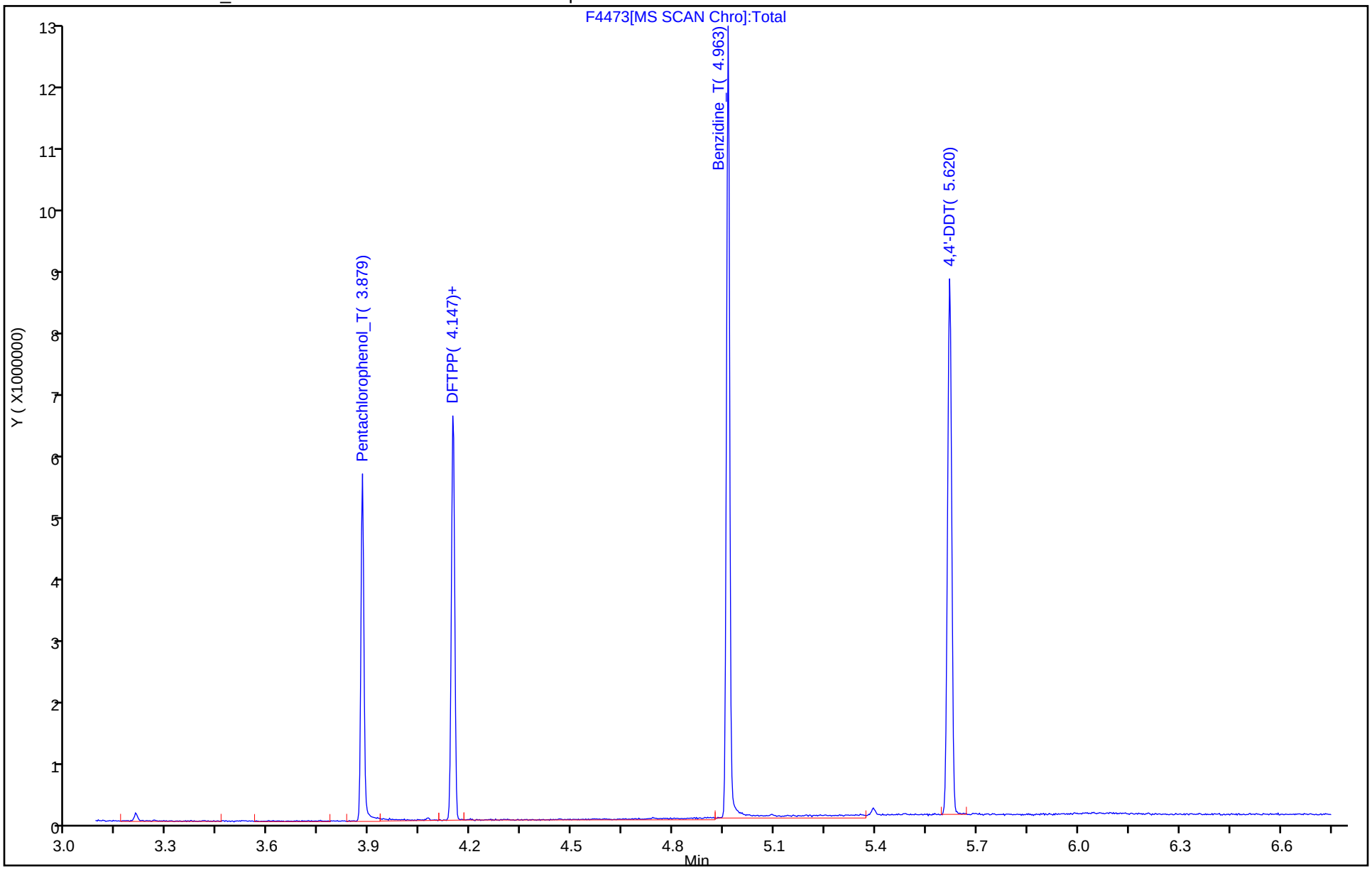
m/z	Y	m/z	Y	m/z	Y	m/z	Y
123.00	9001	219.00	283	321.00	630	456.00	501
124.00	4275	221.00	32528	322.00	451	458.00	72
125.00	3241	222.00	1733	323.00	11560	461.00	2
127.00	344128	223.00	9189	324.00	2839	463.00	279
128.00	27848	224.00	80320	327.00	2052	464.00	31
129.00	120328	225.00	21072	328.00	869	465.00	78
130.00	10171	226.00	2786	329.00	184	466.00	239
131.00	1549	227.00	27288	332.00	826	467.00	111
132.00	947	228.00	4028	333.00	1625	468.00	146
133.00	601	229.00	7535	334.00	7842	470.00	30
134.00	3042	230.00	439	335.00	2073	471.00	267
135.00	8624	231.00	2890	337.00	85	473.00	19
136.00	4298	232.00	682	341.00	1377	476.00	92
137.00	4730	233.00	194	342.00	499	478.00	134
138.00	1262	234.00	1268	344.00	245	480.00	319
139.00	484	235.00	892	346.00	2188	482.00	144
140.00	407	236.00	1810	347.00	208	483.00	139
141.00	13530	237.00	3533	348.00	11	486.00	36
142.00	4096	238.00	604	349.00	86	488.00	77
143.00	3497	239.00	922	350.00	21	490.00	127
144.00	715	240.00	661	352.00	4109	491.00	257
145.00	1156	241.00	1767	353.00	2733	492.00	45
146.00	2810	242.00	3839	354.00	3800	495.00	2
147.00	7225	243.00	5260	355.00	973	499.00	237

Report Date: 02-Nov-2018 17:19:49 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D

Injection Date:	01-Nov-2018 18:15:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		

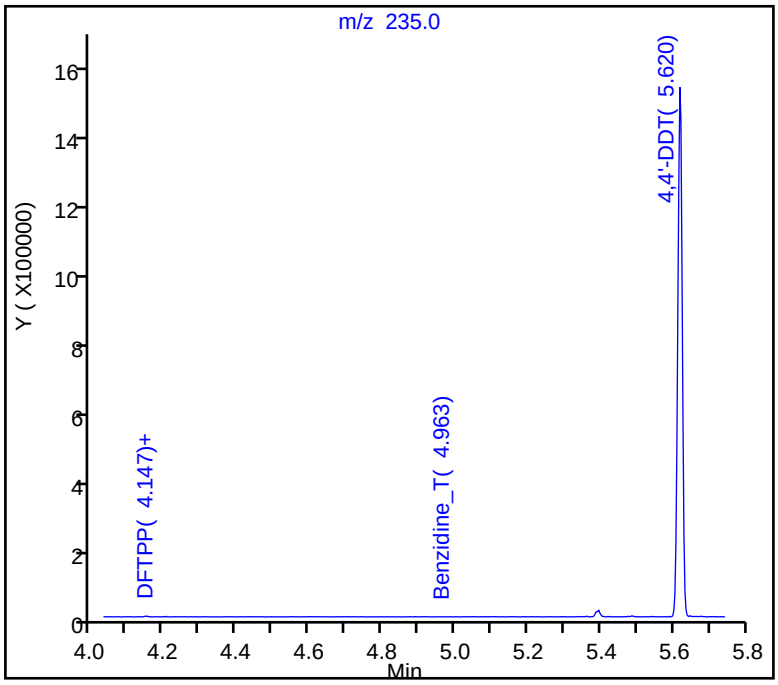


Breakdown Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D
Injection Date: 01-Nov-2018 18:15:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

43 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

43 4,4'-DDT, Area = 1290022
41 4,4'-DDE, Area = 7438
42 4,4'-DDD, Area = 16236

%Breakdown: 1.80%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Denver

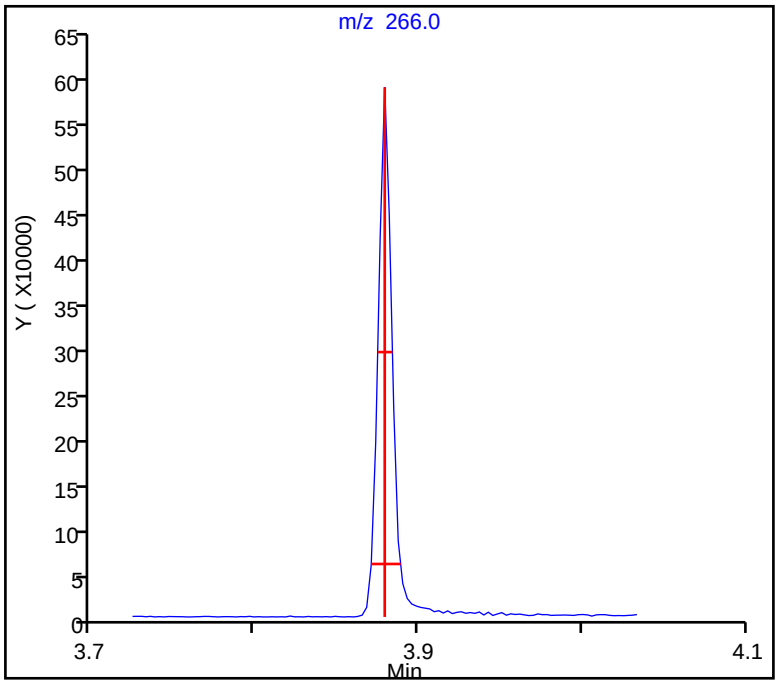
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D
Injection Date: 01-Nov-2018 18:15:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

38 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.010 (min.)
Front Width = 0.008 (min.)

Tailing Factor = 1.2, Max. Tailing < 2.00
Passed



Peak Tailing Report

TestAmerica Denver

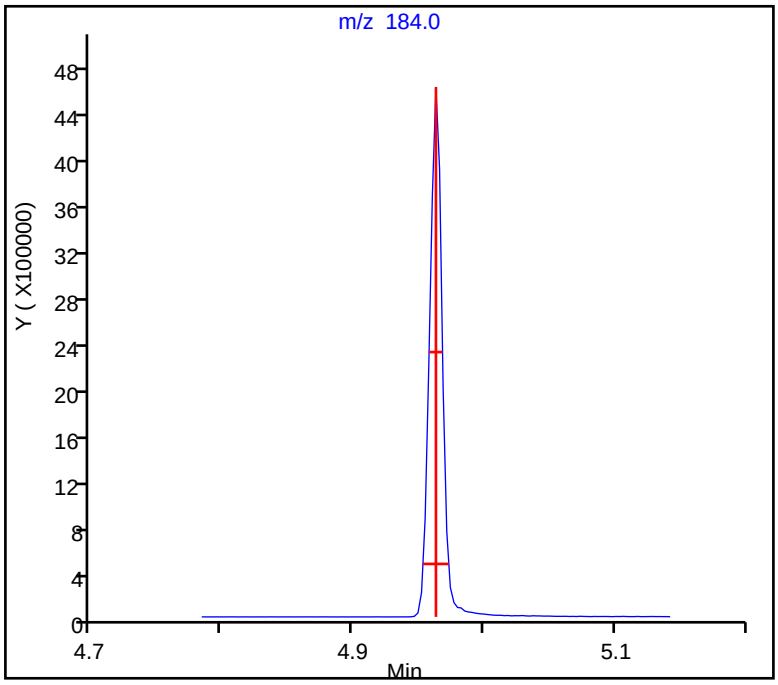
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D
Injection Date: 01-Nov-2018 18:15:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

40 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.010 (min.)
Front Width = 0.010 (min.)

Tailing Factor = 1.0, Max. Tailing < 2.00
Passed



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4561.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 07-Nov-2018 19:54:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 20:59:49 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: XAWRK007

First Level Reviewer: hoeflera Date: 09-Nov-2018 16:33:14

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
38 Pentachlorophenol_T	266	3.807	3.807	0.000	73	842871	NR	NR	
39 DFTPP									
40 Benzidine_T	184	4.894	4.894	0.000	94	6440830	NR	NR	e
41 4,4'-DDE	246	4.080	4.080	0.000	39	17995	NR	NR	
42 4,4'-DDD	235	5.316	5.316	0.000	87	36197	NR	NR	a
43 4,4'-DDT	235	5.537	5.537	0.000	95	2713193	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
e - Potential Peak Saturated
Review Flags
a - User Assigned ID

Reagents:

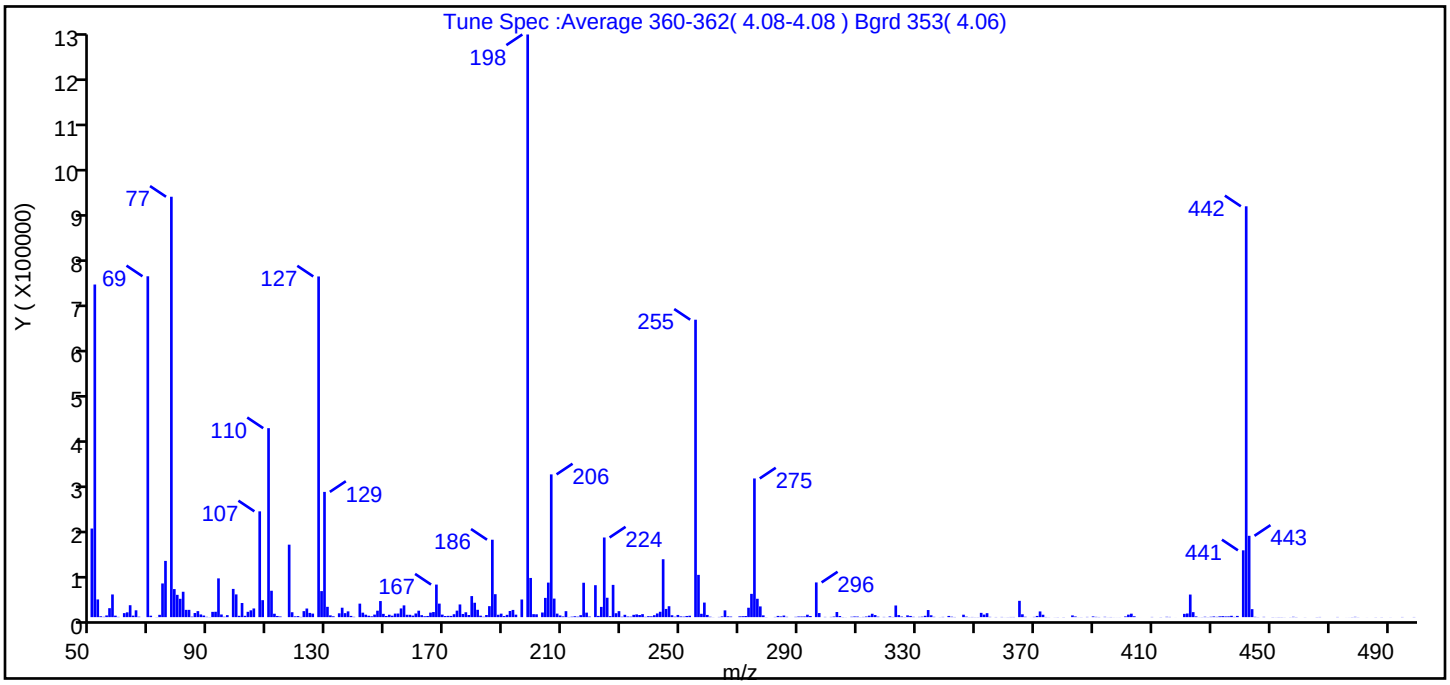
MS-DFTPP_00047 Amount Added: 0.50 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4561.D
Injection Date: 07-Nov-2018 19:54:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Tune Method: DFTPP Method 8270

39 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	57.1
68	<2% of mass 69	0.0 (0.0)
69	Present	58.5
70	<2% of mass 69	0.2 (0.4)
127	40-60% of mass 198	58.5
197	<1% of mass 198	0.0
199	5-9% of mass 198	6.7
275	10-30% of mass 198	23.8
365	>1% of mass 198	2.8
441	Present but less than mass 443	11.5 (82.1)
442	>40% of mass 198	70.5
443	17-23% of mass 442	14.0 (19.8)

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4561.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 07-Nov-2018 19:54:30
Spectrum: Tune Spec :Average 360-362(4.08-4.08) Bgrd 353(4.06)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 367

m/z	Y	m/z	Y	m/z	Y	m/z	Y
50.00	191296	155.00	18816	251.00	1112	361.00	222
51.00	718144	156.00	25384	252.00	2526	362.00	379
52.00	38256	157.00	5149	253.00	3067	363.00	403
53.00	1898	158.00	5066	255.00	642176	365.00	35232
54.00	711	159.00	3309	256.00	91280	366.00	6169
55.00	3679	160.00	7894	257.00	7237	367.00	821
56.00	19352	161.00	13918	258.00	31456	369.00	60
57.00	49008	162.00	4256	259.00	4799	370.00	541
58.00	3238	163.00	1962	260.00	860	371.00	2602
59.00	548	164.00	2535	261.00	177	372.00	12345
61.00	8677	165.00	9747	263.00	468	373.00	5186
62.00	10388	166.00	11000	264.00	1508	374.00	391
63.00	25752	167.00	70320	265.00	14626	375.00	191
64.00	3252	168.00	29216	266.00	1784	377.00	138
65.00	14758	169.00	5473	267.00	1184	378.00	249
66.00	928	170.00	2421	270.00	1733	380.00	284
69.00	735936	171.00	2803	271.00	2005	382.00	26
70.00	3108	172.00	2699	272.00	2422	383.00	3759
72.00	224	173.00	6295	273.00	20296	384.00	1448
73.00	4991	174.00	14045	274.00	50280	385.00	153
74.00	72744	175.00	27416	275.00	299456	386.00	226
75.00	121448	176.00	6850	276.00	39672	388.00	523
77.00	907648	177.00	10540	277.00	23176	390.00	1576
78.00	60600	178.00	4611	278.00	3806	391.00	649
79.00	48160	179.00	45472	279.00	224	392.00	367
80.00	39584	180.00	31072	282.00	470	394.00	714
81.00	54824	181.00	15882	283.00	2681	395.00	149
82.00	15734	182.00	3206	284.00	1519	396.00	346
83.00	15741	183.00	771	285.00	3448	397.00	111
84.00	1100	184.00	4568	286.00	728	398.00	89
85.00	8900	185.00	23744	289.00	678	399.00	125
86.00	12974	186.00	167168	290.00	1406	401.00	1547
87.00	5809	187.00	49576	291.00	1385	402.00	5410

Report Date: 09-Nov-2018 20:59:50 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4561.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 07-Nov-2018 19:54:30
Spectrum: Tune Spec :Average 360-362(4.08-4.08) Bgrd 353(4.06)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 367

m/z	Y	m/z	Y	m/z	Y	m/z	Y
88.00	3446	188.00	5153	292.00	1461	403.00	7496
89.00	709	189.00	7553	293.00	5248	404.00	1869
90.00	273	190.00	2326	294.00	2512	405.00	55
91.00	11404	191.00	4996	296.00	74952	406.00	19
92.00	11609	192.00	13239	297.00	8843	410.00	460
93.00	83696	193.00	15600	299.00	528	413.00	291
94.00	5740	194.00	5339	301.00	553	415.00	745
95.00	841	196.00	38144	302.00	1274	416.00	503
96.00	4323	198.00	1257984	303.00	11079	418.00	58
98.00	60952	199.00	84616	304.00	2387	421.00	7094
99.00	49104	200.00	6449	305.00	331	422.00	7901
100.00	2883	201.00	6138	306.00	166	423.00	48792
101.00	30512	203.00	10000	308.00	860	424.00	10807
102.00	2853	204.00	41560	309.00	1469	425.00	1564
103.00	11489	205.00	74568	310.00	1313	426.00	158
104.00	14675	206.00	308224	311.00	242	427.00	235
105.00	18744	207.00	40024	312.00	548	428.00	865
107.00	228416	208.00	7618	313.00	1319	429.00	258
108.00	36656	209.00	3669	314.00	3230	430.00	822
110.00	408000	210.00	1546	315.00	7339	431.00	1506
111.00	56984	211.00	12896	316.00	4450	432.00	610
112.00	7373	212.00	423	317.00	1066	433.00	1768
113.00	2521	213.00	1003	319.00	506	434.00	2162
114.00	1375	214.00	1927	320.00	100	435.00	1550
117.00	156480	215.00	1004	321.00	1526	436.00	1702
118.00	10613	216.00	4280	322.00	408	437.00	2891
119.00	1714	217.00	74280	323.00	25176	438.00	542
120.00	2251	218.00	9706	324.00	4383	439.00	2671
121.00	493	219.00	1276	325.00	1243	441.00	144256
122.00	12992	221.00	68992	326.00	285	442.00	887040
123.00	18624	222.00	2660	327.00	3879	443.00	175616
124.00	9147	223.00	22096	328.00	2608	444.00	17272
125.00	7637	224.00	171968	329.00	706	445.00	685
127.00	735552	225.00	41872	330.00	73	446.00	259

Report Date: 09-Nov-2018 20:59:50 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4561.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 07-Nov-2018 19:54:30
Spectrum: Tune Spec :Average 360-362(4.08-4.08) Bgrd 353(4.06)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 367

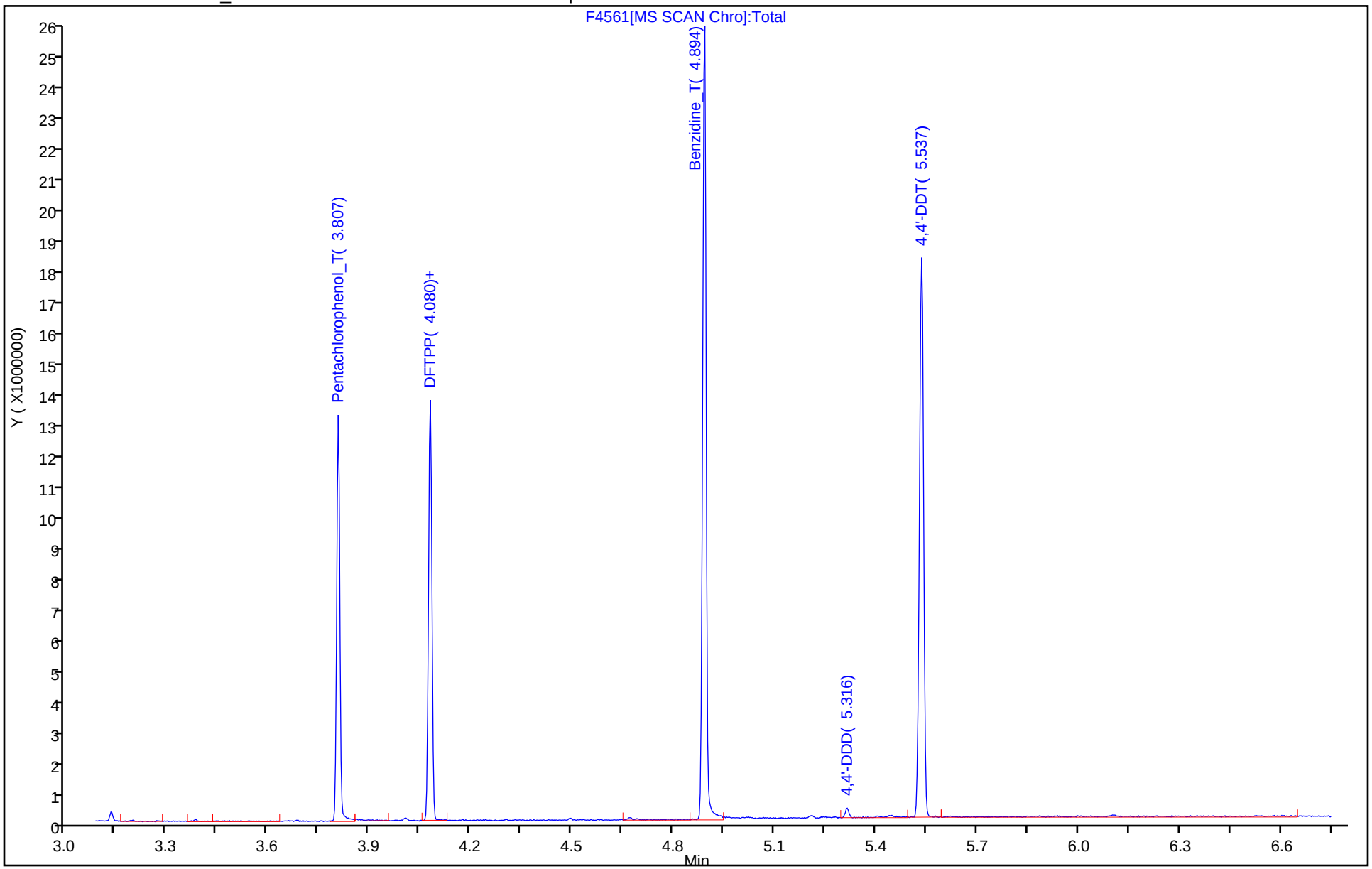
m/z	Y	m/z	Y	m/z	Y	m/z	Y
128.00	56248	226.00	2139	331.00	649	448.00	620
129.00	270400	227.00	69656	332.00	1012	451.00	298
130.00	22288	228.00	8502	333.00	2921	452.00	161
131.00	3851	229.00	12956	334.00	15332	453.00	323
132.00	1823	230.00	894	335.00	4057	454.00	291
134.00	8282	231.00	5046	336.00	669	455.00	156
135.00	20368	232.00	1372	337.00	11	457.00	205
136.00	8622	233.00	1039	338.00	188	458.00	754
137.00	12488	234.00	5007	339.00	550	459.00	338
138.00	2708	235.00	5945	341.00	2618	462.00	181
139.00	687	236.00	4629	342.00	941	466.00	298
141.00	29168	237.00	6467	343.00	376	467.00	416
142.00	9664	238.00	633	346.00	5276	473.00	416
143.00	5323	239.00	2072	347.00	1103	476.00	68
144.00	3028	240.00	1751	348.00	242	477.00	98
145.00	1802	241.00	4164	349.00	424	478.00	285
146.00	5482	242.00	7966	350.00	246	479.00	659
147.00	13915	243.00	11621	351.00	253	480.00	217
148.00	34744	244.00	125032	352.00	9241	483.00	84
149.00	7136	245.00	17712	353.00	5508	486.00	232
150.00	2514	246.00	23592	354.00	8543	488.00	241
151.00	5197	247.00	4075	355.00	592	491.00	140
152.00	3156	248.00	954	357.00	358	495.00	388
153.00	7664	249.00	4752	359.00	444	499.00	357
154.00	7771	250.00	1552	360.00	93		

Report Date: 09-Nov-2018 20:59:50 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4561.D

Injection Date:	07-Nov-2018 19:54:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		

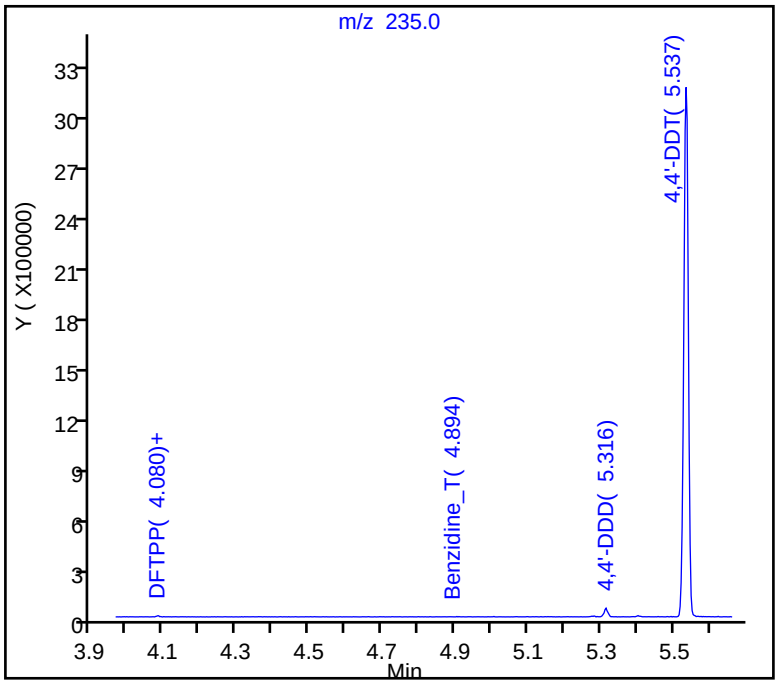


Breakdown Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4561.D
Injection Date: 07-Nov-2018 19:54:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

43 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

43 4,4'-DDT, Area = 2713193
41 4,4'-DDE, Area = 17995
42 4,4'-DDD, Area = 36197

%Breakdown: 1.96%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Denver

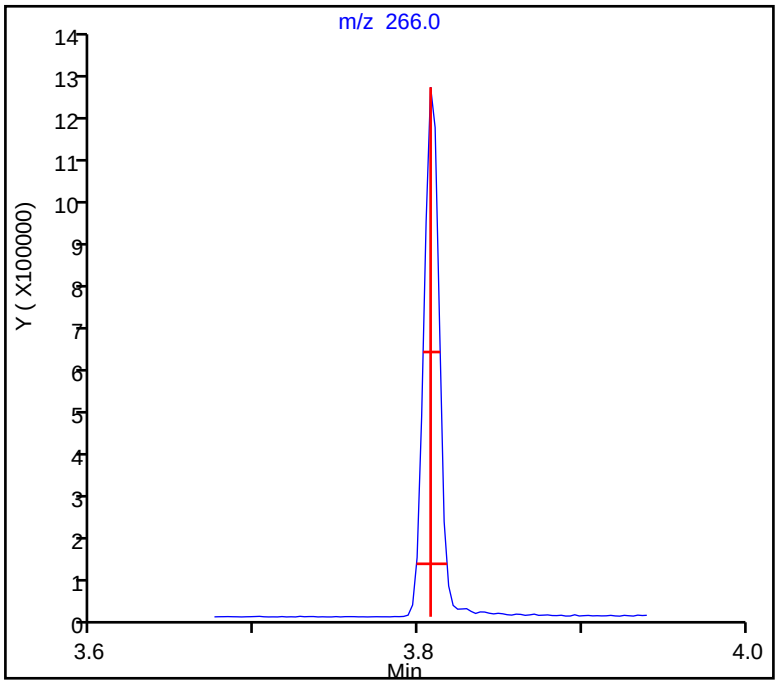
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4561.D
Injection Date: 07-Nov-2018 19:54:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

38 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.010 (min.)
Front Width = 0.009 (min.)

Tailing Factor = 1.2, Max. Tailing < 2.00
Passed



Peak Tailing Report

TestAmerica Denver

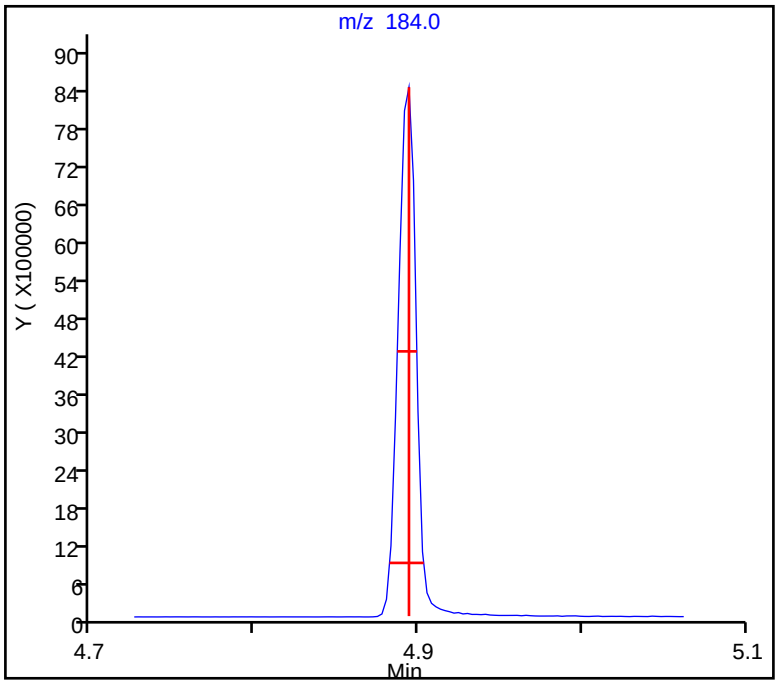
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4561.D
Injection Date: 07-Nov-2018 19:54:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

40 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.009 (min.)
Front Width = 0.012 (min.)

Tailing Factor = 0.8, Max. Tailing < 2.00
Passed



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4553.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 08-Nov-2018 15:41:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 09-Nov-2018 21:26:51 Calib Date: 07-Nov-2018 23:58:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181107-75951.b\F4570.D

Column 1 : Det: MS SCAN
Process Host: CTX0302

First Level Reviewer: wickhamm Date: 08-Nov-2018 18:33:36

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
38 Pentachlorophenol_T	266	3.788	3.788	0.000	71	789726	NR	NR	a
39 DFTPP									
40 Benzidine_T	184	4.869	4.869	0.000	94	6032001	NR	NR	
41 4,4'-DDE	246	4.058	4.058	0.000	31	17453	NR	NR	
42 4,4'-DDD	235	5.286	5.286	0.000	87	31779	NR	NR	a
43 4,4'-DDT	235	5.504	5.504	0.000	94	2676839	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
a - User Assigned ID

Reagents:

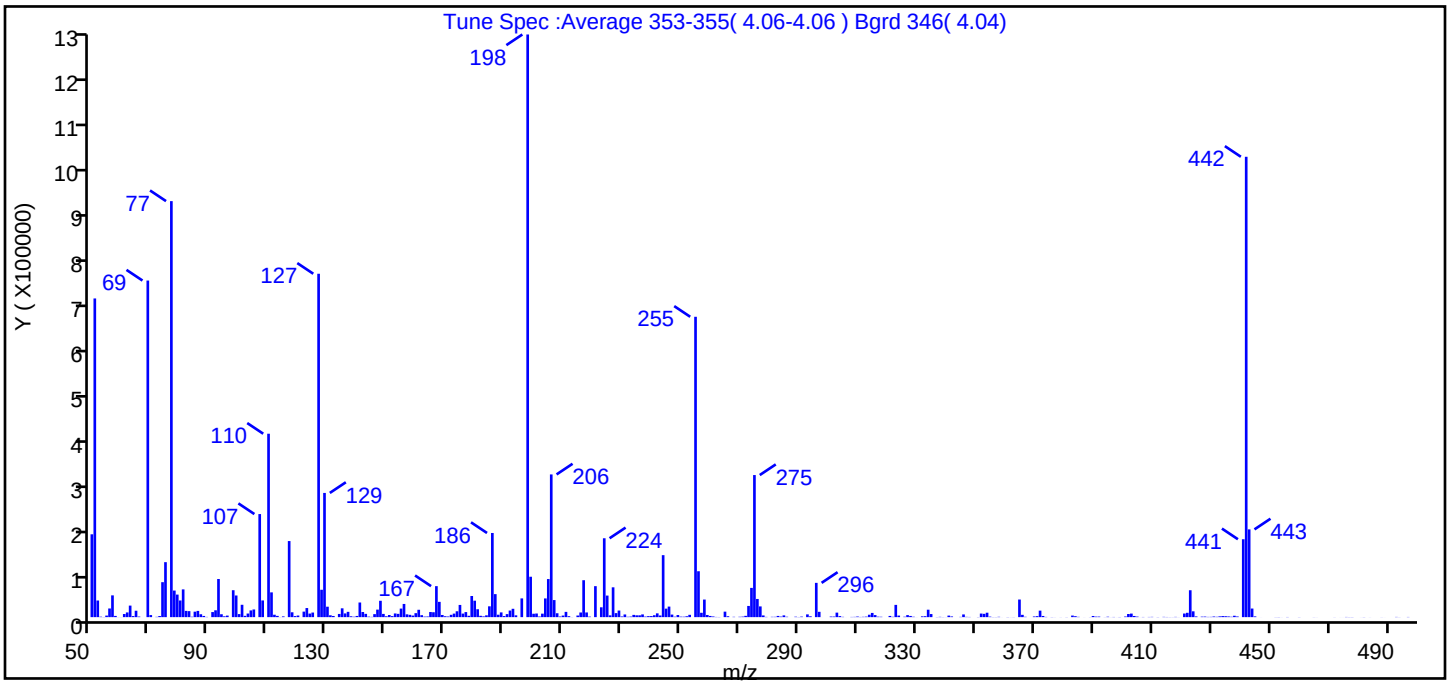
MS-DFTPP_00047 Amount Added: 0.50 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4553.D
Injection Date: 08-Nov-2018 15:41:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Tune Method: DFTPP Method 8270

39 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	54.7
68	<2% of mass 69	0.0 (0.0)
69	Present	57.8
70	<2% of mass 69	0.4 (0.6)
127	40-60% of mass 198	58.9
197	<1% of mass 198	0.0
199	5-9% of mass 198	6.9
275	10-30% of mass 198	24.4
365	>1% of mass 198	3.0
441	Present but less than mass 443	13.4 (88.8)
442	>40% of mass 198	79.0
443	17-23% of mass 442	15.1 (19.1)

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4553.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 08-Nov-2018 15:41:30
Spectrum: Tune Spec :Average 353-355(4.06-4.06) Bgrd 346(4.04)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 364

m/z	Y	m/z	Y	m/z	Y	m/z	Y
50.00	177920	152.00	2203	248.00	967	359.00	64
51.00	684416	153.00	7902	249.00	4544	361.00	285
52.00	35728	154.00	7079	250.00	1049	362.00	106
53.00	965	155.00	18392	251.00	936	363.00	209
54.00	281	156.00	28344	252.00	1892	365.00	37840
55.00	3349	157.00	6031	253.00	4990	366.00	4969
56.00	18600	158.00	4964	255.00	645056	367.00	735
57.00	46768	159.00	3381	256.00	98568	370.00	1451
58.00	2636	160.00	8558	257.00	9365	371.00	2090
59.00	142	161.00	15824	258.00	37768	372.00	13947
60.00	156	162.00	4202	259.00	4663	373.00	2533
61.00	6719	163.00	1137	260.00	2561	374.00	490
62.00	10102	164.00	1378	261.00	1439	376.00	256
63.00	24784	165.00	10999	262.00	442	377.00	117
64.00	2298	166.00	10544	263.00	341	379.00	128
65.00	13743	167.00	66584	265.00	11806	381.00	223
66.00	1232	168.00	32832	266.00	1930	383.00	3378
69.00	722880	169.00	4649	268.00	697	384.00	2023
70.00	4406	170.00	1906	270.00	780	385.00	650
71.00	29	171.00	1381	271.00	1141	387.00	82
72.00	617	172.00	5006	272.00	2779	389.00	202
73.00	2387	173.00	7586	273.00	24048	390.00	2475
74.00	75088	174.00	12614	274.00	62800	391.00	1147
75.00	118072	175.00	26216	275.00	305152	392.00	1168
77.00	893440	176.00	7635	276.00	39056	394.00	154
78.00	57080	177.00	10880	277.00	23048	395.00	908
79.00	48424	178.00	2930	278.00	3643	396.00	96
80.00	35792	179.00	45408	279.00	536	397.00	398
81.00	59608	180.00	35328	281.00	701	398.00	66
82.00	13422	181.00	17000	282.00	722	399.00	333
83.00	12891	182.00	2907	283.00	2626	401.00	1366
84.00	878	183.00	1609	284.00	1147	402.00	6739
85.00	11750	184.00	3881	285.00	3775	403.00	7636

Report Date: 09-Nov-2018 21:26:52 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4553.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 08-Nov-2018 15:41:30
Spectrum: Tune Spec :Average 353-355(4.06-4.06) Bgrd 346(4.04)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 364

m/z	Y	m/z	Y	m/z	Y	m/z	Y
86.00	13401	185.00	23272	286.00	865	404.00	2493
87.00	6202	186.00	180736	289.00	944	405.00	1169
88.00	2579	187.00	49432	290.00	345	406.00	55
89.00	491	188.00	5210	291.00	1168	407.00	388
91.00	10880	189.00	10179	293.00	5928	409.00	413
92.00	14715	190.00	2313	294.00	1811	410.00	580
93.00	81896	191.00	6489	296.00	73624	412.00	271
94.00	6233	192.00	14160	297.00	11442	414.00	572
95.00	1780	193.00	17944	298.00	34	415.00	362
96.00	3324	194.00	3885	301.00	1327	416.00	221
98.00	57832	196.00	40264	302.00	1269	417.00	187
99.00	46512	198.00	1251328	303.00	9687	418.00	536
100.00	6558	199.00	86784	304.00	2209	419.00	127
101.00	26544	200.00	7291	305.00	656	421.00	7744
102.00	2785	201.00	7788	306.00	38	422.00	9337
103.00	7757	202.00	1385	307.00	11	423.00	57776
104.00	14445	203.00	7484	308.00	463	424.00	12515
105.00	16488	204.00	40192	309.00	582	425.00	1535
107.00	221376	205.00	81792	310.00	1288	427.00	1047
108.00	35880	206.00	306496	311.00	439	428.00	1190
110.00	393920	207.00	36648	312.00	736	429.00	542
111.00	53200	208.00	8357	313.00	1089	430.00	610
112.00	5187	209.00	1353	314.00	5171	431.00	1366
113.00	2701	210.00	3416	315.00	9069	432.00	741
114.00	187	211.00	11302	316.00	4411	433.00	1671
115.00	1587	212.00	2023	317.00	1039	434.00	2285
117.00	163392	213.00	180	318.00	801	435.00	1985
118.00	10435	215.00	3461	321.00	2590	436.00	1512
119.00	2299	216.00	9979	322.00	738	437.00	862
120.00	3438	217.00	79312	323.00	26320	438.00	2990
122.00	11854	218.00	10080	324.00	3342	439.00	1431
123.00	19536	219.00	1164	326.00	927	441.00	167296
124.00	7656	221.00	66544	327.00	4398	442.00	988672
125.00	9875	223.00	21152	328.00	2576	443.00	188480

Report Date: 09-Nov-2018 21:26:52 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4553.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 08-Nov-2018 15:41:30
Spectrum: Tune Spec :Average 353-355(4.06-4.06) Bgrd 346(4.04)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 364

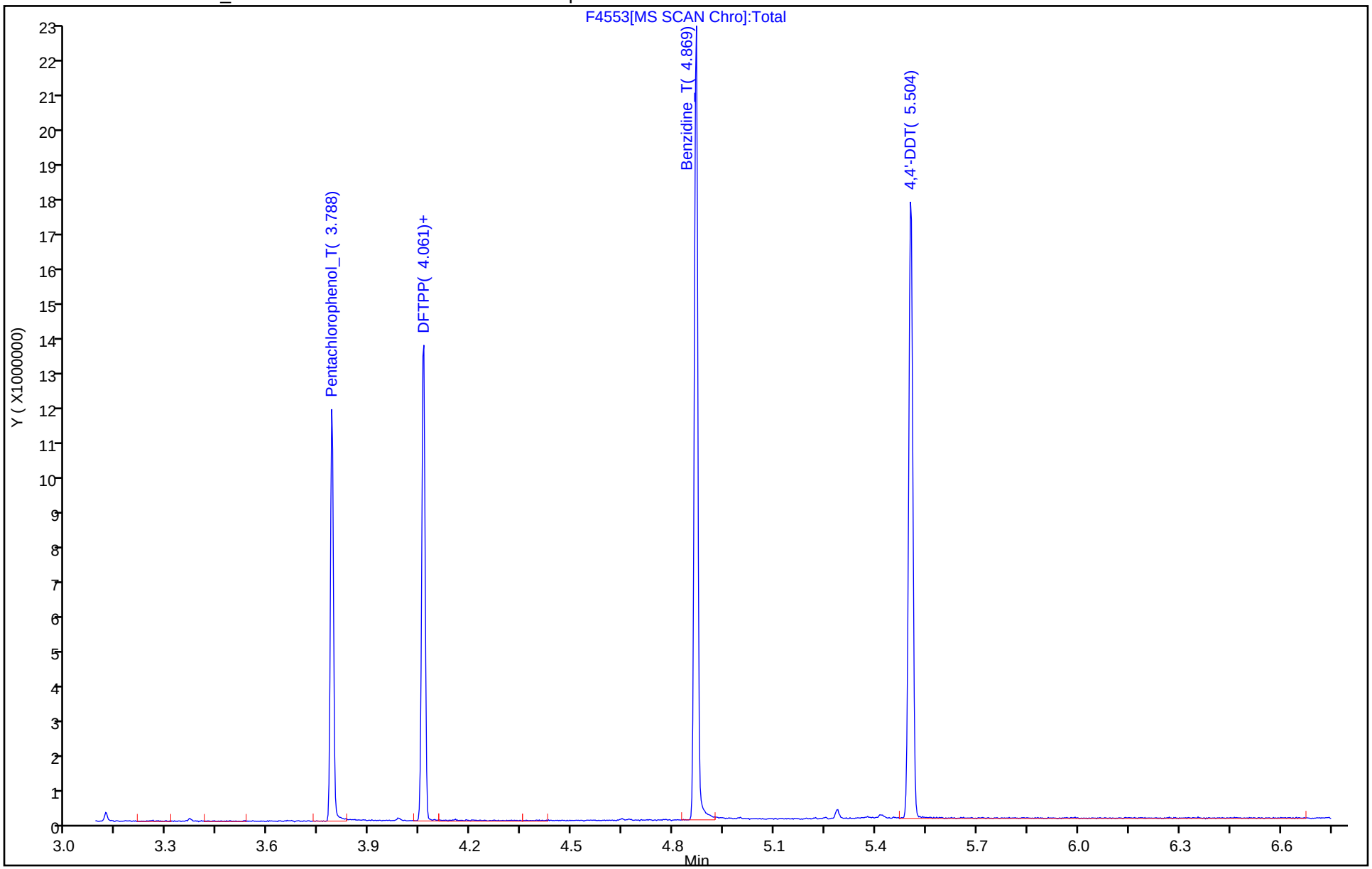
m/z	Y	m/z	Y	m/z	Y	m/z	Y
127.00	737472	224.00	169408	329.00	846	444.00	18480
128.00	58808	225.00	46320	330.00	90	445.00	1583
129.00	266752	226.00	3838	332.00	1718	447.00	57
130.00	22416	227.00	64056	333.00	2017	452.00	213
131.00	3997	228.00	8653	334.00	15980	453.00	302
132.00	2486	229.00	14175	335.00	6636	454.00	85
134.00	6864	230.00	1419	337.00	284	456.00	355
135.00	18960	231.00	5764	338.00	632	460.00	233
136.00	7960	232.00	777	339.00	244	465.00	158
137.00	11387	233.00	1193	340.00	136	466.00	82
138.00	1839	234.00	4847	341.00	3303	472.00	144
139.00	893	235.00	3919	342.00	1494	474.00	59
140.00	2549	236.00	3923	345.00	570	475.00	49
141.00	31448	237.00	5862	346.00	5817	476.00	412
142.00	11025	238.00	1178	347.00	617	477.00	261
143.00	7034	239.00	2158	348.00	428	478.00	275
144.00	1108	240.00	2278	351.00	309	481.00	66
145.00	562	241.00	4065	352.00	7694	482.00	229
146.00	6456	242.00	8147	353.00	7116	484.00	97
147.00	16175	243.00	3534	354.00	9508	488.00	131
148.00	35128	244.00	133120	355.00	1114	489.00	48
149.00	6970	245.00	18240	356.00	256	493.00	477
150.00	1837	246.00	22664	357.00	262	494.00	165
151.00	4590	247.00	5496	358.00	698	497.00	408

Report Date: 09-Nov-2018 21:26:52 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4553.D

Injection Date:	08-Nov-2018 15:41:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		

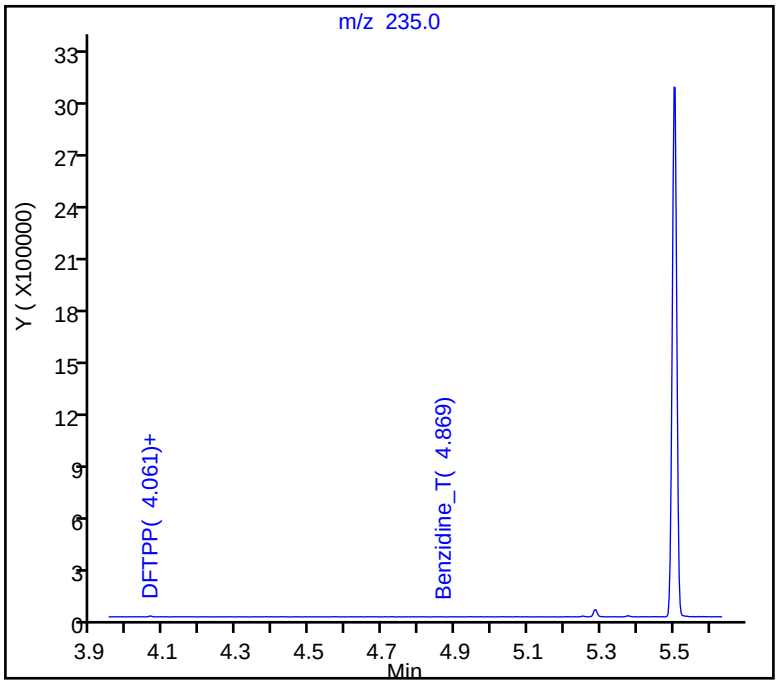


Breakdown Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4553.D
Injection Date: 08-Nov-2018 15:41:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

43 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

43 4,4'-DDT, Area = 2676839
41 4,4'-DDE, Area = 17453
42 4,4'-DDD, Area = 31779

%Breakdown: 1.81%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Denver

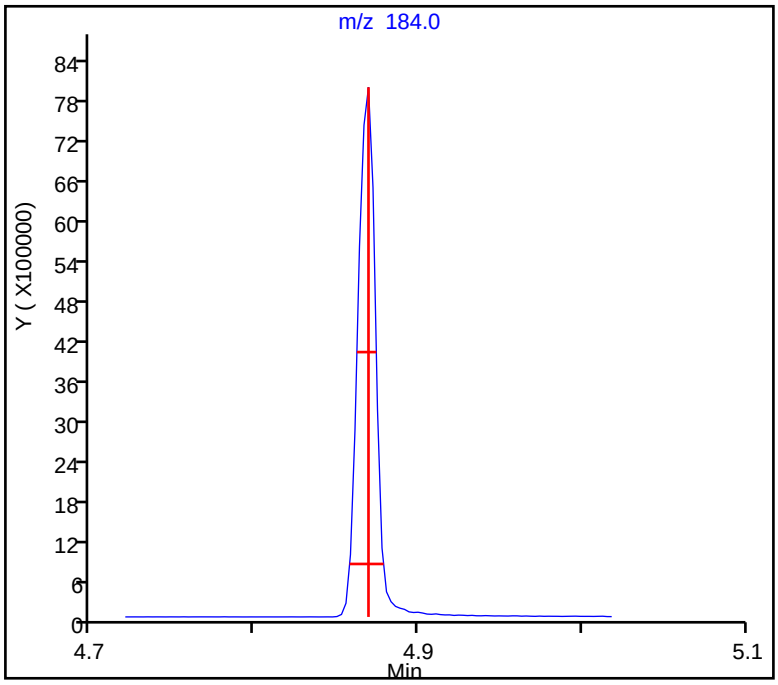
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4553.D
Injection Date: 08-Nov-2018 15:41:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

40 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.009 (min.)
Front Width = 0.012 (min.)

Tailing Factor = 0.8, Max. Tailing < 2.00
Passed



Peak Tailing Report

TestAmerica Denver

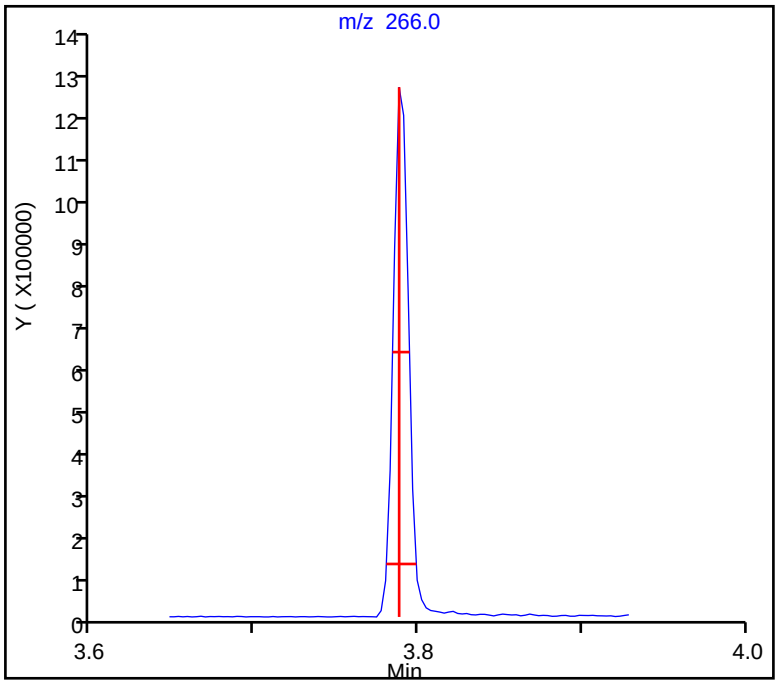
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181108-75997.b\F4553.D
Injection Date: 08-Nov-2018 15:41:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

38 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.008 (min.)

Tailing Factor = 1.3, Max. Tailing < 2.00
Passed



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-435408/1-A

Matrix: Water | Lab File ID: F4483.D

Analysis Method: 8270D SIM | Date Collected:

Extract. Method: 3510C | Date Extracted: 10/29/2018 21:02

Sample wt/vol: 250(mL) | Date Analyzed: 11/01/2018 23:01

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	0.012	U	0.10	0.012	0.0059
91-57-6	2-Methylnaphthalene	0.012	U	0.10	0.012	0.0060
83-32-9	Acenaphthene	0.040	U	0.10	0.040	0.0042
208-96-8	Acenaphthylene	0.040	U	0.10	0.040	0.0051
120-12-7	Anthracene	0.040	U M	0.10	0.040	0.0056
56-55-3	Benzo[a]anthracene	0.012	U	0.10	0.012	0.0042
50-32-8	Benzo[a]pyrene	0.012	U M	0.10	0.012	0.0069
205-99-2	Benzo[b]fluoranthene	0.012	U M	0.10	0.012	0.0031
191-24-2	Benzo[g,h,i]perylene	0.012	U M	0.10	0.012	0.0062
207-08-9	Benzo[k]fluoranthene	0.012	U M	0.10	0.012	0.0063
218-01-9	Chrysene	0.012	U	0.10	0.012	0.0033
53-70-3	Dibenz(a,h)anthracene	0.012	U	0.10	0.012	0.0041
206-44-0	Fluoranthene	0.012	U	0.10	0.012	0.0048
86-73-7	Fluorene	0.040	U	0.10	0.040	0.0055
193-39-5	Indeno[1,2,3-cd]pyrene	0.040	U	0.10	0.040	0.0045
91-20-3	Naphthalene	0.012	U	0.10	0.012	0.0080
85-01-8	Phenanthrene	0.0181	J	0.10	0.020	0.0093
129-00-0	Pyrene	0.020	U	0.10	0.020	0.0061

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	57		53-106
4165-60-0	Nitrobenzene-d5	56		55-111
1718-51-0	Terphenyl-d14	92		58-132

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4483.D
Lims ID: MB 280-435408/1-A
Client ID:
Sample Type: MB
Inject. Date: 01-Nov-2018 23:01:30 ALS Bottle#: 11 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: mb280-435408_1-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 17:10:22

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.721	-0.008	98	25730	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.215	-0.009	97	62866	600.0	600.0	
* 3 Chrysene-d12	240	13.358	13.376	-0.018	90	66335	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.251	5.256	-0.005	99	7562	500.0	281.8	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	100	18685	500.0	286.3	
$ 6 Terphenyl-d14	244	11.194	11.212	-0.018	100	42663	500.0	459.4	
8 1,4-Dioxane	88		1.692					ND	
9 N-Nitrosodimethylamine	74		2.531					ND	U
10 Naphthalene	128		5.985					ND	
11 2-Methylnaphthalene	142		6.663					ND	
12 1-Methylnaphthalene	142		6.769					ND	
13 Dimethyl phthalate	163		7.419					ND	U
14 Acenaphthylene	152		7.575					ND	
15 Acenaphthene	153		7.747					ND	
16 Dibenzofuran	168		7.915					ND	
17 Diethyl phthalate	149	8.109	8.119	-0.010	100	11437		232.8	
18 Fluorene	166		8.264					ND	
19 N-Nitrosodiphenylamine	169		8.361					ND	
20 Phenanthrene	178	9.223	9.232	-0.009	77	577		4.53	
21 Anthracene	178		9.284					ND	U
22 Di-n-butyl phthalate	149	9.768	9.785	-0.017	1	1200		22.6	
23 Fluoranthene	202		10.641					ND	
24 Pyrene	202		10.987					ND	
25 Butyl benzyl phthalate	149		10.987					ND	
26 Benzo[a]anthracene	228		13.349					ND	
27 Chrysene	228		13.439					ND	
28 Bis(2-ethylhexyl) phthalat	149		12.115					ND	
29 Di-n-octyl phthalate	149	15.302	15.319	-0.017	1	189		23.5	
30 Benzo[b]fluoranthene	252		16.264					ND	U
31 Benzo[k]fluoranthene	252		16.342					ND	U
32 Benzo[a]pyrene	252		17.204					ND	U
33 Indeno[1,2,3-cd]pyrene	276		20.520					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
34 Dibenz(a,h)anthracene	278		20.612					ND	
35 Benzo[g,h,i]perylene	276		21.264					ND	U
$ 53 2-methylnaphthalene-d10	152	6.633	6.633	0.000	90	11868	500.0	265.9	
$ 54 Fluoranthene-d10	212	10.606	10.615	-0.009	100	42828	500.0	407.7	
38 Pentachlorophenol_T	266		3.879					ND	
40 Benzidine_T	184		4.963					ND	
41 4,4'-DDE	246		4.147					ND	
42 4,4'-DDD	235		5.396					ND	
43 4,4'-DDT	235		5.620					ND	
S 44 TPAH	1		0.000					ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

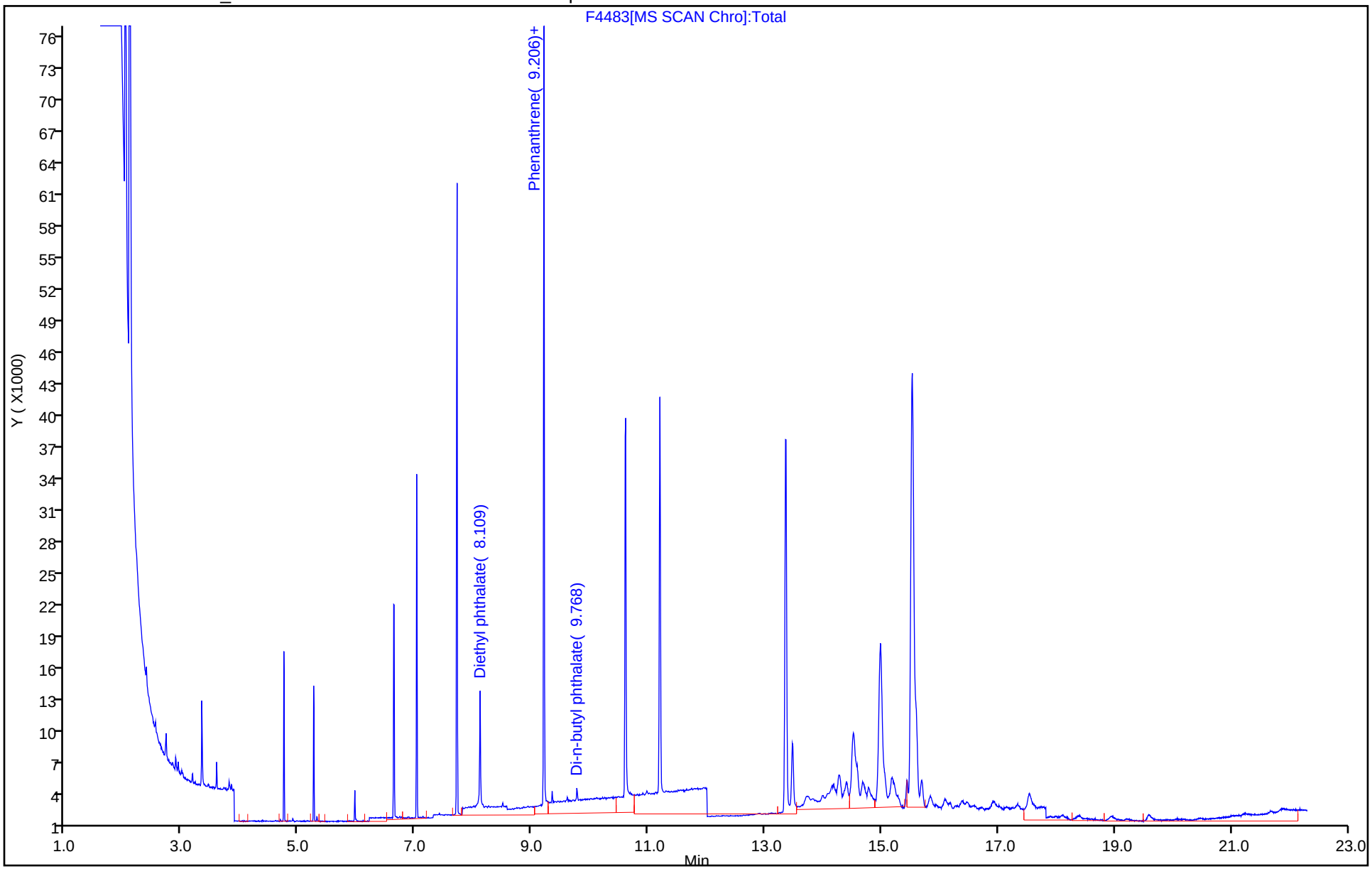
MS-SIM IS_00033 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 02-Nov-2018 17:20:17 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4483.D

Injection Date:	01-Nov-2018 23:01:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	MB 280-435408/1-A			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4483.D
Lims ID: MB 280-435408/1-A
Client ID:
Sample Type: MB
Inject. Date: 01-Nov-2018 23:01:30 ALS Bottle#: 11 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: mb280-435408_1-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 17:10:22

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Nitrobenzene-d5	500.0	281.8	56.37
$ 5 2-Fluorobiphenyl	500.0	286.3	57.27
$ 6 Terphenyl-d14	500.0	459.4	91.88
$ 53 2-methylnaphthalene-d10	500.0	265.9	53.18
$ 54 Fluoranthene-d10	500.0	407.7	81.53

Report Date: 02-Nov-2018 17:20:17 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4483.D

Injection Date: 01-Nov-2018 23:01:30 Instrument ID: SMS_F

Lims ID: MB 280-435408/1-A

Client ID:

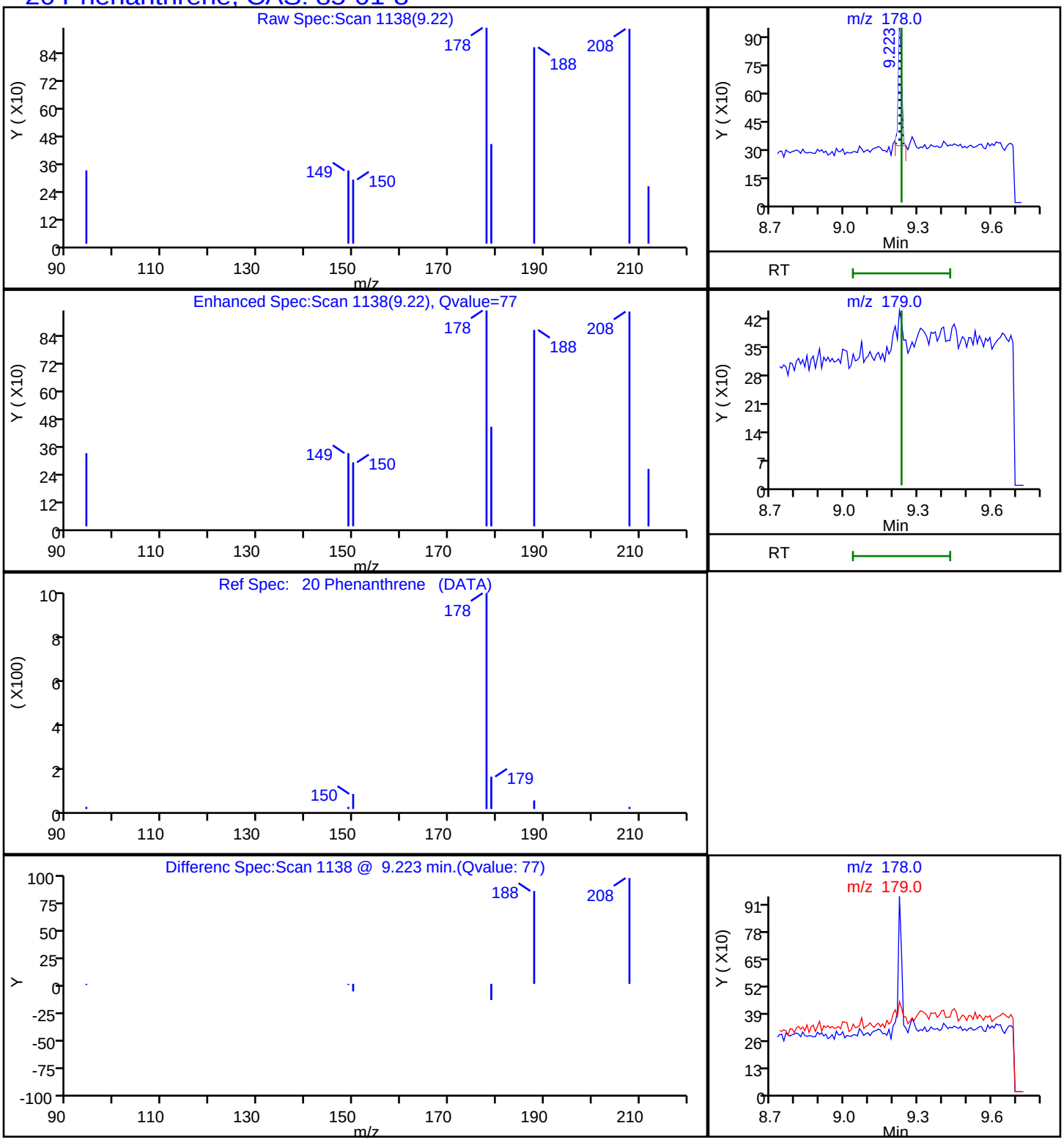
Operator ID: WICKHAMM ALS Bottle#: 11 Worklist Smp#: 12

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

Column: Detector MS SCAN

20 Phenanthrene, CAS: 85-01-8



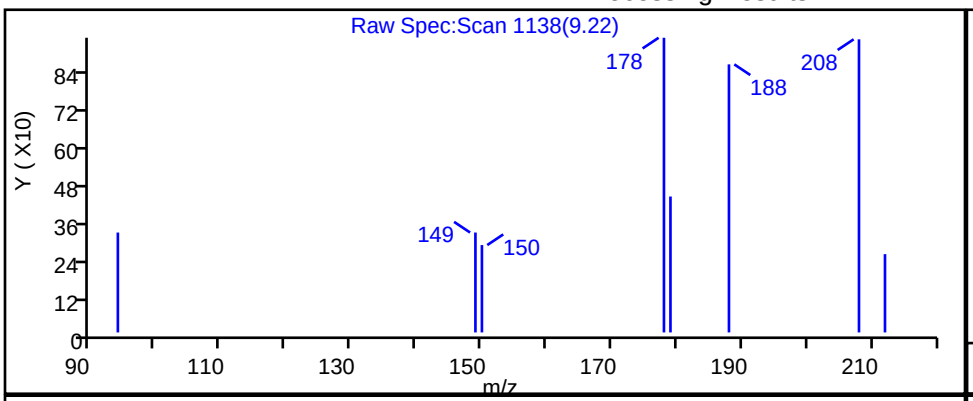
User Disabled Compound Report

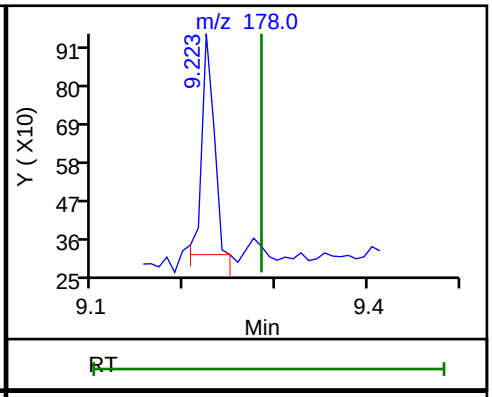
TestAmerica Denver

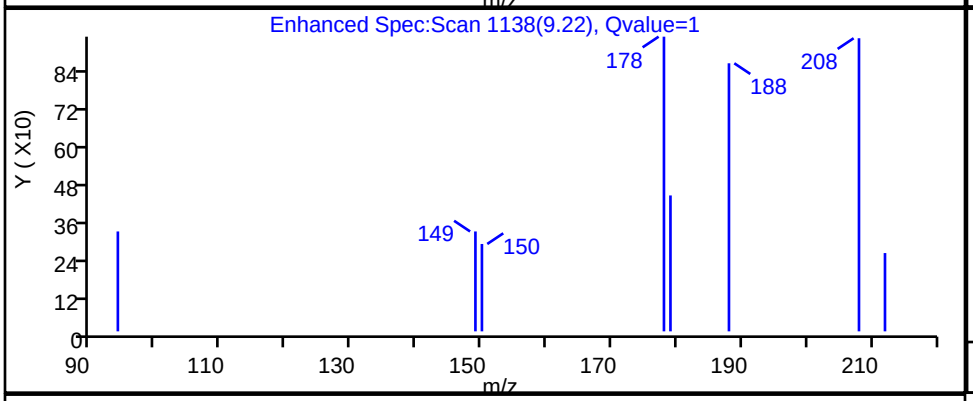
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4483.D				
Injection Date:	01-Nov-2018 23:01:30	Instrument ID:	SMS_F		
Lims ID:	MB 280-435408/1-A				
Client ID:					
Operator ID:	WICKHAMM	ALS Bottle#:	11	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

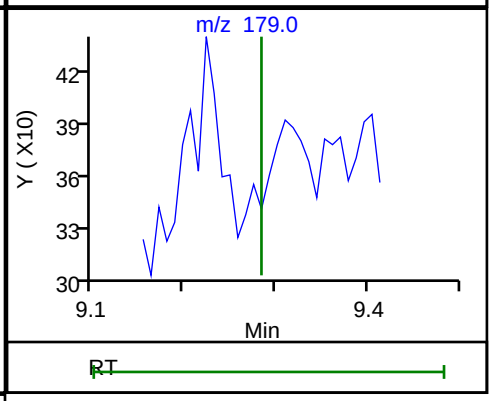
21 Anthracene, CAS: 120-12-7

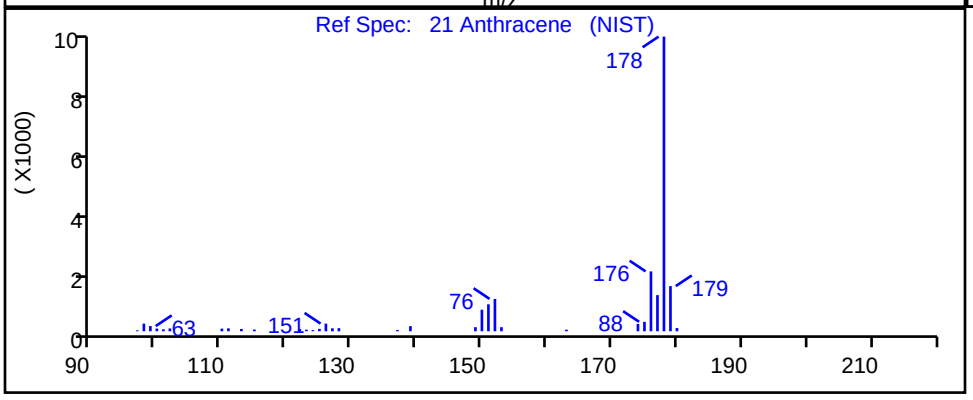
Processing Results











RT	Mass	Response	Amount
9.22	178.00	576	6.021569
9.28	179.00	0	

Reviewer: wickhamm, 02-Nov-2018 17:10:09

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

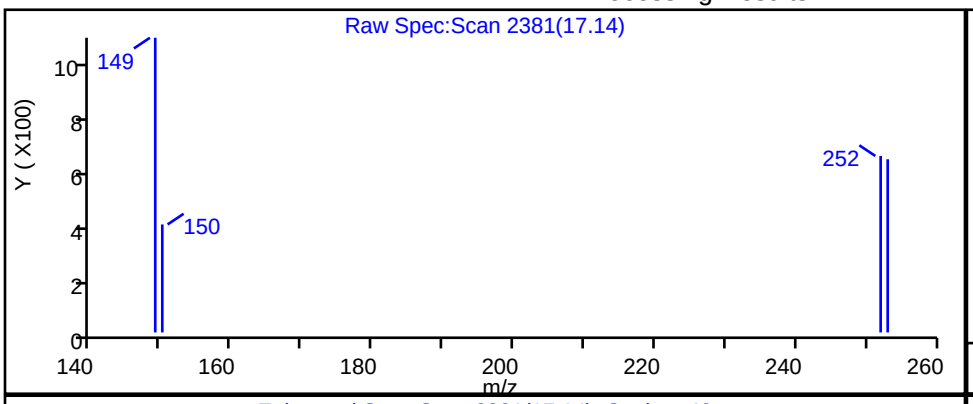
User Disabled Compound Report

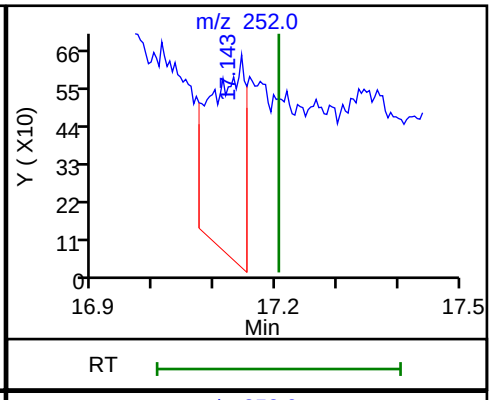
TestAmerica Denver

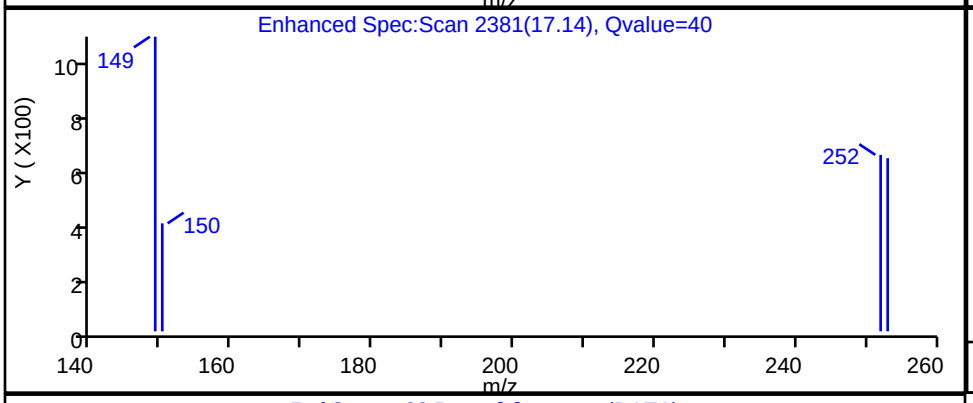
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4483.D
Injection Date: 01-Nov-2018 23:01:30 Instrument ID: SMS_F
Lims ID: MB 280-435408/1-A
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 11 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

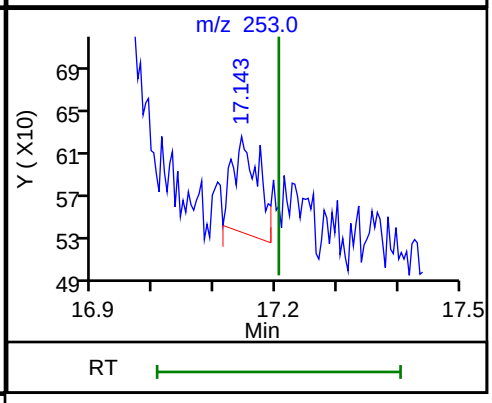
32 Benzo[a]pyrene, CAS: 50-32-8

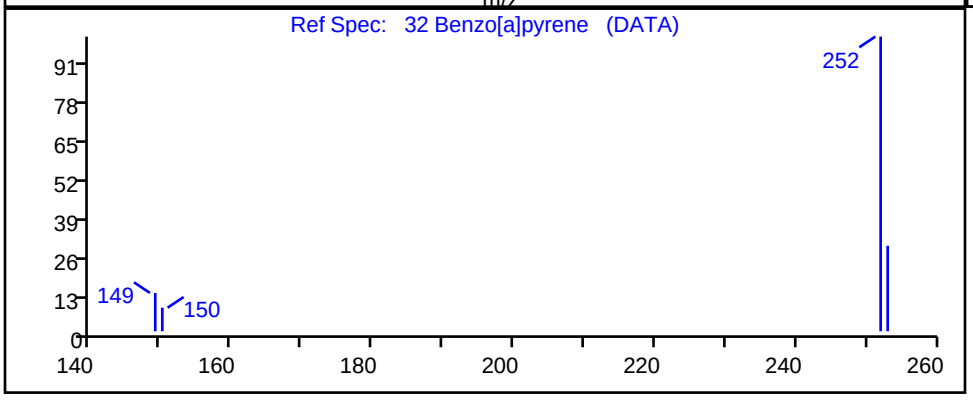
Processing Results











RT	Mass	Response	Amount
17.14	252.00	2352	22.326219
17.14	253.00	265	

Reviewer: wickhamm, 02-Nov-2018 17:10:16
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

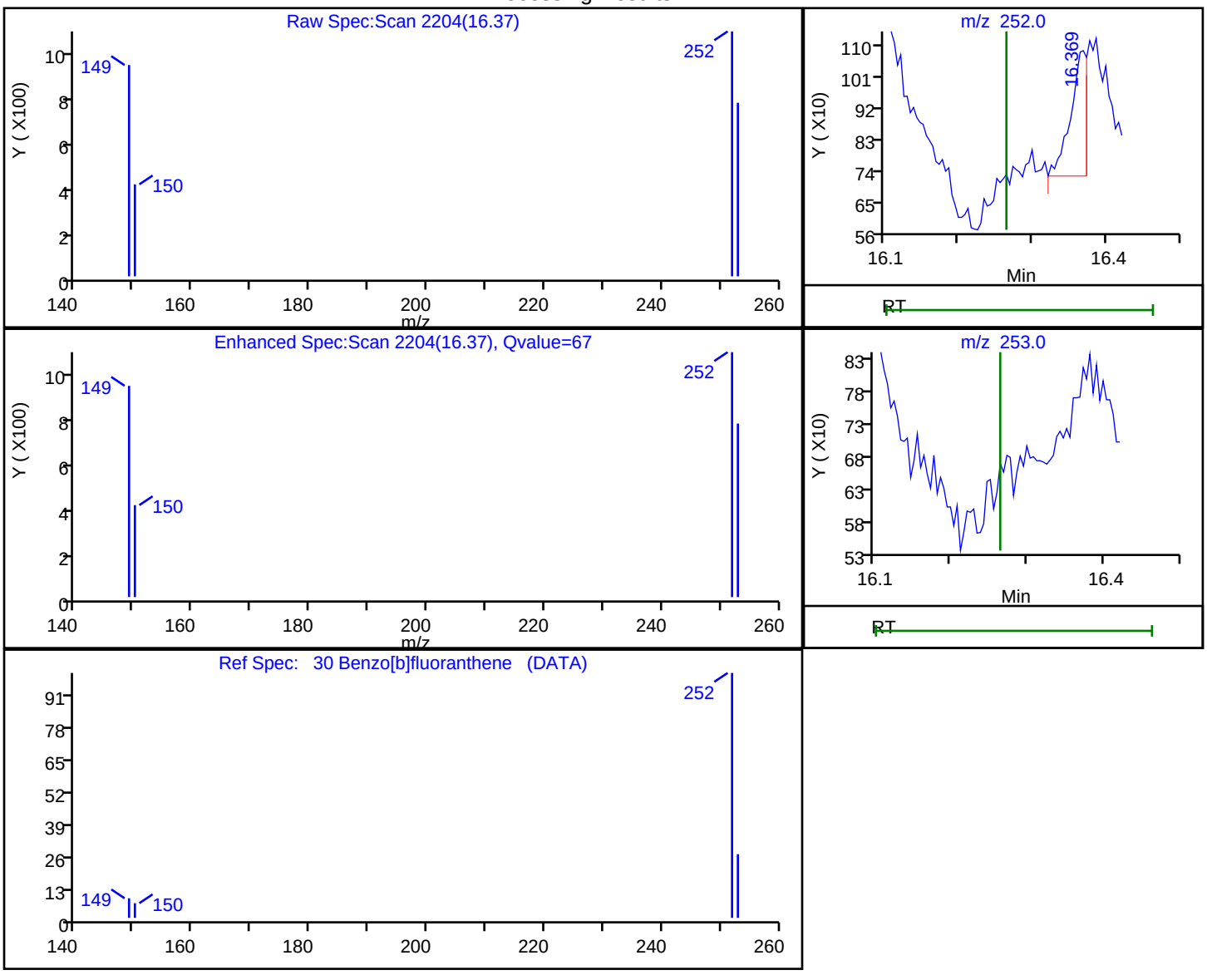
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4483.D				
Injection Date:	01-Nov-2018 23:01:30	Instrument ID:	SMS_F		
Lims ID:	MB 280-435408/1-A				
Client ID:					
Operator ID:	WICKHAMM	ALS Bottle#:	11	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

30 Benzo[b]fluoranthene, CAS: 205-99-2

Processing Results



RT	Mass	Response	Amount
16.37	252.00	565	4.232451
16.26	253.00	0	

Reviewer: wickhamm, 02-Nov-2018 17:10:13

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

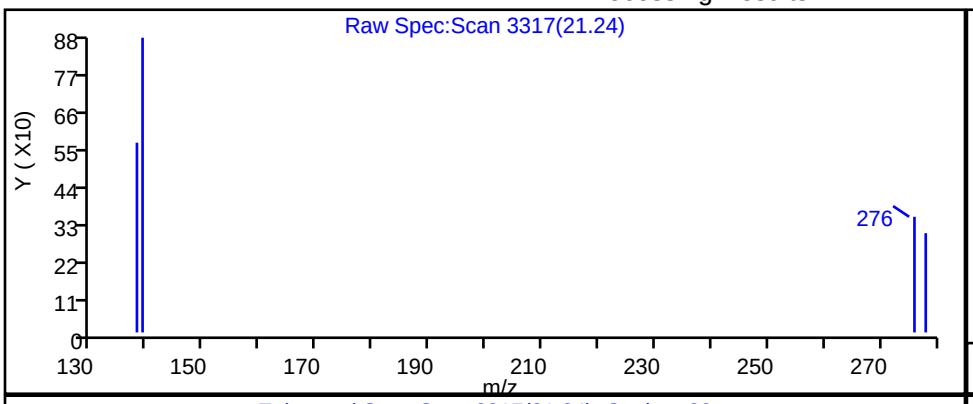
User Disabled Compound Report

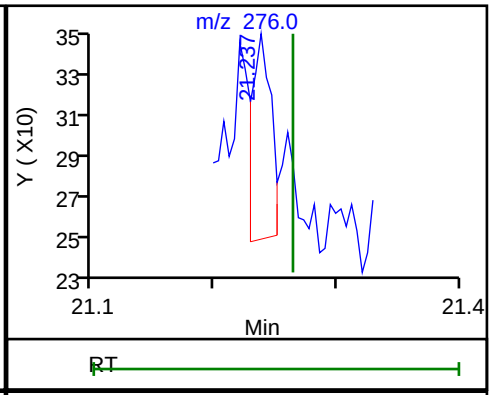
TestAmerica Denver

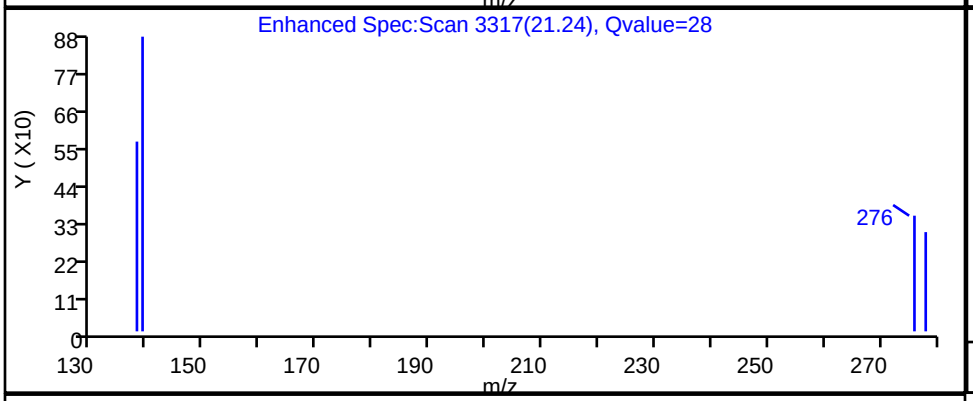
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4483.D				
Injection Date:	01-Nov-2018 23:01:30	Instrument ID:	SMS_F		
Lims ID:	MB 280-435408/1-A				
Client ID:					
Operator ID:	WICKHAMM	ALS Bottle#:	11	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

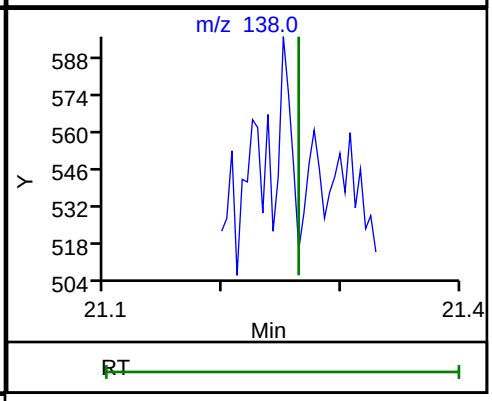
35 Benzo[g,h,i]perylene, CAS: 191-24-2

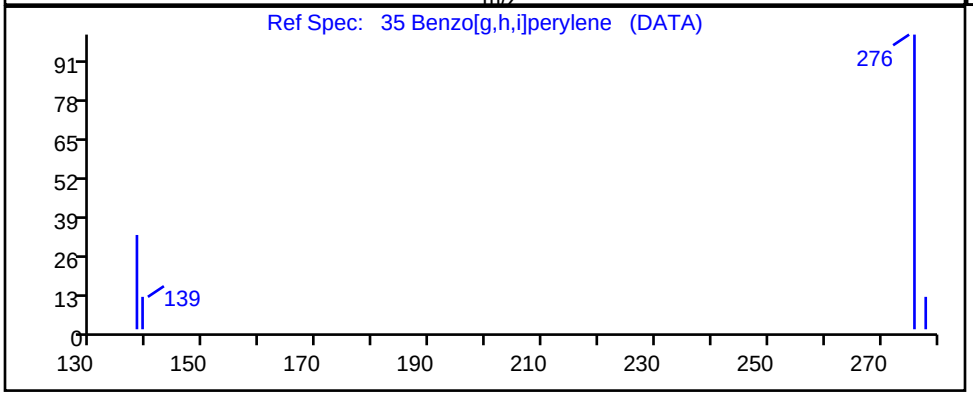
Processing Results











RT	Mass	Response	Amount
21.24	276.00	104	0.608310
21.26	138.00	0	

Reviewer: wickhamm, 02-Nov-2018 17:10:18

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

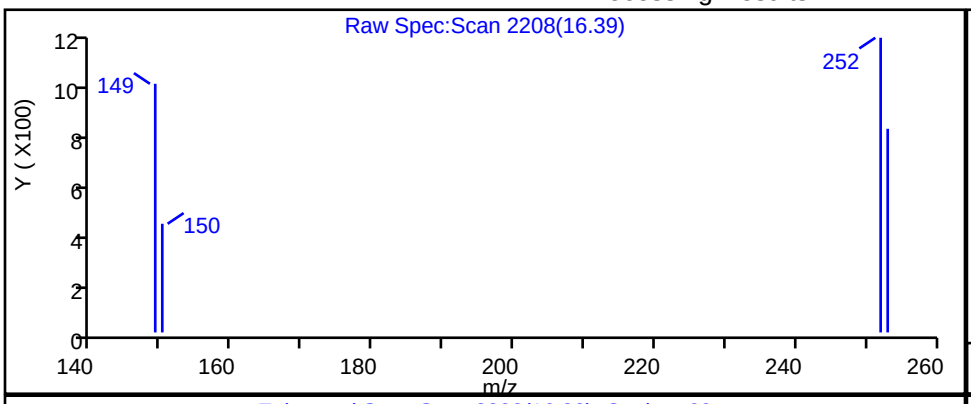
User Disabled Compound Report

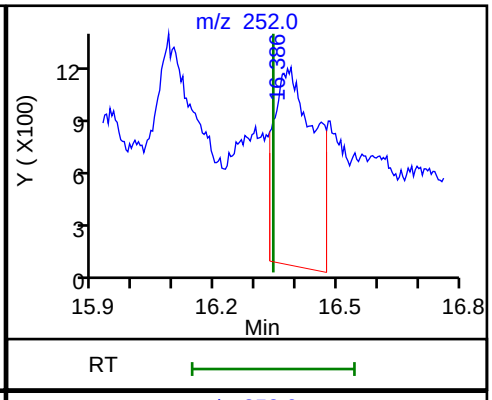
TestAmerica Denver

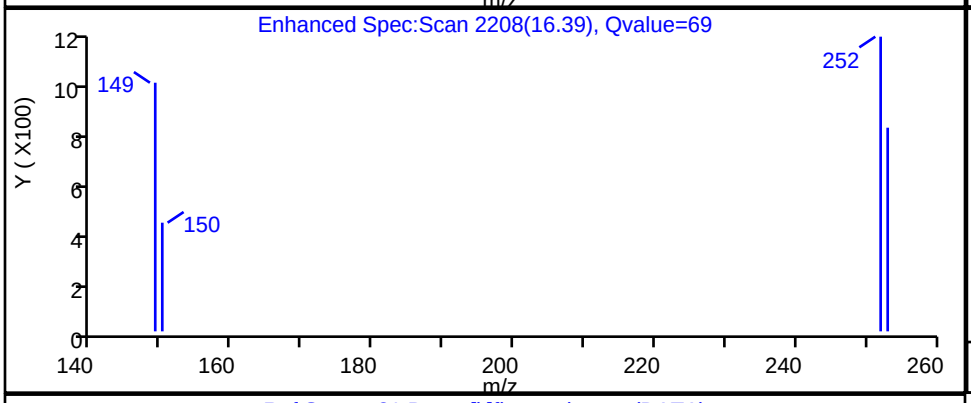
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4483.D				
Injection Date:	01-Nov-2018 23:01:30	Instrument ID:	SMS_F		
Lims ID:	MB 280-435408/1-A				
Client ID:					
Operator ID:	WICKHAMM	ALS Bottle#:	11	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

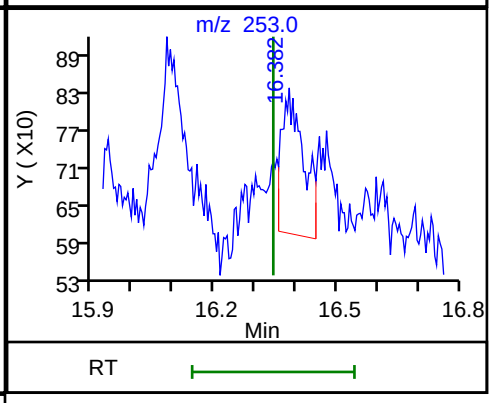
31 Benzo[k]fluoranthene, CAS: 207-08-9

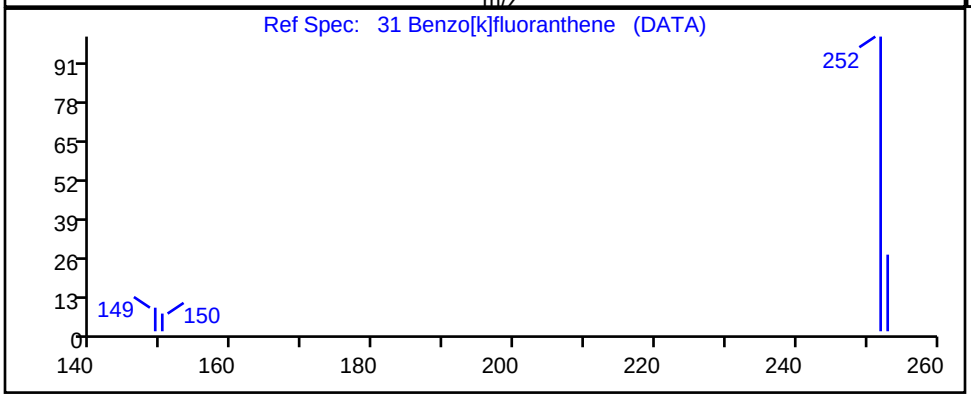
Processing Results











RT	Mass	Response	Amount
16.39	252.00	7521	57.388505
16.38	253.00	843	

Reviewer: wickhamm, 02-Nov-2018 17:10:15

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-435408/2-A

Matrix: Water | Lab File ID: F4484.D

Analysis Method: 8270D SIM | Date Collected:

Extract. Method: 3510C | Date Extracted: 10/29/2018 21:02

Sample wt/vol: 250(mL) | Date Analyzed: 11/01/2018 23:30

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	0.625		0.10	0.012	0.0059
91-57-6	2-Methylnaphthalene	0.598		0.10	0.012	0.0060
83-32-9	Acenaphthene	0.685		0.10	0.040	0.0042
208-96-8	Acenaphthylene	0.648		0.10	0.040	0.0051
120-12-7	Anthracene	0.704		0.10	0.040	0.0056
56-55-3	Benzo[a]anthracene	0.848		0.10	0.012	0.0042
50-32-8	Benzo[a]pyrene	0.731		0.10	0.012	0.0069
205-99-2	Benzo[b]fluoranthene	0.757		0.10	0.012	0.0031
191-24-2	Benzo[g,h,i]perylene	0.632		0.10	0.012	0.0062
207-08-9	Benzo[k]fluoranthene	0.803		0.10	0.012	0.0063
218-01-9	Chrysene	0.785		0.10	0.012	0.0033
53-70-3	Dibenz(a,h)anthracene	0.626		0.10	0.012	0.0041
206-44-0	Fluoranthene	0.783		0.10	0.012	0.0048
86-73-7	Fluorene	0.694		0.10	0.040	0.0055
193-39-5	Indeno[1,2,3-cd]pyrene	0.637		0.10	0.040	0.0045
91-20-3	Naphthalene	0.595		0.10	0.012	0.0080
85-01-8	Phenanthrene	0.716		0.10	0.020	0.0093
129-00-0	Pyrene	0.784		0.10	0.020	0.0061

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	66		53-106
4165-60-0	Nitrobenzene-d5	78		55-111
1718-51-0	Terphenyl-d14	87		58-132

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4484.D
Lims ID: LCS 280-435408/2-A
Client ID:
Sample Type: LCS
Inject. Date: 01-Nov-2018 23:30:30 ALS Bottle#: 12 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcs280-435408_2-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 17:11:18

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.721	-0.008	97	24762	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.215	-0.009	97	56551	600.0	600.0	
* 3 Chrysene-d12	240	13.358	13.376	-0.018	92	60502	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.251	5.256	-0.005	99	10089	500.0	390.7	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	100	20695	500.0	329.5	
$ 6 Terphenyl-d14	244	11.194	11.212	-0.018	99	36490	500.0	436.8	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.538	2.531	0.007	32	2517	225.0	132.2	
10 Naphthalene	128	5.980	5.985	-0.005	100	12339	225.0	148.8	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	97	8393	225.0	149.4	
12 1-Methylnaphthalene	142	6.761	6.769	-0.008	98	7911	225.0	156.2	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	9934	225.0	204.7	
14 Acenaphthylene	152	7.566	7.575	-0.008	99	10365	225.0	162.0	
15 Acenaphthene	153	7.739	7.747	-0.008	97	9294	225.0	171.1	
16 Dibenzofuran	168	7.915	7.915	0.000	93	13660	225.0	166.7	
17 Diethyl phthalate	149	8.109	8.119	-0.010	100	20628	225.0	436.2	
18 Fluorene	166	8.254	8.264	-0.010	95	11000	225.0	173.6	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	92	7020	225.0	166.9	
20 Phenanthrene	178	9.223	9.232	-0.009	100	20502	225.0	178.9	
21 Anthracene	178	9.275	9.284	-0.009	1	15140	225.0	175.9	
22 Di-n-butyl phthalate	149	9.768	9.785	-0.017	1	13371	225.0	263.5	
23 Fluoranthene	202	10.624	10.641	-0.017	98	23820	225.0	195.7	
24 Pyrene	202	10.969	10.987	-0.018	99	24046	225.0	196.0	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.331	13.349	-0.018	63	21749	225.0	211.9	
27 Chrysene	228	13.421	13.439	-0.018	96	24826	225.0	196.3	
28 Bis(2-ethylhexyl) phthalat	149	12.088	12.115	-0.027	1	4265	225.0	208.3	
29 Di-n-octyl phthalate	149	15.288	15.319	-0.031	1	7817	225.0	232.5	
30 Benzo[b]fluoranthene	252	16.233	16.264	-0.031	99	23044	225.0	189.3	
31 Benzo[k]fluoranthene	252	16.316	16.342	-0.026	100	24000	225.0	200.8	
32 Benzo[a]pyrene	252	17.173	17.204	-0.031	99	17565	225.0	182.8	
33 Indeno[1,2,3-cd]pyrene	276	20.485	20.520	-0.035	94	19616	225.0	159.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
34 Dibenz(a,h)anthracene	278	20.581	20.612	-0.031	87	20046	225.0	156.6	
35 Benzo[g,h,i]perylene	276	21.229	21.264	-0.035	96	24651	225.0	158.1	
$ 53 2-methylnaphthalene-d10	152	6.633	6.633	0.000	89	13627	500.0	317.2	
$ 54 Fluoranthene-d10	212	10.606	10.615	-0.009	100	43016	500.0	455.2	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

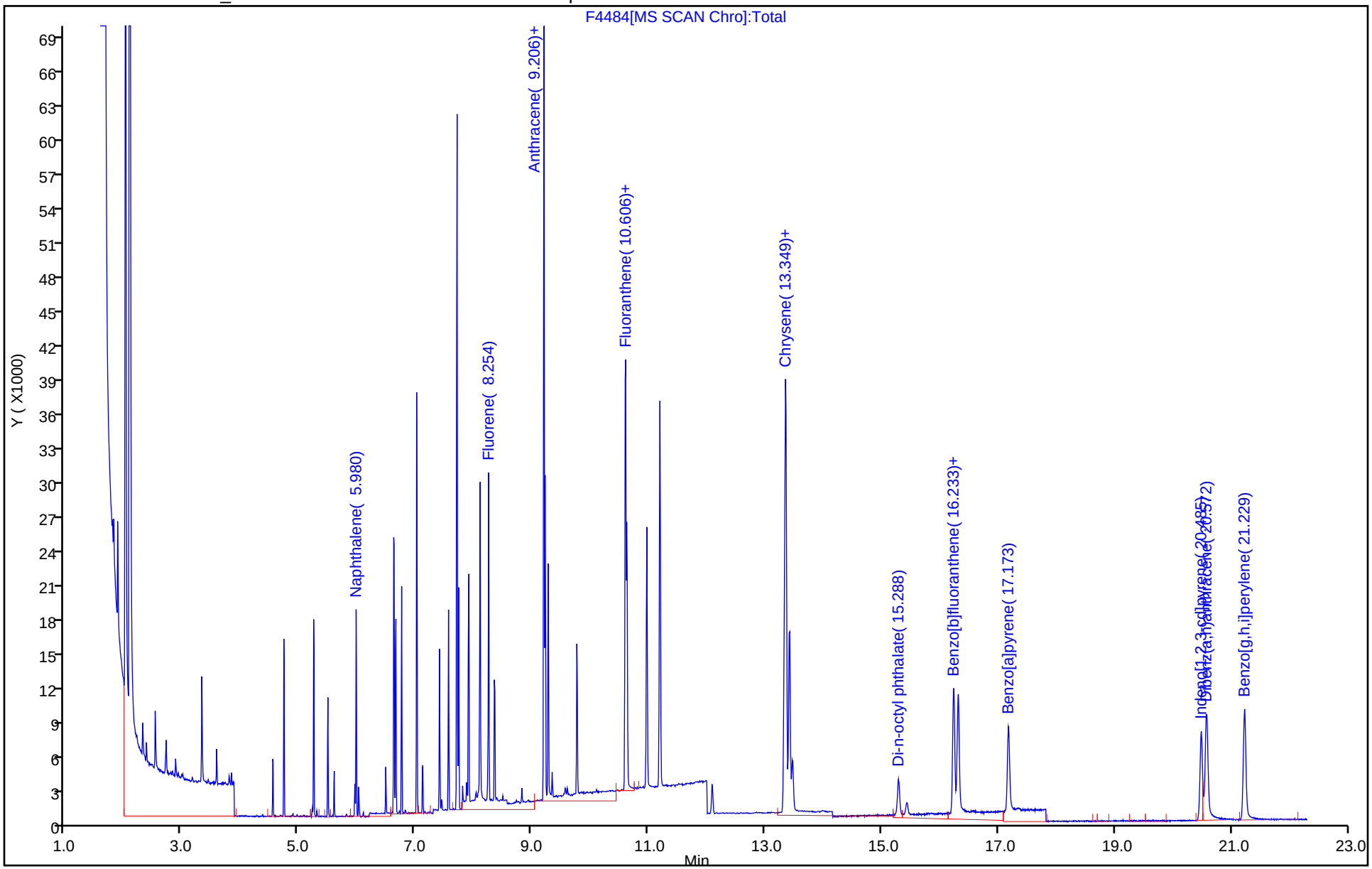
MS-SIM IS_00033 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 02-Nov-2018 17:20:19 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4484.D

Injection Date:	01-Nov-2018 23:30:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	LCS 280-435408/2-A			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4484.D
Lims ID: LCS 280-435408/2-A
Client ID:
Sample Type: LCS
Inject. Date: 01-Nov-2018 23:30:30 ALS Bottle#: 12 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcs280-435408_2-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 17:11:18

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Nitrobenzene-d5	500.0	390.7	78.14
$ 5 2-Fluorobiphenyl	500.0	329.5	65.91
$ 6 Terphenyl-d14	500.0	436.8	87.36
$ 53 2-methylnaphthalene-d10	500.0	317.2	63.45
$ 54 Fluoranthene-d10	500.0	455.2	91.03

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW MS | Lab Sample ID: 280-116020-1 MS

Matrix: Water | Lab File ID: F4486.D

Analysis Method: 8270D SIM | Date Collected: 10/24/2018 10:05

Extract. Method: 3510C | Date Extracted: 10/29/2018 21:02

Sample wt/vol: 248.1(mL) | Date Analyzed: 11/02/2018 00:29

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	0.559		0.10	0.012	0.0059
91-57-6	2-Methylnaphthalene	0.516		0.10	0.012	0.0060
83-32-9	Acenaphthene	0.552	Q	0.10	0.040	0.0042
208-96-8	Acenaphthylene	0.529	Q	0.10	0.040	0.0051
120-12-7	Anthracene	0.572	Q	0.10	0.040	0.0056
56-55-3	Benzo[a]anthracene	0.634		0.10	0.012	0.0042
50-32-8	Benzo[a]pyrene	0.524		0.10	0.012	0.0070
205-99-2	Benzo[b]fluoranthene	0.594		0.10	0.012	0.0031
191-24-2	Benzo[g,h,i]perylene	0.577		0.10	0.012	0.0062
207-08-9	Benzo[k]fluoranthene	0.617		0.10	0.012	0.0063
218-01-9	Chrysene	0.773		0.10	0.012	0.0033
53-70-3	Dibenz(a,h)anthracene	0.536		0.10	0.012	0.0041
206-44-0	Fluoranthene	0.695	Q	0.10	0.012	0.0048
86-73-7	Fluorene	0.564	Q	0.10	0.040	0.0055
193-39-5	Indeno[1,2,3-cd]pyrene	0.541		0.10	0.040	0.0045
91-20-3	Naphthalene	0.542		0.10	0.012	0.0081
85-01-8	Phenanthrene	0.630	Q	0.10	0.020	0.0094
129-00-0	Pyrene	0.662	Q	0.10	0.020	0.0061

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	51	Q	53-106
4165-60-0	Nitrobenzene-d5	63		55-111
1718-51-0	Terphenyl-d14	84		58-132

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4486.D
Lims ID: 280-116020-C-1-A MS
Client ID: DET-003-181001-GW
Sample Type: MS
Inject. Date: 02-Nov-2018 00:29:30 ALS Bottle#: 14 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-c-1-ams
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 17:12:23

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.721	-0.008	95	24603	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.215	-0.009	97	56128	600.0	600.0	
* 3 Chrysene-d12	240	13.349	13.376	-0.027	94	52898	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.251	5.256	-0.005	99	8063	500.0	314.3	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	100	15793	500.0	253.1	
$ 6 Terphenyl-d14	244	11.194	11.212	-0.018	99	34926	500.0	421.2	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.538	2.531	0.007	14	2063	225.0	109.1	
10 Naphthalene	128	5.980	5.985	-0.005	100	11070	225.0	134.4	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	96	7144	225.0	128.0	
12 1-Methylnaphthalene	142	6.761	6.769	-0.008	96	6984	225.0	138.8	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	8416	225.0	174.5	
14 Acenaphthylene	152	7.566	7.575	-0.008	99	8336	225.0	131.1	
15 Acenaphthene	153	7.739	7.747	-0.008	98	7392	225.0	137.0	
16 Dibenzofuran	168	7.915	7.915	0.000	91	11417	225.0	140.3	
17 Diethyl phthalate	149	8.109	8.119	-0.010	98	18419	225.0	392.0	
18 Fluorene	166	8.255	8.264	-0.009	98	8805	225.0	139.8	
19 N-Nitrosodiphenylamine	169	8.352	8.361	-0.009	98	5632	225.0	134.9	
20 Phenanthrene	178	9.223	9.232	-0.009	100	17784	225.0	156.4	
21 Anthracene	178	9.275	9.284	-0.009	1	12115	225.0	141.9	
22 Di-n-butyl phthalate	149	9.768	9.785	-0.017	1	11437	225.0	228.2	
23 Fluoranthene	202	10.624	10.641	-0.017	99	20850	225.0	172.6	
24 Pyrene	202	10.970	10.987	-0.017	99	20011	225.0	164.3	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.331	13.349	-0.018	89	14109	225.0	157.2	
27 Chrysene	228	13.412	13.439	-0.027	97	21208	225.0	191.8	
28 Bis(2-ethylhexyl) phthalat	149	12.088	12.115	-0.027	1	2905	225.0	143.0	
29 Di-n-octyl phthalate	149	15.284	15.319	-0.035	1	4810	225.0	169.8	
30 Benzo[b]fluoranthene	252	16.233	16.264	-0.031	100	15690	225.0	147.4	
31 Benzo[k]fluoranthene	252	16.312	16.342	-0.030	100	15995	225.0	153.1	
32 Benzo[a]pyrene	252	17.174	17.204	-0.030	99	10915	225.0	129.9	
33 Indeno[1,2,3-cd]pyrene	276	20.481	20.520	-0.039	94	14462	225.0	134.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
34 Dibenz(a,h)anthracene	278	20.573	20.612	-0.039	88	14891	225.0	133.0	
35 Benzo[g,h,i]perylene	276	21.224	21.264	-0.040	96	19526	225.0	143.2	
$ 53 2-methylnaphthalene-d10	152	6.633	6.633	0.000	89	10229	500.0	239.7	
$ 54 Fluoranthene-d10	212	10.598	10.615	-0.017	99	36608	500.0	390.3	
38 Pentachlorophenol_T	266		3.879					ND	
40 Benzidine_T	184		4.963					ND	
41 4,4'-DDE	246		4.147					ND	
42 4,4'-DDD	235		5.396					ND	
43 4,4'-DDT	235		5.620					ND	
S 44 TPAH	1		0.000					ND	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

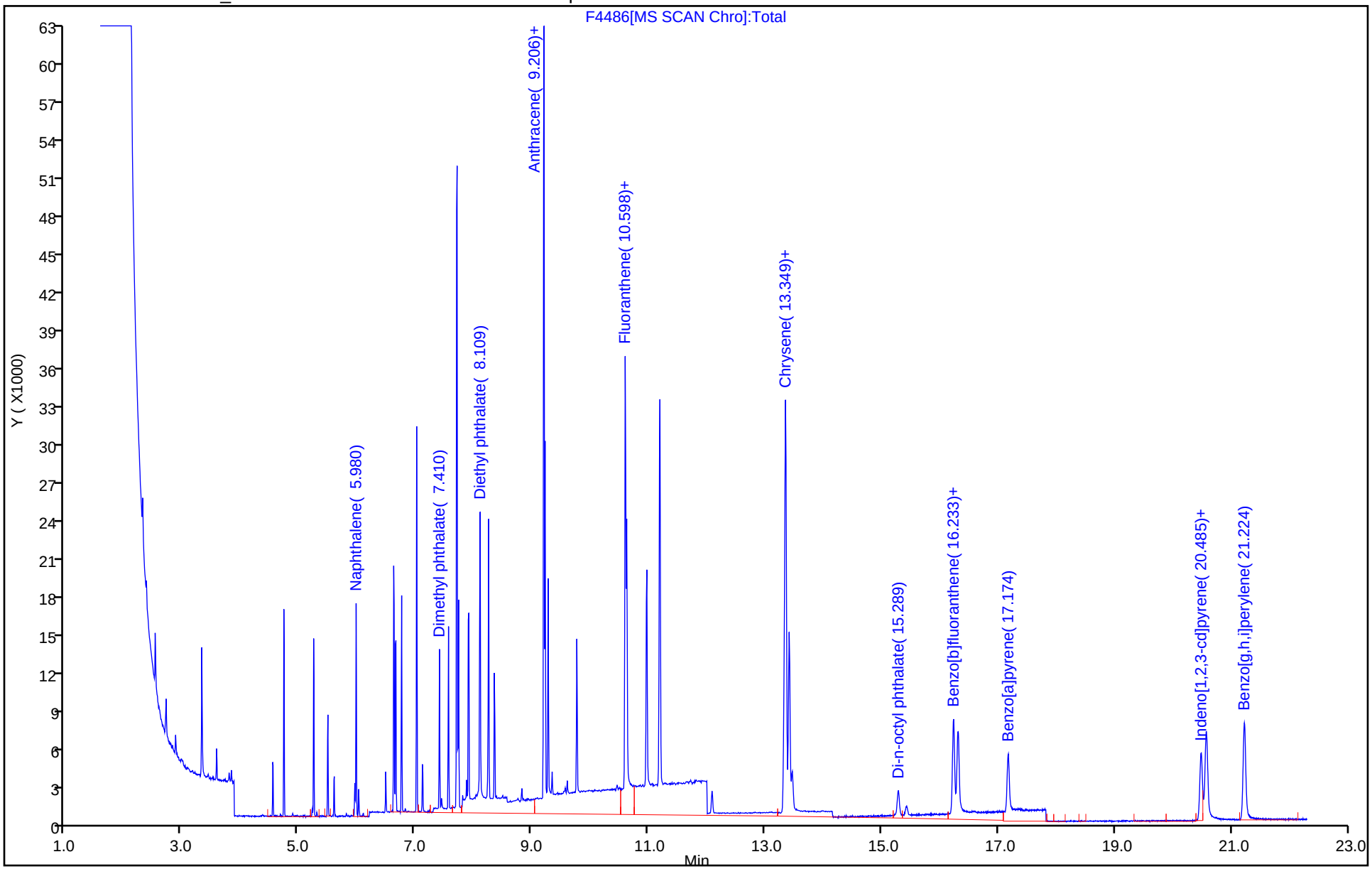
MS-SIM IS_00033 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 02-Nov-2018 17:20:23 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4486.D

Injection Date:	02-Nov-2018 00:29:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	280-116020-C-1-A MS			Worklist Smp#:	15
Client ID:	DET-003-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4486.D
Lims ID: 280-116020-C-1-A MS
Client ID: DET-003-181001-GW
Sample Type: MS
Inject. Date: 02-Nov-2018 00:29:30 ALS Bottle#: 14 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-c-1-ams
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 17:12:23

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Nitrobenzene-d5	500.0	314.3	62.86
$ 5 2-Fluorobiphenyl	500.0	253.1	50.62
$ 6 Terphenyl-d14	500.0	421.2	84.25
$ 53 2-methylnaphthalene-d10	500.0	239.7	47.93
$ 54 Fluoranthene-d10	500.0	390.3	78.06

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW MSD | Lab Sample ID: 280-116020-1 MSD

Matrix: Water | Lab File ID: F4487.D

Analysis Method: 8270D SIM | Date Collected: 10/24/2018 10:05

Extract. Method: 3510C | Date Extracted: 10/29/2018 21:02

Sample wt/vol: 247.1(mL) | Date Analyzed: 11/02/2018 00:59

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	0.632		0.10	0.012	0.0060
91-57-6	2-Methylnaphthalene	0.595		0.10	0.012	0.0061
83-32-9	Acenaphthene	0.645		0.10	0.040	0.0042
208-96-8	Acenaphthylene	0.580		0.10	0.040	0.0052
120-12-7	Anthracene	0.599		0.10	0.040	0.0057
56-55-3	Benzo[a]anthracene	0.635		0.10	0.012	0.0042
50-32-8	Benzo[a]pyrene	0.523		0.10	0.012	0.0070
205-99-2	Benzo[b]fluoranthene	0.604		0.10	0.012	0.0031
191-24-2	Benzo[g,h,i]perylene	0.589	M	0.10	0.012	0.0063
207-08-9	Benzo[k]fluoranthene	0.670		0.10	0.012	0.0064
218-01-9	Chrysene	0.800		0.10	0.012	0.0033
53-70-3	Dibenz(a,h)anthracene	0.520		0.10	0.012	0.0041
206-44-0	Fluoranthene	0.677		0.10	0.012	0.0049
86-73-7	Fluorene	0.611		0.10	0.040	0.0056
193-39-5	Indeno[1,2,3-cd]pyrene	0.524		0.10	0.040	0.0046
91-20-3	Naphthalene	0.613		0.10	0.012	0.0081
85-01-8	Phenanthrene	0.670		0.10	0.020	0.0094
129-00-0	Pyrene	0.654		0.10	0.020	0.0062

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	60		53-106
4165-60-0	Nitrobenzene-d5	69		55-111
1718-51-0	Terphenyl-d14	83		58-132

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4487.D
Lims ID: 280-116020-C-1-B MSD
Client ID: DET-003-181001-GW
Sample Type: MSD
Inject. Date: 02-Nov-2018 00:59:30 ALS Bottle#: 15 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-c-1-bmsd
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 17:13:28

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.721	-0.008	96	24195	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.215	-0.009	97	55354	600.0	600.0	
* 3 Chrysene-d12	240	13.349	13.376	-0.027	94	50426	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.251	5.256	-0.005	99	8708	500.0	345.1	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	100	18555	500.0	302.4	
$ 6 Terphenyl-d14	244	11.194	11.212	-0.018	99	33795	500.0	413.3	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.537	2.531	0.006	29	1944	225.0	104.5	
10 Naphthalene	128	5.980	5.985	-0.005	100	12281	225.0	151.6	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	95	8076	225.0	147.1	
12 1-Methylnaphthalene	142	6.761	6.769	-0.008	95	7734	225.0	156.2	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	8337	225.0	175.8	
14 Acenaphthylene	152	7.566	7.575	-0.008	99	8954	225.0	143.2	
15 Acenaphthene	153	7.739	7.747	-0.008	97	8451	225.0	159.3	
16 Dibenzofuran	168	7.915	7.915	0.000	92	12651	225.0	158.0	
17 Diethyl phthalate	149	8.109	8.119	-0.010	99	17297	225.0	374.4	a
18 Fluorene	166	8.254	8.264	-0.010	95	9345	225.0	150.9	
19 N-Nitrosodiphenylamine	169	8.352	8.361	-0.009	95	5584	225.0	135.6	
20 Phenanthrene	178	9.223	9.232	-0.009	100	18559	225.0	165.5	
21 Anthracene	178	9.275	9.284	-0.009	1	12466	225.0	148.0	
22 Di-n-butyl phthalate	149	9.768	9.785	-0.017	1	10245	225.0	207.9	
23 Fluoranthene	202	10.624	10.641	-0.017	99	19939	225.0	167.3	
24 Pyrene	202	10.969	10.987	-0.018	99	19400	225.0	161.6	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.322	13.349	-0.027	54	13428	225.0	157.0	
27 Chrysene	228	13.412	13.439	-0.027	97	20841	225.0	197.7	
28 Bis(2-ethylhexyl) phthalat	149	12.088	12.115	-0.027	1	2730	225.0	136.2	
29 Di-n-octyl phthalate	149	15.288	15.319	-0.031	1	4624	225.0	171.1	
30 Benzo[b]fluoranthene	252	16.229	16.264	-0.035	100	15136	225.0	149.2	
31 Benzo[k]fluoranthene	252	16.307	16.342	-0.035	100	16496	225.0	165.6	
32 Benzo[a]pyrene	252	17.169	17.204	-0.035	99	10357	225.0	129.3	
33 Indeno[1,2,3-cd]pyrene	276	20.476	20.520	-0.044	95	13293	225.0	129.5	

	Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
	34 Dibenz(a,h)anthracene	278	20.572	20.612	-0.040	87	13699	225.0	128.4	
	35 Benzo[g,h,i]perylene	276	21.220	21.264	-0.044	97	18920	225.0	145.6	a
$	53 2-methylnaphthalene-d10	152	6.625	6.633	-0.008	96	11923	500.0	284.1	
$	54 Fluoranthene-d10	212	10.598	10.615	-0.017	99	34617	500.0	374.2	
	38 Pentachlorophenol_T	266		3.879					ND	
	40 Benzidine_T	184		4.963					ND	
	41 4,4'-DDE	246		4.147					ND	
	42 4,4'-DDD	235		5.396					ND	
	43 4,4'-DDT	235		5.620					ND	
S	44 TPAH	1		0.000					ND	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

a - User Assigned ID

Reagents:

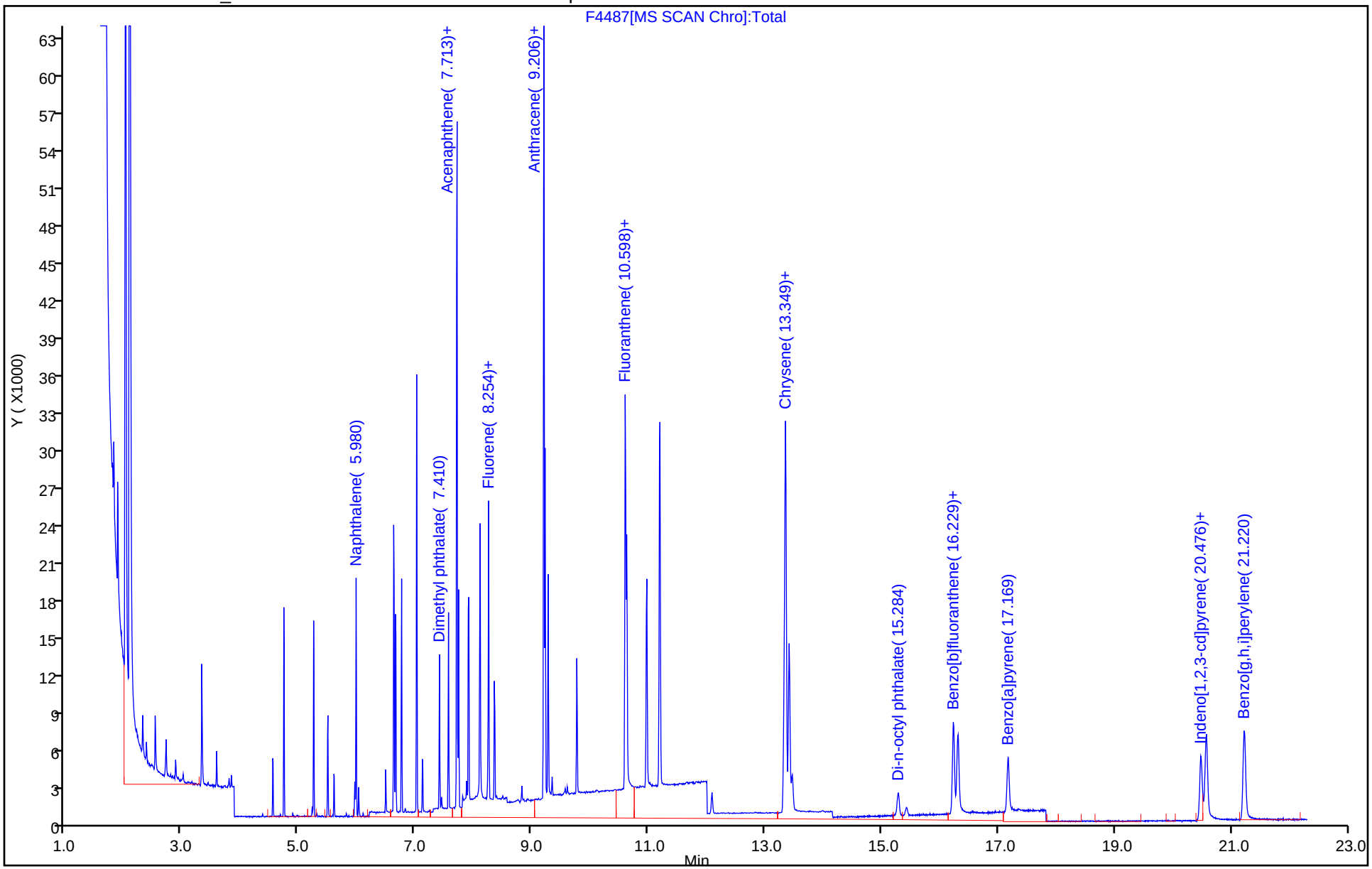
MS-SIM IS_00033 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 02-Nov-2018 17:20:25 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4487.D

Injection Date:	02-Nov-2018 00:59:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	280-116020-C-1-B MSD			Worklist Smp#:	16
Client ID:	DET-003-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4487.D
Lims ID: 280-116020-C-1-B MSD
Client ID: DET-003-181001-GW
Sample Type: MSD
Inject. Date: 02-Nov-2018 00:59:30 ALS Bottle#: 15 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-c-1-bmsd
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 17:13:28

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Nitrobenzene-d5	500.0	345.1	69.03
$ 5 2-Fluorobiphenyl	500.0	302.4	60.48
$ 6 Terphenyl-d14	500.0	413.3	82.66
$ 53 2-methylnaphthalene-d10	500.0	284.1	56.81
$ 54 Fluoranthene-d10	500.0	374.2	74.84

Manual Integration/User Assign Peak Report

TestAmerica Denver

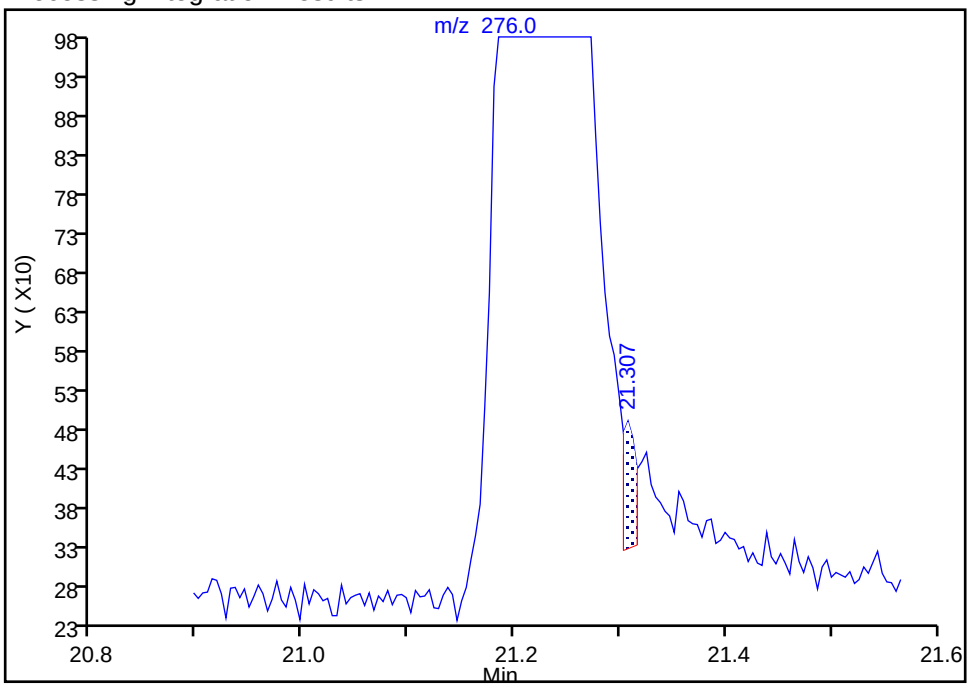
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4487.D				
Injection Date:	02-Nov-2018 00:59:30	Instrument ID:	SMS_F		
Lims ID:	280-116020-C-1-B MSD				
Client ID:	DET-003-181001-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

35 Benzo[g,h,i]perylene, CAS: 191-24-2

Signal: 1

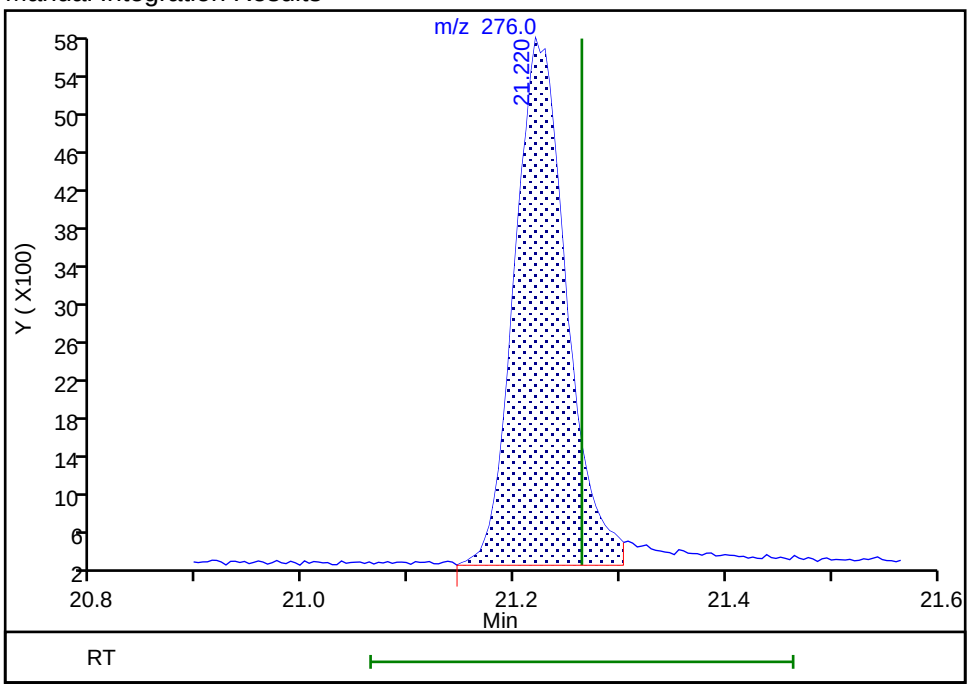
Processing Integration Results

RT: 21.31
Area: 144
Amount: 1.108007
Amount Units: ng/ml



Manual Integration Results

RT: 21.22
Area: 18920
Amount: 145.5798
Amount Units: ng/ml



Reviewer: wickhamm, 02-Nov-2018 17:13:24

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_F Start Date: 10/29/2018 15:45

Analysis Batch Number: 435404 End Date: 10/29/2018 20:30

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-435404/2		10/29/2018 15:45	1	F4397.D	Rxi-5Sil MS 0.25(mm)
ICIS 280-435404/3		10/29/2018 16:02	1	F4398.D	Rxi-5Sil MS 0.25(mm)
STD0001 280-435404/4 IC		10/29/2018 16:32	1	F4399.D	Rxi-5Sil MS 0.25(mm)
STD0002 280-435404/5 IC		10/29/2018 17:02	1	F4400.D	Rxi-5Sil MS 0.25(mm)
STD0500 280-435404/6 IC		10/29/2018 17:32	1	F4401.D	Rxi-5Sil MS 0.25(mm)
STD0100 280-435404/7 IC		10/29/2018 18:01	1	F4402.D	Rxi-5Sil MS 0.25(mm)
STD0300 280-435404/8 IC		10/29/2018 18:31	1	F4403.D	Rxi-5Sil MS 0.25(mm)
STD1200 280-435404/9 IC		10/29/2018 19:01	1	F4404.D	Rxi-5Sil MS 0.25(mm)
STD2500 280-435404/10 IC		10/29/2018 19:31	1	F4405.D	Rxi-5Sil MS 0.25(mm)
STD5000 280-435404/11 IC		10/29/2018 20:00	1	F4406.D	Rxi-5Sil MS 0.25(mm)
ICV 280-435404/12		10/29/2018 20:30	1	F4407.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_F Start Date: 11/01/2018 18:15

Analysis Batch Number: 435950 End Date: 11/02/2018 05:24

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-435950/2		11/01/2018 18:15	1	F4473.D	Rxi-5Sil MS 0.25(mm)
CCV 280-435950/3		11/01/2018 18:29	1	F4474.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 19:05	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 19:34	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 20:04	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 20:33	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 21:03	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 21:32	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 22:02	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 22:31	1		Rxi-5Sil MS 0.25(mm)
MB 280-435408/1-A		11/01/2018 23:01	1	F4483.D	Rxi-5Sil MS 0.25(mm)
LCS 280-435408/2-A		11/01/2018 23:30	1	F4484.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 00:00	1		Rxi-5Sil MS 0.25(mm)
280-116020-1 MS		11/02/2018 00:29	1	F4486.D	Rxi-5Sil MS 0.25(mm)
280-116020-1 MSD		11/02/2018 00:59	1	F4487.D	Rxi-5Sil MS 0.25(mm)
280-116020-2		11/02/2018 01:28	1	F4488.D	Rxi-5Sil MS 0.25(mm)
280-116020-12		11/02/2018 01:58	1	F4489.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 02:27	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 02:57	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 03:26	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 03:55	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 04:25	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 04:54	1		Rxi-5Sil MS 0.25(mm)
CCVC 280-435950/25		11/02/2018 05:24	1	F4496.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_F Start Date: 11/07/2018 19:54

Analysis Batch Number: 436730 End Date: 11/08/2018 00:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-436730/2		11/07/2018 19:54	1	F4561.D	Rxi-5Sil MS 0.25(mm)
ICIS 280-436730/3		11/07/2018 20:06	1	F4562.D	Rxi-5Sil MS 0.25(mm)
STD0500 280-436730/6 IC		11/07/2018 20:35	1	F4563.D	Rxi-5Sil MS 0.25(mm)
STD0100 280-436730/7 IC		11/07/2018 21:05	1	F4564.D	Rxi-5Sil MS 0.25(mm)
STD0001 280-436730/4 IC		11/07/2018 21:34	1	F4565.D	Rxi-5Sil MS 0.25(mm)
STD0002 280-436730/5 IC		11/07/2018 22:02	1	F4566.D	Rxi-5Sil MS 0.25(mm)
STD0300 280-436730/8 IC		11/07/2018 22:31	1	F4567.D	Rxi-5Sil MS 0.25(mm)
STD1200 280-436730/9 IC		11/07/2018 23:00	1	F4568.D	Rxi-5Sil MS 0.25(mm)
STD2500 280-436730/10 IC		11/07/2018 23:29	1	F4569.D	Rxi-5Sil MS 0.25(mm)
STD5000 280-436730/11 IC		11/07/2018 23:58	1	F4570.D	Rxi-5Sil MS 0.25(mm)
ICV 280-436730/12		11/08/2018 00:27	1	F4571.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SMS_F Start Date: 11/08/2018 15:41

Analysis Batch Number: 436903 End Date: 11/09/2018 02:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-436903/2		11/08/2018 15:41	1	F4553.D	Rxi-5Sil MS 0.25(mm)
CCV 280-436903/3		11/08/2018 15:54	1	F4554.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 16:59	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 17:28	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 17:58	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 18:27	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 18:57	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 19:26	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 19:56	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 20:26	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 20:55	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 21:25	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 21:55	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 22:25	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 22:54	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 23:24	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/08/2018 23:54	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/09/2018 00:23	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/09/2018 00:53	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/09/2018 01:23	1		Rxi-5Sil MS 0.25(mm)
280-116020-1		11/09/2018 01:53	1	F4573.D	Rxi-5Sil MS 0.25(mm)
CCVC 280-436903/23		11/09/2018 02:22	1	F4574.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435408 Batch Start Date: 10/29/18 21:02 Batch Analyst: Exstrum, Adam J

Batch Method: 3510C Batch End Date: 10/30/18 12:19

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	8270BO-SIMLCS 00031
MB 280-435408/1		3510C, 8270D SIM				250 mL	1 mL	7 SU	
LCS 280-435408/2		3510C, 8270D SIM				250 mL	1 mL	7 SU	0.25 mL
280-116020-H-1	DET-003-181001-GW	3510C, 8270D SIM	T	422.1 g	182.9 g	239.2 mL	1 mL	7 SU	
280-116020-C-1 MS	DET-003-181001-GW	3510C, 8270D SIM	T	429.3 g	181.2 g	248.1 mL	1 mL	7 SU	0.25 mL
280-116020-C-1 MSD	DET-003-181001-GW	3510C, 8270D SIM	T	429.4 g	182.3 g	247.1 mL	1 mL	7 SU	0.25 mL
280-116020-E-2	DET-003-181002-GW	3510C, 8270D SIM	T	425.5 g	181.0 g	244.5 mL	1 mL	7 SU	
280-116020-H-12	DET-004-181001-GW	3510C, 8270D SIM	T	404.9 g	183.1 g	221.8 mL	1 mL	7 SU	

Lab Sample ID	Client Sample ID	Method Chain	Basis	SIM_LVI_SURR 00006					
MB 280-435408/1		3510C, 8270D SIM		0.25 mL					
LCS 280-435408/2		3510C, 8270D SIM		0.25 mL					
280-116020-H-1	DET-003-181001-GW	3510C, 8270D SIM	T	0.25 mL					
280-116020-C-1 MS	DET-003-181001-GW	3510C, 8270D SIM	T	0.25 mL					
280-116020-C-1 MSD	DET-003-181001-GW	3510C, 8270D SIM	T	0.25 mL					
280-116020-E-2	DET-003-181002-GW	3510C, 8270D SIM	T	0.25 mL					
280-116020-H-12	DET-004-181001-GW	3510C, 8270D SIM	T	0.25 mL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435408 Batch Start Date: 10/29/18 21:02 Batch Analyst: Exstrum, Adam J

Batch Method: 3510C Batch End Date: 10/30/18 12:19

Batch Notes	
Balance ID	24750399
Batch Comment	DV-OP-0006/0007
Analyst ID - Concentration	MF/CR
Concentration 1 Corrected Temperature	84/84 Degrees C
Equipment ID - Concentration 1	A/B
Analyst ID - Extraction	AE
Method/Fraction	3510C_LVI/8270D_SIM_DOD5
Na2SO4 ID	0000205461_00006
NaCl ID	181957
Pipette/Syringe/Dispenser ID	1n2s
Prep Solvent ID	MeCl2_Cycl_00410
Prep Solvent Volume Used	90 mL
Analyst ID - Spike Analyst	AE
Analyst ID - Spike Witness Analyst	Reviewer: RC
Sufficient Volume for Batch QC	Yes
Concentration 1 Uncorrected Temperature	85/83 Degrees C
Reagent Water ID	S. ELGA

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8081B_DOD5

Organochlorine Pesticides (GC)

FORM II
PESTICIDES SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): CLP1 ID: 0.32(mm) GC Column (2): CLP2 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCX1 #	TCX2 #	DCBP1 #	DCBP2 #
DET-003-181001-GW	280-116020-1	63 M			82
DET-003-181002-GW	280-116020-2	75			89
LL1mw-083-181001-GW	280-116020-5	68			73
LL1mw-084-181001-GW	280-116020-6	68			74
DET-004-181001-GW	280-116020-12	74			102
	MB 280-435616/1-A	78		104	
	LCS 280-435616/2-A	75		106	
	LCS 280-435616/6-A	73		90	
	LCSD 280-435616/3-A	82	80	115	96
	LCSD 280-435616/7-A	77	76	98	82

	QC LIMITS
TCX = Tetrachloro-m-xylene	44-124
DCBP = DCB Decachlorobiphenyl	34-122

Column to be used to flag recovery values

FORM II 8081B

FORM III
PESTICIDES LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11190029.D

Lab ID: LCS 280-435616/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
4,4'-DDD	0.500	0.557	111	56-143	
4,4'-DDE	0.500	0.519	104	57-135	
4,4'-DDT	0.500	0.571	114	51-143	
Aldrin	0.500	0.461	92	45-134	
alpha-BHC	0.500	0.510	102	54-138	
alpha-Chlordane	0.500	0.543	109	60-129	
beta-BHC	0.500	0.512	102	56-136	
delta-BHC	0.500	0.541	108	52-142	
Dieldrin	0.500	0.566	113	60-136	
Endosulfan I	0.500	0.513	103	62-126	
Endosulfan II	0.500	0.478	96	52-135	
Endosulfan sulfate	0.500	0.565	113	62-133	
Endrin	0.500	0.559	112	60-138	
Endrin aldehyde	0.500	0.471	94	51-132	
Endrin ketone	0.500	0.554	111	58-134	
gamma-BHC (Lindane)	0.500	0.529	106	59-134	
gamma-Chlordane	0.500	0.542	108	56-136	
Heptachlor	0.500	0.502	100	54-130	
Heptachlor epoxide	0.500	0.557	111	61-133	
Methoxychlor	0.500	0.616	123	54-145	

Column to be used to flag recovery and RPD values

FORM III 8081B

FORM III
PESTICIDES LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11190031.D

Lab ID: LCS 280-435616/6-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Toxaphene	2.00	2.11	106	33-134	

Column to be used to flag recovery and RPD values

FORM III 8081B

FORM III
PESTICIDES LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11190030.D

Lab ID: LCSD 280-435616/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
4,4'-DDD	0.500	0.592	118	6	30	56-143	
4,4'-DDD	0.500	0.541	108	7	30	56-143	
4,4'-DDE	0.500	0.554	111	6	30	57-135	
4,4'-DDE	0.500	0.517	103	6	30	57-135	
4,4'-DDT	0.500	0.598	120	5	30	51-143	
4,4'-DDT	0.500	0.596	119	6	30	51-143	
Aldrin	0.500	0.487	97	5	30	45-134	
Aldrin	0.500	0.458	92	5	30	45-134	
alpha-BHC	0.500	0.540	108	6	30	54-138	
alpha-BHC	0.500	0.524	105	6	30	54-138	
alpha-Chlordane	0.500	0.576	115	6	30	60-129	
alpha-Chlordane	0.500	0.533	107	6	30	60-129	
beta-BHC	0.500	0.540	108	5	30	56-136	
beta-BHC	0.500	0.492	98	5	30	56-136	
delta-BHC	0.500	0.565	113	4	30	52-142	
delta-BHC	0.500	0.526	105	5	30	52-142	
Dieldrin	0.500	0.603	121	6	30	60-136	
Dieldrin	0.500	0.547	109	6	30	60-136	
Endosulfan I	0.500	0.552	110	7	30	62-126	
Endosulfan I	0.500	0.506	101	7	30	62-126	
Endosulfan II	0.500	0.548	110	14	30	52-135	
Endosulfan II	0.500	0.488	98	13	30	52-135	
Endosulfan sulfate	0.500	0.674	135	18	30	62-133	Q
Endosulfan sulfate	0.500	0.549	110	16	30	62-133	
Endrin	0.500	0.642	128	14	30	60-138	
Endrin	0.500	0.580	116	13	30	60-138	
Endrin aldehyde	0.500	0.584	117	22	30	51-132	
Endrin aldehyde	0.500	0.497	99	21	30	51-132	
Endrin ketone	0.500	0.621	124	11	30	58-134	
Endrin ketone	0.500	0.513	103	11	30	58-134	
gamma-BHC (Lindane)	0.500	0.559	112	5	30	59-134	
gamma-BHC (Lindane)	0.500	0.530	106	5	30	59-134	
gamma-Chlordane	0.500	0.575	115	6	30	56-136	
gamma-Chlordane	0.500	0.524	105	6	30	56-136	
Heptachlor	0.500	0.533	107	6	30	54-130	
Heptachlor	0.500	0.506	101	6	30	54-130	
Heptachlor epoxide	0.500	0.589	118	6	30	61-133	
Heptachlor epoxide	0.500	0.544	109	6	30	61-133	
Methoxychlor	0.500	0.682	136	10	30	54-145	
Methoxychlor	0.500	0.608	122	11	30	54-145	

Column to be used to flag recovery and RPD values

FORM III 8081B

FORM III
PESTICIDES LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11190032.D

Lab ID: LCSD 280-435616/7-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Toxaphene	2.00	1.83 J	91	15	30	33-134	
Toxaphene	2.00	1.94 J	97	6	30	33-134	

Column to be used to flag recovery and RPD values

FORM III 8081B

FORM IV
PESTICIDES METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: MB 280-435616/1-A

Matrix: Water Date Extracted: 10/30/2018 20:52

Lab File ID:(1) 11190028.D Lab File ID:(2) 11190028.D

Date Analyzed:(1) 11/19/2018 20:24 Date Analyzed:(2) 11/19/2018 20:24

Instrument ID:(1) SGC_P2 Instrument ID:(2) SGC_P2

GC Column:(1) CLP1 ID: 0.32(mm) GC Column:(2) CLP2 ID: 0.32(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-435616/2-A	11/19/2018 20:42	11/19/2018 20:42
	LCSD 280-435616/3-A	11/19/2018 20:59	11/19/2018 20:59
	LCS 280-435616/6-A	11/19/2018 21:17	11/19/2018 21:17
	LCSD 280-435616/7-A	11/19/2018 21:34	11/19/2018 21:34
DET-003-181001-GW	280-116020-1	12/03/2018 15:32	12/03/2018 15:32
DET-003-181002-GW	280-116020-2	12/03/2018 15:49	12/03/2018 15:49
LL1mw-083-181001-GW	280-116020-5	12/03/2018 16:07	12/03/2018 16:07
LL1mw-084-181001-GW	280-116020-6	12/03/2018 16:25	12/03/2018 16:25
DET-004-181001-GW	280-116020-12	12/03/2018 16:42	12/03/2018 16:42

FORM VIII
PESTICIDES INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: STD4 280-433303/29 Date Analyzed: 10/13/2018 19:57

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm)

Lab File ID (Standard): 024F3201.D Heated Purge: (Y/N) N

Calibration ID: 33989

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		1639866372	3.02				
UPPER LIMIT		3279732744	3.52				
LOWER LIMIT		819933186	2.52				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-433303/33		1735793263	3.02				
ICV 280-433303/34		1963980017	3.02				
ICV 280-433303/35		1776097136	3.02				
ICV 280-433303/36		1833818877	3.02				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: STD4 280-433303/29 Date Analyzed: 10/13/2018 19:57

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm)

Lab File ID (Standard): 024F3201.D Heated Purge: (Y/N) N

Calibration ID: 33990

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		184249474	2.84				
UPPER LIMIT		368498948	3.34				
LOWER LIMIT		92124737	2.34				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-433303/33		195320590	2.84				
ICV 280-433303/34		209759075	2.84				
ICV 280-433303/35		196652802	2.84				
ICV 280-433303/36		196779319	2.84				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: CCVIS 280-438138/13 Date Analyzed: 11/19/2018 16:02

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm)

Lab File ID (Standard): 11190013.D Heated Purge: (Y/N) N

Calibration ID: 33989

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1627666051	3.01				
UPPER LIMIT		3255332102	3.51				
LOWER LIMIT		813833026	2.51				
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 280-435616/1-A		1460849988	3.01				
LCS 280-435616/2-A		1451680770	3.01				
LCSD 280-435616/3-A		1356833685	3.01				
LCS 280-435616/6-A		1576433209	3.01				
LCSD 280-435616/7-A		1465469392	3.01				
CCV 280-438138/35		1523364729	3.01				
CCV 280-438138/37		1475561871	3.01				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: CCVIS 280-438138/13 Date Analyzed: 11/19/2018 16:02

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm)

Lab File ID (Standard): 11190013.D Heated Purge: (Y/N) N

Calibration ID: 33990

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		240336799	2.81				
UPPER LIMIT		480673598	3.31				
LOWER LIMIT		120168400	2.31				
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 280-435616/1-A		215992740	2.81				
LCS 280-435616/2-A		218689164	2.81				
LCSD 280-435616/3-A		203602779	2.81				
LCS 280-435616/6-A		232541777	2.81				
LCSD 280-435616/7-A		216247497	2.81				
CCV 280-438138/35		227251789	2.81				
CCV 280-438138/37		219977752	2.81				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: CCVIS 280-439676/13 Date Analyzed: 12/03/2018 15:15

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm)

Lab File ID (Standard): 12030013.D Heated Purge: (Y/N) N

Calibration ID: 33989

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		2035852431	3.00				
UPPER LIMIT		4071704862	3.50				
LOWER LIMIT		1017926216	2.50				
LAB SAMPLE ID	CLIENT SAMPLE ID						
280-116020-1	DET-003-181001-GW	2005152221	3.00				
280-116020-2	DET-003-181002-GW	1866723765	3.00				
280-116020-5	LL1mw-083-181001-GW	1886369563	3.00				
280-116020-6	LL1mw-084-181001-GW	1813444675	3.00				
280-116020-12	DET-004-181001-GW	1754243949	3.00				
CCV 280-439676/25		1897716616	3.00				
CCV 280-439676/27		1916199073	3.00				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: CCVIS 280-439676/13 Date Analyzed: 12/03/2018 15:15

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm)

Lab File ID (Standard): 12030013.D Heated Purge: (Y/N) N

Calibration ID: 33990

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		231185737	2.80				
UPPER LIMIT		462371474	3.30				
LOWER LIMIT		115592869	2.30				
LAB SAMPLE ID	CLIENT SAMPLE ID						
280-116020-1	DET-003-181001-GW	230843512	2.80				
280-116020-2	DET-003-181002-GW	220226132	2.80				
280-116020-5	LL1mw-083-181001-GW	224547532	2.80				
280-116020-6	LL1mw-084-181001-GW	215579106	2.80				
280-116020-12	DET-004-181001-GW	208262183	2.80				
CCV 280-439676/25		224391818	2.80				
CCV 280-439676/27		223817723	2.80				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8081B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: LL1mw-083-181001-GW Lab Sample ID: 280-116020-5

Instrument ID (1): SGC_P2 Instrument ID (2): SGC_P2

Date Analyzed (1): 12/03/2018 16:07 Date Analyzed (2): 12/03/2018 16:07

GC Column (1): CLP1 ID: 0.32(mm) GC Column (2): CLP2 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
delta-BHC	1		4.99	4.98	5.00	0.0094		9.2
	2		5.04	5.02	5.04	0.010		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 280-435616/2-A

Instrument ID (1): SGC_P2 Instrument ID (2): SGC_P2

Date Analyzed (1): 11/19/2018 20:42 Date Analyzed (2): 11/19/2018 20:42

GC Column (1): CLP1 ID: 0.32(mm) GC Column (2): CLP2 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
alpha-BHC	1		4.48	4.47	4.49	0.510		3.6
	2		4.42	4.40	4.43	0.491		
gamma-BHC (Lindane)	1		4.77	4.76	4.78	0.529		5.1
	2		4.73	4.72	4.74	0.503		
beta-BHC	1		4.85	4.83	4.86	0.512		9.2
	2		4.81	4.79	4.82	0.467		
delta-BHC	1		4.99	4.98	5.01	0.541		7.6
	2		5.04	5.03	5.05	0.501		
Heptachlor	1		5.17	5.16	5.18	0.502		5.1
	2		5.08	5.07	5.09	0.477		
Aldrin	1		5.44	5.43	5.45	0.461		5.7
	2		5.35	5.33	5.36	0.435		
Heptachlor epoxide	1		6.05	6.03	6.06	0.557		8.1
	2		5.88	5.87	5.90	0.513		
gamma-Chlordane	1		6.18	6.17	6.19	0.542		9.2
	2		6.08	6.07	6.09	0.494		
alpha-Chlordane	1		6.32	6.31	6.33	0.543		7.7
	2		6.24	6.22	6.25	0.503		
4,4'-DDE	1		6.39	6.38	6.41	0.519		6.7
	2		6.42	6.41	6.43	0.486		
Endosulfan I	1		6.47	6.45	6.48	0.513		8.7
	2		6.30	6.28	6.31	0.470		
Dieldrin	1		6.72	6.71	6.73	0.566		9.5
	2		6.59	6.57	6.60	0.514		
Endrin	1		6.97	6.96	6.98	0.559		9.7
	2		6.91	6.90	6.92	0.508		
4,4'-DDD	1		7.03	7.02	7.04	0.557		9.6
	2		7.04	7.02	7.05	0.506		
Endosulfan II	1		7.20	7.19	7.22	0.478		11.1
	2		7.13	7.12	7.15	0.427		
4,4'-DDT	1		7.32	7.31	7.33	0.571		1.3
	2		7.37	7.35	7.38	0.563		
Endrin aldehyde	1		7.65	7.64	7.66	0.471		16.0
	2		7.49	7.48	7.50	0.401		
Methoxychlor	1		7.83	7.81	7.84	0.616		12.2
	2		8.10	8.08	8.11	0.545		
Endosulfan sulfate	1		8.11	8.09	8.12	0.565		18.7
	2		7.78	7.77	7.80	0.468		
Endrin ketone	1		8.40	8.39	8.41	0.554		18.7
	2		8.34	8.32	8.35	0.460		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 280-435616/3-A

Instrument ID (1): SGC_P2 Instrument ID (2): SGC_P2

Date Analyzed (1): 11/19/2018 20:59 Date Analyzed (2): 11/19/2018 20:59

GC Column (1): CLP1 ID: 0.32(mm) GC Column (2): CLP2 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
alpha-BHC	1		4.48	4.47	4.49	0.540		2.9
	2		4.42	4.40	4.42	0.524		
gamma-BHC (Lindane)	1		4.77	4.75	4.78	0.559		5.3
	2		4.73	4.71	4.74	0.530		
beta-BHC	1		4.85	4.83	4.85	0.540		9.4
	2		4.81	4.79	4.81	0.492		
delta-BHC	1		4.99	4.98	5.00	0.565		7.2
	2		5.04	5.02	5.05	0.526		
Heptachlor	1		5.17	5.15	5.18	0.533		5.1
	2		5.08	5.06	5.09	0.506		
Aldrin	1		5.44	5.42	5.45	0.487		6.0
	2		5.35	5.33	5.35	0.458		
Heptachlor epoxide	1		6.05	6.03	6.05	0.589		8.1
	2		5.88	5.87	5.89	0.544		
gamma-Chlordane	1		6.18	6.16	6.18	0.575		9.2
	2		6.08	6.06	6.09	0.524		
alpha-Chlordane	1		6.32	6.30	6.33	0.576		7.7
	2		6.24	6.22	6.24	0.533		
4,4'-DDE	1		6.39	6.38	6.40	0.554		6.8
	2		6.42	6.40	6.43	0.517		
Endosulfan I	1		6.47	6.45	6.47	0.552		8.7
	2		6.30	6.28	6.30	0.506		
Dieldrin	1		6.72	6.70	6.73	0.603		9.7
	2		6.59	6.57	6.59	0.547		
Endrin	1		6.97	6.95	6.98	0.642		10.1
	2		6.91	6.89	6.91	0.580		
4,4'-DDD	1		7.03	7.01	7.04	0.592		9.1
	2		7.04	7.02	7.04	0.541		
Endosulfan II	1		7.20	7.19	7.21	0.548		11.7
	2		7.13	7.12	7.14	0.488		
4,4'-DDT	1		7.32	7.31	7.33	0.598		0.4
	2		7.37	7.35	7.37	0.596		
Endrin aldehyde	1		7.65	7.63	7.66	0.584		16.1
	2		7.49	7.47	7.50	0.497		
Methoxychlor	1		7.83	7.81	7.84	0.682		11.5
	2		8.10	8.08	8.10	0.608		
Endosulfan sulfate	1		8.11	8.09	8.11	0.674		20.3
	2		7.78	7.77	7.79	0.549		
Endrin ketone	1		8.40	8.38	8.41	0.621		19.1
	2		8.34	8.32	8.34	0.513		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 280-435616/6-A

Instrument ID (1): SGC_P2 Instrument ID (2): SGC_P2

Date Analyzed (1): 11/19/2018 21:17 Date Analyzed (2): 11/19/2018 21:17

GC Column (1): CLP1 ID: 0.32(mm) GC Column (2): CLP2 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Toxaphene	1	1	6.20	6.20	6.22	0.993	2.11	2.0
		2	6.82	6.80	6.83	1.61		
		3	7.49	7.48	7.50	2.21		
		4	7.85	7.84	7.86	2.68		
		5	8.17	8.15	8.18	3.06		
	2	1	5.73	5.71	5.74	1.47	2.07	
		2	7.08	7.07	7.09	1.68		
		3	7.22	7.21	7.23	1.74		
		4	7.73	7.72	7.74	3.23		
		5	8.03	8.01	8.04	2.24		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 280-435616/7-A

Instrument ID (1): SGC_P2 Instrument ID (2): SGC_P2

Date Analyzed (1): 11/19/2018 21:34 Date Analyzed (2): 11/19/2018 21:34

GC Column (1): CLP1 ID: 0.32(mm) GC Column (2): CLP2 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Toxaphene	1	1	6.20	6.20	6.22	0.819	1.83	6.2
		2	6.82	6.80	6.83	1.38		
		3	7.48	7.48	7.50	1.66		
		4	7.86	7.84	7.86	2.44		
		5	8.17	8.15	8.18	2.82		
	2	1	5.73	5.71	5.74	1.26	1.94	
		2	7.08	7.07	7.09	1.55		
		3	7.22	7.21	7.23	1.60		
		4	7.73	7.72	7.74	3.22		
		5	8.03	8.01	8.04	2.09		

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW | Lab Sample ID: 280-116020-1

Matrix: Water | Lab File ID: 12030014.D

Analysis Method: 8081B | Date Collected: 10/24/2018 10:05

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 976(mL) | Date Analyzed: 12/03/2018 15:32

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP1 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 439676 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.020	U	0.051	0.020	0.0079
72-55-9	4,4'-DDE	0.020	U	0.051	0.020	0.0077
50-29-3	4,4'-DDT	0.051	U	0.051	0.051	0.015
309-00-2	Aldrin	0.020	U	0.051	0.020	0.0060
319-84-6	alpha-BHC	0.020	U	0.051	0.020	0.0054
5103-71-9	alpha-Chlordane	0.020	U	0.051	0.020	0.0054
319-85-7	beta-BHC	0.020	U	0.051	0.020	0.0089
319-86-8	delta-BHC	0.020	U	0.051	0.020	0.0059
60-57-1	Dieldrin	0.020	U	0.051	0.020	0.0065
959-98-8	Endosulfan I	0.020	U	0.051	0.020	0.0059
33213-65-9	Endosulfan II	0.020	U	0.051	0.020	0.0072
1031-07-8	Endosulfan sulfate	0.020	U Q	0.051	0.020	0.0058
72-20-8	Endrin	0.020	U	0.051	0.020	0.0081
7421-93-4	Endrin aldehyde	0.020	U	0.051	0.020	0.0090
53494-70-5	Endrin ketone	0.020	U	0.051	0.020	0.0072
58-89-9	gamma-BHC (Lindane)	0.020	U	0.051	0.020	0.0071
5103-74-2	gamma-Chlordane	0.020	U	0.051	0.020	0.0093
76-44-8	Heptachlor	0.020	U	0.051	0.020	0.0079
1024-57-3	Heptachlor epoxide	0.020	U	0.051	0.020	0.0077
72-43-5	Methoxychlor	0.051	U Q	0.051	0.051	0.013
8001-35-2	Toxaphene	0.82	U	2.0	0.82	0.38

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	63	M	44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030014.D
Lims ID: 280-116020-B-1-B
Client ID: DET-003-181001-GW
Sample Type: Client
Inject. Date: 03-Dec-2018 15:32:30 ALS Bottle#: 8 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-B-1-B
Misc. Info.: 280-0076757-014
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 03-Dec-2018 16:01:03

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical						
1					-0.1022	
2					-0.5530	
					RPD = -137.62	
LOD = 0.002000						
* 2 1-Bromo-2-nitrobenzene						
1	3.001	3.001	0.000	2005152221	150.0	
2	2.801	2.801	-0.001	230843512	150.0	
$ 4 Tetrachloro-m-xylene						M
1	3.896	3.896	0.000	181328623	12.6	M
2	3.781	3.781	0.000	25444862	13.1	
					RPD = 3.85	
5 Hexachlorobenzene						
1		4.304			ND	
2		4.258				
6 Diallate						
1		4.329			ND	
2		4.212				
7 Propachlor						
1		4.470			ND	
2		4.090				
8 alpha-BHC						
1		4.474			ND	
2		4.403				
9 gamma-BHC (Lindane)						
1		4.763			ND	
2		4.717				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
10 beta-BHC						
1	4.830	4.840	-0.010	2396682	-0.1022	
2	4.790	4.793	-0.003	226622	-0.5530	
					RPD = -137.62	
LOD = 0.002000						
11 2,4,5-Trichlorophenol						
1		4.861			ND	
2		4.772				
12 delta-BHC						
1		4.989			ND	
2		5.027				
14 Chlordane (technical)						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
13 Technical Chlordane						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
15 Heptachlor						
1		5.163			ND	
2		5.068				
16 Aldrin						
1		5.431			ND	
2		5.333				
17 Chlorpyrifos						
1		5.660			ND	
2		5.553				
18 Isodrin						
1	5.753	5.753	0.000	1718682	0.4024	
2	5.691	5.691	0.000	262755	-0.4529	
					RPD = -3384.50	
19 Dicofol						
1		5.790			ND	
2		5.651				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
20 2,4'-DDE						
1		6.019			ND	
2		6.072				
21 Heptachlor epoxide						
1		6.038			ND	
2		5.868				
22 trans-Chlordane						
1		6.169			ND	
2		6.065				
28 Toxaphene						
1		6.207			ND	
1		6.811				
1		7.483				
1		7.843				
1		8.158				
2		5.717				
2		7.067				
2		7.207				
2		7.721				
2		8.015				
23 cis-Chlordane						
1		6.310			ND	
2		6.221				
24 4,4'-DDE						
1		6.386			ND	
2		6.404				
25 Endosulfan I						
1		6.459			ND	
2		6.280				
26 2,4'-DDD						
1		6.570			ND	
2		6.617				
27 Dieldrin						
1		6.711			ND	
2		6.570				
29 2,4'-DDT						
1		6.837			ND	
2		6.938				
30 Endrin						
1		6.959			ND	
2		6.890				
31 Kepone						
1	7.007	7.000	0.007	368882	25.2	
2	7.010	7.006	0.004	455130	24.4	
					RPD = 3.04	
32 4,4'-DDD						
1		7.021			ND	
2		7.019				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
33 Chlorobenzilate						
1		7.033			ND	
2		6.886				
34 Endosulfan II						
1		7.195			ND	
2		7.117				
35 4,4'-DDT						
1		7.315			ND	
2		7.349				
36 Endrin aldehyde						
1		7.640			ND	
2		7.475				
37 Methoxychlor						
1		7.819			ND	
2		8.080				
38 Mirex						
1		7.978			ND	
2		8.269				
39 Endosulfan sulfate						
1		8.098			ND	
2		7.768				
40 Endrin ketone						
1		8.388			ND	
2		8.320				
$ 41 DCB Decachlorobiphenyl						
1	9.405	9.402	0.003	134513653	17.6	
2	9.591	9.588	0.003	18943620	16.4	
					RPD = 6.94	
42 Tris(2,3-dibromopropyl)phosphate						
1	11.195	11.190	0.005	2866722	241.8	
2	11.356	11.350	0.006	433569	244.3	
					RPD = 1.04	
S 3 Endosulfan, Total						
1		0.000			ND	
2		0.000				

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

8081_IS_00010 Amount Added: 75.00 Units: uL Run Reagent

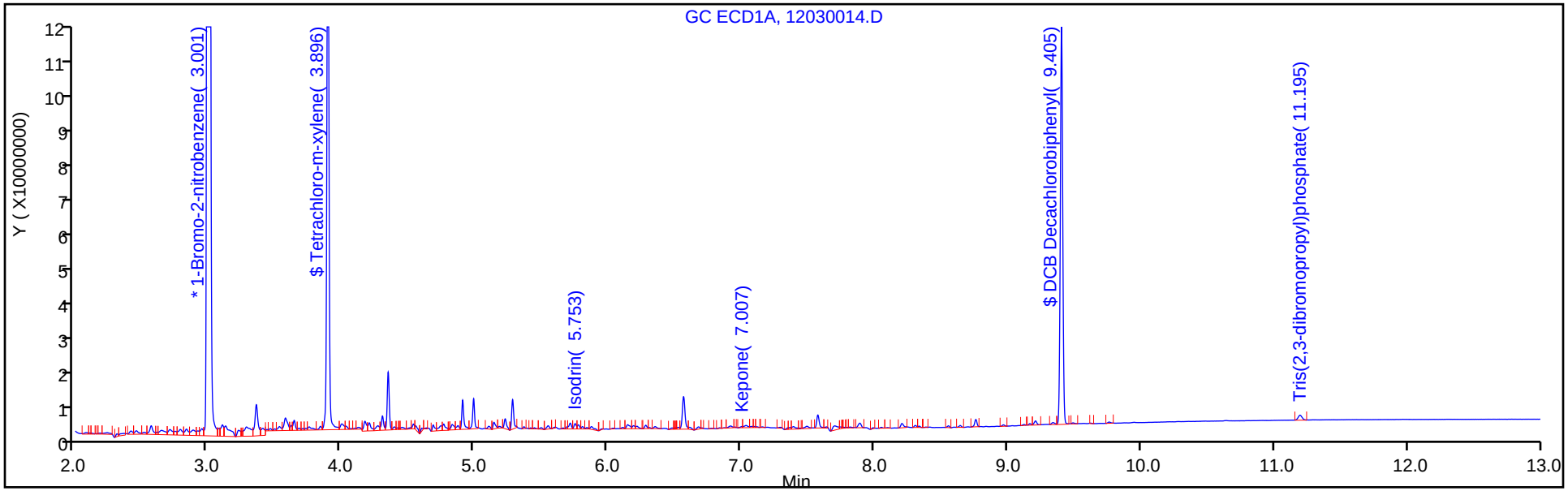
Report Date: 04-Dec-2018 13:50:06 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

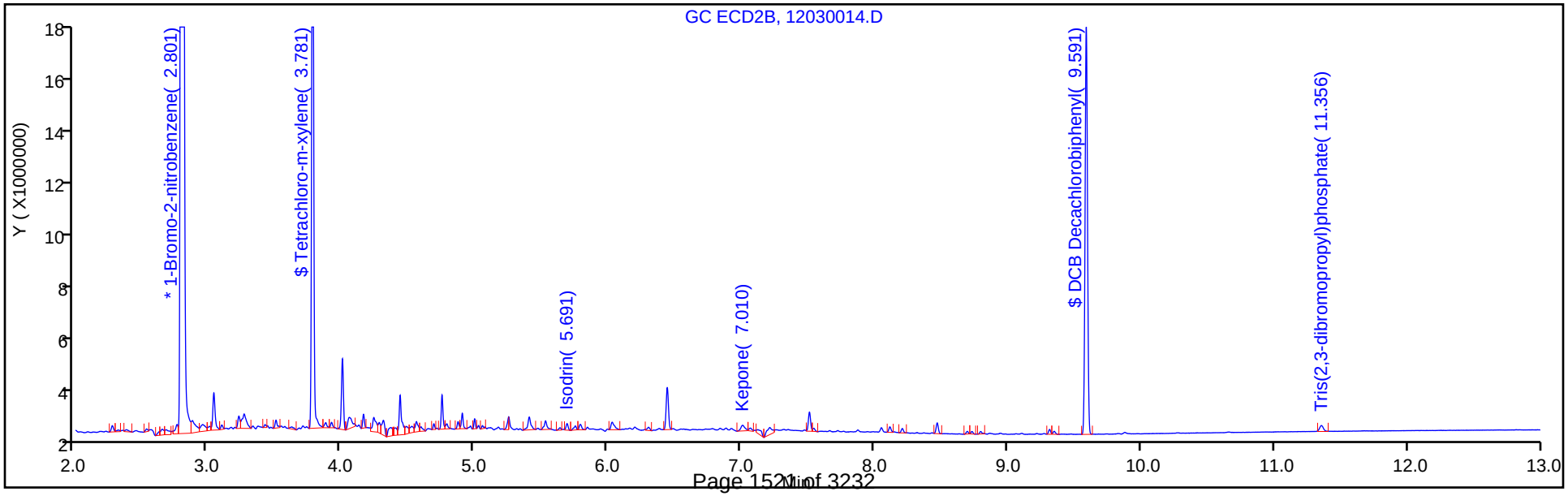
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030014.D

Injection Date:	03-Dec-2018 15:32:30	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	280-116020-B-1-B	Lab Sample ID:	280-116020-1	Worklist Smp#:	14
Client ID:	DET-003-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030014.D				
Lims ID:	280-116020-B-1-B				
Client ID:	DET-003-181001-GW				
Sample Type:	Client				
Inject. Date:	03-Dec-2018 15:32:30	ALS Bottle#:	8	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-B-1-B				
Misc. Info.:	280-0076757-014				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	04-Dec-2018 13:50:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0325				
First Level Reviewer: bacat		Date:	03-Dec-2018 16:01:03		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	12.6	62.99
$ 41 DCB Decachlorobiphenyl	20.0	17.6	87.91

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	13.1	65.46
$ 41 DCB Decachlorobiphenyl	20.0	16.4	82.01

Manual Integration/User Assign Peak Report

TestAmerica Denver

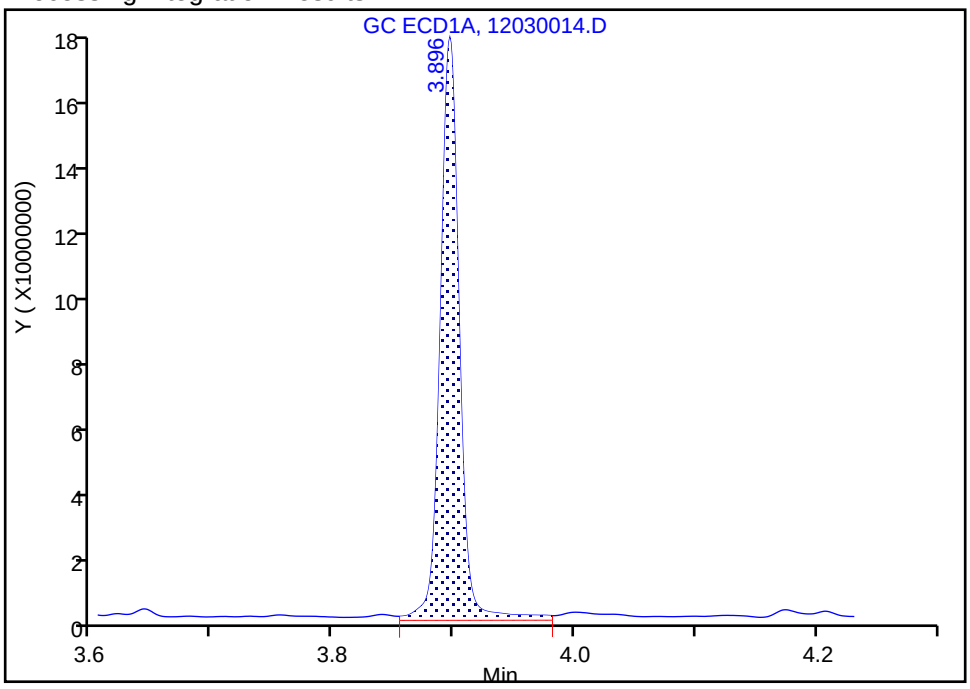
Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030014.D				
Injection Date:	03-Dec-2018 15:32:30	Instrument ID:	SGC_P2		
Lims ID:	280-116020-B-1-B	Lab Sample ID:	280-116020-1		
Client ID:	DET-003-181001-GW				
Operator ID:	TEM	ALS Bottle#:	8	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP1 (0.32 mm)	Detector	GC ECD1A		

$ 4 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 1

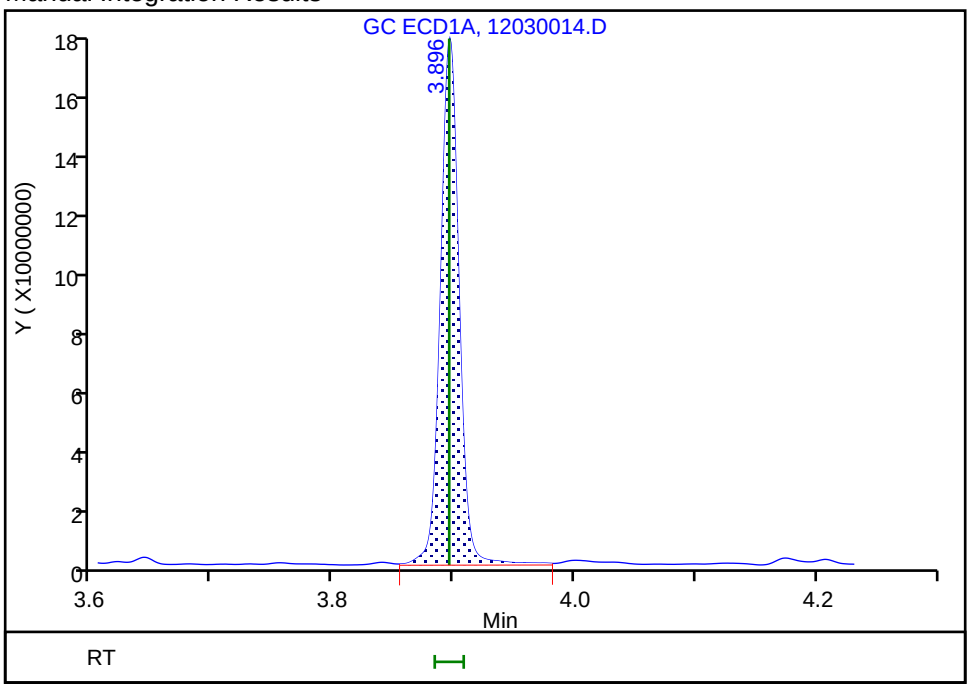
Processing Integration Results

RT: 3.90
Area: 187422497
Amount: 13.007881
Amount Units: ng/mL



Manual Integration Results

RT: 3.90
Area: 181328623
Amount: 12.597457
Amount Units: ng/mL



Reviewer: bacat, 04-Dec-2018 08:55:34

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW | Lab Sample ID: 280-116020-1

Matrix: Water | Lab File ID: 12030014.D

Analysis Method: 8081B | Date Collected: 10/24/2018 10:05

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 976(mL) | Date Analyzed: 12/03/2018 15:32

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 439676 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	82		34-122

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030014.D
Lims ID: 280-116020-B-1-B
Client ID: DET-003-181001-GW
Sample Type: Client
Inject. Date: 03-Dec-2018 15:32:30 ALS Bottle#: 8 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-B-1-B
Misc. Info.: 280-0076757-014
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 03-Dec-2018 16:01:03

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical						
1					-0.1022	
2					-0.5530	
					RPD = -137.62	
LOD = 0.002000						
* 2 1-Bromo-2-nitrobenzene						
1	3.001	3.001	0.000	2005152221	150.0	
2	2.801	2.801	-0.001	230843512	150.0	
$ 4 Tetrachloro-m-xylene						M
1	3.896	3.896	0.000	181328623	12.6	M
2	3.781	3.781	0.000	25444862	13.1	
					RPD = 3.85	
5 Hexachlorobenzene						
1		4.304			ND	
2		4.258				
6 Diallate						
1		4.329			ND	
2		4.212				
7 Propachlor						
1		4.470			ND	
2		4.090				
8 alpha-BHC						
1		4.474			ND	
2		4.403				
9 gamma-BHC (Lindane)						
1		4.763			ND	
2		4.717				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
10 beta-BHC						
1	4.830	4.840	-0.010	2396682	-0.1022	
2	4.790	4.793	-0.003	226622	-0.5530	
					RPD = -137.62	
LOD = 0.002000						
11 2,4,5-Trichlorophenol						
1		4.861			ND	
2		4.772				
12 delta-BHC						
1		4.989			ND	
2		5.027				
14 Chlordane (technical)						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
13 Technical Chlordane						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
15 Heptachlor						
1		5.163			ND	
2		5.068				
16 Aldrin						
1		5.431			ND	
2		5.333				
17 Chlorpyrifos						
1		5.660			ND	
2		5.553				
18 Isodrin						
1	5.753	5.753	0.000	1718682	0.4024	
2	5.691	5.691	0.000	262755	-0.4529	
					RPD = -3384.50	
19 Dicofol						
1		5.790			ND	
2		5.651				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
20 2,4'-DDE						
1		6.019			ND	
2		6.072				
21 Heptachlor epoxide						
1		6.038			ND	
2		5.868				
22 trans-Chlordane						
1		6.169			ND	
2		6.065				
28 Toxaphene						
1		6.207			ND	
1		6.811				
1		7.483				
1		7.843				
1		8.158				
2		5.717				
2		7.067				
2		7.207				
2		7.721				
2		8.015				
23 cis-Chlordane						
1		6.310			ND	
2		6.221				
24 4,4'-DDE						
1		6.386			ND	
2		6.404				
25 Endosulfan I						
1		6.459			ND	
2		6.280				
26 2,4'-DDD						
1		6.570			ND	
2		6.617				
27 Dieldrin						
1		6.711			ND	
2		6.570				
29 2,4'-DDT						
1		6.837			ND	
2		6.938				
30 Endrin						
1		6.959			ND	
2		6.890				
31 Kepone						
1	7.007	7.000	0.007	368882	25.2	
2	7.010	7.006	0.004	455130	24.4	
					RPD = 3.04	
32 4,4'-DDD						
1		7.021			ND	
2		7.019				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
33 Chlorobenzilate						
1		7.033			ND	
2		6.886				
34 Endosulfan II						
1		7.195			ND	
2		7.117				
35 4,4'-DDT						
1		7.315			ND	
2		7.349				
36 Endrin aldehyde						
1		7.640			ND	
2		7.475				
37 Methoxychlor						
1		7.819			ND	
2		8.080				
38 Mirex						
1		7.978			ND	
2		8.269				
39 Endosulfan sulfate						
1		8.098			ND	
2		7.768				
40 Endrin ketone						
1		8.388			ND	
2		8.320				
$ 41 DCB Decachlorobiphenyl						
1	9.405	9.402	0.003	134513653	17.6	
2	9.591	9.588	0.003	18943620	16.4	
					RPD = 6.94	
42 Tris(2,3-dibromopropyl)phosphate						
1	11.195	11.190	0.005	2866722	241.8	
2	11.356	11.350	0.006	433569	244.3	
					RPD = 1.04	
S 3 Endosulfan, Total						
1		0.000			ND	
2		0.000				

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

8081_IS_00010 Amount Added: 75.00 Units: uL Run Reagent

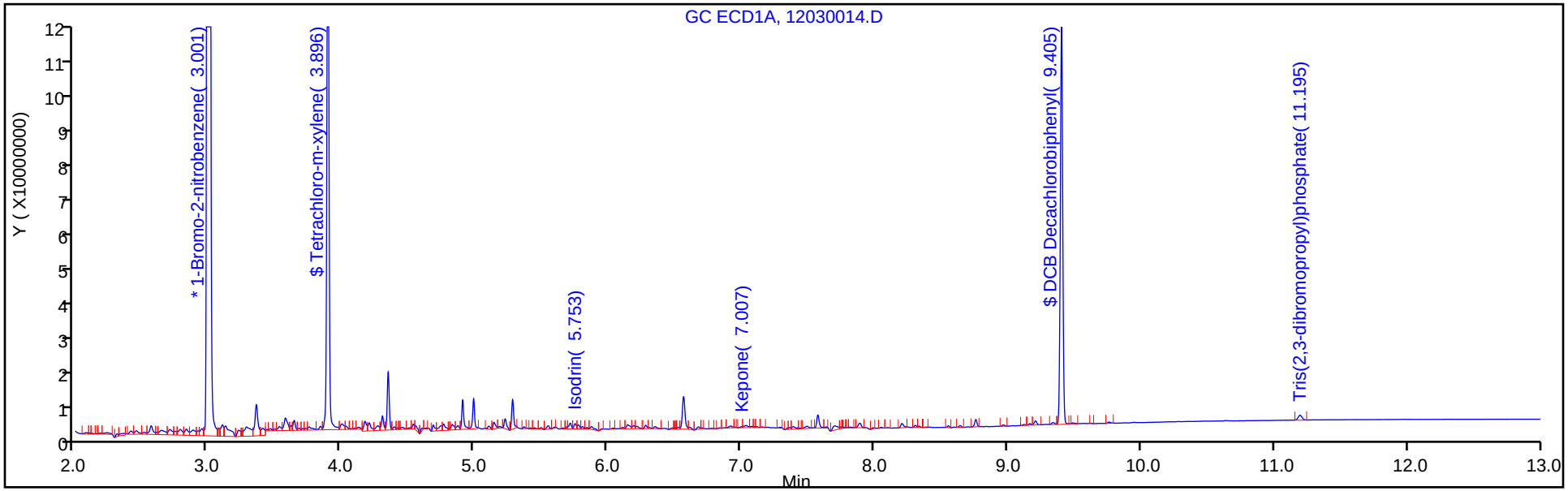
Report Date: 04-Dec-2018 13:50:06 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

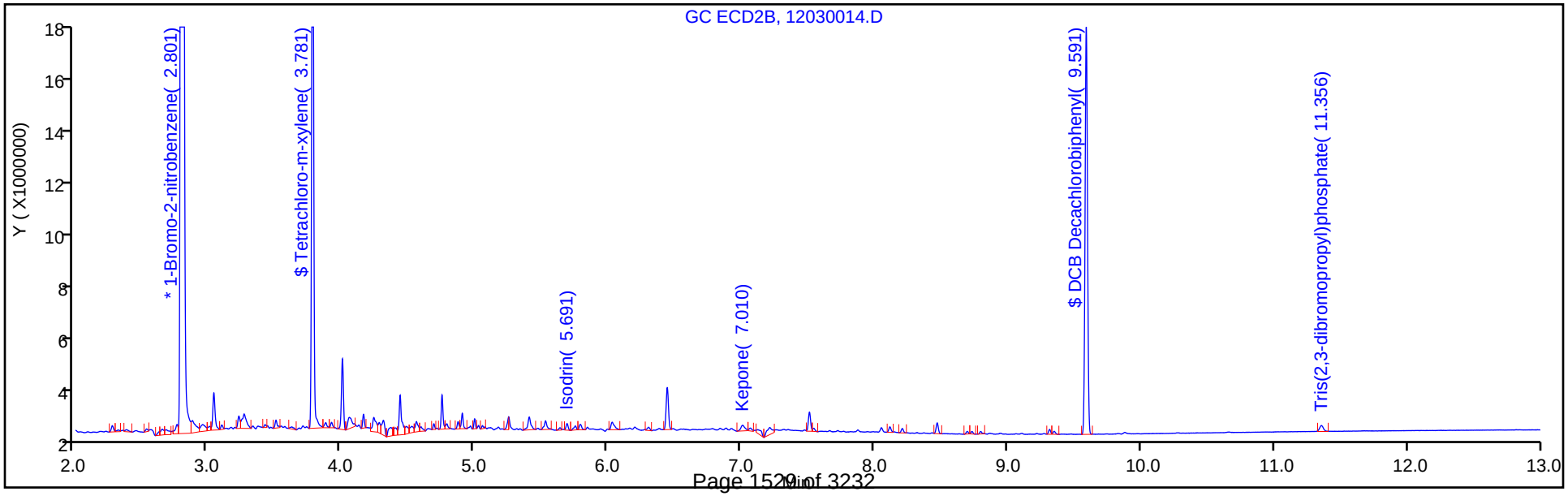
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030014.D

Injection Date:	03-Dec-2018 15:32:30	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	280-116020-B-1-B	Lab Sample ID:	280-116020-1	Worklist Smp#:	14
Client ID:	DET-003-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030014.D				
Lims ID:	280-116020-B-1-B				
Client ID:	DET-003-181001-GW				
Sample Type:	Client				
Inject. Date:	03-Dec-2018 15:32:30	ALS Bottle#:	8	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-B-1-B				
Misc. Info.:	280-0076757-014				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	04-Dec-2018 13:50:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0325				
First Level Reviewer: bacat		Date:	03-Dec-2018 16:01:03		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	12.6	62.99
$ 41 DCB Decachlorobiphenyl	20.0	17.6	87.91

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	13.1	65.46
$ 41 DCB Decachlorobiphenyl	20.0	16.4	82.01

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181002-GW | Lab Sample ID: 280-116020-2

Matrix: Water | Lab File ID: 12030015.D

Analysis Method: 8081B | Date Collected: 10/24/2018 10:05

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 1013.2(mL) | Date Analyzed: 12/03/2018 15:49

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP1 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 439676 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.020	U	0.049	0.020	0.0076
72-55-9	4,4'-DDE	0.020	U	0.049	0.020	0.0074
50-29-3	4,4'-DDT	0.049	U	0.049	0.049	0.015
309-00-2	Aldrin	0.020	U	0.049	0.020	0.0058
319-84-6	alpha-BHC	0.020	U	0.049	0.020	0.0052
5103-71-9	alpha-Chlordane	0.020	U	0.049	0.020	0.0052
319-85-7	beta-BHC	0.020	U	0.049	0.020	0.0086
60-57-1	Dieldrin	0.020	U	0.049	0.020	0.0062
959-98-8	Endosulfan I	0.020	U	0.049	0.020	0.0057
33213-65-9	Endosulfan II	0.020	U	0.049	0.020	0.0069
1031-07-8	Endosulfan sulfate	0.020	U Q	0.049	0.020	0.0056
72-20-8	Endrin	0.020	U	0.049	0.020	0.0078
7421-93-4	Endrin aldehyde	0.020	U	0.049	0.020	0.0087
53494-70-5	Endrin ketone	0.020	U	0.049	0.020	0.0069
58-89-9	gamma-BHC (Lindane)	0.020	U	0.049	0.020	0.0068
5103-74-2	gamma-Chlordane	0.020	U	0.049	0.020	0.0090
76-44-8	Heptachlor	0.020	U	0.049	0.020	0.0076
1024-57-3	Heptachlor epoxide	0.020	U	0.049	0.020	0.0074
72-43-5	Methoxychlor	0.049	U Q	0.049	0.049	0.013
8001-35-2	Toxaphene	0.79	U	2.0	0.79	0.36

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	75		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030015.D
Lims ID: 280-116020-A-2-A
Client ID: DET-003-181002-GW
Sample Type: Client
Inject. Date: 03-Dec-2018 15:49:58 ALS Bottle#: 9 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-2-A
Misc. Info.: 280-0076757-015
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 04-Dec-2018 08:58:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical						
1					0.7997	
2					-0.3135	
					RPD = 457.89	
LOD = 0.002000						
* 2 1-Bromo-2-nitrobenzene						
1	3.001	3.001	0.000	1866723765	150.0	
2	2.801	2.801	0.000	220226132	150.0	
$ 4 Tetrachloro-m-xylene						
1	3.897	3.896	0.001	202611306	15.0	
2	3.782	3.781	0.001	28560917	15.5	
					RPD = 3.10	
5 Hexachlorobenzene						
1		4.304			ND	
2		4.258				
6 Diallate						
1		4.329			ND	
2		4.212				
7 Propachlor						
1		4.470			ND	
2		4.090				
8 alpha-BHC						
1		4.474			ND	
2		4.403				
9 gamma-BHC (Lindane)						
1		4.763			ND	
2		4.717				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
10 beta-BHC						M
1	4.840	4.840	0.000	708394	-0.3279	
2	4.785	4.793	-0.008	455723	-0.2847	M
					RPD = -14.08	
LOD = 0.002000						
11 2,4,5-Trichlorophenol						
1		4.861			ND	
2		4.772				
12 delta-BHC						M
1	4.990	4.989	0.001	9250479	1.13	
2	5.027	5.027	0.000	196565	-0.0287	M
					RPD = 210.46	
14 Chlordane (technical)						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
13 Technical Chlordane						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
15 Heptachlor						
1		5.163			ND	
2		5.068				
16 Aldrin						M
1	5.420	5.431	-0.011	170409	0.5125	
2	5.340	5.333	0.007	124329	-0.2146	M
					RPD = 488.11	
17 Chlorpyrifos						
1		5.660			ND	
2		5.553				
18 Isodrin						
1		5.753			ND	
2		5.691				
19 Dicofol						
1	5.781	5.790	-0.009	962641	-2.53	
2	5.640	5.651	-0.011	158934	-0.9511	
					RPD = -90.62	
LOD = 0.002000						

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
20 2,4'-DDE						
1		6.019			ND	
2		6.072				
21 Heptachlor epoxide						
1		6.038			ND	
2		5.868				
22 trans-Chlordane						
1		6.169			ND	
2		6.065				
28 Toxaphene						
1		6.207			ND	
1		6.811				
1		7.483				
1		7.843				
1		8.158				
2		5.717				
2		7.067				
2		7.207				
2		7.721				
2		8.015				
23 cis-Chlordane						
1		6.310			ND	
2		6.221				
24 4,4'-DDE						
1		6.386			ND	
2		6.404				
25 Endosulfan I						
1		6.459			ND	
2		6.280				
26 2,4'-DDD						
1		6.570			ND	
2		6.617				
27 Dieldrin						
1		6.711			ND	
2		6.570				
29 2,4'-DDT						
1		6.837			ND	
2		6.938				
30 Endrin						
1		6.959			ND	
2		6.890				
31 Kepone						
1	7.003	7.000	0.003	293464	25.1	
2	7.010	7.006	0.004	524989	24.5	
					RPD = 2.38	
32 4,4'-DDD						
1		7.021			ND	
2		7.019				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
33 Chlorobenzilate						
1		7.033			ND	
2		6.886				
34 Endosulfan II						
1		7.195			ND	
2		7.117				
35 4,4'-DDT						
1		7.315			ND	
2		7.349				
36 Endrin aldehyde						
1		7.640			ND	
2		7.475				
37 Methoxychlor						
1		7.819			ND	
2		8.080				
38 Mirex						
1		7.978			ND	
2		8.269				
39 Endosulfan sulfate						
1		8.098			ND	
2		7.768				
40 Endrin ketone						
1		8.388			ND	
2		8.320				
$ 41 DCB Decachlorobiphenyl						
1	9.403	9.402	0.001	138191233	19.4	
2	9.588	9.588	0.000	19422517	17.7	
					RPD = 9.24	
42 Tris(2,3-dibromopropyl)phosphate						
1	11.193	11.190	0.003	2529415	241.7	
2	11.352	11.350	0.002	381745	244.2	
					RPD = 1.01	
S 3 Endosulfan, Total						
1		0.000			ND	
2		0.000				

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

8081_IS_00010 Amount Added: 75.00 Units: uL Run Reagent

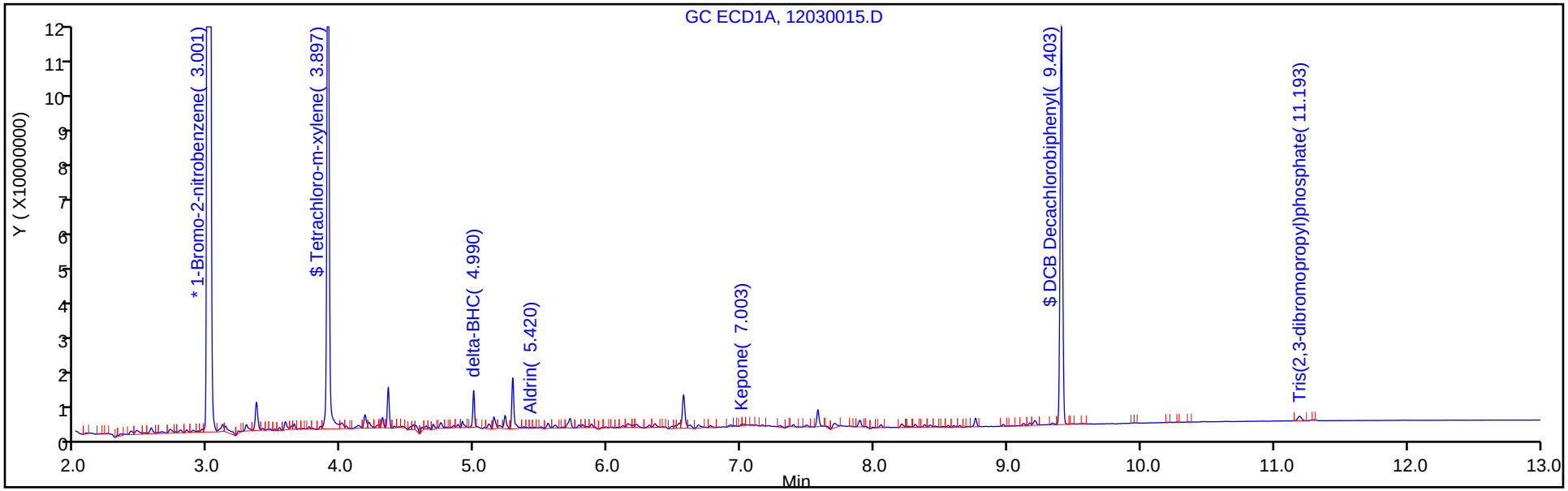
Report Date: 04-Dec-2018 13:50:07 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

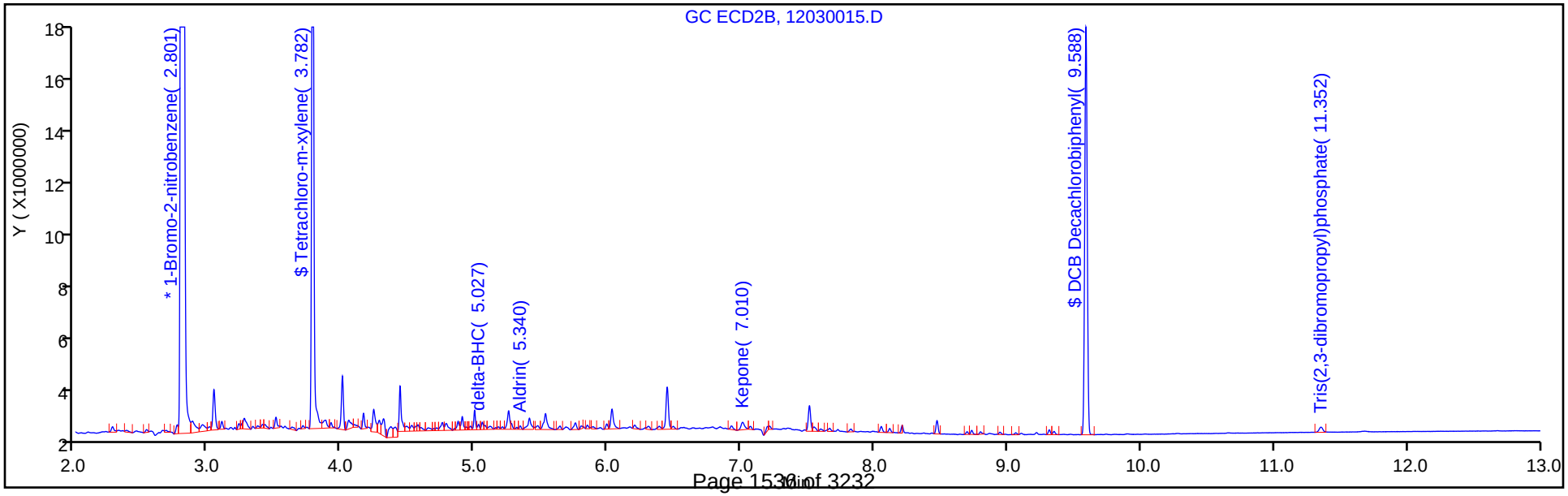
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030015.D

Injection Date:	03-Dec-2018 15:49:58	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	280-116020-A-2-A	Lab Sample ID:	280-116020-2	Worklist Smp#:	15
Client ID:	DET-003-181002-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030015.D				
Lims ID:	280-116020-A-2-A				
Client ID:	DET-003-181002-GW				
Sample Type:	Client				
Inject. Date:	03-Dec-2018 15:49:58	ALS Bottle#:	9	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-A-2-A				
Misc. Info.:	280-0076757-015				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	04-Dec-2018 13:50:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0325				
First Level Reviewer: bacat		Date:	04-Dec-2018 08:58:22		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.0	75.21
$ 41 DCB Decachlorobiphenyl	20.0	19.4	97.09

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.5	77.58
$ 41 DCB Decachlorobiphenyl	20.0	17.7	88.52

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181002-GW | Lab Sample ID: 280-116020-2

Matrix: Water | Lab File ID: 12030015.D

Analysis Method: 8081B | Date Collected: 10/24/2018 10:05

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 1013.2(mL) | Date Analyzed: 12/03/2018 15:49

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 439676 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
319-86-8	delta-BHC	0.020	U M	0.049	0.020	0.0057

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	89		34-122

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030015.D
Lims ID: 280-116020-A-2-A
Client ID: DET-003-181002-GW
Sample Type: Client
Inject. Date: 03-Dec-2018 15:49:58 ALS Bottle#: 9 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-2-A
Misc. Info.: 280-0076757-015
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 04-Dec-2018 08:58:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical						
1					0.7997	
2					-0.3135	
					RPD = 457.89	
LOD = 0.002000						
* 2 1-Bromo-2-nitrobenzene						
1	3.001	3.001	0.000	1866723765	150.0	
2	2.801	2.801	0.000	220226132	150.0	
$ 4 Tetrachloro-m-xylene						
1	3.897	3.896	0.001	202611306	15.0	
2	3.782	3.781	0.001	28560917	15.5	
					RPD = 3.10	
5 Hexachlorobenzene						
1		4.304			ND	
2		4.258				
6 Diallate						
1		4.329			ND	
2		4.212				
7 Propachlor						
1		4.470			ND	
2		4.090				
8 alpha-BHC						
1		4.474			ND	
2		4.403				
9 gamma-BHC (Lindane)						
1		4.763			ND	
2		4.717				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
10 beta-BHC						M
1	4.840	4.840	0.000	708394	-0.3279	
2	4.785	4.793	-0.008	455723	-0.2847	M
					RPD = -14.08	
LOD = 0.002000						
11 2,4,5-Trichlorophenol						
1		4.861			ND	
2		4.772				
12 delta-BHC						M
1	4.990	4.989	0.001	9250479	1.13	
2	5.027	5.027	0.000	196565	-0.0287	M
					RPD = 210.46	
14 Chlordane (technical)						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
13 Technical Chlordane						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
15 Heptachlor						
1		5.163			ND	
2		5.068				
16 Aldrin						M
1	5.420	5.431	-0.011	170409	0.5125	
2	5.340	5.333	0.007	124329	-0.2146	M
					RPD = 488.11	
17 Chlorpyrifos						
1		5.660			ND	
2		5.553				
18 Isodrin						
1		5.753			ND	
2		5.691				
19 Dicofol						
1	5.781	5.790	-0.009	962641	-2.53	
2	5.640	5.651	-0.011	158934	-0.9511	
					RPD = -90.62	
LOD = 0.002000						

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
20 2,4'-DDE						
1		6.019			ND	
2		6.072				
21 Heptachlor epoxide						
1		6.038			ND	
2		5.868				
22 trans-Chlordane						
1		6.169			ND	
2		6.065				
28 Toxaphene						
1		6.207			ND	
1		6.811				
1		7.483				
1		7.843				
1		8.158				
2		5.717				
2		7.067				
2		7.207				
2		7.721				
2		8.015				
23 cis-Chlordane						
1		6.310			ND	
2		6.221				
24 4,4'-DDE						
1		6.386			ND	
2		6.404				
25 Endosulfan I						
1		6.459			ND	
2		6.280				
26 2,4'-DDD						
1		6.570			ND	
2		6.617				
27 Dieldrin						
1		6.711			ND	
2		6.570				
29 2,4'-DDT						
1		6.837			ND	
2		6.938				
30 Endrin						
1		6.959			ND	
2		6.890				
31 Kepone						
1	7.003	7.000	0.003	293464	25.1	
2	7.010	7.006	0.004	524989	24.5	
					RPD = 2.38	
32 4,4'-DDD						
1		7.021			ND	
2		7.019				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
33 Chlorobenzilate						
1		7.033			ND	
2		6.886				
34 Endosulfan II						
1		7.195			ND	
2		7.117				
35 4,4'-DDT						
1		7.315			ND	
2		7.349				
36 Endrin aldehyde						
1		7.640			ND	
2		7.475				
37 Methoxychlor						
1		7.819			ND	
2		8.080				
38 Mirex						
1		7.978			ND	
2		8.269				
39 Endosulfan sulfate						
1		8.098			ND	
2		7.768				
40 Endrin ketone						
1		8.388			ND	
2		8.320				
$ 41 DCB Decachlorobiphenyl						
1	9.403	9.402	0.001	138191233	19.4	
2	9.588	9.588	0.000	19422517	17.7	
					RPD = 9.24	
42 Tris(2,3-dibromopropyl)phosphate						
1	11.193	11.190	0.003	2529415	241.7	
2	11.352	11.350	0.002	381745	244.2	
					RPD = 1.01	
S 3 Endosulfan, Total						
1		0.000			ND	
2		0.000				

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

8081_IS_00010 Amount Added: 75.00 Units: uL Run Reagent

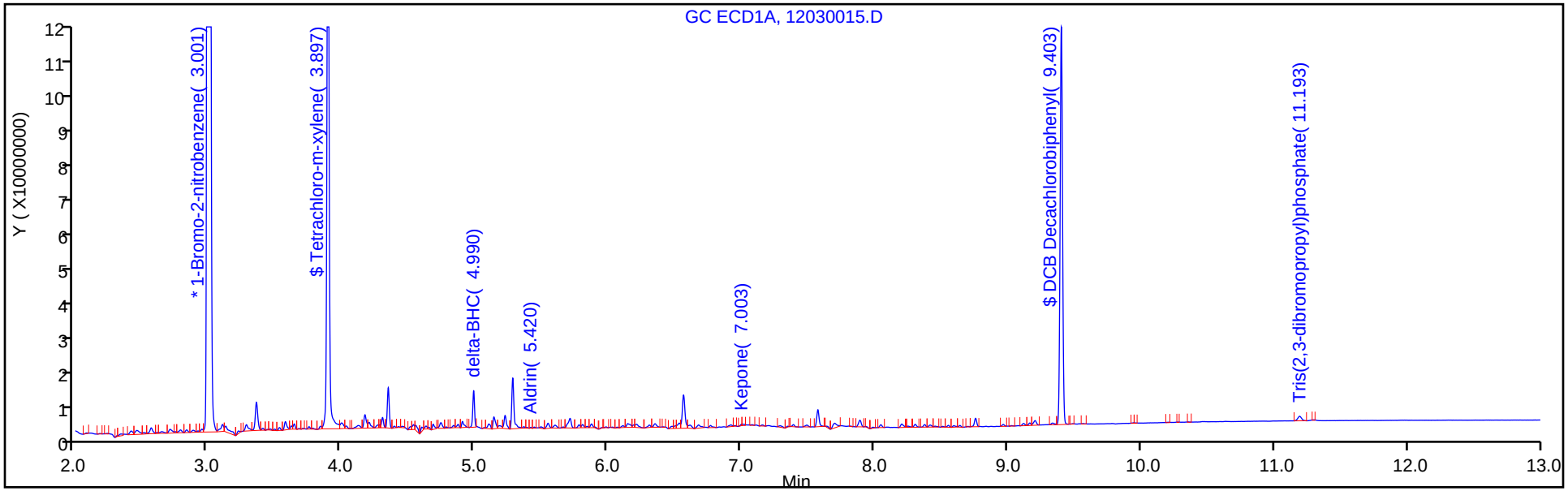
Report Date: 04-Dec-2018 13:50:07 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

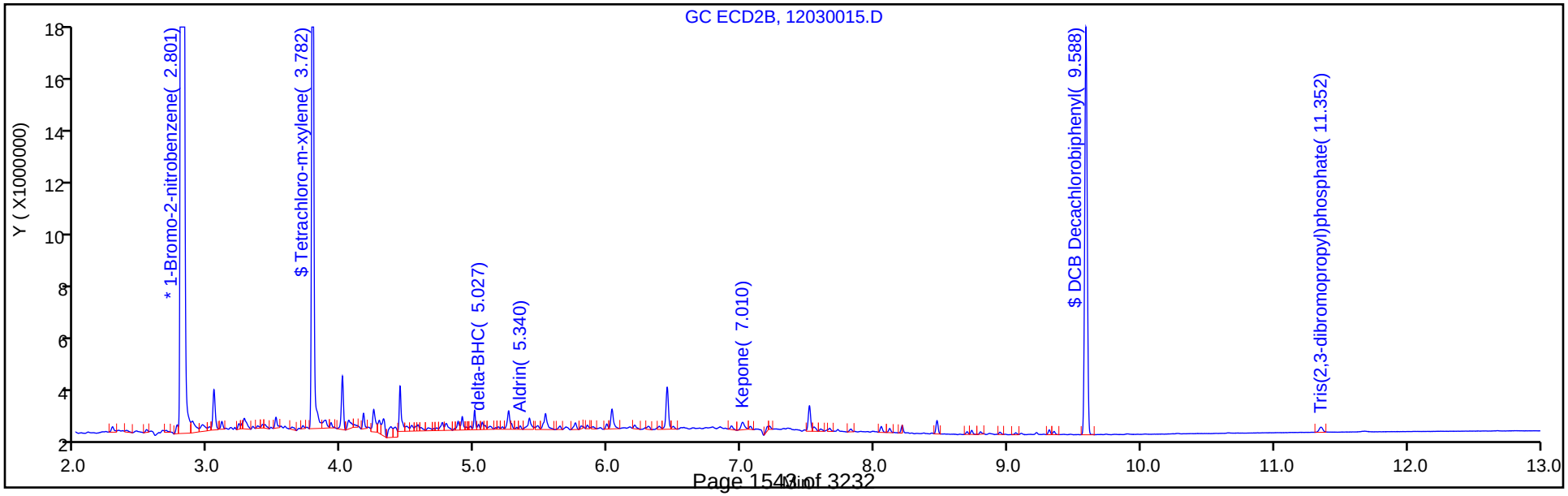
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030015.D

Injection Date:	03-Dec-2018 15:49:58	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	280-116020-A-2-A	Lab Sample ID:	280-116020-2	Worklist Smp#:	15
Client ID:	DET-003-181002-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030015.D				
Lims ID:	280-116020-A-2-A				
Client ID:	DET-003-181002-GW				
Sample Type:	Client				
Inject. Date:	03-Dec-2018 15:49:58	ALS Bottle#:	9	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-A-2-A				
Misc. Info.:	280-0076757-015				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	04-Dec-2018 13:50:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0325				
First Level Reviewer: bacat		Date:	04-Dec-2018 08:58:22		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.0	75.21
$ 41 DCB Decachlorobiphenyl	20.0	19.4	97.09

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.5	77.58
$ 41 DCB Decachlorobiphenyl	20.0	17.7	88.52

Manual Integration/User Assign Peak Report

TestAmerica Denver

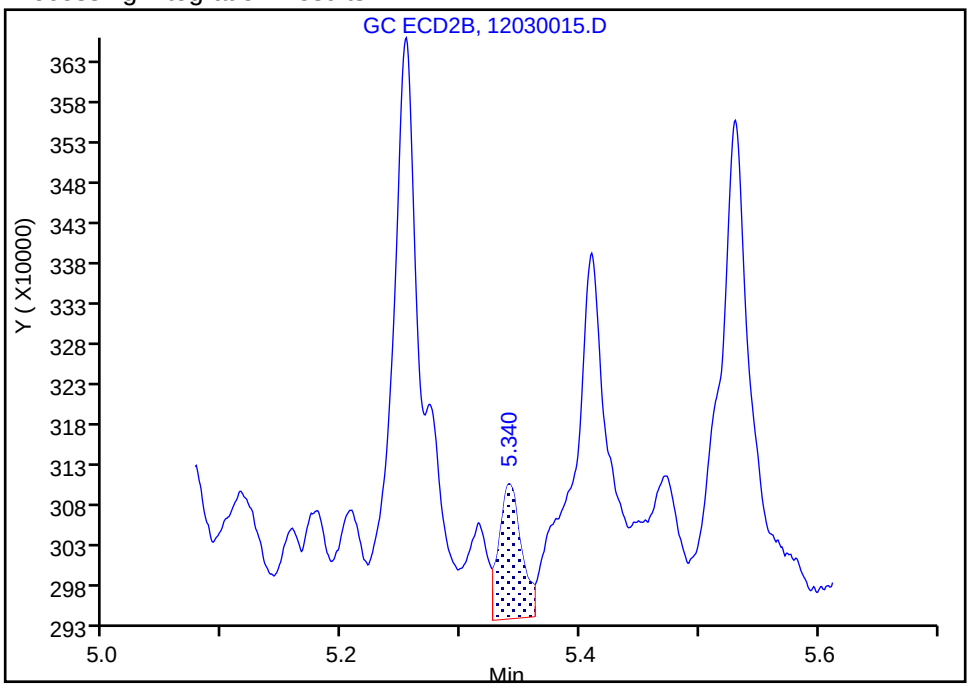
Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030015.D				
Injection Date:	03-Dec-2018 15:49:58	Instrument ID:	SGC_P2		
Lims ID:	280-116020-A-2-A	Lab Sample ID:	280-116020-2		
Client ID:	DET-003-181002-GW				
Operator ID:	TEM	ALS Bottle#:	9	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

16 Aldrin, CAS: 309-00-2

Signal: 2

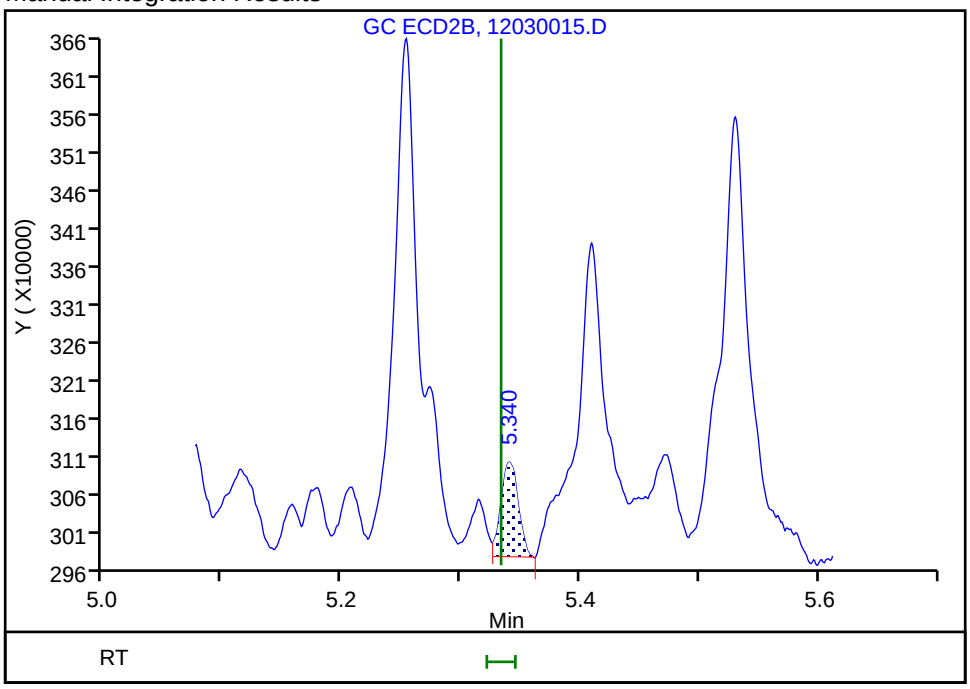
Processing Integration Results

RT: 5.34
Area: 217407
Amount: -0.167215
Amount Units: ng/mL



Manual Integration Results

RT: 5.34
Area: 124329
Amount: -0.214578
Amount Units: ng/mL



Reviewer: bacat, 04-Dec-2018 08:57:45
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

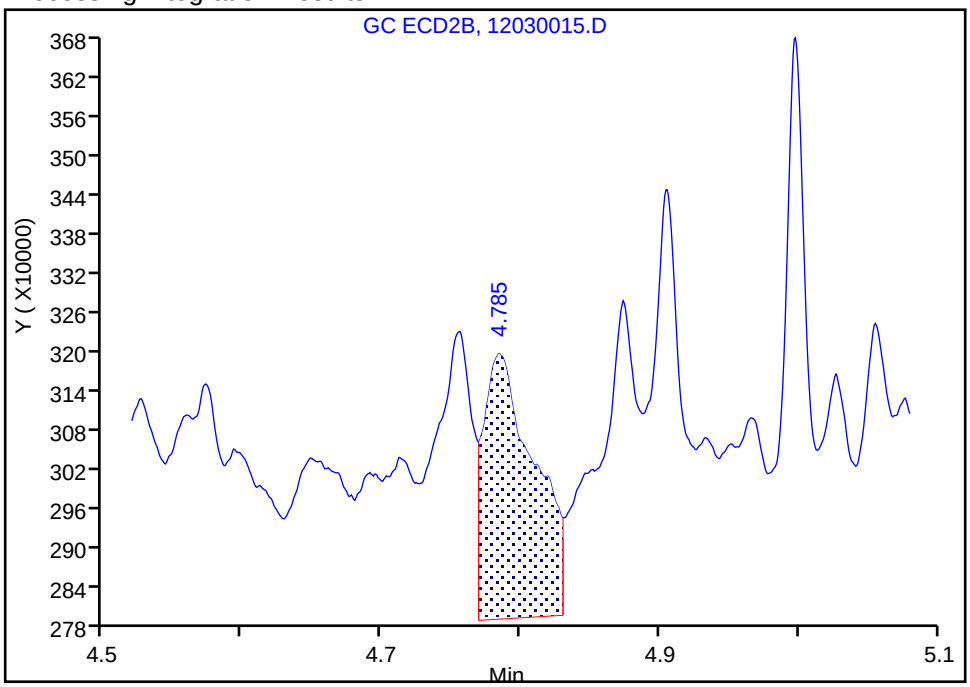
Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030015.D				
Injection Date:	03-Dec-2018 15:49:58	Instrument ID:	SGC_P2		
Lims ID:	280-116020-A-2-A	Lab Sample ID:	280-116020-2		
Client ID:	DET-003-181002-GW				
Operator ID:	TEM	ALS Bottle#:	9	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

10 beta-BHC, CAS: 319-85-7

Signal: 2

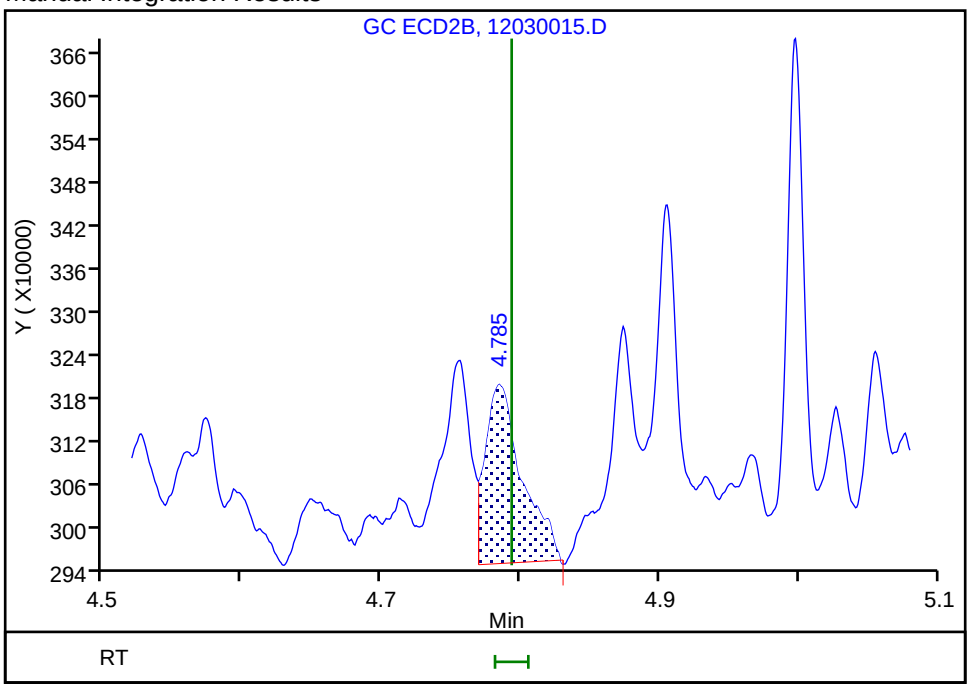
Processing Integration Results

RT: 4.78
Area: 1023626
Amount: 0.351233
Amount Units: ng/mL



Manual Integration Results

RT: 4.78
Area: 455723
Amount: -0.284741
Amount Units: ng/mL



Reviewer: bacat, 04-Dec-2018 08:57:12
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

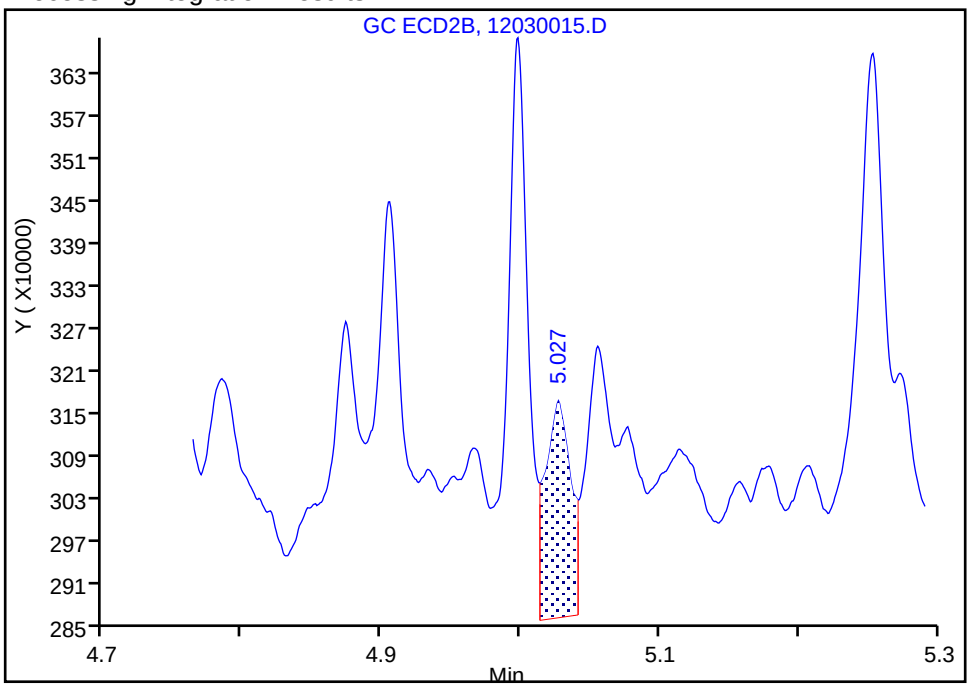
Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030015.D				
Injection Date:	03-Dec-2018 15:49:58	Instrument ID:	SGC_P2		
Lims ID:	280-116020-A-2-A	Lab Sample ID:	280-116020-2		
Client ID:	DET-003-181002-GW				
Operator ID:	TEM	ALS Bottle#:	9	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

12 delta-BHC, CAS: 319-86-8

Signal: 2

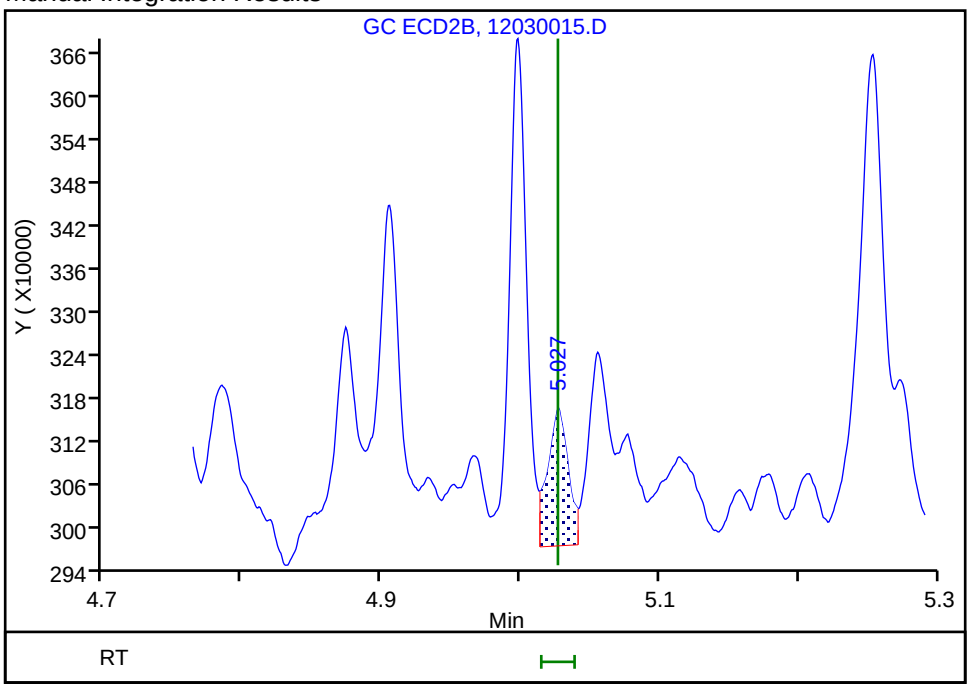
Processing Integration Results

RT: 5.03
Area: 385781
Amount: 0.059496
Amount Units: ng/mL



Manual Integration Results

RT: 5.03
Area: 196565
Amount: -0.028726
Amount Units: ng/mL



Reviewer: bacat, 04-Dec-2018 08:57:12

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: LL1mw-083-181001-GW | Lab Sample ID: 280-116020-5

Matrix: Water | Lab File ID: 12030016.D

Analysis Method: 8081B | Date Collected: 10/24/2018 13:25

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 968.9(mL) | Date Analyzed: 12/03/2018 16:07

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP1 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 439676 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.021	U	0.052	0.021	0.0079
72-55-9	4,4'-DDE	0.021	U	0.052	0.021	0.0077
50-29-3	4,4'-DDT	0.052	U	0.052	0.052	0.015
309-00-2	Aldrin	0.021	U	0.052	0.021	0.0061
319-84-6	alpha-BHC	0.021	U	0.052	0.021	0.0055
5103-71-9	alpha-Chlordane	0.021	U	0.052	0.021	0.0055
319-85-7	beta-BHC	0.021	U	0.052	0.021	0.0090
319-86-8	delta-BHC	0.0094	J	0.052	0.021	0.0060
60-57-1	Dieldrin	0.021	U	0.052	0.021	0.0065
959-98-8	Endosulfan I	0.021	U	0.052	0.021	0.0060
33213-65-9	Endosulfan II	0.021	U	0.052	0.021	0.0072
1031-07-8	Endosulfan sulfate	0.021	U Q	0.052	0.021	0.0059
72-20-8	Endrin	0.021	U	0.052	0.021	0.0082
7421-93-4	Endrin aldehyde	0.021	U	0.052	0.021	0.0091
53494-70-5	Endrin ketone	0.021	U	0.052	0.021	0.0072
58-89-9	gamma-BHC (Lindane)	0.021	U	0.052	0.021	0.0071
5103-74-2	gamma-Chlordane	0.021	U	0.052	0.021	0.0094
76-44-8	Heptachlor	0.021	U	0.052	0.021	0.0079
1024-57-3	Heptachlor epoxide	0.021	U	0.052	0.021	0.0077
72-43-5	Methoxychlor	0.052	U Q	0.052	0.052	0.013
8001-35-2	Toxaphene	0.83	U	2.1	0.83	0.38

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	68		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030016.D
Lims ID: 280-116020-A-5-A
Client ID: LL1mw-083-181001-GW
Sample Type: Client
Inject. Date: 03-Dec-2018 16:07:27 ALS Bottle#: 10 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-5-A
Misc. Info.: 280-0076757-016
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 04-Dec-2018 09:04:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical						
1					1.58	
2					322.0	
					RPD = 198.05	
* 2 1-Bromo-2-nitrobenzene						
1	3.001	3.001	0.000	1886369563	150.0	
2	2.801	2.801	0.000	224547532	150.0	
$ 4 Tetrachloro-m-xylene						M
1	3.897	3.896	0.001	185064345	13.6	
2	3.782	3.781	0.001	26909779	14.3	M
					RPD = 4.69	
5 Hexachlorobenzene						
1		4.304			ND	
2		4.258				
6 Diallate						
1		4.329			ND	
2		4.212				
7 Propachlor						
1		4.470			ND	
2		4.090				
8 alpha-BHC						
1		4.474			ND	
2		4.403				
9 gamma-BHC (Lindane)						
1		4.763			ND	
2		4.717				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
10 beta-BHC						M
1	4.828	4.840	-0.012	7525524	0.6709	
2	4.788	4.793	-0.005	293026465	321.0	EM
					RPD = 199.17	
11 2,4,5-Trichlorophenol						
1		4.861			ND	
2		4.772				
12 delta-BHC						M
1	4.993	4.989	0.004	5344437	0.9105	
2	5.038	5.027	0.011	2446437	1.00	M
					RPD = 9.20	
14 Chlordane (technical)						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
13 Technical Chlordane						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
15 Heptachlor						
1		5.163			ND	
2		5.068				
16 Aldrin						
1		5.431			ND	
2		5.333				
17 Chlorpyrifos						
1		5.660			ND	
2		5.553				
18 Isodrin						
1		5.753			ND	
2		5.691				
19 Dicofol						M
1	5.788	5.790	-0.002	1231233	-1.77	
2	5.653	5.651	0.002	297245	1.37	M
					RPD = -1589.43	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
20 2,4'-DDE						
1		6.019			ND	
2		6.072				
21 Heptachlor epoxide						
1		6.038			ND	
2		5.868				
22 trans-Chlordane						
1		6.169			ND	
2		6.065				
28 Toxaphene						
1		6.207			ND	
1		6.811				
1		7.483				
1		7.843				
1		8.158				
2		5.717				
2		7.067				
2		7.207				
2		7.721				
2		8.015				
23 cis-Chlordane						
1		6.310			ND	
2		6.221				
24 4,4'-DDE						
1		6.386			ND	
2		6.404				
25 Endosulfan I						
1		6.459			ND	
2		6.280				
26 2,4'-DDD						
1		6.570			ND	
2		6.617				
27 Dieldrin						
1		6.711			ND	
2		6.570				
29 2,4'-DDT						
1		6.837			ND	
2		6.938				
30 Endrin						
1		6.959			ND	
2		6.890				
31 Kepone						
1	7.005	7.000	0.005	3164291	25.8	
2	6.998	7.006	-0.008	1688517	26.4	
					RPD = 2.61	
32 4,4'-DDD						
1		7.021			ND	
2		7.019				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
33 Chlorobenzilate						M
1	7.041	7.033	0.008	1089787	-2.79	
2	6.885	6.886	-0.001	183811	-3.84	M
					RPD = -31.55	
LOD = 0.1500						
34 Endosulfan II						
1		7.195			ND	
2		7.117				
35 4,4'-DDT						
1		7.315			ND	
2		7.349				
36 Endrin aldehyde						
1		7.640			ND	
2		7.475				
37 Methoxychlor						
1		7.819			ND	
2		8.080				
38 Mirex						
1		7.978			ND	
2		8.269				
39 Endosulfan sulfate						
1		8.098			ND	
2		7.768				
40 Endrin ketone						
1		8.388			ND	
2		8.320				
$ 41 DCB Decachlorobiphenyl						
1	9.403	9.402	0.001	116778613	16.2	
2	9.588	9.588	0.000	16537379	14.6	
					RPD = 10.36	
42 Tris(2,3-dibromopropyl)phosphate						
1	11.191	11.190	0.001	3092514	241.9	
2	11.353	11.350	0.003	548555	244.8	
					RPD = 1.18	
S 3 Endosulfan, Total						
1		0.000			ND	
2		0.000				

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

8081_IS_00010 Amount Added: 75.00 Units: uL Run Reagent

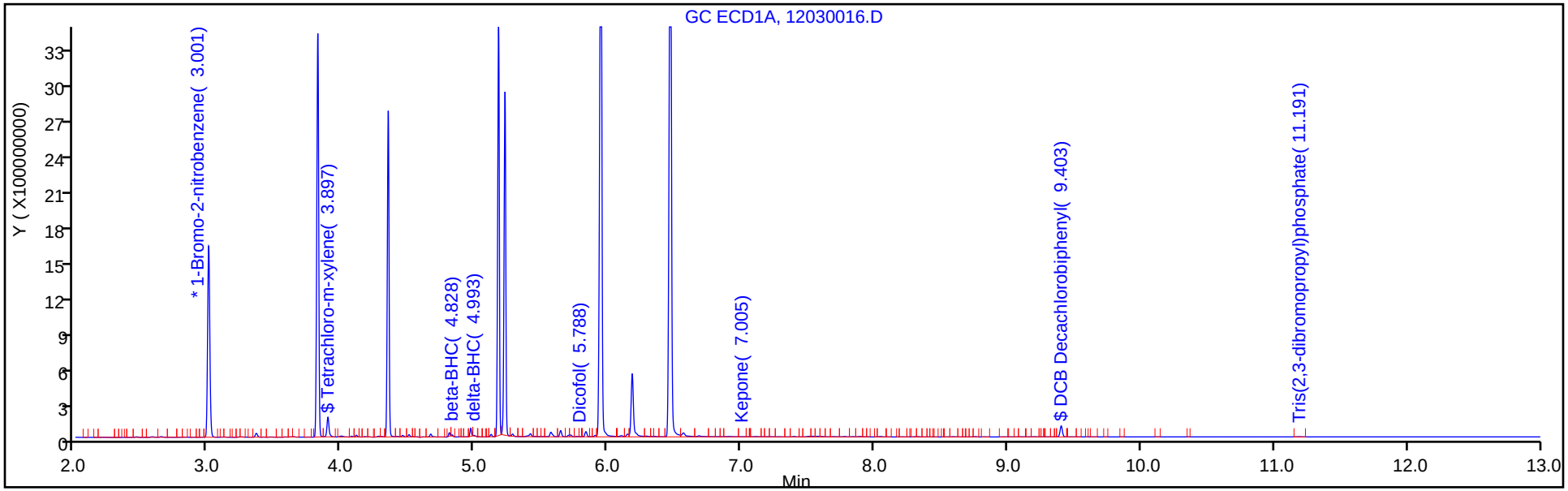
Report Date: 04-Dec-2018 13:50:09 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

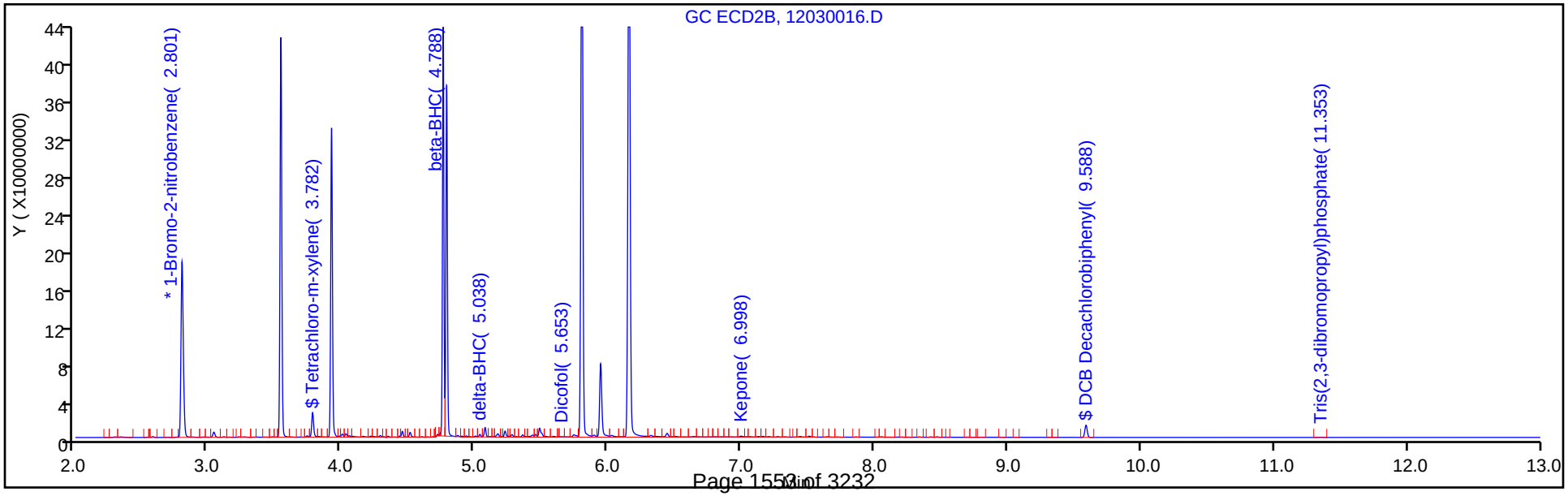
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030016.D

Injection Date:	03-Dec-2018 16:07:27	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	280-116020-A-5-A	Lab Sample ID:	280-116020-5	Worklist Smp#:	16
Client ID:	LL1mw-083-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030016.D				
Lims ID:	280-116020-A-5-A				
Client ID:	LL1mw-083-181001-GW				
Sample Type:	Client				
Inject. Date:	03-Dec-2018 16:07:27	ALS Bottle#:	10	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-A-5-A				
Misc. Info.:	280-0076757-016				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	04-Dec-2018 13:50:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0325				
First Level Reviewer: bacat		Date:	04-Dec-2018 09:04:57		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	13.6	68.17
$ 41 DCB Decachlorobiphenyl	20.0	16.2	81.06

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	14.3	71.45
$ 41 DCB Decachlorobiphenyl	20.0	14.6	73.08

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: LL1mw-083-181001-GW | Lab Sample ID: 280-116020-5

Matrix: Water | Lab File ID: 12030016.D

Analysis Method: 8081B | Date Collected: 10/24/2018 13:25

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 968.9(mL) | Date Analyzed: 12/03/2018 16:07

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 439676 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	73		34-122

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030016.D
Lims ID: 280-116020-A-5-A
Client ID: LL1mw-083-181001-GW
Sample Type: Client
Inject. Date: 03-Dec-2018 16:07:27 ALS Bottle#: 10 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-5-A
Misc. Info.: 280-0076757-016
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 04-Dec-2018 09:04:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical						
1					1.58	
2					322.0	
					RPD = 198.05	
* 2 1-Bromo-2-nitrobenzene						
1	3.001	3.001	0.000	1886369563	150.0	
2	2.801	2.801	0.000	224547532	150.0	
$ 4 Tetrachloro-m-xylene						M
1	3.897	3.896	0.001	185064345	13.6	
2	3.782	3.781	0.001	26909779	14.3	M
					RPD = 4.69	
5 Hexachlorobenzene						
1		4.304			ND	
2		4.258				
6 Diallate						
1		4.329			ND	
2		4.212				
7 Propachlor						
1		4.470			ND	
2		4.090				
8 alpha-BHC						
1		4.474			ND	
2		4.403				
9 gamma-BHC (Lindane)						
1		4.763			ND	
2		4.717				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
10 beta-BHC						M
1	4.828	4.840	-0.012	7525524	0.6709	
2	4.788	4.793	-0.005	293026465	321.0	EM
					RPD = 199.17	
11 2,4,5-Trichlorophenol						
1		4.861			ND	
2		4.772				
12 delta-BHC						M
1	4.993	4.989	0.004	5344437	0.9105	
2	5.038	5.027	0.011	2446437	1.00	M
					RPD = 9.20	
14 Chlordane (technical)						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
13 Technical Chlordane						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
15 Heptachlor						
1		5.163			ND	
2		5.068				
16 Aldrin						
1		5.431			ND	
2		5.333				
17 Chlorpyrifos						
1		5.660			ND	
2		5.553				
18 Isodrin						
1		5.753			ND	
2		5.691				
19 Dicofol						M
1	5.788	5.790	-0.002	1231233	-1.77	
2	5.653	5.651	0.002	297245	1.37	M
					RPD = -1589.43	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
20 2,4'-DDE						
1		6.019			ND	
2		6.072				
21 Heptachlor epoxide						
1		6.038			ND	
2		5.868				
22 trans-Chlordane						
1		6.169			ND	
2		6.065				
28 Toxaphene						
1		6.207			ND	
1		6.811				
1		7.483				
1		7.843				
1		8.158				
2		5.717				
2		7.067				
2		7.207				
2		7.721				
2		8.015				
23 cis-Chlordane						
1		6.310			ND	
2		6.221				
24 4,4'-DDE						
1		6.386			ND	
2		6.404				
25 Endosulfan I						
1		6.459			ND	
2		6.280				
26 2,4'-DDD						
1		6.570			ND	
2		6.617				
27 Dieldrin						
1		6.711			ND	
2		6.570				
29 2,4'-DDT						
1		6.837			ND	
2		6.938				
30 Endrin						
1		6.959			ND	
2		6.890				
31 Kepone						
1	7.005	7.000	0.005	3164291	25.8	
2	6.998	7.006	-0.008	1688517	26.4	
					RPD = 2.61	
32 4,4'-DDD						
1		7.021			ND	
2		7.019				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
33 Chlorobenzilate						M
1	7.041	7.033	0.008	1089787	-2.79	
2	6.885	6.886	-0.001	183811	-3.84	M
					RPD = -31.55	
LOD = 0.1500						
34 Endosulfan II						
1		7.195			ND	
2		7.117				
35 4,4'-DDT						
1		7.315			ND	
2		7.349				
36 Endrin aldehyde						
1		7.640			ND	
2		7.475				
37 Methoxychlor						
1		7.819			ND	
2		8.080				
38 Mirex						
1		7.978			ND	
2		8.269				
39 Endosulfan sulfate						
1		8.098			ND	
2		7.768				
40 Endrin ketone						
1		8.388			ND	
2		8.320				
$ 41 DCB Decachlorobiphenyl						
1	9.403	9.402	0.001	116778613	16.2	
2	9.588	9.588	0.000	16537379	14.6	
					RPD = 10.36	
42 Tris(2,3-dibromopropyl)phosphate						
1	11.191	11.190	0.001	3092514	241.9	
2	11.353	11.350	0.003	548555	244.8	
					RPD = 1.18	
S 3 Endosulfan, Total						
1		0.000			ND	
2		0.000				

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

8081_IS_00010 Amount Added: 75.00 Units: uL Run Reagent

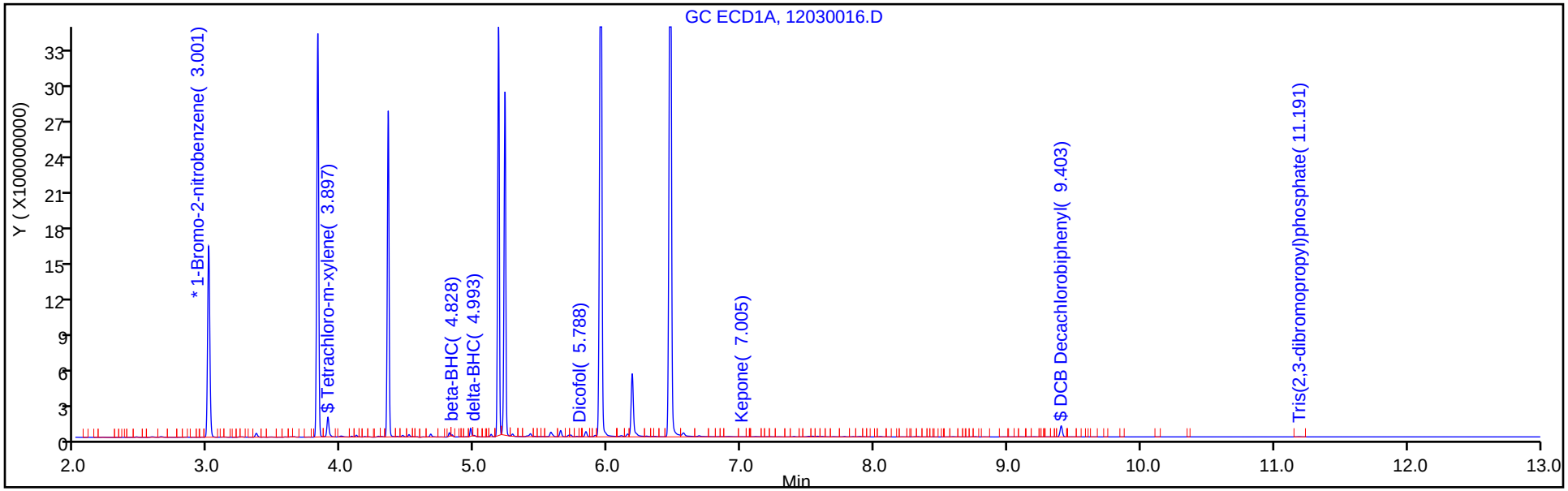
Report Date: 04-Dec-2018 13:50:09 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

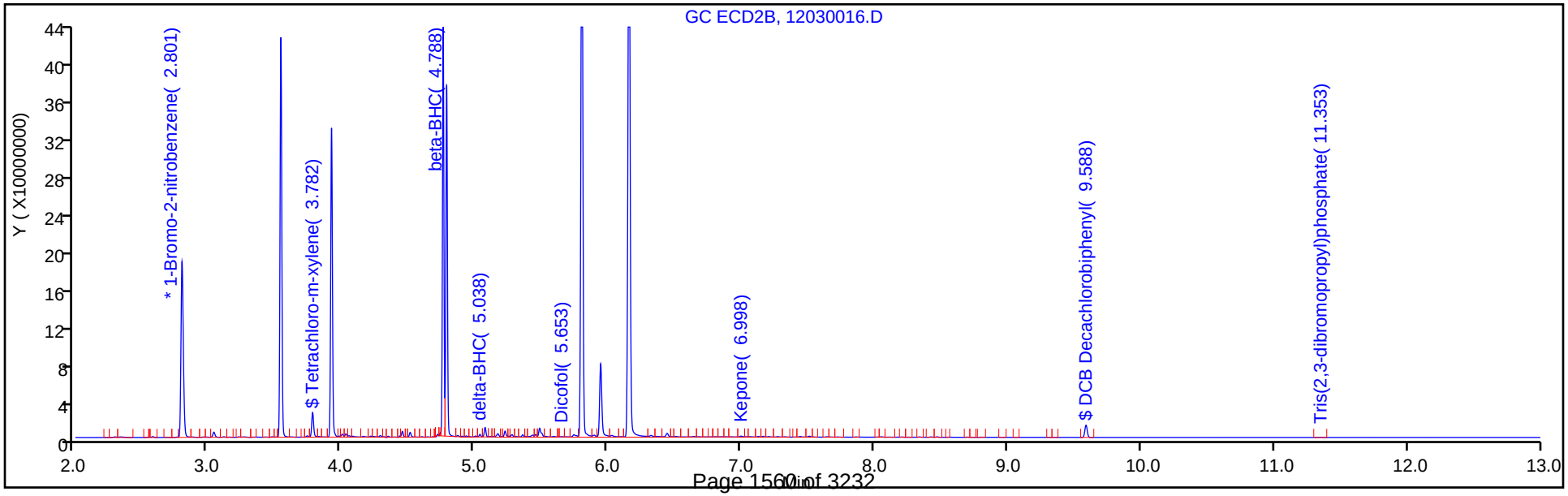
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030016.D

Injection Date:	03-Dec-2018 16:07:27	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	280-116020-A-5-A	Lab Sample ID:	280-116020-5	Worklist Smp#:	16
Client ID:	LL1mw-083-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030016.D				
Lims ID:	280-116020-A-5-A				
Client ID:	LL1mw-083-181001-GW				
Sample Type:	Client				
Inject. Date:	03-Dec-2018 16:07:27	ALS Bottle#:	10	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-A-5-A				
Misc. Info.:	280-0076757-016				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	04-Dec-2018 13:50:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0325				
First Level Reviewer: bacat		Date:	04-Dec-2018 09:04:57		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	13.6	68.17
$ 41 DCB Decachlorobiphenyl	20.0	16.2	81.06

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	14.3	71.45
$ 41 DCB Decachlorobiphenyl	20.0	14.6	73.08

Manual Integration/User Assign Peak Report

TestAmerica Denver

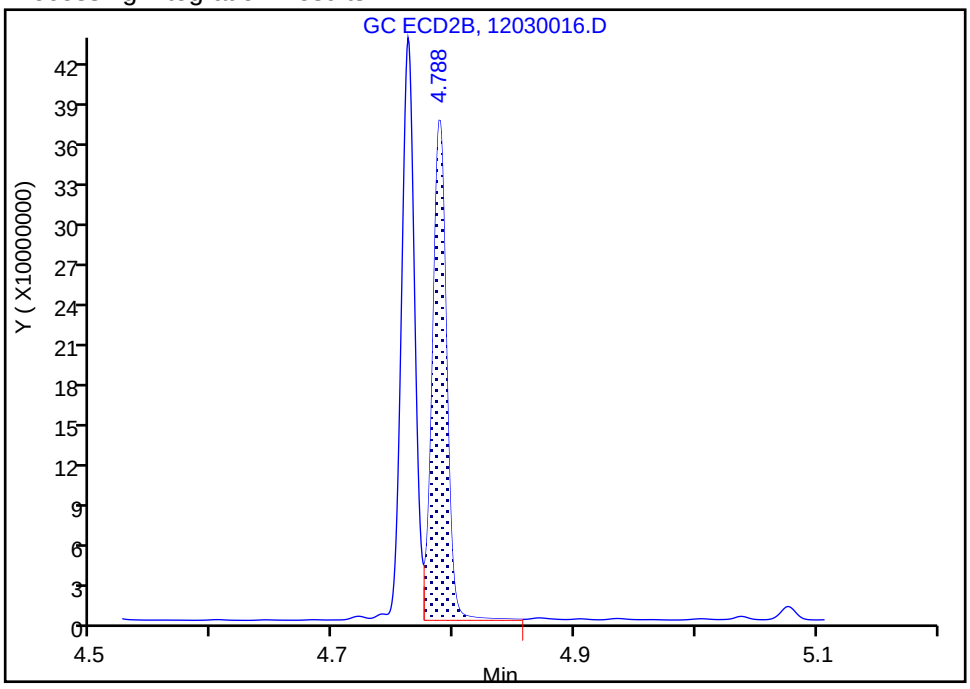
Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030016.D				
Injection Date:	03-Dec-2018 16:07:27	Instrument ID:	SGC_P2		
Lims ID:	280-116020-A-5-A	Lab Sample ID:	280-116020-5		
Client ID:	LL1mw-083-181001-GW				
Operator ID:	TEM	ALS Bottle#:	10	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

10 beta-BHC, CAS: 319-85-7

Signal: 2

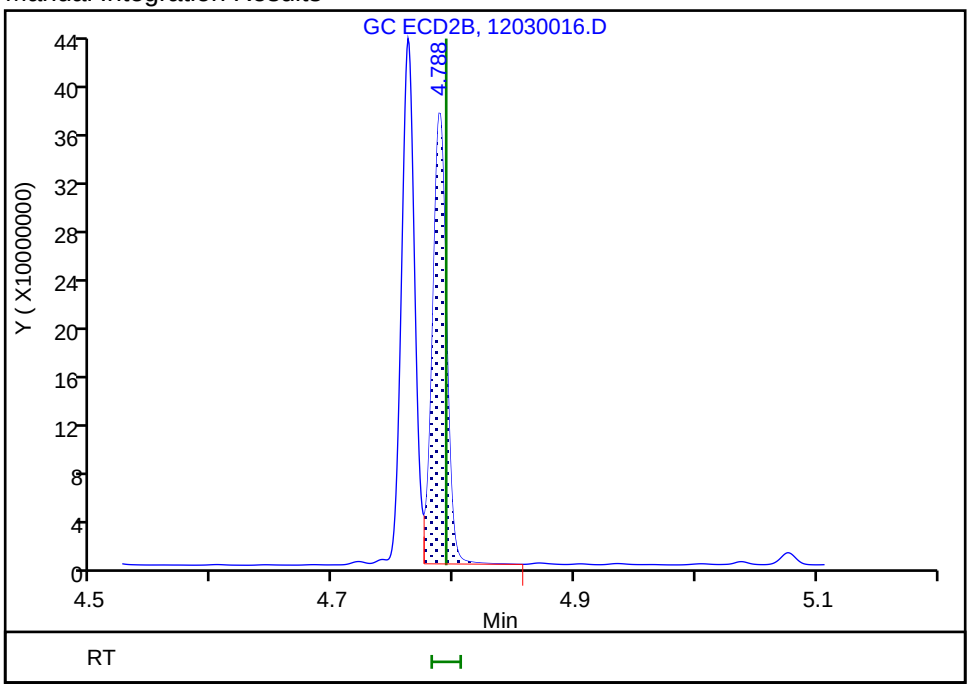
Processing Integration Results

RT: 4.79
Area: 297404985
Amount: 325.8488
Amount Units: ng/mL



Manual Integration Results

RT: 4.79
Area: 293026465
Amount: 321.0398
Amount Units: ng/mL



Reviewer: bacat, 04-Dec-2018 09:03:05

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

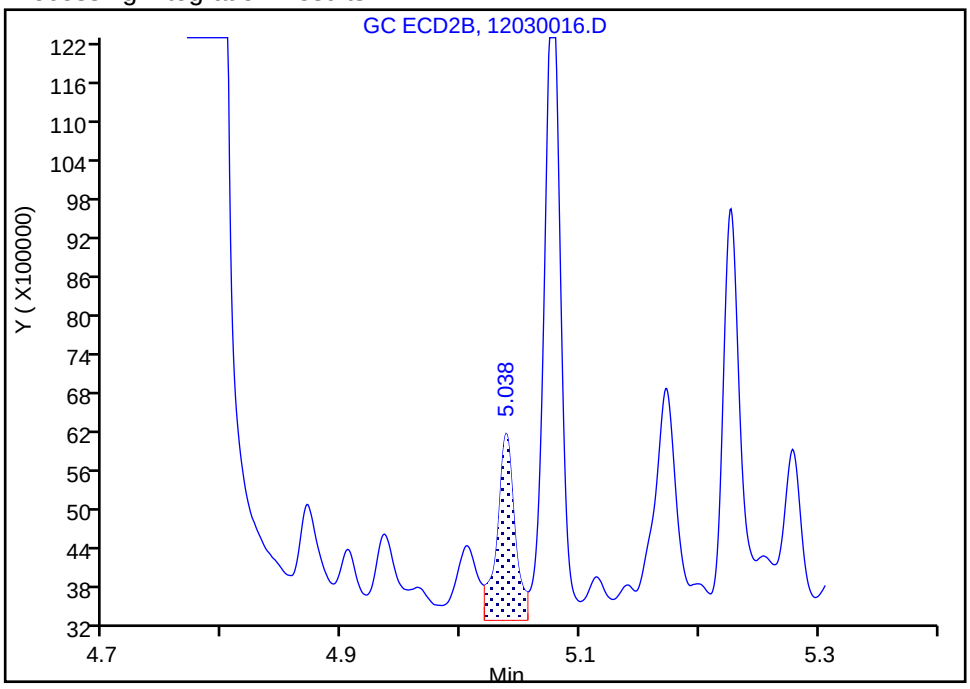
Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030016.D				
Injection Date:	03-Dec-2018 16:07:27	Instrument ID:	SGC_P2		
Lims ID:	280-116020-A-5-A	Lab Sample ID:	280-116020-5		
Client ID:	LL1mw-083-181001-GW				
Operator ID:	TEM	ALS Bottle#:	10	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

12 delta-BHC, CAS: 319-86-8

Signal: 2

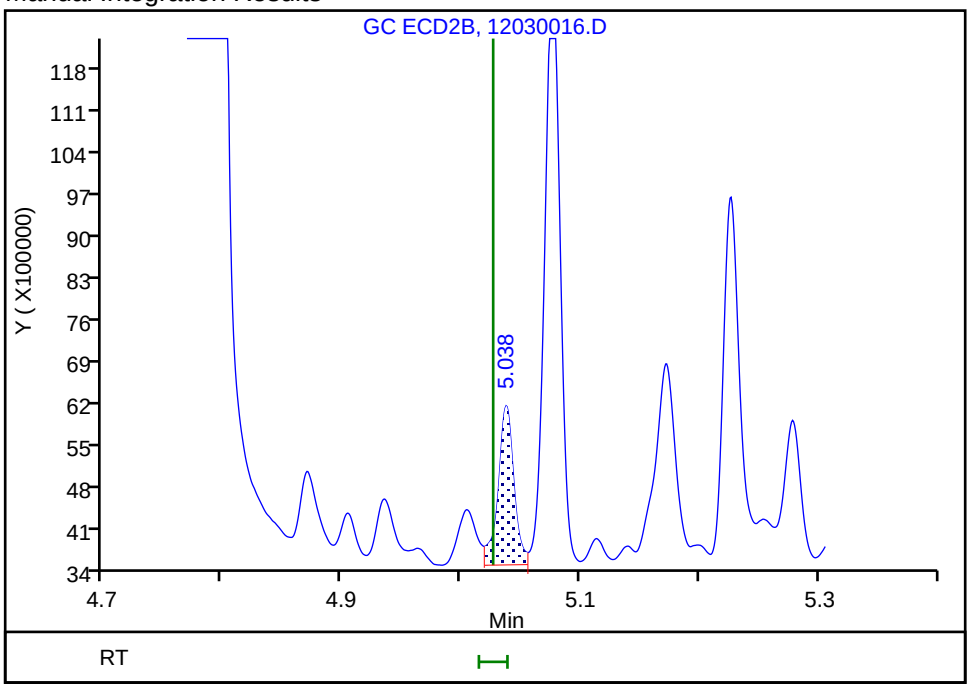
Processing Integration Results

RT: 5.04
Area: 2961326
Amount: 1.233779
Amount Units: ng/mL



Manual Integration Results

RT: 5.04
Area: 2446437
Amount: 0.998331
Amount Units: ng/mL



Reviewer: bacat, 04-Dec-2018 09:03:20

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

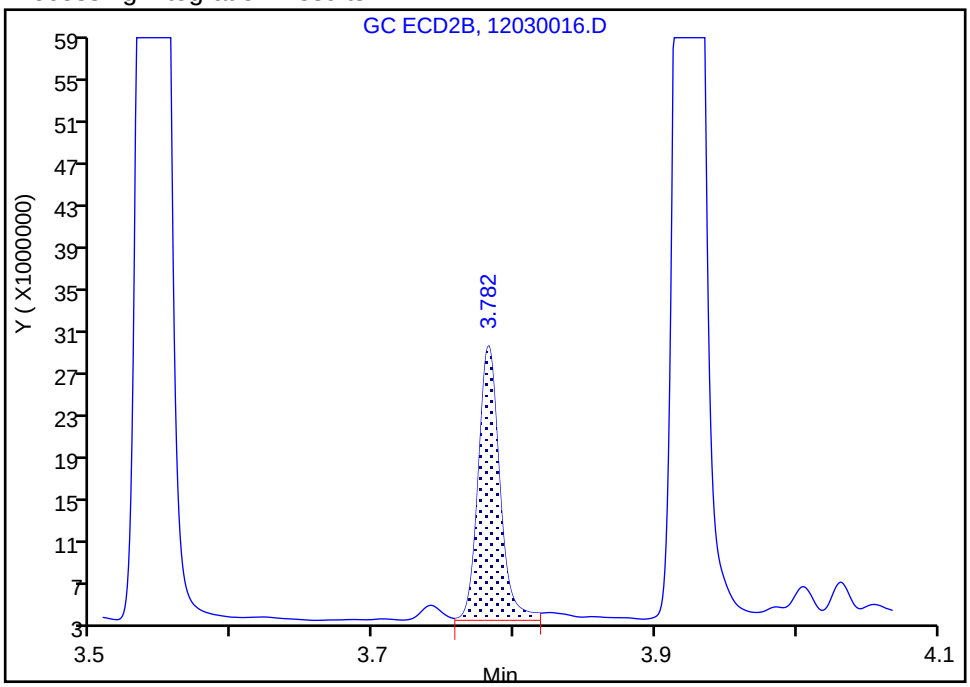
Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030016.D				
Injection Date:	03-Dec-2018 16:07:27	Instrument ID:	SGC_P2		
Lims ID:	280-116020-A-5-A	Lab Sample ID:	280-116020-5		
Client ID:	LL1mw-083-181001-GW				
Operator ID:	TEM	ALS Bottle#:	10	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

$ 4 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 2

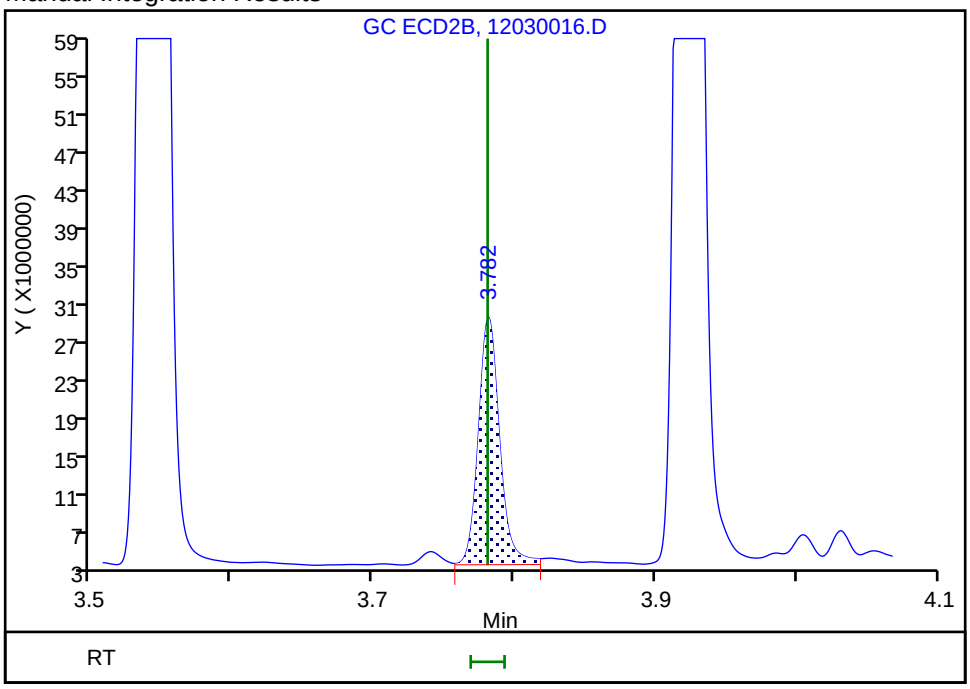
Processing Integration Results

RT: 3.78
Area: 27104998
Amount: 14.397488
Amount Units: ng/mL



Manual Integration Results

RT: 3.78
Area: 26909779
Amount: 14.289192
Amount Units: ng/mL



Reviewer: bacat, 04-Dec-2018 09:02:12

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: LL1mw-084-181001-GW | Lab Sample ID: 280-116020-6

Matrix: Water | Lab File ID: 12030017.D

Analysis Method: 8081B | Date Collected: 10/24/2018 09:30

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 892.6(mL) | Date Analyzed: 12/03/2018 16:25

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP1 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 439676 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.022	U	0.056	0.022	0.0086
72-55-9	4,4'-DDE	0.022	U	0.056	0.022	0.0084
50-29-3	4,4'-DDT	0.056	U	0.056	0.056	0.017
309-00-2	Aldrin	0.022	U	0.056	0.022	0.0066
319-84-6	alpha-BHC	0.022	U	0.056	0.022	0.0059
5103-71-9	alpha-Chlordane	0.022	U	0.056	0.022	0.0059
319-85-7	beta-BHC	0.022	U	0.056	0.022	0.0097
60-57-1	Dieldrin	0.022	U	0.056	0.022	0.0071
33213-65-9	Endosulfan II	0.022	U	0.056	0.022	0.0078
1031-07-8	Endosulfan sulfate	0.022	U Q	0.056	0.022	0.0064
72-20-8	Endrin	0.022	U	0.056	0.022	0.0089
7421-93-4	Endrin aldehyde	0.022	U	0.056	0.022	0.0099
53494-70-5	Endrin ketone	0.022	U	0.056	0.022	0.0078
58-89-9	gamma-BHC (Lindane)	0.022	U	0.056	0.022	0.0077
5103-74-2	gamma-Chlordane	0.022	U	0.056	0.022	0.010
76-44-8	Heptachlor	0.022	U	0.056	0.022	0.0086
1024-57-3	Heptachlor epoxide	0.022	U	0.056	0.022	0.0084
72-43-5	Methoxychlor	0.056	U Q	0.056	0.056	0.015
8001-35-2	Toxaphene	0.90	U	2.2	0.90	0.41

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	68		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030017.D
Lims ID: 280-116020-A-6-A
Client ID: LL1mw-084-181001-GW
Sample Type: Client
Inject. Date: 03-Dec-2018 16:25:01 ALS Bottle#: 11 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-6-A
Misc. Info.: 280-0076757-017
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 04-Dec-2018 09:01:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical						
1					1.44	
2					0.3681	
					RPD = 118.74	
* 2 1-Bromo-2-nitrobenzene						
1	3.001	3.001	-0.001	1813444675	150.0	
2	2.801	2.801	-0.001	215579106	150.0	
$ 4 Tetrachloro-m-xylene						
1	3.897	3.896	0.001	176434345	13.5	
2	3.781	3.781	0.000	26222127	14.5	
					RPD = 7.05	
5 Hexachlorobenzene						
1		4.304			ND	
2		4.258				
6 Diallate						
1		4.329			ND	
2		4.212				
7 Propachlor						
1	4.461	4.470	-0.009	13344237	1.03	
2	4.085	4.090	-0.005	379776	0.5740	
					RPD = 56.67	
8 alpha-BHC						
1		4.474			ND	
2		4.403				
9 gamma-BHC (Lindane)						M
1	4.760	4.763	-0.003	512082	0.5306	
2	4.721	4.717	0.004	891610	0.2411	M
					RPD = 75.03	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
10 beta-BHC						
1		4.840			ND	
2		4.793				
11 2,4,5-Trichlorophenol						M
1	4.872	4.861	0.011	238227	NC	
2	4.762	4.772	-0.010	376392881	NC	M
					RPD = 0.00	
12 delta-BHC						
1	5.001	4.989	0.012	5188562	0.9134	
2	5.037	5.027	0.010	519483	0.1271	
					RPD = 151.15	
14 Chlordane (technical)						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
13 Technical Chlordane						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
15 Heptachlor						
1		5.163			ND	
2		5.068				
16 Aldrin						
1		5.431			ND	
2		5.333				
17 Chlorpyrifos						
1		5.660			ND	
2		5.553				
18 Isodrin						
1		5.753			ND	
2		5.691				
19 Dicofol						
1	5.796	5.790	0.006	183812	-4.83	
2	5.655	5.651	0.004	250273	0.7435	
					RPD = -272.85	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
20 2,4'-DDE						
1		6.019			ND	
2		6.072				
21 Heptachlor epoxide						
1		6.038			ND	
2		5.868				
22 trans-Chlordane						
1		6.169			ND	
2		6.065				
28 Toxaphene						
1		6.207			ND	
1		6.811				
1		7.483				
1		7.843				
1		8.158				
2		5.717				
2		7.067				
2		7.207				
2		7.721				
2		8.015				
23 cis-Chlordane						
1		6.310			ND	
2		6.221				
24 4,4'-DDE						
1		6.386			ND	
2		6.404				
25 Endosulfan I						
1	6.467	6.459	0.008	3476751365	265.0	E
2	6.286	6.280	0.006	426884	-0.4133	
					RPD = 200.62	
26 2,4'-DDD						
1	6.566	6.570	-0.004	42360605	5.71	
2	6.623	6.617	0.006	100690	-0.1816	
					RPD = 213.15	
27 Dieldrin						
1		6.711			ND	
2		6.570				
29 2,4'-DDT						
1		6.837			ND	
2		6.938				
30 Endrin						
1		6.959			ND	
2		6.890				
31 Kepone						
1		7.000			ND	
2		7.006				
32 4,4'-DDD						
1		7.021			ND	
2		7.019				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
33 Chlorobenzilate						
1	7.029	7.033	-0.004	257607	-3.73	
2	6.886	6.886	0.000	133870	-4.23	
					RPD = -12.50	
LOD = 0.1500						
34 Endosulfan II						
1	7.196	7.195	0.001	597747	0.3055	
2	7.126	7.117	0.009	285671	-0.5871	
					RPD = -633.89	
35 4,4'-DDT						
1		7.315			ND	
2		7.349				
36 Endrin aldehyde						
1		7.640			ND	
2		7.475				
37 Methoxychlor						
1		7.819			ND	
2		8.080				
38 Mirex						
1		7.978			ND	
2		8.269				
39 Endosulfan sulfate						
1		8.098			ND	
2		7.768				
40 Endrin ketone						
1		8.388			ND	
2		8.320				
$ 41 DCB Decachlorobiphenyl						
1	9.403	9.402	0.001	111895365	16.2	
2	9.588	9.588	0.000	16016577	14.8	
					RPD = 9.09	
42 Tris(2,3-dibromopropyl)phosphate						
1	11.191	11.190	0.001	1860704	241.5	
2	11.355	11.350	0.005	265495	243.8	
					RPD = 0.93	
S 3 Endosulfan, Total						
1					265.3	
2					-1.00	
					RPD = 201.51	
LOD = 0.002000						

QC Flag Legend

Processing Flags

NC - Not Calibrated

E - Exceeded Maximum Amount

7 - Failed Limit of Detection

Review Flags
M - Manually Integrated

Reagents:

8081_IS_00010 Amount Added: 75.00 Units: uL Run Reagent

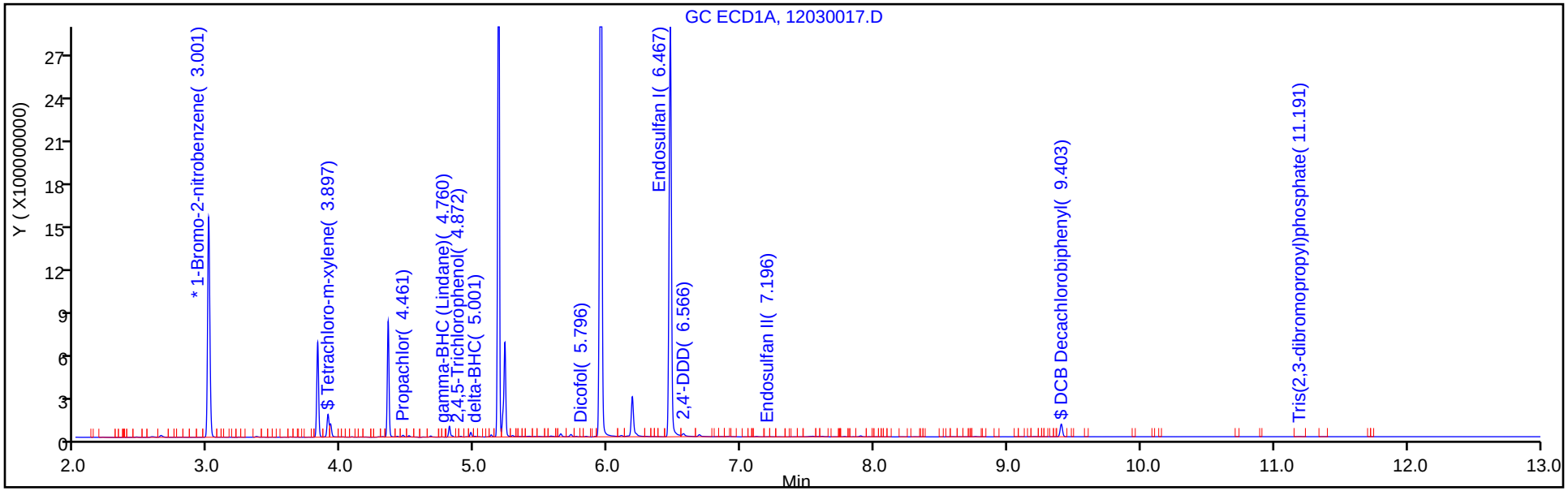
Report Date: 04-Dec-2018 13:50:11 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

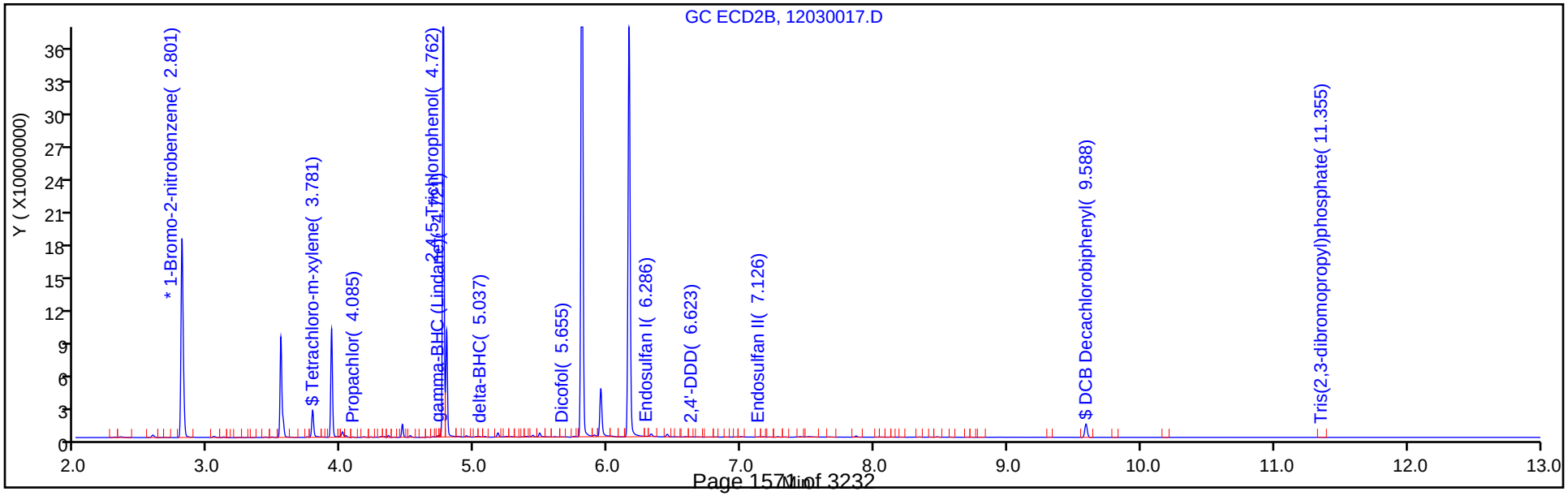
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030017.D

Injection Date:	03-Dec-2018 16:25:01	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	280-116020-A-6-A	Lab Sample ID:	280-116020-6	Worklist Smp#:	17
Client ID:	LL1mw-084-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030017.D				
Lims ID:	280-116020-A-6-A				
Client ID:	LL1mw-084-181001-GW				
Sample Type:	Client				
Inject. Date:	03-Dec-2018 16:25:01	ALS Bottle#:	11	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-A-6-A				
Misc. Info.:	280-0076757-017				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	04-Dec-2018 13:50:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0325				
First Level Reviewer: bacat		Date:	04-Dec-2018 09:01:38		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	13.5	67.62
$ 41 DCB Decachlorobiphenyl	20.0	16.2	80.79

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	14.5	72.56
$ 41 DCB Decachlorobiphenyl	20.0	14.8	73.77

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: LL1mw-084-181001-GW | Lab Sample ID: 280-116020-6

Matrix: Water | Lab File ID: 12030017.D

Analysis Method: 8081B | Date Collected: 10/24/2018 09:30

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 892.6(mL) | Date Analyzed: 12/03/2018 16:25

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 439676 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
319-86-8	delta-BHC	0.022	U	0.056	0.022	0.0065
959-98-8	Endosulfan I	0.022	U	0.056	0.022	0.0065

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	74		34-122

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030017.D
Lims ID: 280-116020-A-6-A
Client ID: LL1mw-084-181001-GW
Sample Type: Client
Inject. Date: 03-Dec-2018 16:25:01 ALS Bottle#: 11 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-6-A
Misc. Info.: 280-0076757-017
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 04-Dec-2018 09:01:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical						
1					1.44	
2					0.3681	
					RPD = 118.74	
* 2 1-Bromo-2-nitrobenzene						
1	3.001	3.001	-0.001	1813444675	150.0	
2	2.801	2.801	-0.001	215579106	150.0	
$ 4 Tetrachloro-m-xylene						
1	3.897	3.896	0.001	176434345	13.5	
2	3.781	3.781	0.000	26222127	14.5	
					RPD = 7.05	
5 Hexachlorobenzene						
1		4.304			ND	
2		4.258				
6 Diallate						
1		4.329			ND	
2		4.212				
7 Propachlor						
1	4.461	4.470	-0.009	13344237	1.03	
2	4.085	4.090	-0.005	379776	0.5740	
					RPD = 56.67	
8 alpha-BHC						
1		4.474			ND	
2		4.403				
9 gamma-BHC (Lindane)						M
1	4.760	4.763	-0.003	512082	0.5306	
2	4.721	4.717	0.004	891610	0.2411	M
					RPD = 75.03	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
10 beta-BHC						
1		4.840			ND	
2		4.793				
11 2,4,5-Trichlorophenol						M
1	4.872	4.861	0.011	238227	NC	
2	4.762	4.772	-0.010	376392881	NC	M
					RPD = 0.00	
12 delta-BHC						
1	5.001	4.989	0.012	5188562	0.9134	
2	5.037	5.027	0.010	519483	0.1271	
					RPD = 151.15	
14 Chlordane (technical)						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
13 Technical Chlordane						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
15 Heptachlor						
1		5.163			ND	
2		5.068				
16 Aldrin						
1		5.431			ND	
2		5.333				
17 Chlorpyrifos						
1		5.660			ND	
2		5.553				
18 Isodrin						
1		5.753			ND	
2		5.691				
19 Dicofol						
1	5.796	5.790	0.006	183812	-4.83	
2	5.655	5.651	0.004	250273	0.7435	
					RPD = -272.85	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
20 2,4'-DDE						
1		6.019			ND	
2		6.072				
21 Heptachlor epoxide						
1		6.038			ND	
2		5.868				
22 trans-Chlordane						
1		6.169			ND	
2		6.065				
28 Toxaphene						
1		6.207			ND	
1		6.811				
1		7.483				
1		7.843				
1		8.158				
2		5.717				
2		7.067				
2		7.207				
2		7.721				
2		8.015				
23 cis-Chlordane						
1		6.310			ND	
2		6.221				
24 4,4'-DDE						
1		6.386			ND	
2		6.404				
25 Endosulfan I						
1	6.467	6.459	0.008	3476751365	265.0	E
2	6.286	6.280	0.006	426884	-0.4133	
					RPD = 200.62	
26 2,4'-DDD						
1	6.566	6.570	-0.004	42360605	5.71	
2	6.623	6.617	0.006	100690	-0.1816	
					RPD = 213.15	
27 Dieldrin						
1		6.711			ND	
2		6.570				
29 2,4'-DDT						
1		6.837			ND	
2		6.938				
30 Endrin						
1		6.959			ND	
2		6.890				
31 Kepone						
1		7.000			ND	
2		7.006				
32 4,4'-DDD						
1		7.021			ND	
2		7.019				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
33 Chlorobenzilate						
1	7.029	7.033	-0.004	257607	-3.73	
2	6.886	6.886	0.000	133870	-4.23	
					RPD = -12.50	
LOD = 0.1500						
34 Endosulfan II						
1	7.196	7.195	0.001	597747	0.3055	
2	7.126	7.117	0.009	285671	-0.5871	
					RPD = -633.89	
35 4,4'-DDT						
1		7.315			ND	
2		7.349				
36 Endrin aldehyde						
1		7.640			ND	
2		7.475				
37 Methoxychlor						
1		7.819			ND	
2		8.080				
38 Mirex						
1		7.978			ND	
2		8.269				
39 Endosulfan sulfate						
1		8.098			ND	
2		7.768				
40 Endrin ketone						
1		8.388			ND	
2		8.320				
$ 41 DCB Decachlorobiphenyl						
1	9.403	9.402	0.001	111895365	16.2	
2	9.588	9.588	0.000	16016577	14.8	
					RPD = 9.09	
42 Tris(2,3-dibromopropyl)phosphate						
1	11.191	11.190	0.001	1860704	241.5	
2	11.355	11.350	0.005	265495	243.8	
					RPD = 0.93	
S 3 Endosulfan, Total						
1					265.3	
2					-1.00	
					RPD = 201.51	
LOD = 0.002000						

QC Flag Legend

Processing Flags

NC - Not Calibrated

E - Exceeded Maximum Amount

7 - Failed Limit of Detection

Review Flags
M - Manually Integrated

Reagents:

8081_IS_00010 Amount Added: 75.00 Units: uL Run Reagent

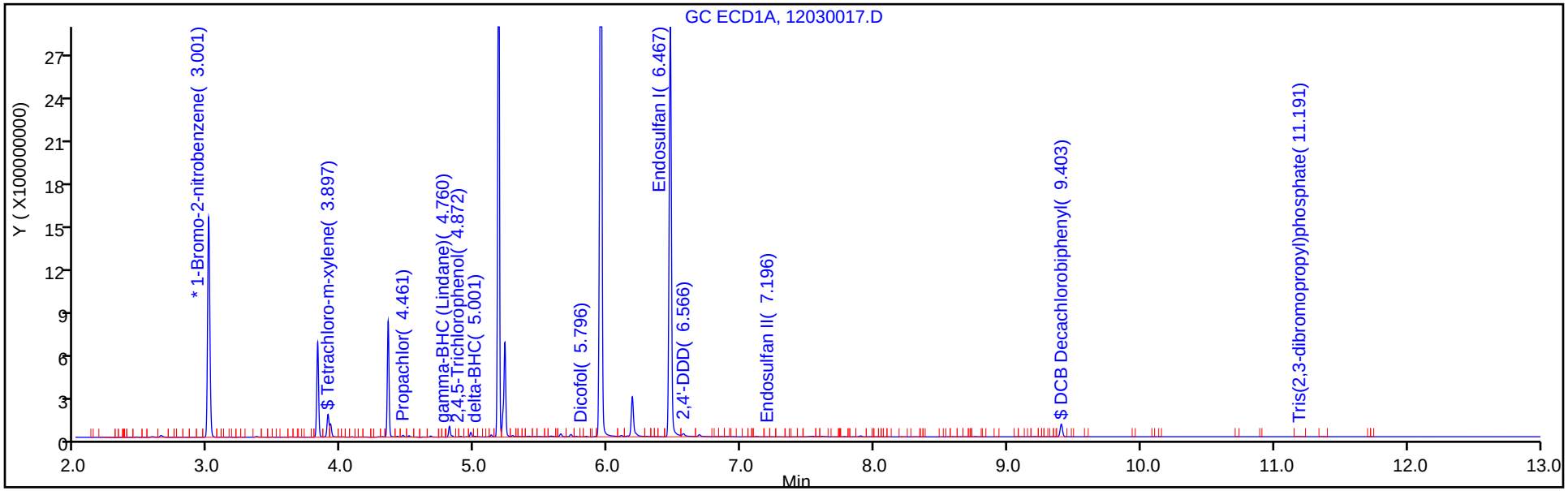
Report Date: 04-Dec-2018 13:50:11 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

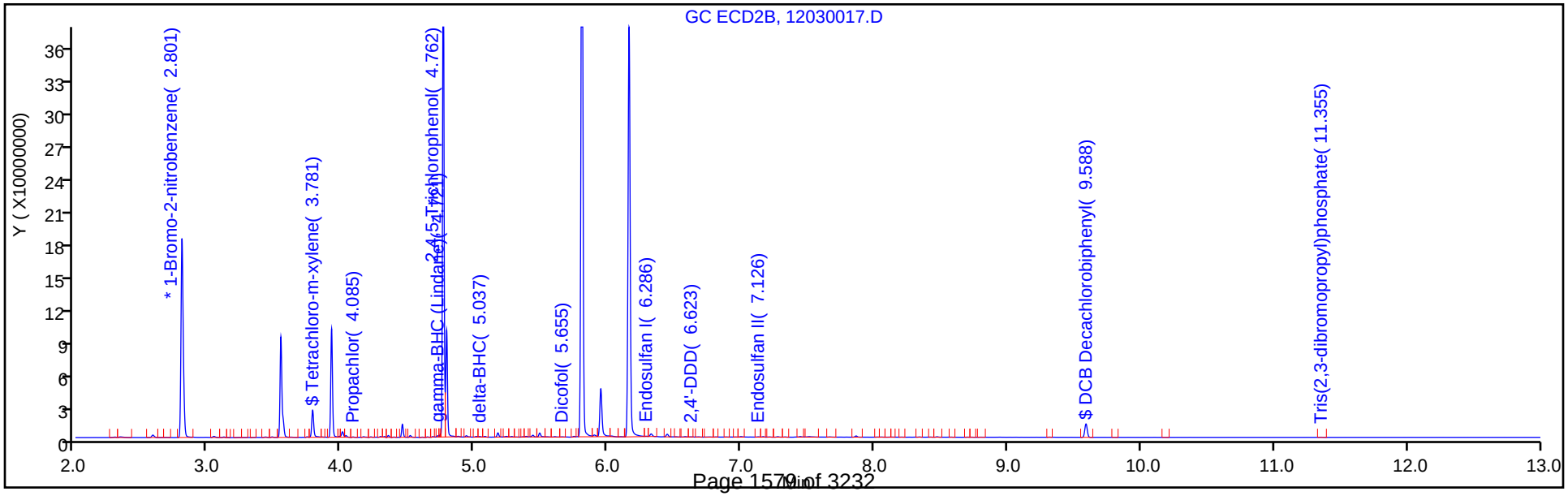
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030017.D

Injection Date:	03-Dec-2018 16:25:01	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	280-116020-A-6-A	Lab Sample ID:	280-116020-6	Worklist Smp#:	17
Client ID:	LL1mw-084-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030017.D				
Lims ID:	280-116020-A-6-A				
Client ID:	LL1mw-084-181001-GW				
Sample Type:	Client				
Inject. Date:	03-Dec-2018 16:25:01	ALS Bottle#:	11	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-A-6-A				
Misc. Info.:	280-0076757-017				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	04-Dec-2018 13:50:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0325				
First Level Reviewer: bacat		Date:	04-Dec-2018 09:01:38		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	13.5	67.62
$ 41 DCB Decachlorobiphenyl	20.0	16.2	80.79

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	14.5	72.56
$ 41 DCB Decachlorobiphenyl	20.0	14.8	73.77

Manual Integration/User Assign Peak Report

TestAmerica Denver

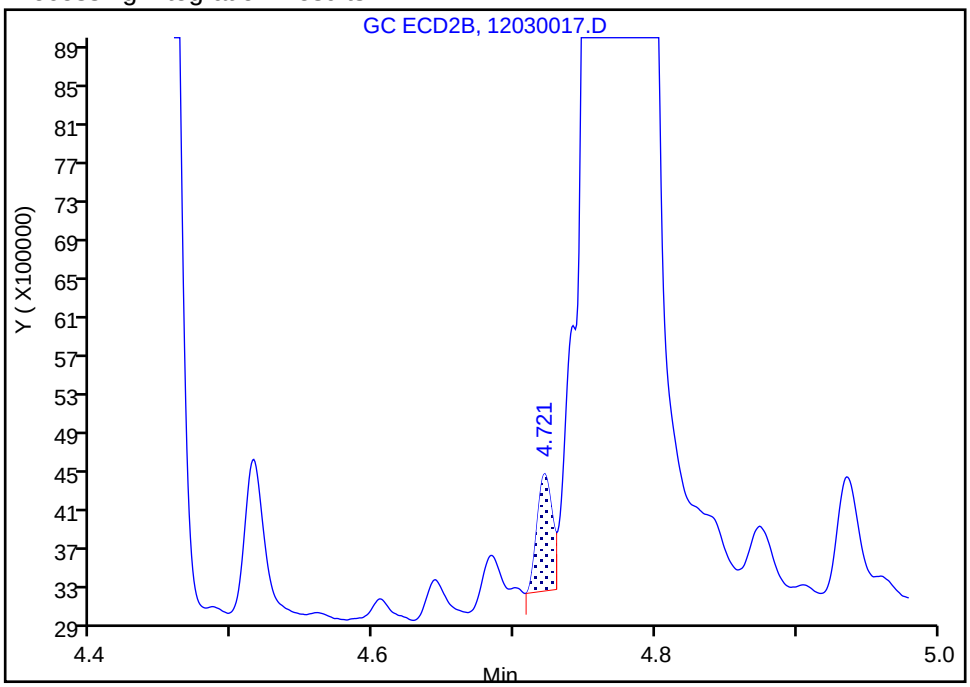
Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030017.D				
Injection Date:	03-Dec-2018 16:25:01	Instrument ID:	SGC_P2		
Lims ID:	280-116020-A-6-A	Lab Sample ID:	280-116020-6		
Client ID:	LL1mw-084-181001-GW				
Operator ID:	TEM	ALS Bottle#:	11	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

9 gamma-BHC (Lindane), CAS: 58-89-9

Signal: 2

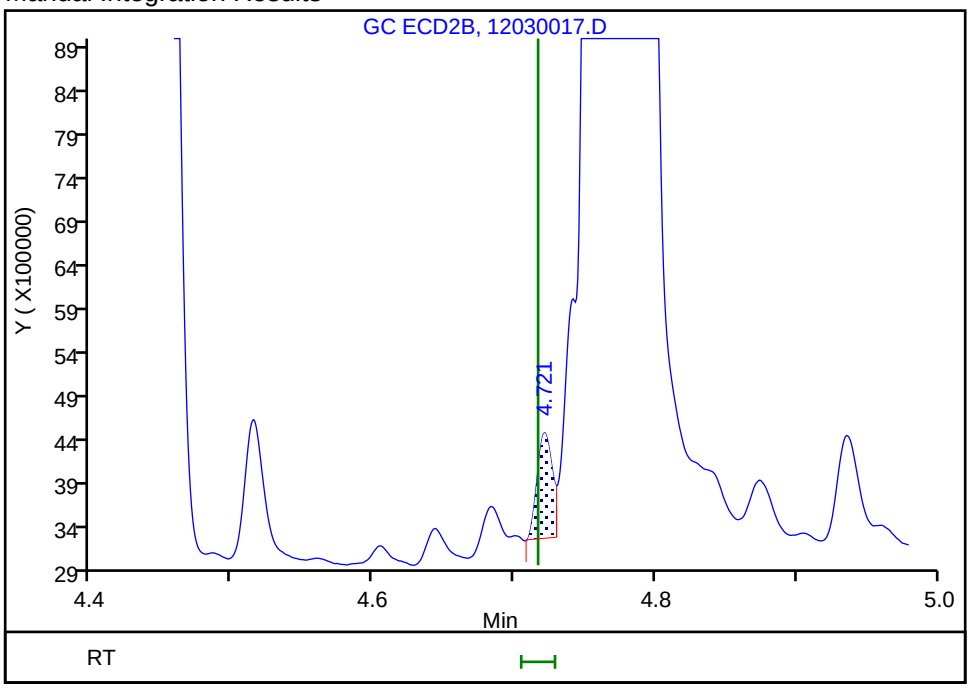
Processing Integration Results

RT: 4.72
Area: 900059
Amount: 0.245162
Amount Units: ng/mL



Manual Integration Results

RT: 4.72
Area: 891610
Amount: 0.241079
Amount Units: ng/mL



Reviewer: bacat, 04-Dec-2018 09:05:48
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-004-181001-GW | Lab Sample ID: 280-116020-12

Matrix: Water | Lab File ID: 12030018.D

Analysis Method: 8081B | Date Collected: 10/24/2018 11:20

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 930.5(mL) | Date Analyzed: 12/03/2018 16:42

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP1 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 439676 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.021	U	0.054	0.021	0.0083
72-55-9	4,4'-DDE	0.021	U	0.054	0.021	0.0081
50-29-3	4,4'-DDT	0.054	U	0.054	0.054	0.016
309-00-2	Aldrin	0.021	U	0.054	0.021	0.0063
319-84-6	alpha-BHC	0.021	U	0.054	0.021	0.0057
5103-71-9	alpha-Chlordane	0.021	U	0.054	0.021	0.0057
319-85-7	beta-BHC	0.021	U	0.054	0.021	0.0093
319-86-8	delta-BHC	0.021	U	0.054	0.021	0.0062
60-57-1	Dieldrin	0.021	U	0.054	0.021	0.0068
959-98-8	Endosulfan I	0.021	U	0.054	0.021	0.0062
33213-65-9	Endosulfan II	0.021	U	0.054	0.021	0.0075
1031-07-8	Endosulfan sulfate	0.021	U Q	0.054	0.021	0.0061
72-20-8	Endrin	0.021	U	0.054	0.021	0.0085
7421-93-4	Endrin aldehyde	0.021	U	0.054	0.021	0.0095
53494-70-5	Endrin ketone	0.021	U	0.054	0.021	0.0075
58-89-9	gamma-BHC (Lindane)	0.021	U	0.054	0.021	0.0074
5103-74-2	gamma-Chlordane	0.021	U	0.054	0.021	0.0098
76-44-8	Heptachlor	0.021	U	0.054	0.021	0.0083
1024-57-3	Heptachlor epoxide	0.021	U	0.054	0.021	0.0081
72-43-5	Methoxychlor	0.054	U Q	0.054	0.054	0.014
8001-35-2	Toxaphene	0.86	U	2.1	0.86	0.39

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	74		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030018.D
Lims ID: 280-116020-A-12-A
Client ID: DET-004-181001-GW
Sample Type: Client
Inject. Date: 03-Dec-2018 16:42:29 ALS Bottle#: 12 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-12-
Misc. Info.: 280-0076757-018
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 04-Dec-2018 09:08:06

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical						
1					-0.2524	
2					0.0257	
					RPD = -245.38	
LOD = 0.002000						
* 2 1-Bromo-2-nitrobenzene						
1	3.001	3.001	0.000	1754243949	150.0	
2	2.801	2.801	0.000	208262183	150.0	
$ 4 Tetrachloro-m-xylene						
1	3.896	3.896	0.000	185962613	14.7	
2	3.781	3.781	0.000	26843138	15.4	
					RPD = 4.75	
5 Hexachlorobenzene						
1	4.304	4.304	0.000	3504624	0.5514	
2	4.258	4.258	0.000	158703	-0.4849	
					RPD = 3116.66	
6 Diallate						
1		4.329			ND	
2		4.212				
7 Propachlor						
1	4.461	4.470	-0.009	2068030	-2.08	
2	4.083	4.090	-0.007	160048	0.0703	
					RPD = -214.02	
8 alpha-BHC						
1		4.474			ND	
2		4.403				
9 gamma-BHC (Lindane)						
1		4.763			ND	
2		4.717				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
10 beta-BHC						
1	4.838	4.840	-0.002	1144349	-0.2524	
2	4.788	4.793	-0.005	693133	0.0257	
					RPD = -245.38	
11 2,4,5-Trichlorophenol						
1	4.871	4.861	0.010	2290104	NC	
2	4.763	4.772	-0.009	306979	NC	
					RPD = 0.00	
12 delta-BHC						
1		4.989			ND	
2		5.027				
14 Chlordane (technical)						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
13 Technical Chlordane						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
15 Heptachlor						
1		5.163			ND	
2		5.068				
16 Aldrin						
1		5.431			ND	
2		5.333				
17 Chlorpyrifos						
1		5.660			ND	
2		5.553				
18 Isodrin						
1		5.753			ND	
2		5.691				
19 Dicofol						
1		5.790			ND	
2		5.651				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
20 2,4'-DDE						
1	6.019				ND	
2	6.072					
21 Heptachlor epoxide						
1	6.038				ND	
2	5.868					
22 trans-Chlordane						
1	6.169				ND	
2	6.065					
28 Toxaphene						
1	6.207				ND	
1	6.811					
1	7.483					
1	7.843					
1	8.158					
2	5.717					
2	7.067					
2	7.207					
2	7.721					
2	8.015					
23 cis-Chlordane						
1	6.310				ND	
2	6.221					
24 4,4'-DDE						
1	6.386				ND	
2	6.404					
25 Endosulfan I						
1	6.459				ND	
2	6.280					
26 2,4'-DDD						
1	6.570				ND	
2	6.617					
27 Dieldrin						
1	6.711				ND	
2	6.570					
29 2,4'-DDT						
1	6.837				ND	
2	6.938					
30 Endrin						
1	6.959				ND	
2	6.890					
31 Kepone						
1	7.000				ND	
2	7.006					
32 4,4'-DDD						
1	7.021				ND	
2	7.019					
33 Chlorobenzilate						
1	7.033				ND	
2	6.886					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
34 Endosulfan II						
1		7.195			ND	
2		7.117				
35 4,4'-DDT						
1		7.315			ND	
2		7.349				
36 Endrin aldehyde						
1		7.640			ND	
2		7.475				
37 Methoxychlor						
1		7.819			ND	
2		8.080				
38 Mirex						
1		7.978			ND	
2		8.269				
39 Endosulfan sulfate						
1		8.098			ND	
2		7.768				
40 Endrin ketone						
1		8.388			ND	
2		8.320				
$ 41 DCB Decachlorobiphenyl						
1	9.401	9.402	-0.001	150695310	22.6	
2	9.588	9.588	0.000	21065467	20.5	
					RPD = 9.79	
42 Tris(2,3-dibromopropyl)phosphate						
1		11.190			ND	
2		11.350				
S 3 Endosulfan, Total						
1		0.000			ND	
2		0.000				

QC Flag Legend

Processing Flags

NC - Not Calibrated

7 - Failed Limit of Detection

Reagents:

8081_IS_00010 Amount Added: 75.00 Units: uL Run Reagent

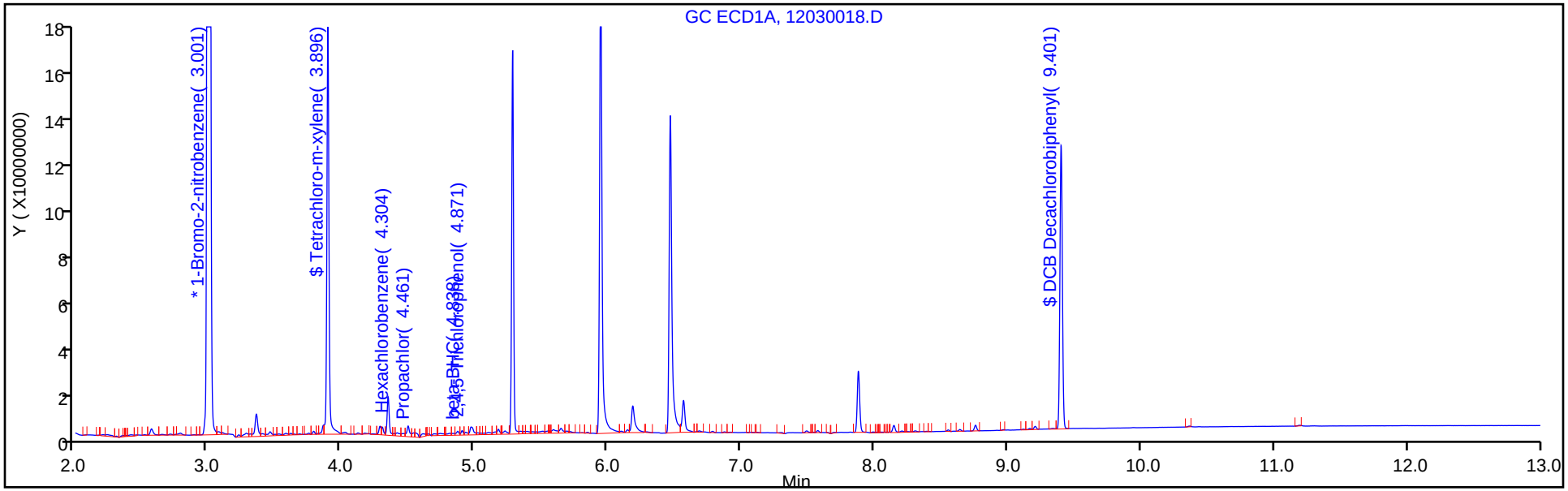
Report Date: 04-Dec-2018 13:50:12 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

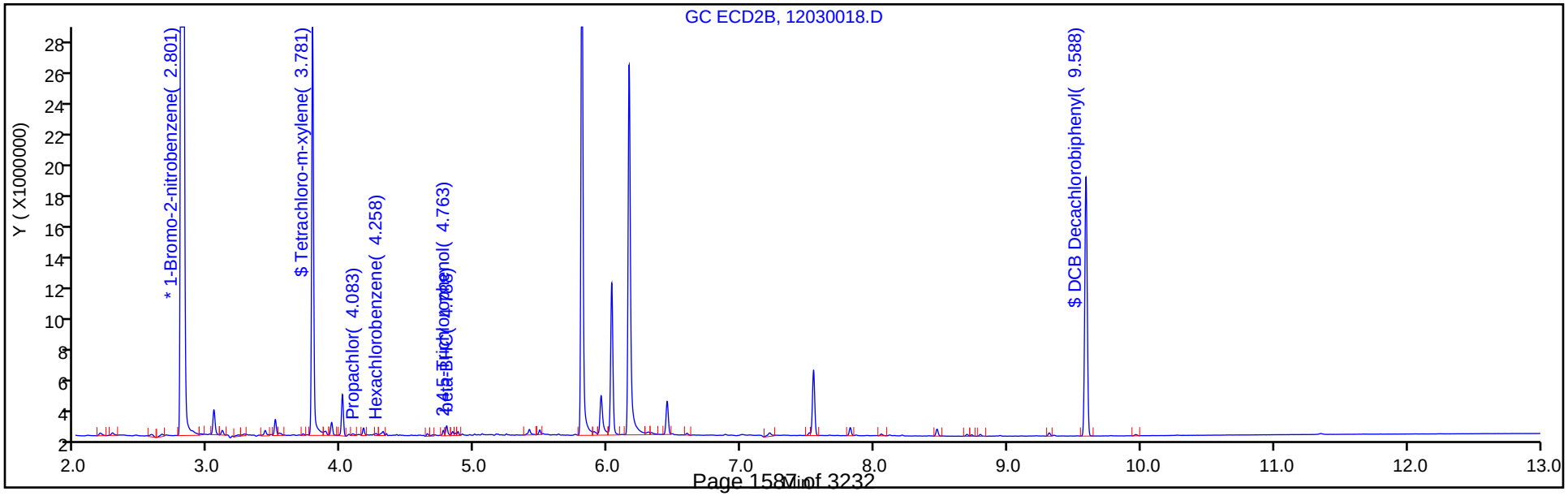
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030018.D

Injection Date:	03-Dec-2018 16:42:29	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	280-116020-A-12-A	Lab Sample ID:	280-116020-12	Worklist Smp#:	18
Client ID:	DET-004-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030018.D				
Lims ID:	280-116020-A-12-A				
Client ID:	DET-004-181001-GW				
Sample Type:	Client				
Inject. Date:	03-Dec-2018 16:42:29	ALS Bottle#:	12	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-A-12-				
Misc. Info.:	280-0076757-018				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	04-Dec-2018 13:50:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0325				
First Level Reviewer: bacat		Date:	04-Dec-2018 09:08:06		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	14.7	73.50
$ 41 DCB Decachlorobiphenyl	20.0	22.6	112.80

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.4	77.08
$ 41 DCB Decachlorobiphenyl	20.0	20.5	102.27

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-004-181001-GW | Lab Sample ID: 280-116020-12

Matrix: Water | Lab File ID: 12030018.D

Analysis Method: 8081B | Date Collected: 10/24/2018 11:20

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 930.5(mL) | Date Analyzed: 12/03/2018 16:42

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 439676 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	102		34-122

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030018.D
Lims ID: 280-116020-A-12-A
Client ID: DET-004-181001-GW
Sample Type: Client
Inject. Date: 03-Dec-2018 16:42:29 ALS Bottle#: 12 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-12-
Misc. Info.: 280-0076757-018
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 04-Dec-2018 09:08:06

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical						
1					-0.2524	
2					0.0257	
					RPD = -245.38	
LOD = 0.002000						
* 2 1-Bromo-2-nitrobenzene						
1	3.001	3.001	0.000	1754243949	150.0	
2	2.801	2.801	0.000	208262183	150.0	
$ 4 Tetrachloro-m-xylene						
1	3.896	3.896	0.000	185962613	14.7	
2	3.781	3.781	0.000	26843138	15.4	
					RPD = 4.75	
5 Hexachlorobenzene						
1	4.304	4.304	0.000	3504624	0.5514	
2	4.258	4.258	0.000	158703	-0.4849	
					RPD = 3116.66	
6 Diallate						
1		4.329			ND	
2		4.212				
7 Propachlor						
1	4.461	4.470	-0.009	2068030	-2.08	
2	4.083	4.090	-0.007	160048	0.0703	
					RPD = -214.02	
8 alpha-BHC						
1		4.474			ND	
2		4.403				
9 gamma-BHC (Lindane)						
1		4.763			ND	
2		4.717				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
10 beta-BHC						
1	4.838	4.840	-0.002	1144349	-0.2524	
2	4.788	4.793	-0.005	693133	0.0257	
					RPD = -245.38	
11 2,4,5-Trichlorophenol						
1	4.871	4.861	0.010	2290104	NC	
2	4.763	4.772	-0.009	306979	NC	
					RPD = 0.00	
12 delta-BHC						
1		4.989			ND	
2		5.027				
14 Chlordane (technical)						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
13 Technical Chlordane						
1		5.095			ND	
1		5.560				
1		6.169				
1		6.304				
1		7.122				
2		4.955				
2		5.472				
2		6.065				
2		6.221				
2		7.165				
15 Heptachlor						
1		5.163			ND	
2		5.068				
16 Aldrin						
1		5.431			ND	
2		5.333				
17 Chlorpyrifos						
1		5.660			ND	
2		5.553				
18 Isodrin						
1		5.753			ND	
2		5.691				
19 Dicofol						
1		5.790			ND	
2		5.651				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
20 2,4'-DDE						
1	6.019				ND	
2	6.072					
21 Heptachlor epoxide						
1	6.038				ND	
2	5.868					
22 trans-Chlordane						
1	6.169				ND	
2	6.065					
28 Toxaphene						
1	6.207				ND	
1	6.811					
1	7.483					
1	7.843					
1	8.158					
2	5.717					
2	7.067					
2	7.207					
2	7.721					
2	8.015					
23 cis-Chlordane						
1	6.310				ND	
2	6.221					
24 4,4'-DDE						
1	6.386				ND	
2	6.404					
25 Endosulfan I						
1	6.459				ND	
2	6.280					
26 2,4'-DDD						
1	6.570				ND	
2	6.617					
27 Dieldrin						
1	6.711				ND	
2	6.570					
29 2,4'-DDT						
1	6.837				ND	
2	6.938					
30 Endrin						
1	6.959				ND	
2	6.890					
31 Kepone						
1	7.000				ND	
2	7.006					
32 4,4'-DDD						
1	7.021				ND	
2	7.019					
33 Chlorobenzilate						
1	7.033				ND	
2	6.886					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
34 Endosulfan II						
1		7.195			ND	
2		7.117				
35 4,4'-DDT						
1		7.315			ND	
2		7.349				
36 Endrin aldehyde						
1		7.640			ND	
2		7.475				
37 Methoxychlor						
1		7.819			ND	
2		8.080				
38 Mirex						
1		7.978			ND	
2		8.269				
39 Endosulfan sulfate						
1		8.098			ND	
2		7.768				
40 Endrin ketone						
1		8.388			ND	
2		8.320				
$ 41 DCB Decachlorobiphenyl						
1	9.401	9.402	-0.001	150695310	22.6	
2	9.588	9.588	0.000	21065467	20.5	
					RPD = 9.79	
42 Tris(2,3-dibromopropyl)phosphate						
1		11.190			ND	
2		11.350				
S 3 Endosulfan, Total						
1		0.000			ND	
2		0.000				

QC Flag Legend

Processing Flags

NC - Not Calibrated

7 - Failed Limit of Detection

Reagents:

8081_IS_00010 Amount Added: 75.00 Units: uL Run Reagent

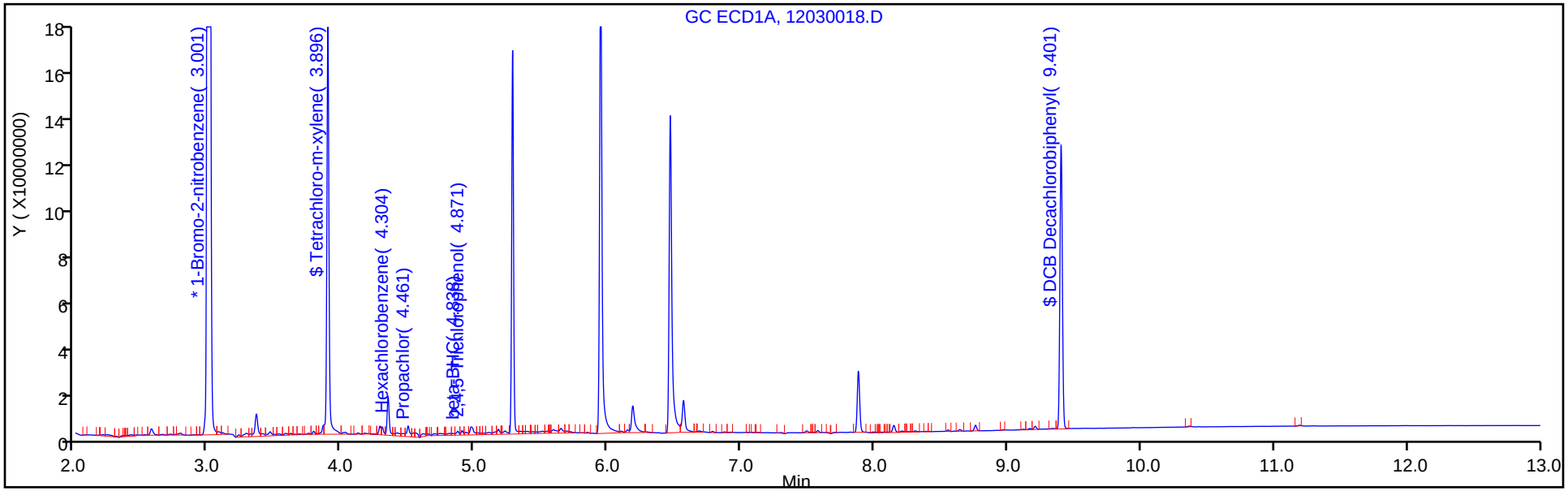
Report Date: 04-Dec-2018 13:50:13 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

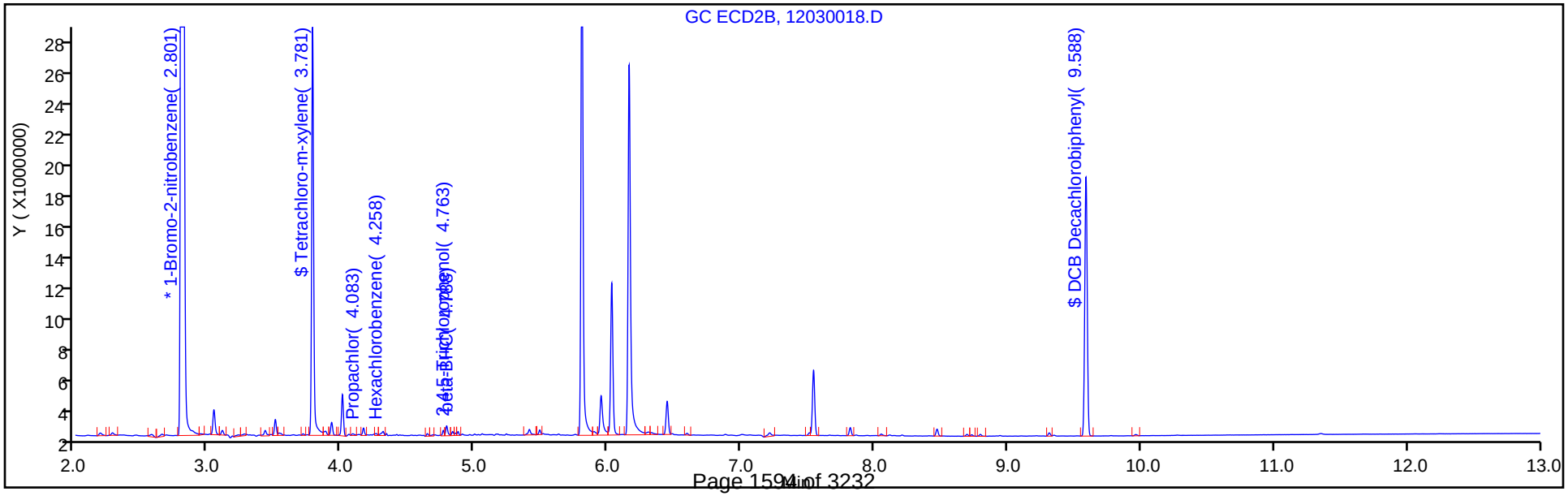
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030018.D

Injection Date:	03-Dec-2018 16:42:29	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	280-116020-A-12-A	Lab Sample ID:	280-116020-12	Worklist Smp#:	18
Client ID:	DET-004-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030018.D				
Lims ID:	280-116020-A-12-A				
Client ID:	DET-004-181001-GW				
Sample Type:	Client				
Inject. Date:	03-Dec-2018 16:42:29	ALS Bottle#:	12	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-A-12-				
Misc. Info.:	280-0076757-018				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	04-Dec-2018 13:50:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0325				
First Level Reviewer: bacat		Date:	04-Dec-2018 09:08:06		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	14.7	73.50
$ 41 DCB Decachlorobiphenyl	20.0	22.6	112.80

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.4	77.08
$ 41 DCB Decachlorobiphenyl	20.0	20.5	102.27

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:10 Calibration End Date: 10/13/2018 17:37 Calibration ID: 33997

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/21	016F2401.D
Level 2	STD2 280-433303/20	015F2301.D
Level 3	STD3 280-433303/19	014F2201.D
Level 4	STD4 280-433303/18	013F2101.D
Level 5	STD5 280-433303/17	012F2001.D
Level 6	STD6 280-433303/16	011F1901.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Toxaphene Peak 1	0.0059 0.0071	0.0062	0.0067	0.0068	0.0071	Lin2	-0.239	0.0070							0.9990		0.9900
Toxaphene Peak 2	0.0143 0.0181	0.0151	0.0166	0.0176	0.0185	Lin2	-0.823	0.0179							0.9980		0.9900
Toxaphene Peak 3	0.0141 0.0205	0.0164	0.0179	0.0201	0.0204	Lin2	-1.318	0.0202							0.9980		0.9900
Toxaphene Peak 4	0.0054 0.0083	0.0062	0.0073	0.0079	0.0083	Lin2	-0.605	0.0081							0.9970		0.9900
Toxaphene Peak 5	0.0045 0.0085	0.0056	0.0071	0.0079	0.0086	Lin2	-0.840	0.0083							0.9930		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:10 Calibration End Date: 10/13/2018 17:37 Calibration ID: 33997

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/21	016F2401.D
Level 2	STD2 280-433303/20	015F2301.D
Level 3	STD3 280-433303/19	014F2201.D
Level 4	STD4 280-433303/18	013F2101.D
Level 5	STD5 280-433303/17	012F2001.D
Level 6	STD6 280-433303/16	011F1901.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Toxaphene Peak 1	BNB	Lin2	13484316 984914164	36757841	77218443	157400259	444953077	200 10000	500	1000	2000	5000
Toxaphene Peak 2	BNB	Lin2	32829722 2531832439	89263703	193181281	408359221	1162405972	200 10000	500	1000	2000	5000
Toxaphene Peak 3	BNB	Lin2	32415828 2860362835	96759589	207813969	466543962	1283190101	200 10000	500	1000	2000	5000
Toxaphene Peak 4	BNB	Lin2	12391302 1164606715	36941603	84522297	184785693	519294161	200 10000	500	1000	2000	5000
Toxaphene Peak 5	BNB	Lin2	10296721 1187453780	33168067	82441591	182989462	541962755	200 10000	500	1000	2000	5000

Curve Type Legend:
Lin2 = Linear 1/conc^2 ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\011F1901.D
Lims ID: STD6 TOX
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Oct-2018 16:10:51 ALS Bottle#: 11 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD6 TOX
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:12 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:36:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.020	0.001	2093632714	150.0	150.0	
2	2.840	2.839	0.000	210457864	150.0	150.0	
28 Toxaphene							M
1	6.245	6.246	-0.001	984914164	10000	10176	
1	6.853	6.854	-0.001	2531832439	10000	10174	
1	7.528	7.528	0.000	2860362835	10000	10232	
1	7.885	7.886	-0.001	1164606715	10000	10334	
1	8.203	8.204	-0.001	1187453780	10000	10397	
		Average of Peak Amounts =				10263	
2	5.776	5.778	-0.002	60549286	10000	9540.5	M
2	7.143	7.145	-0.002	273869350	10000	9445.5	M
2	7.284	7.286	-0.002	756947570	10000	9410.3	M
2	7.798	7.800	-0.002	219585664	10000	9519.4	M
2	8.094	8.096	-0.002	429283014	10000	9559.5	M
		Average of Peak Amounts =				9495.0	
						RPD = 7.77	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL6_00023 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

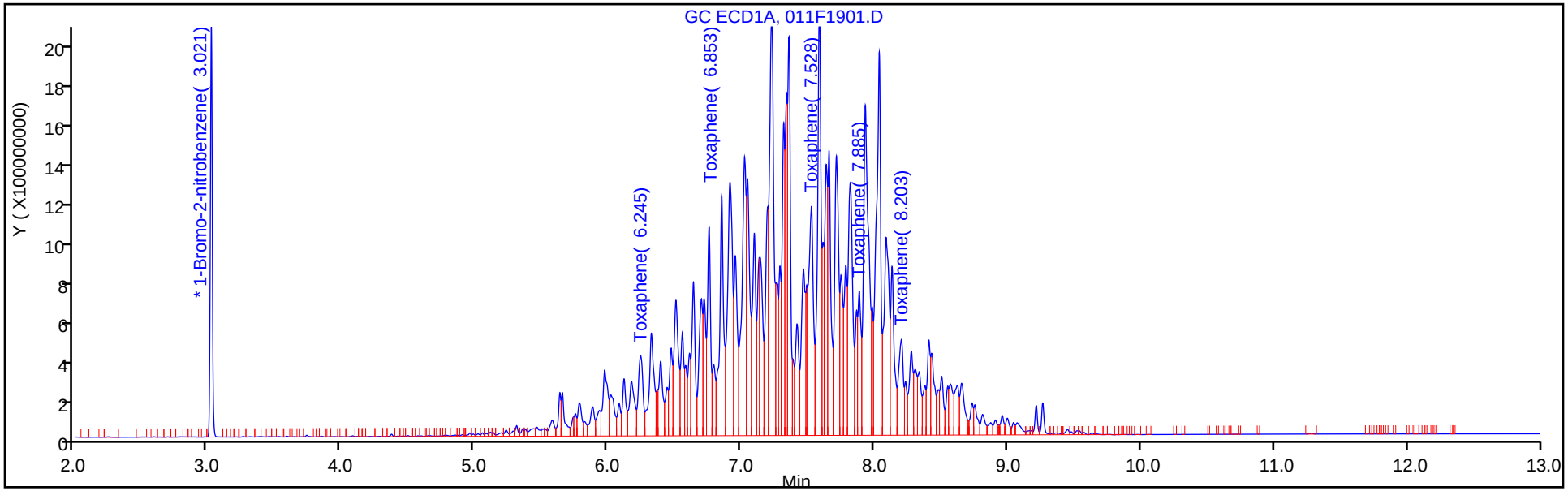
Report Date: 14-Oct-2018 22:11:14 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

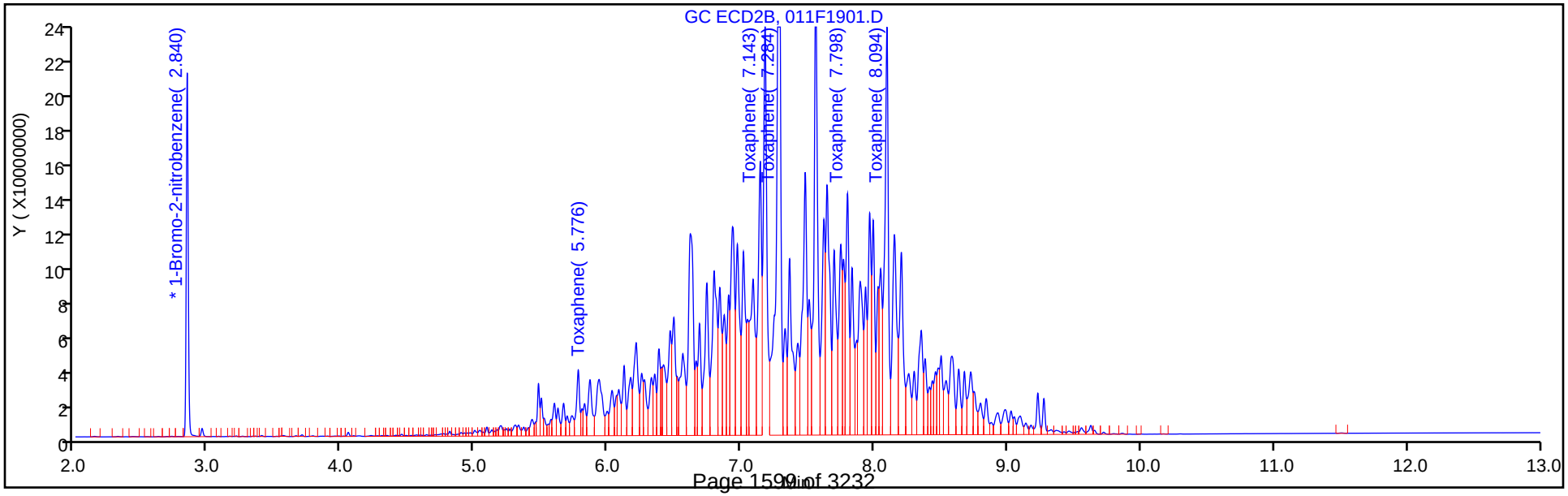
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\011F1901.D

Injection Date:	13-Oct-2018 16:10:51	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD6 TOX			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\012F2001.D
Lims ID: STD5 TOX
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Oct-2018 16:28:15 ALS Bottle#: 12 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD5
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:15 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.020	0.001	1887409806	150.0	150.0	
2	2.840	2.839	0.001	194682264	150.0	150.0	
28 Toxaphene							
1	6.246	6.246	0.000	444953077	5000.0	5116.5	
1	6.853	6.854	-0.001	1162405972	5000.0	5203.9	
1	7.526	7.528	-0.002	1283190101	5000.0	5124.6	
1	7.886	7.886	0.000	519294161	5000.0	5149.2	
1	8.204	8.204	0.000	541962755	5000.0	5314.1	
		Average of Peak Amounts =				5181.6	
2	5.777	5.778	-0.001	30052469	5000.0	5094.6	
2	7.143	7.145	-0.002	136167822	5000.0	5072.1	
2	7.284	7.286	-0.002	377922017	5000.0	5079.7	
2	7.799	7.800	-0.001	110390772	5000.0	5177.3	
2	8.095	8.096	-0.001	210568110	5000.0	5070.0	
		Average of Peak Amounts =				5098.7	
						RPD = 1.61	

Reagents:

8081ToxL5_00021 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

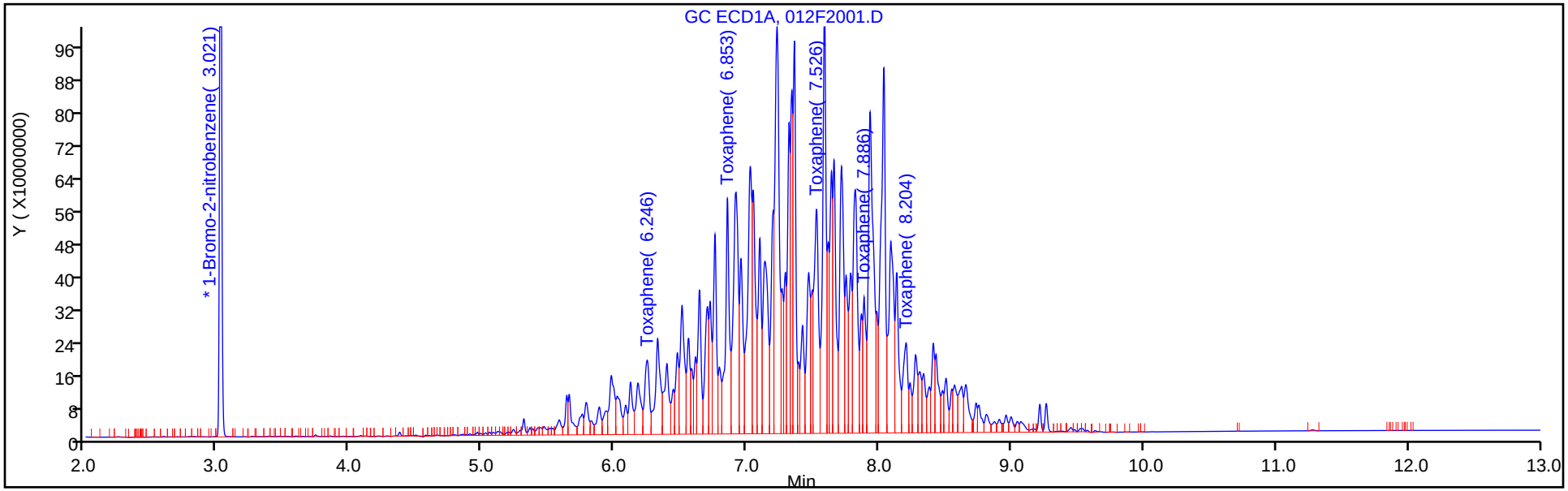
Report Date: 14-Oct-2018 22:11:16 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

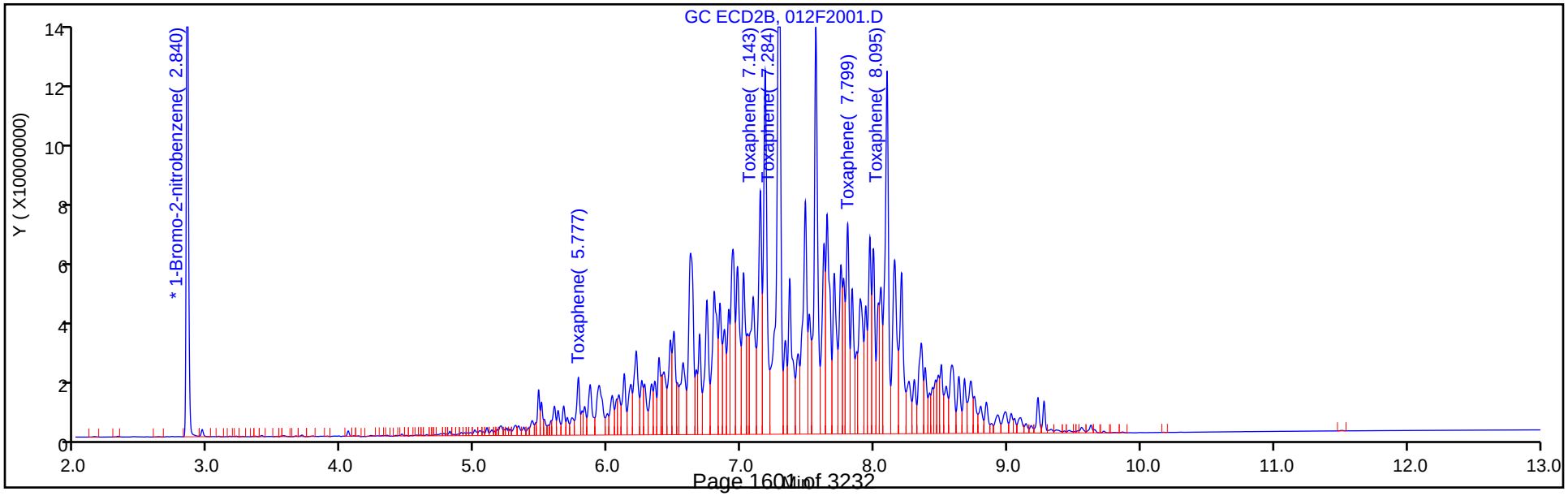
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\012F2001.D

Injection Date:	13-Oct-2018 16:28:15	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD5 TOX			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\013F2101.D
Lims ID: STD4 TOX
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 13-Oct-2018 16:45:38 ALS Bottle#: 13 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD4
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:18 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:28:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.021	0.000	1744551294	150.0	150.0	
2	2.841	2.841	0.000	183459712	150.0	150.0	
28 Toxaphene							M
1	6.246	6.246	0.000	157400259	2000.0	1979.4	M
1	6.854	6.854	0.000	408359221	2000.0	2006.3	M
1	7.528	7.528	0.000	466543962	2000.0	2055.4	M
1	7.886	7.886	0.000	184785693	2000.0	2028.0	M
1	8.204	8.204	0.000	182989462	2000.0	2005.7	M
		Average of Peak Amounts =				2015.0	
2	5.778	5.778	0.000	12064651	2000.0	2140.2	M
2	7.145	7.145	0.000	52352055	2000.0	2063.3	M
2	7.286	7.286	0.000	145561454	2000.0	2077.1	M
2	7.800	7.800	0.000	41885928	2000.0	2089.7	M
2	8.096	8.096	0.000	80317017	2000.0	2053.4	M
		Average of Peak Amounts =				2084.7	
						RPD = 3.40	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081TOXCCVL4_00014 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

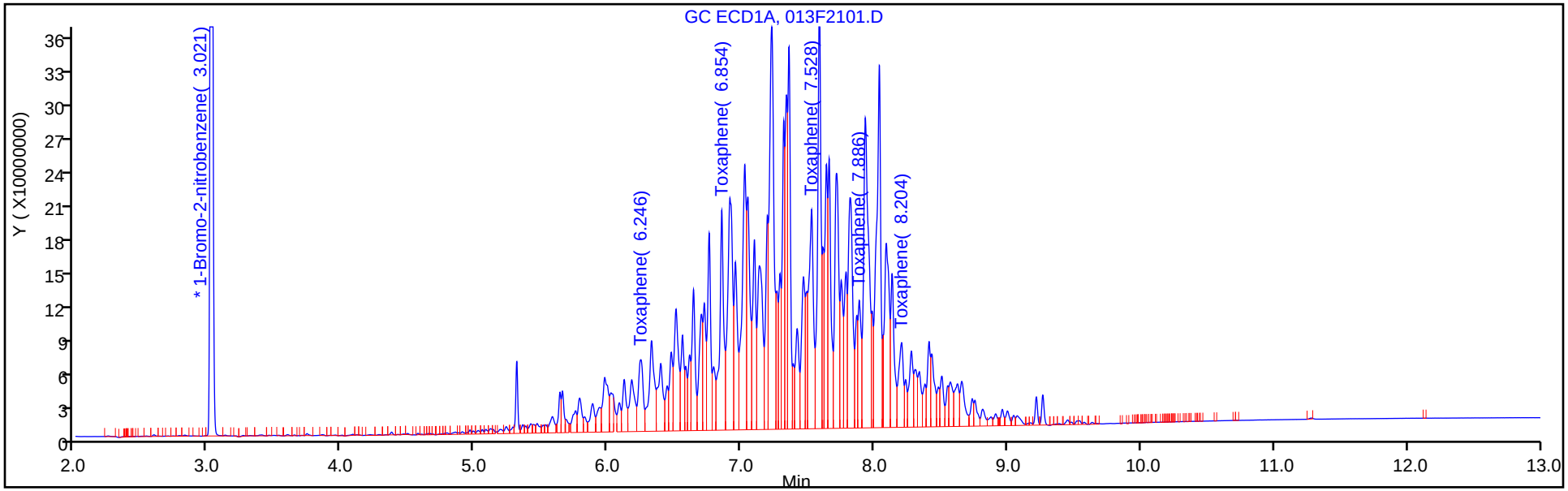
Report Date: 14-Oct-2018 22:11:19 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

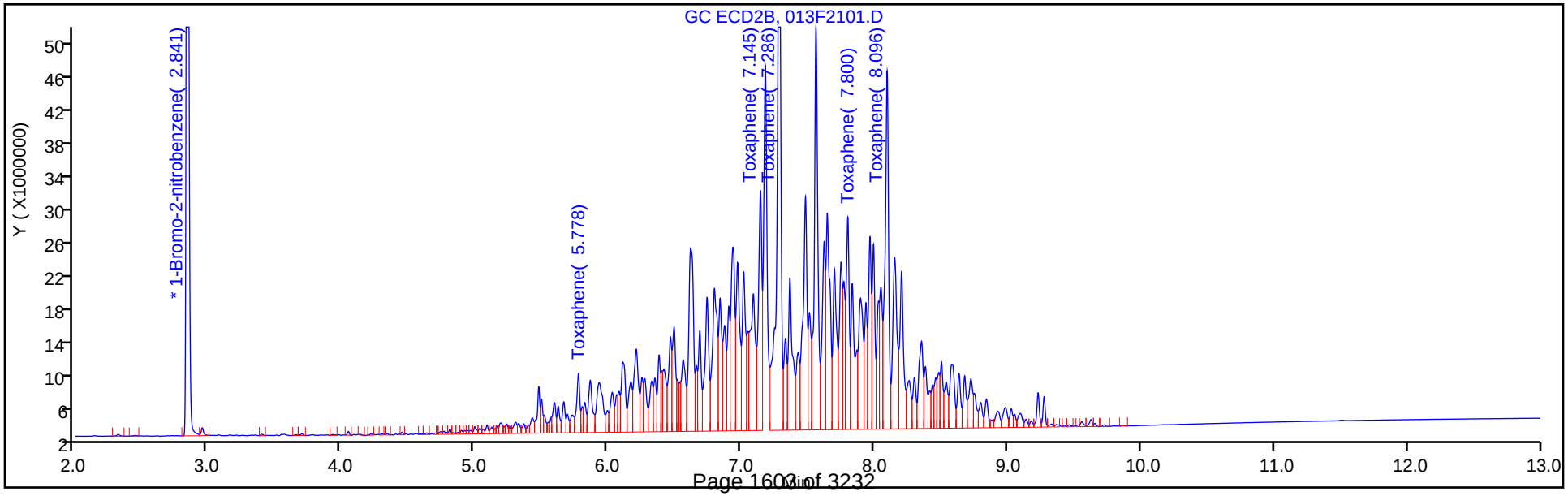
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\013F2101.D

Injection Date:	13-Oct-2018 16:45:38	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD4 TOX			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:11:19 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\013F2101.D

Injection Date: 13-Oct-2018 16:45:38 Instrument ID: SGC_P2

Lims ID: STD4 TOX

Client ID:

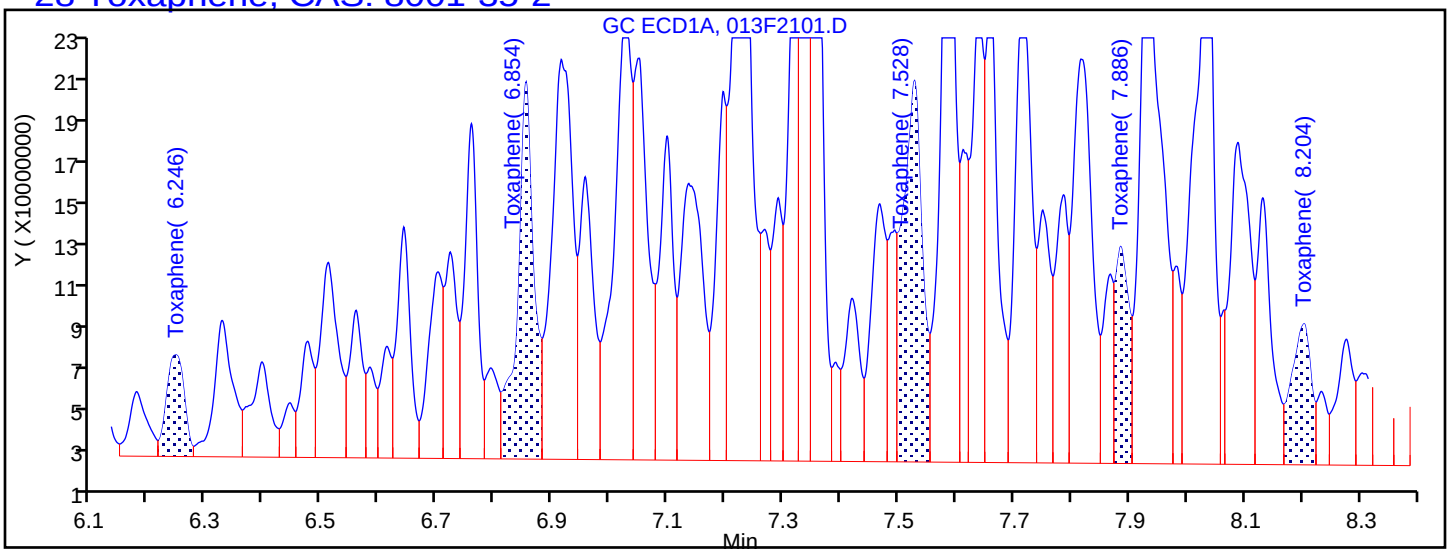
Operator ID: TEM ALS Bottle#: 13 Worklist Smp#: 18

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

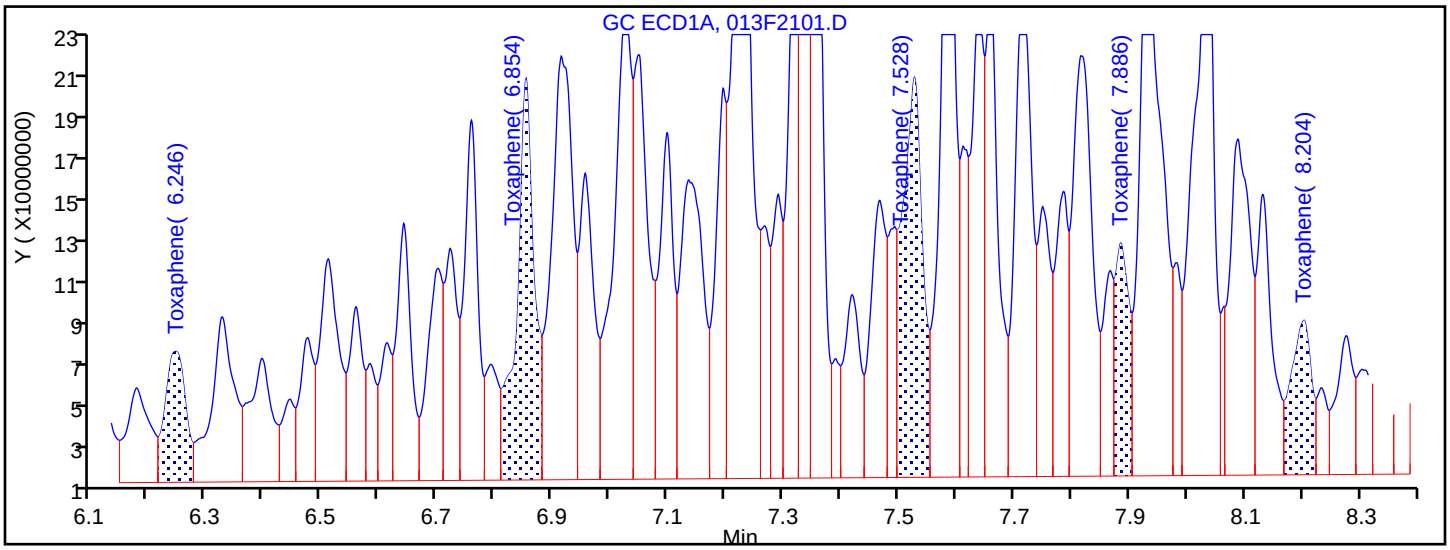
Column: CLP1 (0.32 mm) Detector GC ECD1A

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

6.246	Response = 105015082
6.854	Response = 357524871
7.528	Response = 434898456
7.886	Response = 170048760
8.204	Response = 161011474



Manual Integration Results

6.246	Response = 157400259	M
6.854	Response = 408359221	M
7.528	Response = 466543962	M
7.886	Response = 184785693	M
8.204	Response = 182989462	M

Reviewer: mooret, 14-Oct-2018 21:37:36

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\014F2201.D
Lims ID: STD3 TOX
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Oct-2018 17:03:01 ALS Bottle#: 14 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD3
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:21 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:33:24

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.021	-0.001	1741058857	150.0	150.0	
2	2.841	2.841	-0.001	184005886	150.0	150.0	
28 Toxaphene							M
1	6.244	6.246	-0.002	77218443	1000.0	990.5	M
1	6.854	6.854	0.000	193181281	1000.0	975.2	M
1	7.527	7.528	-0.001	207813969	1000.0	953.6	M
1	7.887	7.886	0.001	84522297	1000.0	969.8	M
1	8.204	8.204	0.000	82441591	1000.0	961.2	M
		Average of Peak Amounts =				970.0	
2	5.777	5.778	-0.001	5366684	1000.0	919.9	
2	7.143	7.145	-0.002	26089503	1000.0	1020.0	
2	7.285	7.286	-0.001	72036294	1000.0	1025.7	
2	7.800	7.800	0.000	19681560	1000.0	983.5	
2	8.095	8.096	-0.001	40124523	1000.0	1023.9	
		Average of Peak Amounts =				994.6	
						RPD = 2.50	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL3_00020	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

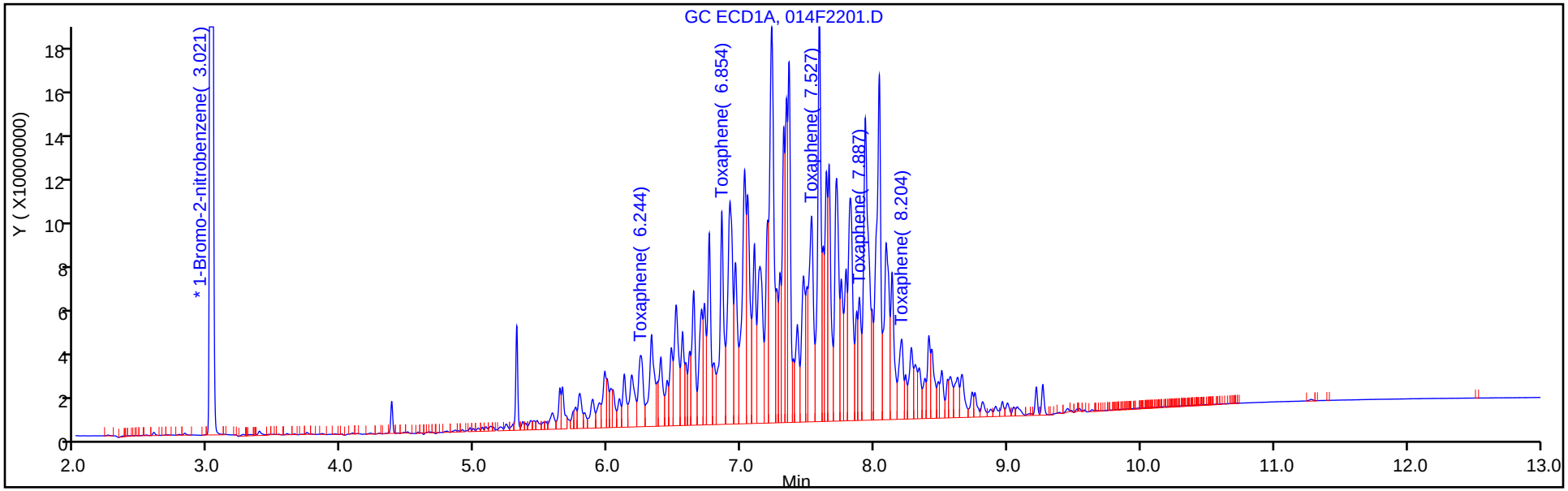
Report Date: 14-Oct-2018 22:11:22 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

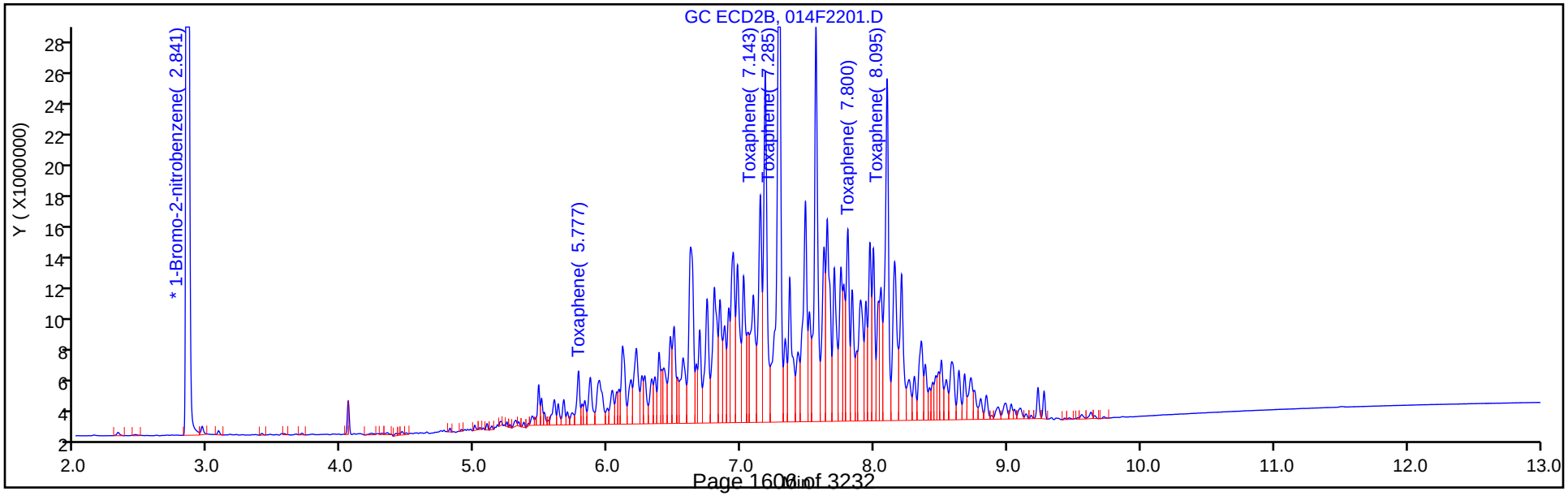
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\014F2201.D

Injection Date:	13-Oct-2018 17:03:01	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD3 TOX			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:11:22 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\014F2201.D

Injection Date: 13-Oct-2018 17:03:01 Instrument ID: SGC_P2

Lims ID: STD3 TOX

Client ID:

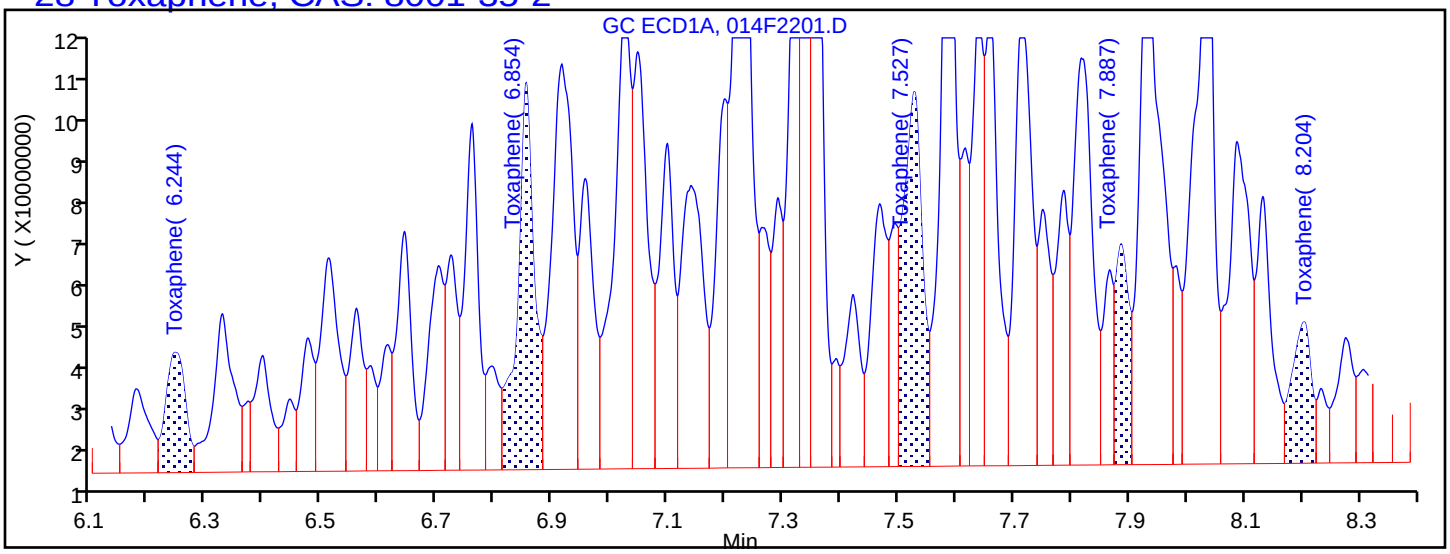
Operator ID: TEM ALS Bottle#: 14 Worklist Smp#: 19

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

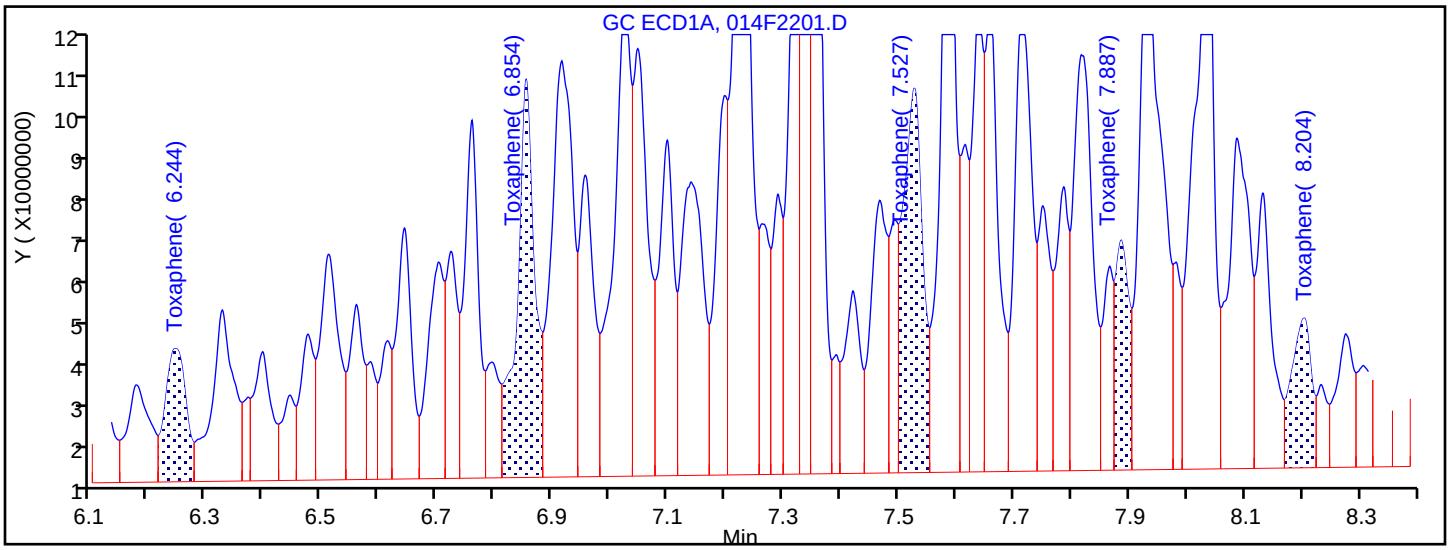
Column: CLP1 (0.32 mm) Detector GC ECD1A

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

6.244	Response = 65861941
6.854	Response = 181685271
7.527	Response = 200210988
7.887	Response = 80538237
8.204	Response = 75933852



Manual Integration Results

6.244	Response = 77218443	M
6.854	Response = 193181281	M
7.527	Response = 207813969	M
7.887	Response = 84522297	M
8.204	Response = 82441591	M

Reviewer: mooret, 14-Oct-2018 21:33:21

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\015F2301.D
Lims ID: STD2 TOX
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Oct-2018 17:20:32 ALS Bottle#: 15 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD2
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:24 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:33:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.022	3.021	0.000	1773925252	150.0	150.0	
2	2.841	2.841	0.000	187588077	150.0	150.0	
28 Toxaphene							M
1	6.244	6.246	-0.002	36757841	500.0	481.1	M
1	6.854	6.854	0.000	89263703	500.0	467.4	M
1	7.528	7.528	0.000	96759589	500.0	471.3	M
1	7.887	7.886	0.001	36941603	500.0	458.5	M
1	8.204	8.204	0.000	33168067	500.0	441.0	M
		Average of Peak Amounts =				463.8	
2	5.778	5.778	0.000	3239492	500.0	523.2	M
2	7.144	7.145	-0.001	13088271	500.0	496.7	M
2	7.284	7.286	-0.002	34980187	500.0	489.4	M
2	7.799	7.800	-0.001	9872826	500.0	488.2	M
2	8.095	8.096	-0.001	19482419	500.0	488.8	M
		Average of Peak Amounts =				497.3	
						RPD = 6.96	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL2_00021	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

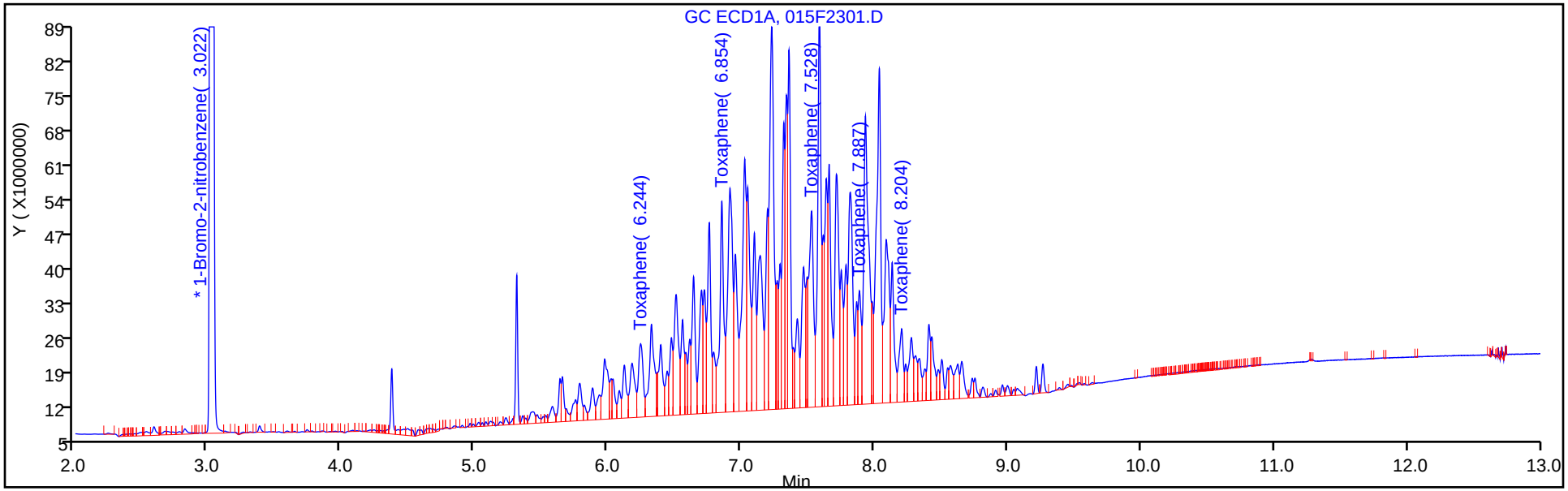
Report Date: 14-Oct-2018 22:11:26 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

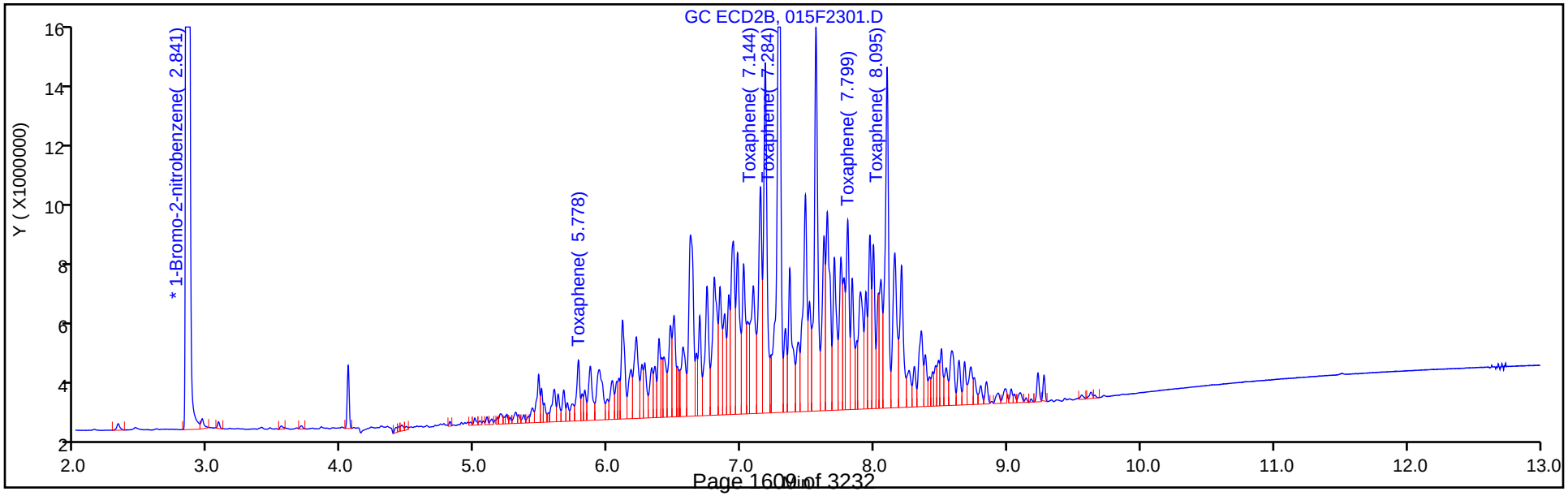
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\015F2301.D

Injection Date:	13-Oct-2018 17:20:32	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD2 TOX			Worklist Smp#:	20
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:11:26 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\015F2301.D

Injection Date: 13-Oct-2018 17:20:32 Instrument ID: SGC_P2

Lims ID: STD2 TOX

Client ID:

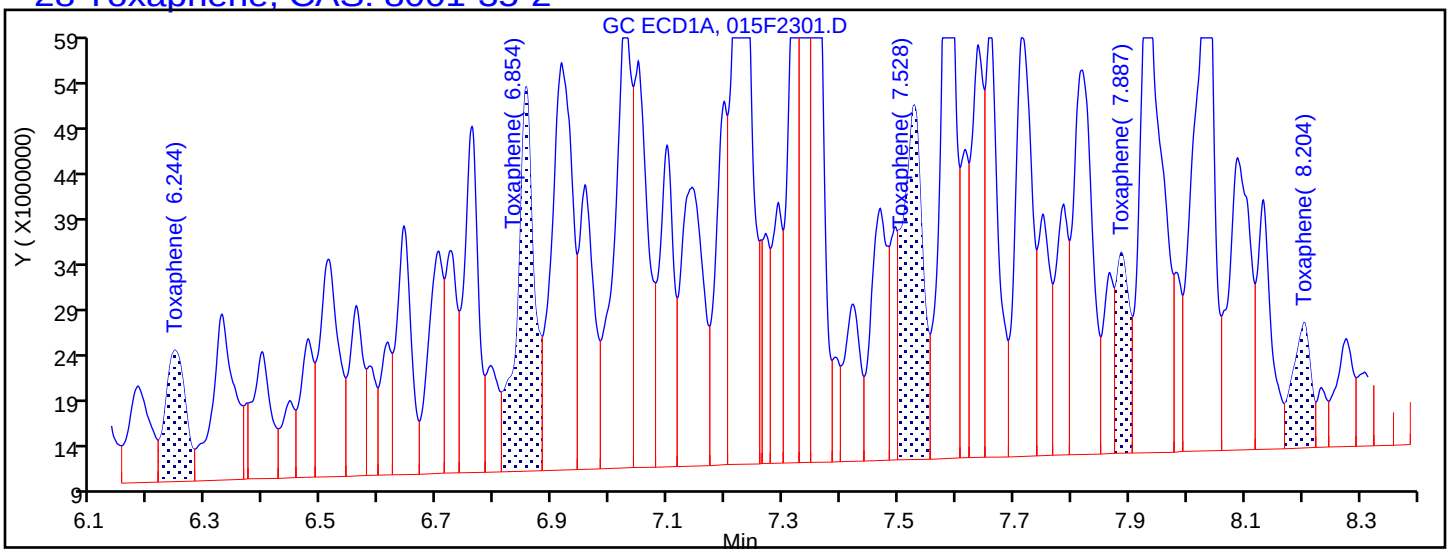
Operator ID: TEM ALS Bottle#: 15 Worklist Smp#: 20

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

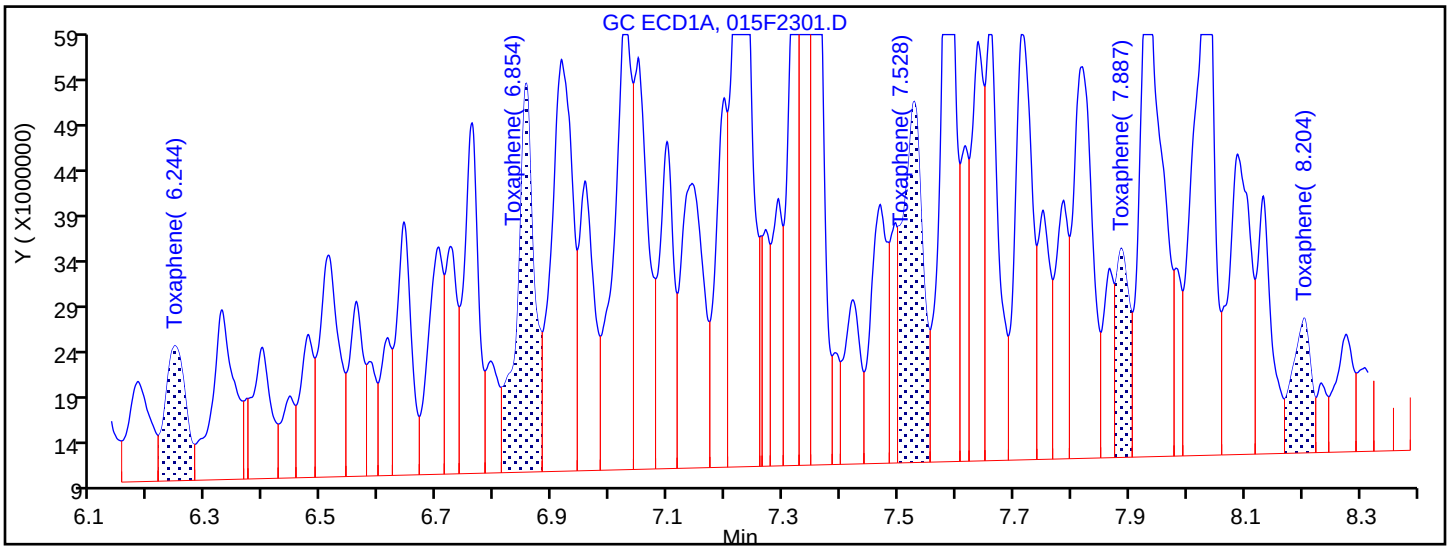
Column: CLP1 (0.32 mm) Detector GC ECD1A

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

6.244	Response = 35050970
6.854	Response = 86556064
7.528	Response = 93843579
7.887	Response = 35112670
8.204	Response = 29712914



Manual Integration Results

6.244	Response = 36757841	M
6.854	Response = 89263703	M
7.528	Response = 96759589	M
7.887	Response = 36941603	M
8.204	Response = 33168067	M

Reviewer: mooret, 14-Oct-2018 21:33:40

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\016F2401.D
Lims ID: STD1 TOX
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 13-Oct-2018 17:37:55 ALS Bottle#: 16 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD1
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:27 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:34:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.022	3.021	0.001	1720287810	150.0	150.0	
2	2.842	2.841	0.001	182087225	150.0	150.0	
28 Toxaphene							M
1	6.245	6.246	-0.001	13484316	200.0	203.4	M
1	6.854	6.854	0.000	32829722	200.0	205.8	M
1	7.528	7.528	0.000	32415828	200.0	205.6	M
1	7.887	7.886	0.001	12391302	200.0	207.2	M
1	8.204	8.204	0.000	10296721	200.0	210.3	M
		Average of Peak Amounts =				206.4	
2	5.778	5.778	0.000	1369118	200.0	198.1	M
2	7.144	7.145	-0.001	5249471	200.0	199.2	M
2	7.284	7.286	-0.002	13813356	200.0	200.0	M
2	7.800	7.800	0.000	3856571	200.0	201.6	M
2	8.095	8.096	-0.001	7701963	200.0	200.4	M
		Average of Peak Amounts =				199.8	
						RPD = 3.24	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL1_00020 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

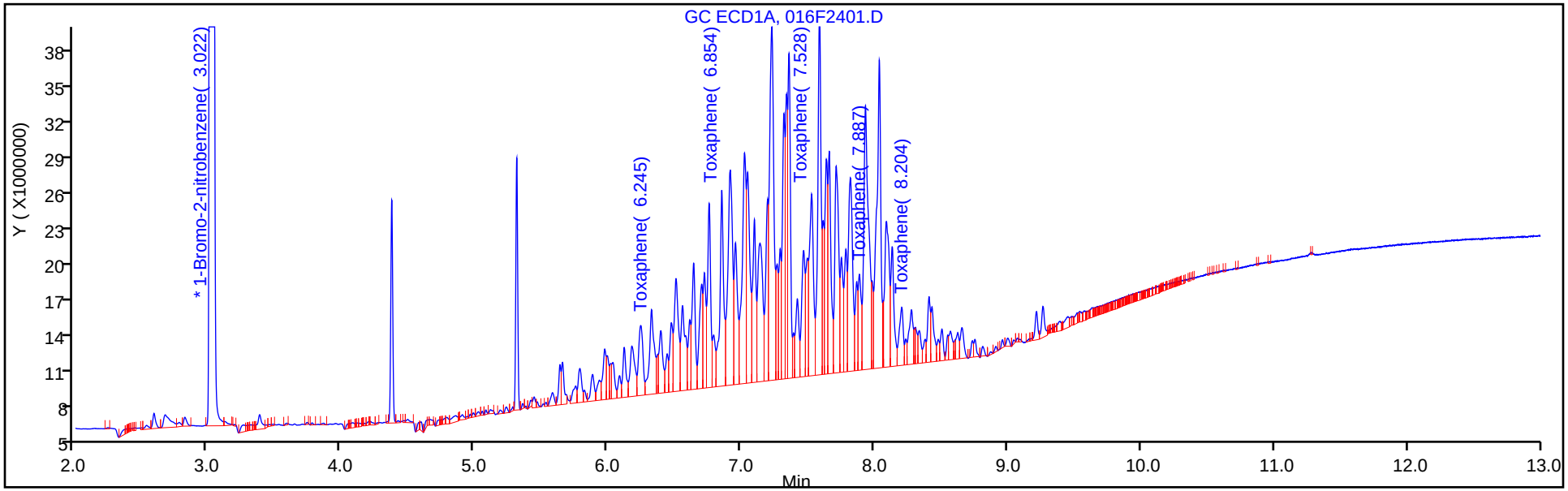
Report Date: 14-Oct-2018 22:11:29 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

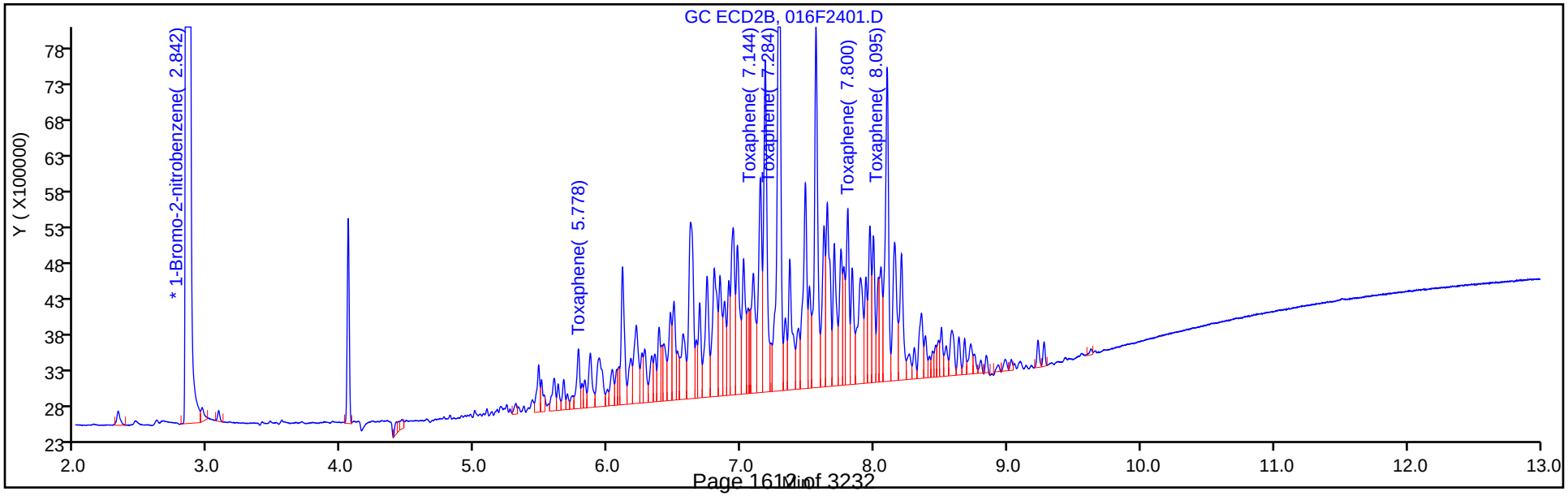
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\016F2401.D

Injection Date:	13-Oct-2018 17:37:55	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD1 TOX			Worklist Smp#:	21
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:11:29 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\016F2401.D

Injection Date: 13-Oct-2018 17:37:55 Instrument ID: SGC_P2

Lims ID: STD1 TOX

Client ID:

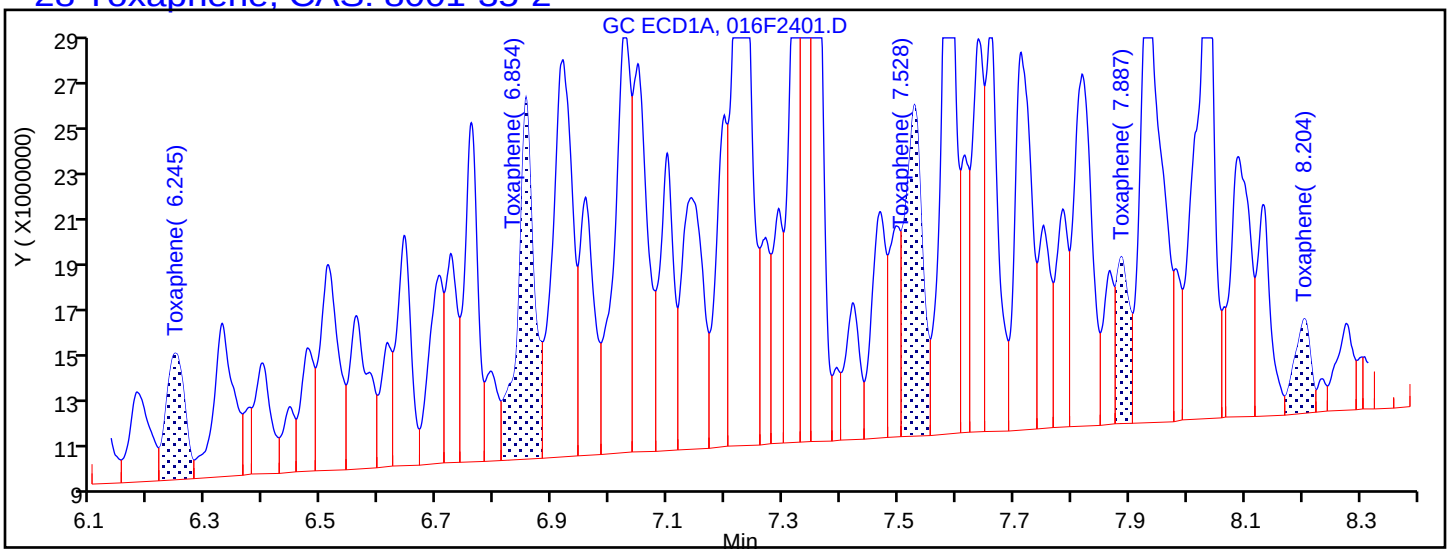
Operator ID: TEM ALS Bottle#: 16 Worklist Smp#: 21

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

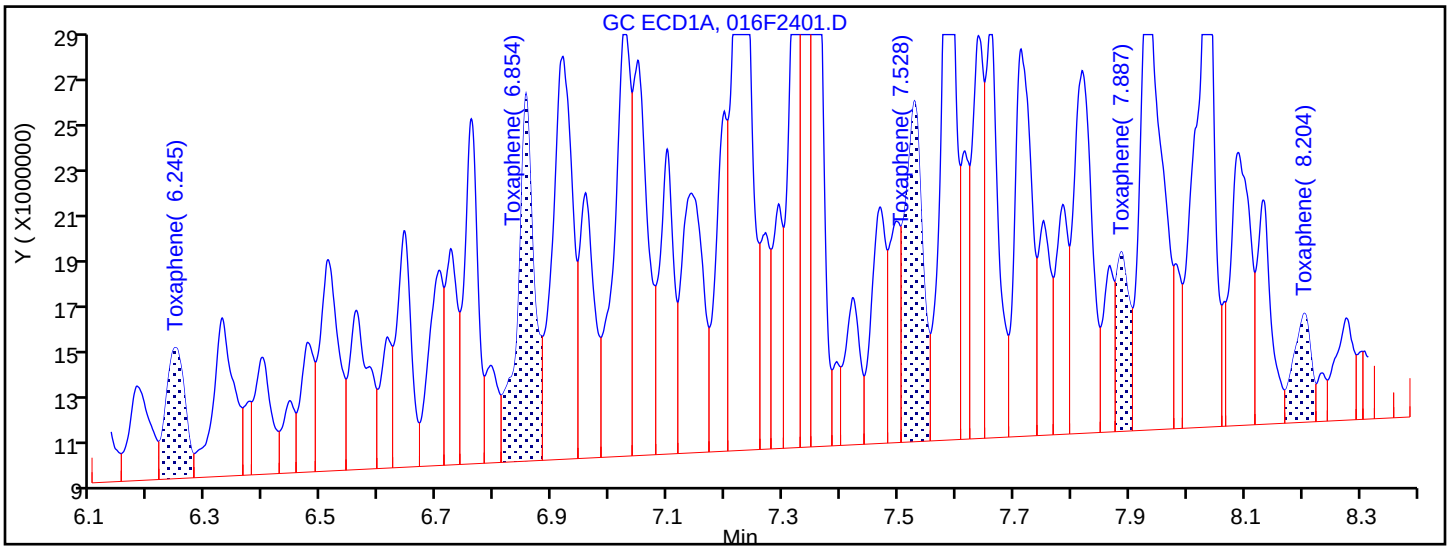
Column: CLP1 (0.32 mm) Detector GC ECD1A

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

6.245	Response = 12595640
6.854	Response = 31226336
7.528	Response = 30814368
7.887	Response = 11278282
8.204	Response = 8153489



Manual Integration Results

6.245	Response = 13484316	M
6.854	Response = 32829722	M
7.528	Response = 32415828	M
7.887	Response = 12391302	M
8.204	Response = 10296721	M

Reviewer: mooret, 14-Oct-2018 21:34:03

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:10 Calibration End Date: 10/13/2018 17:37 Calibration ID: 33998

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/21	016F2401.D
Level 2	STD2 280-433303/20	015F2301.D
Level 3	STD3 280-433303/19	014F2201.D
Level 4	STD4 280-433303/18	013F2101.D
Level 5	STD5 280-433303/17	012F2001.D
Level 6	STD6 280-433303/16	011F1901.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Toxaphene Peak 1	0.0056 0.0043	0.0052	0.0044	0.0049	0.0046	Lin2	0.2366	0.0045							0.9950		0.9900
Toxaphene Peak 2	0.0216 0.0195	0.0209	0.0213	0.0214	0.0210	Lin2	0.2123	0.0206							0.9990		0.9900
Toxaphene Peak 3	0.0569 0.0540	0.0559	0.0587	0.0595	0.0582	Lin2	-0.090	0.0573							0.9980		0.9900
Toxaphene Peak 4	0.0159 0.0157	0.0158	0.0160	0.0171	0.0170	Lin2	-0.140	0.0165							0.9980		0.9900
Toxaphene Peak 5	0.0317 0.0306	0.0312	0.0327	0.0328	0.0324	Lin2	-0.070	0.0320							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:10 Calibration End Date: 10/13/2018 17:37 Calibration ID: 33998

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/21	016F2401.D
Level 2	STD2 280-433303/20	015F2301.D
Level 3	STD3 280-433303/19	014F2201.D
Level 4	STD4 280-433303/18	013F2101.D
Level 5	STD5 280-433303/17	012F2001.D
Level 6	STD6 280-433303/16	011F1901.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Toxaphene Peak 1	BNB	Lin2	1369118 60549286	3239492	5366684	12064651	30052469	200 10000	500	1000	2000	5000
Toxaphene Peak 2	BNB	Lin2	5249471 273869350	13088271	26089503	52352055	136167822	200 10000	500	1000	2000	5000
Toxaphene Peak 3	BNB	Lin2	13813356 756947570	34980187	72036294	145561454	377922017	200 10000	500	1000	2000	5000
Toxaphene Peak 4	BNB	Lin2	3856571 219585664	9872826	19681560	41885928	110390772	200 10000	500	1000	2000	5000
Toxaphene Peak 5	BNB	Lin2	7701963 429283014	19482419	40124523	80317017	210568110	200 10000	500	1000	2000	5000

Curve Type Legend:
Lin2 = Linear 1/conc^2 ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\011F1901.D
Lims ID: STD6 TOX
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Oct-2018 16:10:51 ALS Bottle#: 11 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD6 TOX
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:12 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:36:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.020	0.001	2093632714	150.0	150.0	
2	2.840	2.839	0.000	210457864	150.0	150.0	
28 Toxaphene							M
1	6.245	6.246	-0.001	984914164	10000	10176	
1	6.853	6.854	-0.001	2531832439	10000	10174	
1	7.528	7.528	0.000	2860362835	10000	10232	
1	7.885	7.886	-0.001	1164606715	10000	10334	
1	8.203	8.204	-0.001	1187453780	10000	10397	
		Average of Peak Amounts =				10263	
2	5.776	5.778	-0.002	60549286	10000	9540.5	M
2	7.143	7.145	-0.002	273869350	10000	9445.5	M
2	7.284	7.286	-0.002	756947570	10000	9410.3	M
2	7.798	7.800	-0.002	219585664	10000	9519.4	M
2	8.094	8.096	-0.002	429283014	10000	9559.5	M
		Average of Peak Amounts =				9495.0	
						RPD = 7.77	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL6_00023 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

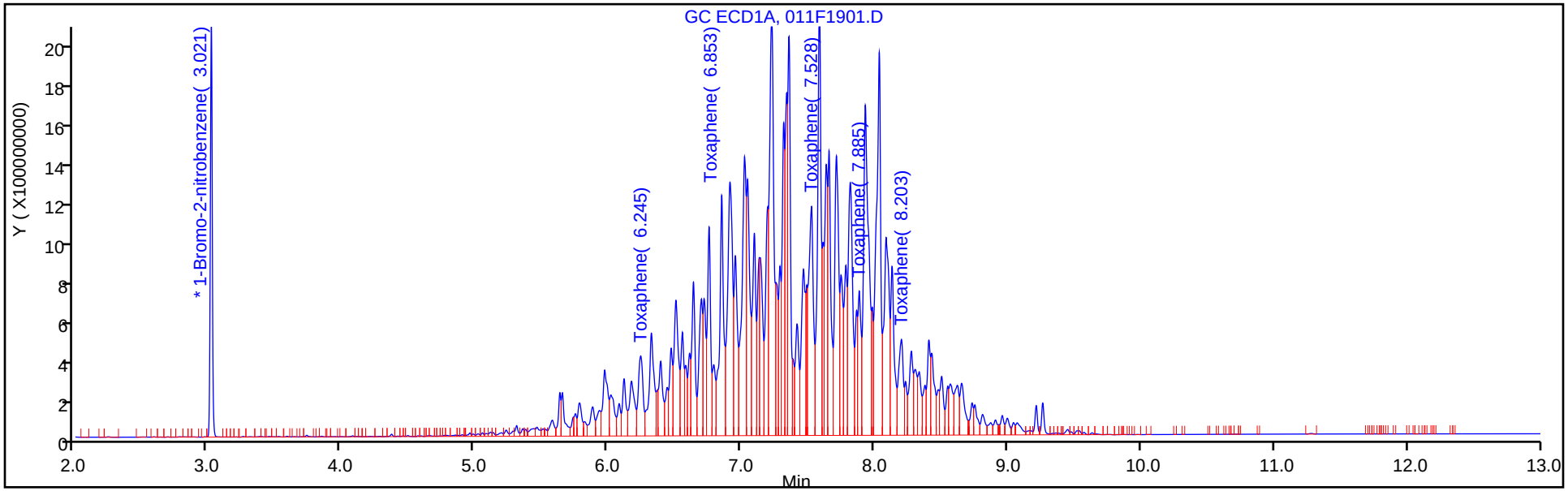
Report Date: 14-Oct-2018 22:11:14 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

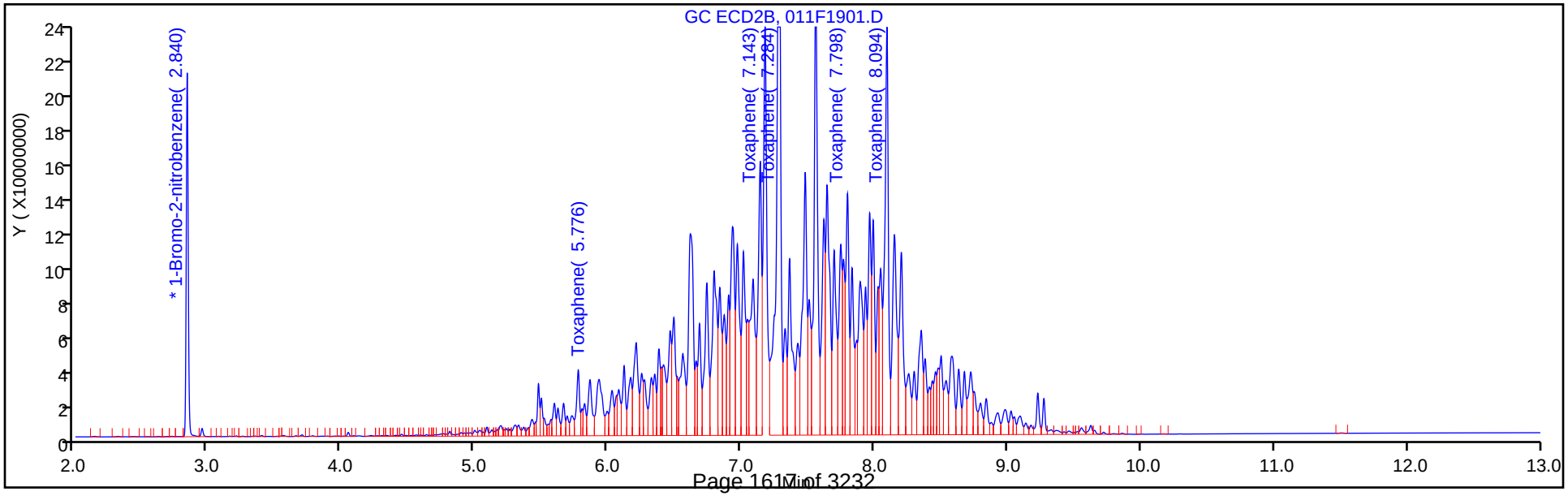
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\011F1901.D

Injection Date:	13-Oct-2018 16:10:51	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD6 TOX			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:11:14 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\011F1901.D

Injection Date: 13-Oct-2018 16:10:51 Instrument ID: SGC_P2

Lims ID: STD6 TOX

Client ID:

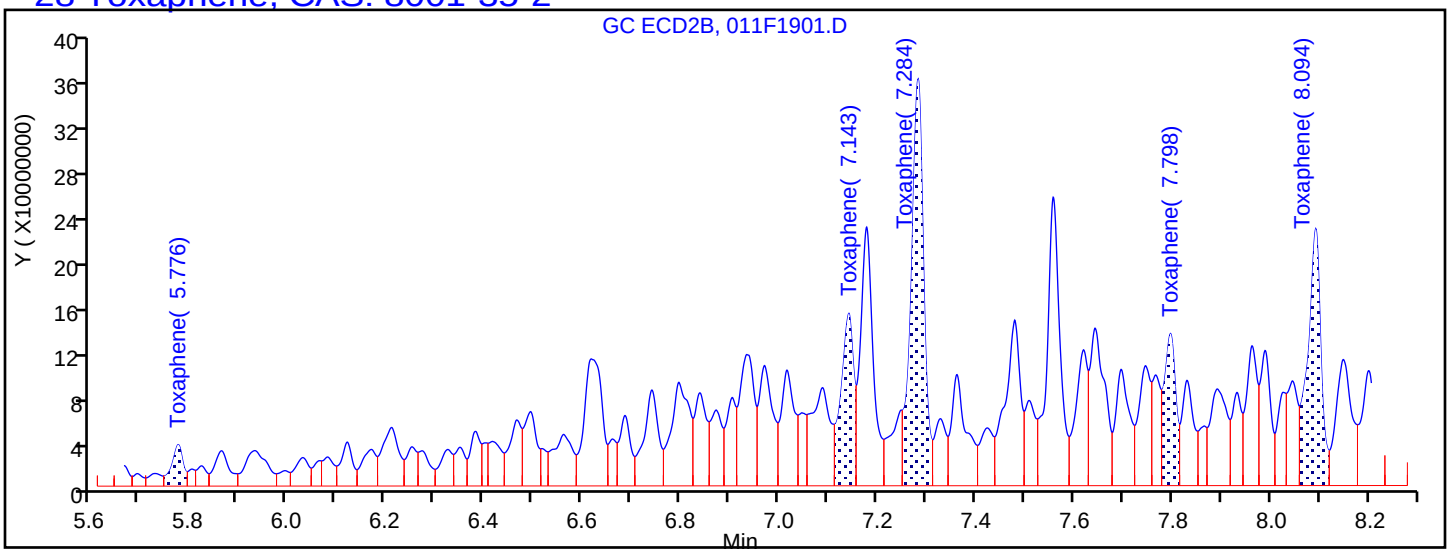
Operator ID: TEM ALS Bottle#: 11 Worklist Smp#: 16

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

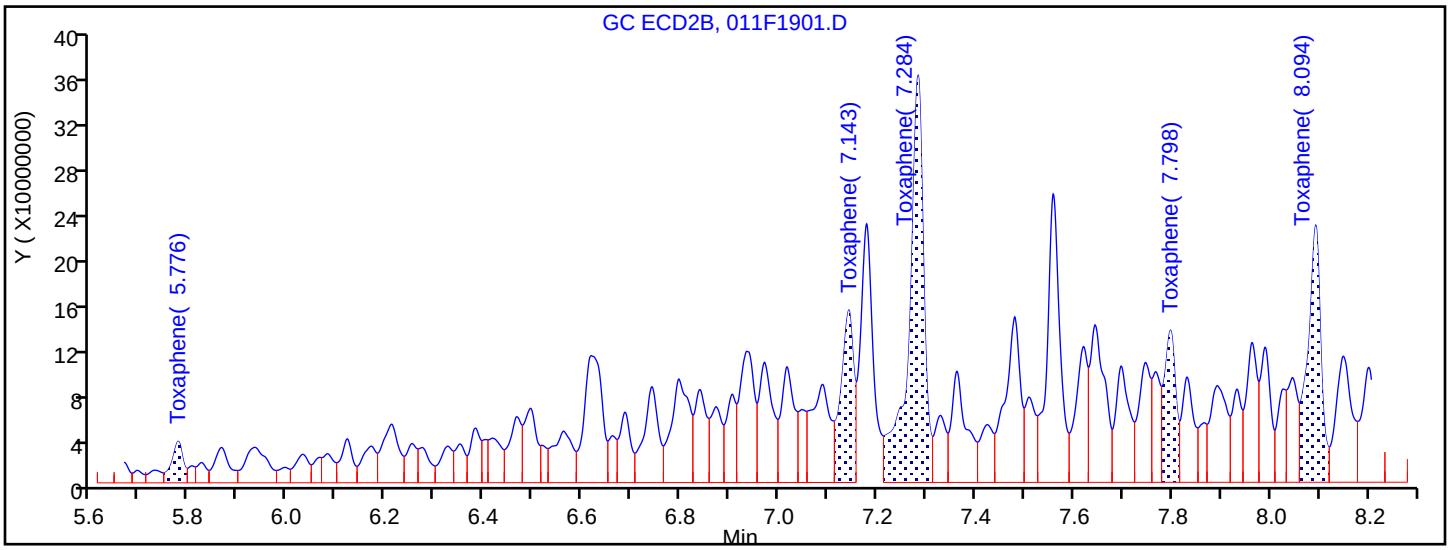
Column: CLP2 (0.32 mm) Detector GC ECD2B

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.776	Response = 60552821
7.143	Response = 273886955
7.284	Response = 640399513
7.798	Response = 219597728
8.094	Response = 429322900



Manual Integration Results

5.776	Response = 60549286	M
7.143	Response = 273869350	M
7.284	Response = 756947570	M
7.798	Response = 219585664	M
8.094	Response = 429283014	M

Reviewer: mooret, 14-Oct-2018 21:36:53

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\012F2001.D
Lims ID: STD5 TOX
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Oct-2018 16:28:15 ALS Bottle#: 12 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD5
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:15 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.020	0.001	1887409806	150.0	150.0	
2	2.840	2.839	0.001	194682264	150.0	150.0	
28 Toxaphene							
1	6.246	6.246	0.000	444953077	5000.0	5116.5	
1	6.853	6.854	-0.001	1162405972	5000.0	5203.9	
1	7.526	7.528	-0.002	1283190101	5000.0	5124.6	
1	7.886	7.886	0.000	519294161	5000.0	5149.2	
1	8.204	8.204	0.000	541962755	5000.0	5314.1	
		Average of Peak Amounts =				5181.6	
2	5.777	5.778	-0.001	30052469	5000.0	5094.6	
2	7.143	7.145	-0.002	136167822	5000.0	5072.1	
2	7.284	7.286	-0.002	377922017	5000.0	5079.7	
2	7.799	7.800	-0.001	110390772	5000.0	5177.3	
2	8.095	8.096	-0.001	210568110	5000.0	5070.0	
		Average of Peak Amounts =				5098.7	
						RPD = 1.61	

Reagents:

8081ToxL5_00021 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

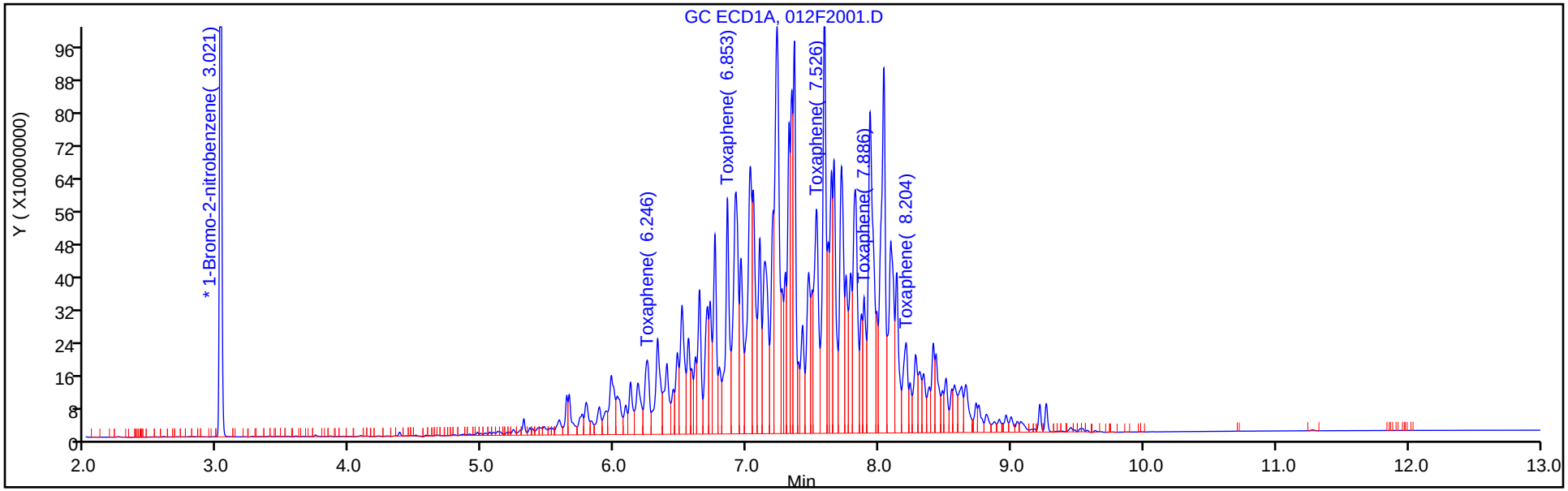
Report Date: 14-Oct-2018 22:11:17 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

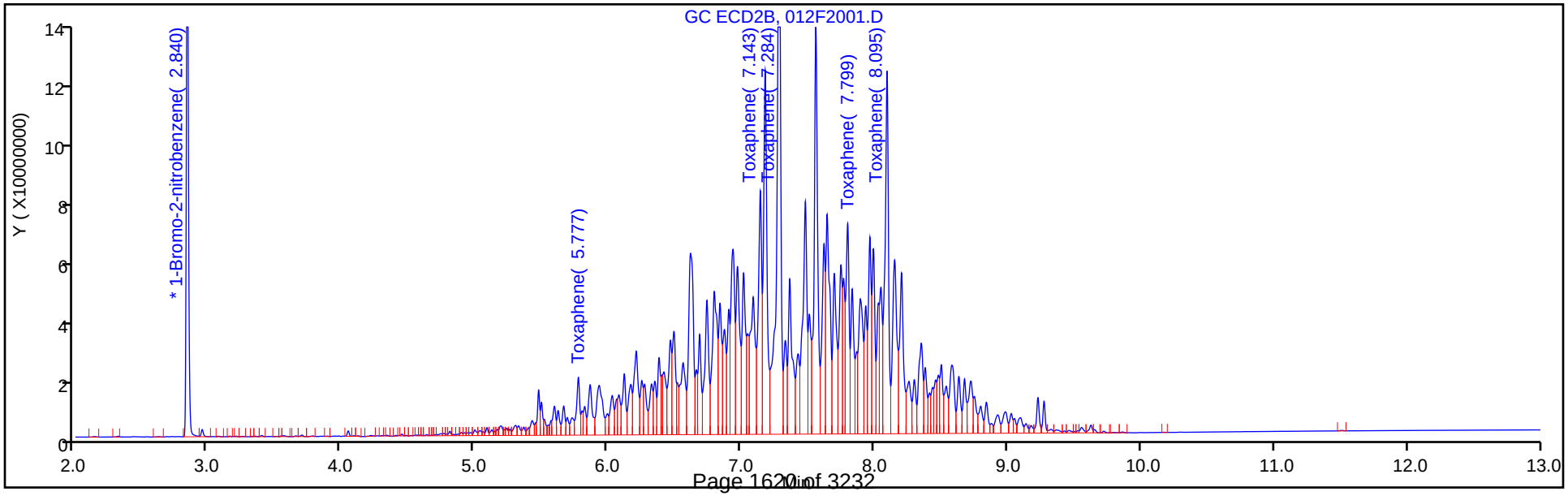
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\012F2001.D

Injection Date:	13-Oct-2018 16:28:15	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD5 TOX			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\013F2101.D
Lims ID: STD4 TOX
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 13-Oct-2018 16:45:38 ALS Bottle#: 13 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD4
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:18 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:28:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.021	0.000	1744551294	150.0	150.0	
2	2.841	2.841	0.000	183459712	150.0	150.0	
28 Toxaphene							M
1	6.246	6.246	0.000	157400259	2000.0	1979.4	M
1	6.854	6.854	0.000	408359221	2000.0	2006.3	M
1	7.528	7.528	0.000	466543962	2000.0	2055.4	M
1	7.886	7.886	0.000	184785693	2000.0	2028.0	M
1	8.204	8.204	0.000	182989462	2000.0	2005.7	M
		Average of Peak Amounts =				2015.0	
2	5.778	5.778	0.000	12064651	2000.0	2140.2	M
2	7.145	7.145	0.000	52352055	2000.0	2063.3	M
2	7.286	7.286	0.000	145561454	2000.0	2077.1	M
2	7.800	7.800	0.000	41885928	2000.0	2089.7	M
2	8.096	8.096	0.000	80317017	2000.0	2053.4	M
		Average of Peak Amounts =				2084.7	
						RPD = 3.40	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081TOXCCVL4_00014 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

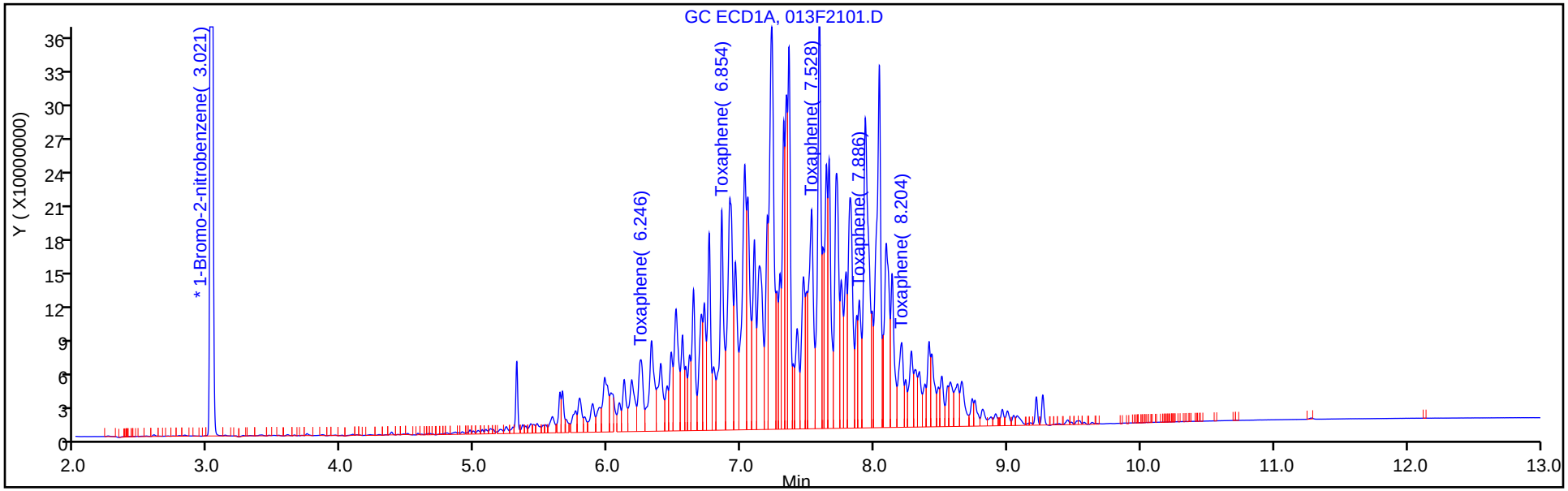
Report Date: 14-Oct-2018 22:11:20 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

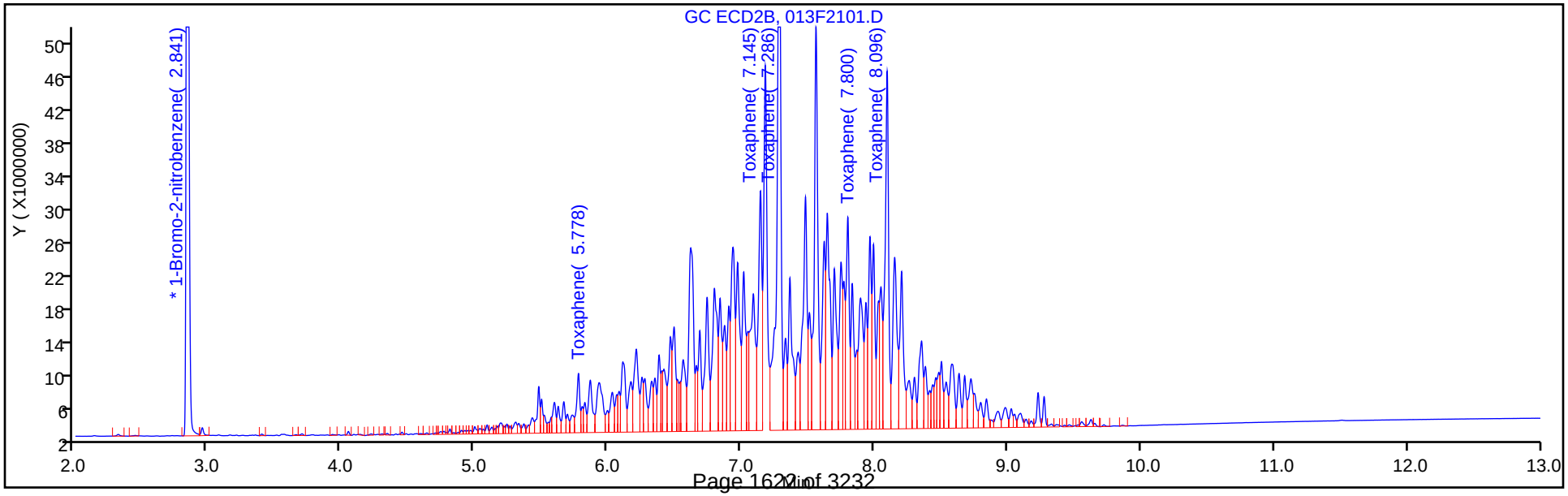
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\013F2101.D

Injection Date:	13-Oct-2018 16:45:38	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD4 TOX			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



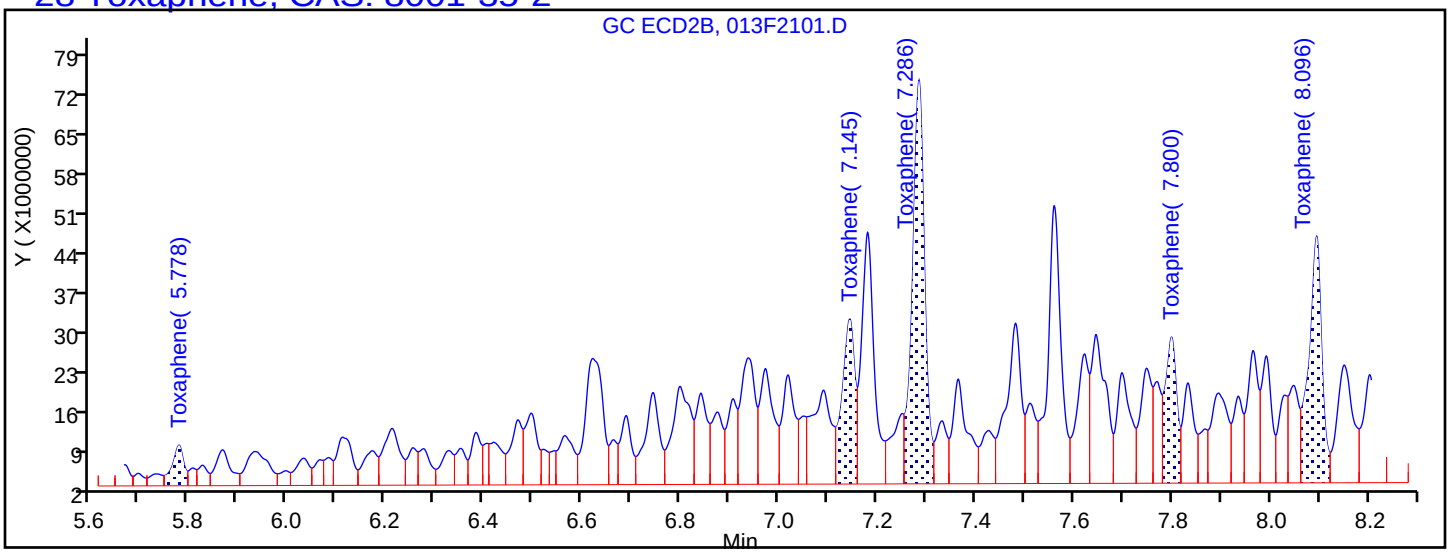
Report Date: 14-Oct-2018 22:11:20 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\013F2101.D

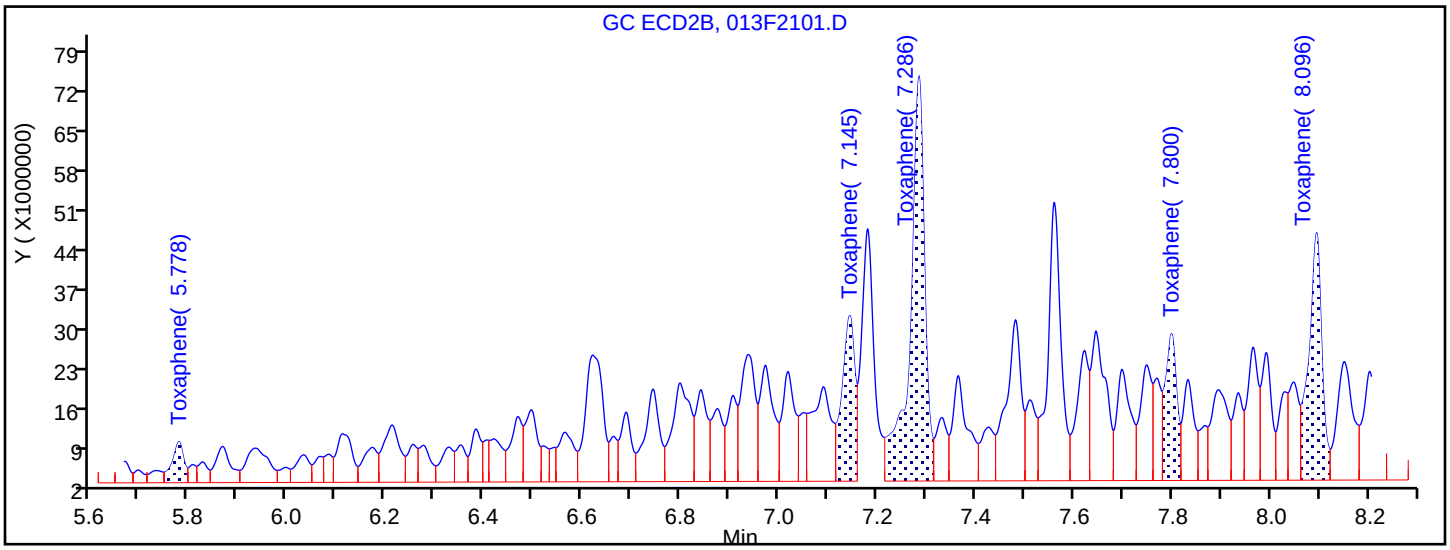
Injection Date:	13-Oct-2018 16:45:38	Instrument ID:	SGC_P2		
Lims ID:	STD4 TOX				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	13	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.778	Response = 11889868
7.145	Response = 52091638
7.286	Response = 122916584
7.800	Response = 41613365
8.096	Response = 79867523



Manual Integration Results

5.778	Response = 12064651	M
7.145	Response = 52352055	M
7.286	Response = 145561454	M
7.800	Response = 41885928	M
8.096	Response = 80317017	M

Reviewer: mooret, 14-Oct-2018 21:37:56

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\014F2201.D
Lims ID: STD3 TOX
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Oct-2018 17:03:01 ALS Bottle#: 14 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD3
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:21 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:33:24

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.021	-0.001	1741058857	150.0	150.0	
2	2.841	2.841	-0.001	184005886	150.0	150.0	
28 Toxaphene							M
1	6.244	6.246	-0.002	77218443	1000.0	990.5	M
1	6.854	6.854	0.000	193181281	1000.0	975.2	M
1	7.527	7.528	-0.001	207813969	1000.0	953.6	M
1	7.887	7.886	0.001	84522297	1000.0	969.8	M
1	8.204	8.204	0.000	82441591	1000.0	961.2	M
		Average of Peak Amounts =				970.0	
2	5.777	5.778	-0.001	5366684	1000.0	919.9	
2	7.143	7.145	-0.002	26089503	1000.0	1020.0	
2	7.285	7.286	-0.001	72036294	1000.0	1025.7	
2	7.800	7.800	0.000	19681560	1000.0	983.5	
2	8.095	8.096	-0.001	40124523	1000.0	1023.9	
		Average of Peak Amounts =				994.6	
						RPD = 2.50	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL3_00020 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

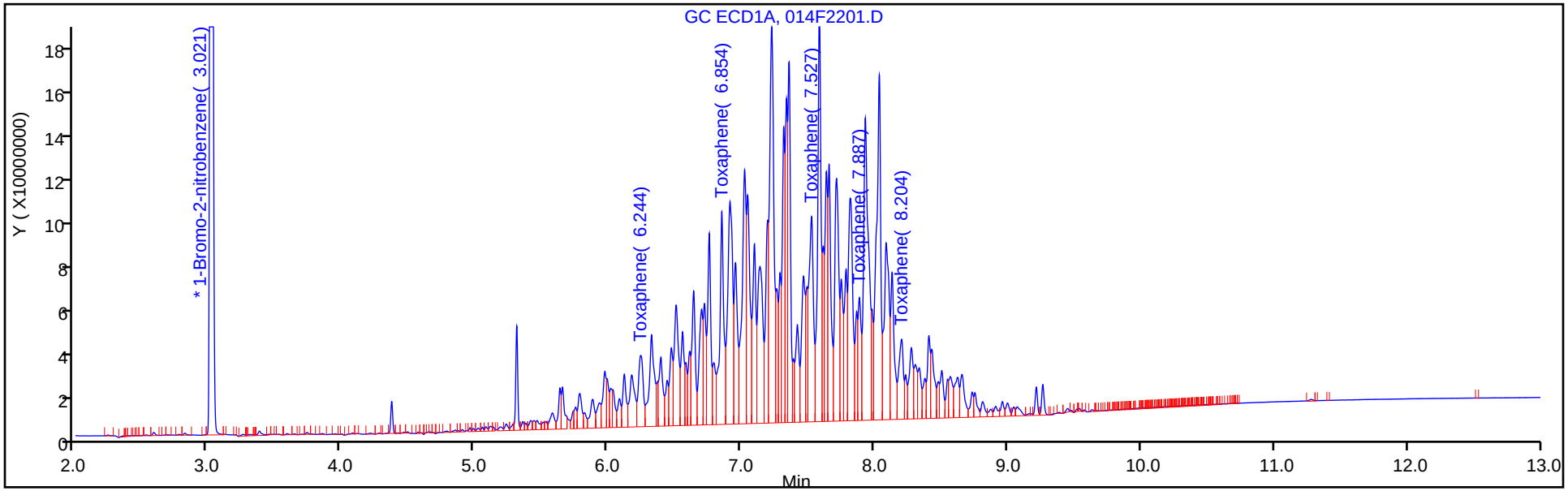
Report Date: 14-Oct-2018 22:11:23 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

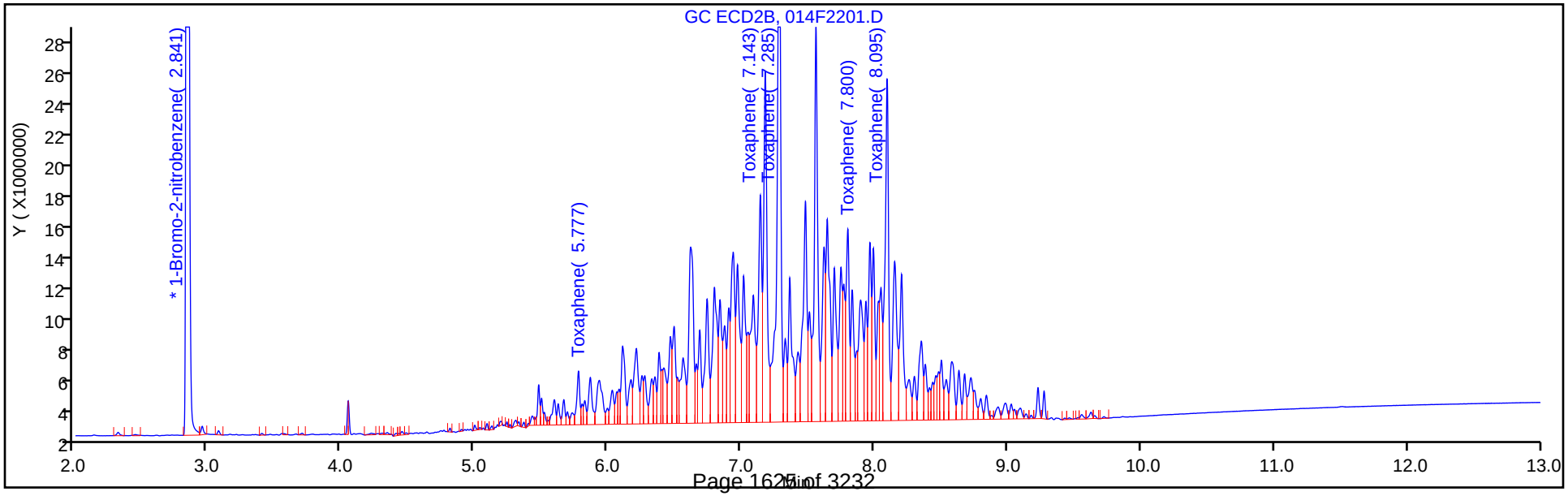
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\014F2201.D

Injection Date:	13-Oct-2018 17:03:01	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD3 TOX			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\015F2301.D
Lims ID: STD2 TOX
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Oct-2018 17:20:32 ALS Bottle#: 15 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD2
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:24 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:33:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.022	3.021	0.000	1773925252	150.0	150.0	
2	2.841	2.841	0.000	187588077	150.0	150.0	
28 Toxaphene							M
1	6.244	6.246	-0.002	36757841	500.0	481.1	M
1	6.854	6.854	0.000	89263703	500.0	467.4	M
1	7.528	7.528	0.000	96759589	500.0	471.3	M
1	7.887	7.886	0.001	36941603	500.0	458.5	M
1	8.204	8.204	0.000	33168067	500.0	441.0	M
		Average of Peak Amounts =				463.8	
2	5.778	5.778	0.000	3239492	500.0	523.2	M
2	7.144	7.145	-0.001	13088271	500.0	496.7	M
2	7.284	7.286	-0.002	34980187	500.0	489.4	M
2	7.799	7.800	-0.001	9872826	500.0	488.2	M
2	8.095	8.096	-0.001	19482419	500.0	488.8	M
		Average of Peak Amounts =				497.3	
						RPD = 6.96	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL2_00021	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

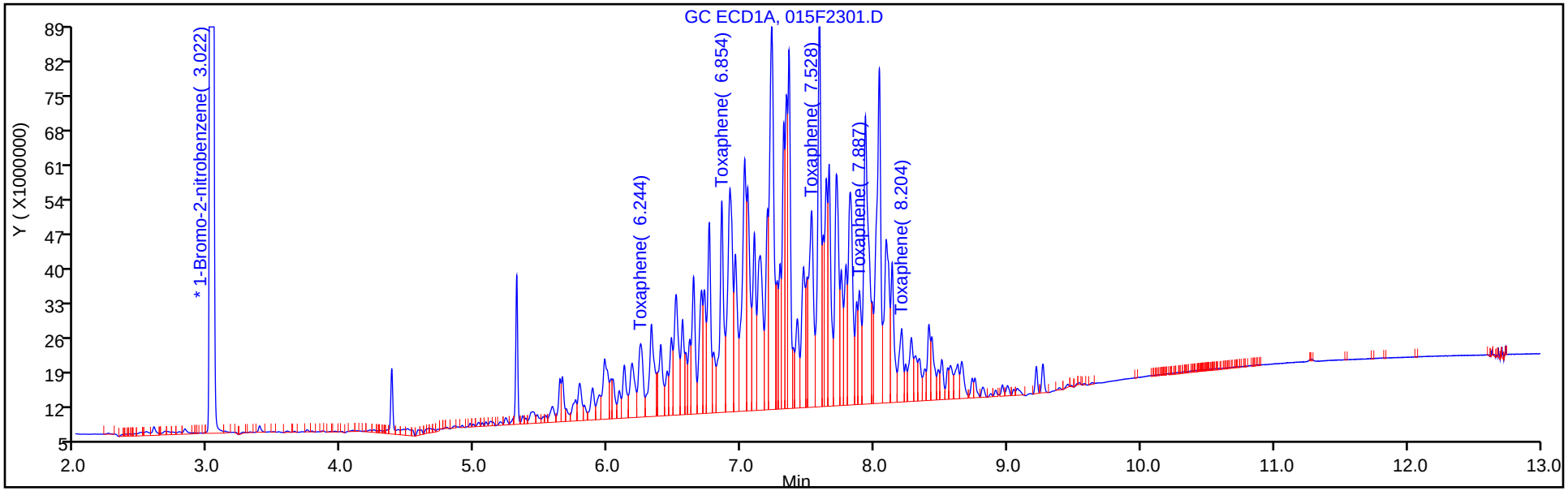
Report Date: 14-Oct-2018 22:11:26 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

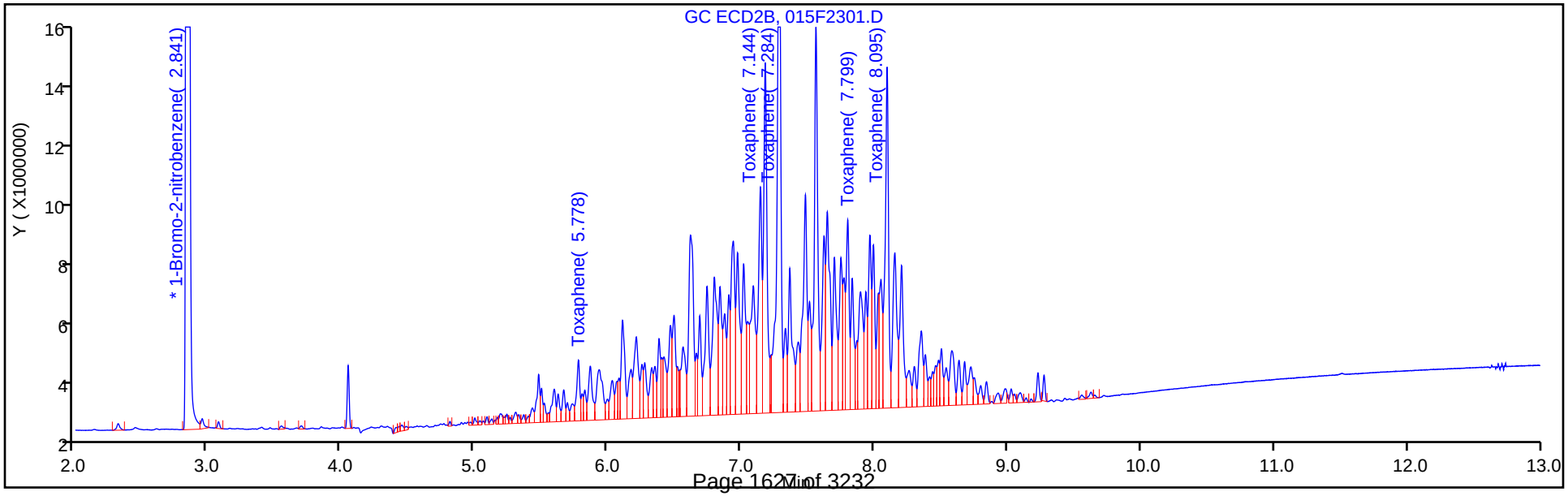
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\015F2301.D

Injection Date:	13-Oct-2018 17:20:32	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD2 TOX			Worklist Smp#:	20
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:11:26 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\015F2301.D

Injection Date: 13-Oct-2018 17:20:32 Instrument ID: SGC_P2

Lims ID: STD2 TOX

Client ID:

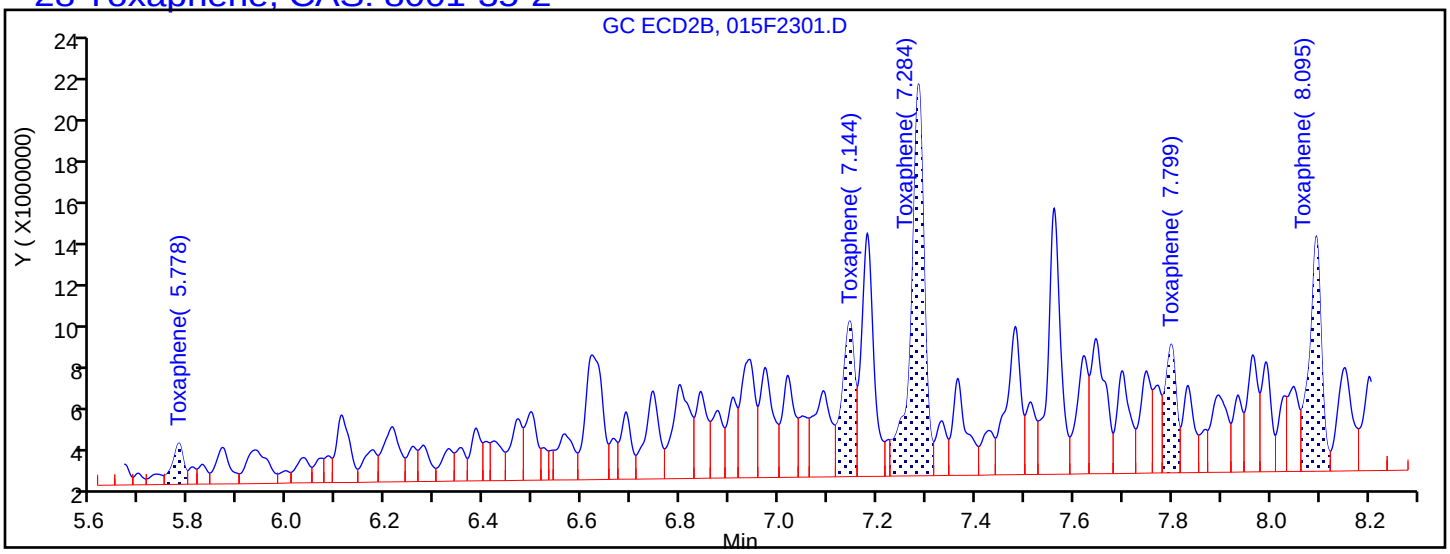
Operator ID: TEM ALS Bottle#: 15 Worklist Smp#: 20

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

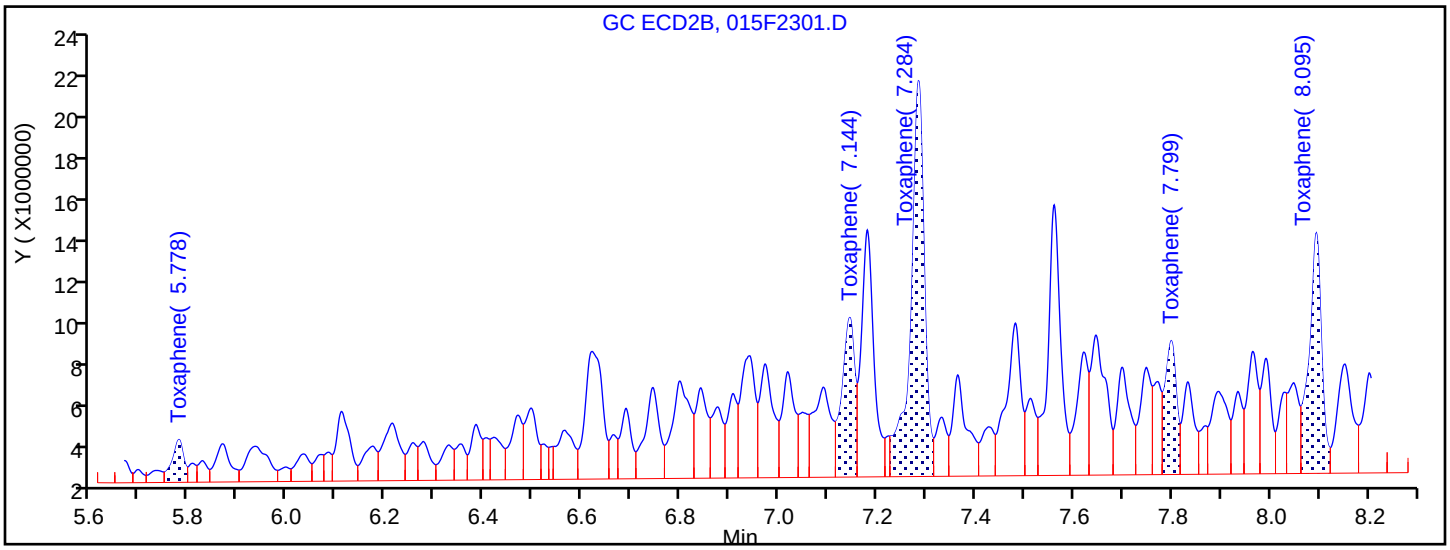
Column: CLP2 (0.32 mm) Detector GC ECD2B

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.778	Response = 3020122
7.144	Response = 12594706
7.284	Response = 33926133
7.799	Response = 9338992
8.095	Response = 18544525



Manual Integration Results

5.778	Response = 3239492	M
7.144	Response = 13088271	M
7.284	Response = 34980187	M
7.799	Response = 9872826	M
8.095	Response = 19482419	M

Reviewer: mooret, 14-Oct-2018 21:33:47

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\016F2401.D
Lims ID: STD1 TOX
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 13-Oct-2018 17:37:55 ALS Bottle#: 16 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD1
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:27 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:34:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.022	3.021	0.001	1720287810	150.0	150.0	
2	2.842	2.841	0.001	182087225	150.0	150.0	
28 Toxaphene							M
1	6.245	6.246	-0.001	13484316	200.0	203.4	M
1	6.854	6.854	0.000	32829722	200.0	205.8	M
1	7.528	7.528	0.000	32415828	200.0	205.6	M
1	7.887	7.886	0.001	12391302	200.0	207.2	M
1	8.204	8.204	0.000	10296721	200.0	210.3	M
		Average of Peak Amounts =				206.4	
2	5.778	5.778	0.000	1369118	200.0	198.1	M
2	7.144	7.145	-0.001	5249471	200.0	199.2	M
2	7.284	7.286	-0.002	13813356	200.0	200.0	M
2	7.800	7.800	0.000	3856571	200.0	201.6	M
2	8.095	8.096	-0.001	7701963	200.0	200.4	M
		Average of Peak Amounts =				199.8	
						RPD = 3.24	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL1_00020 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

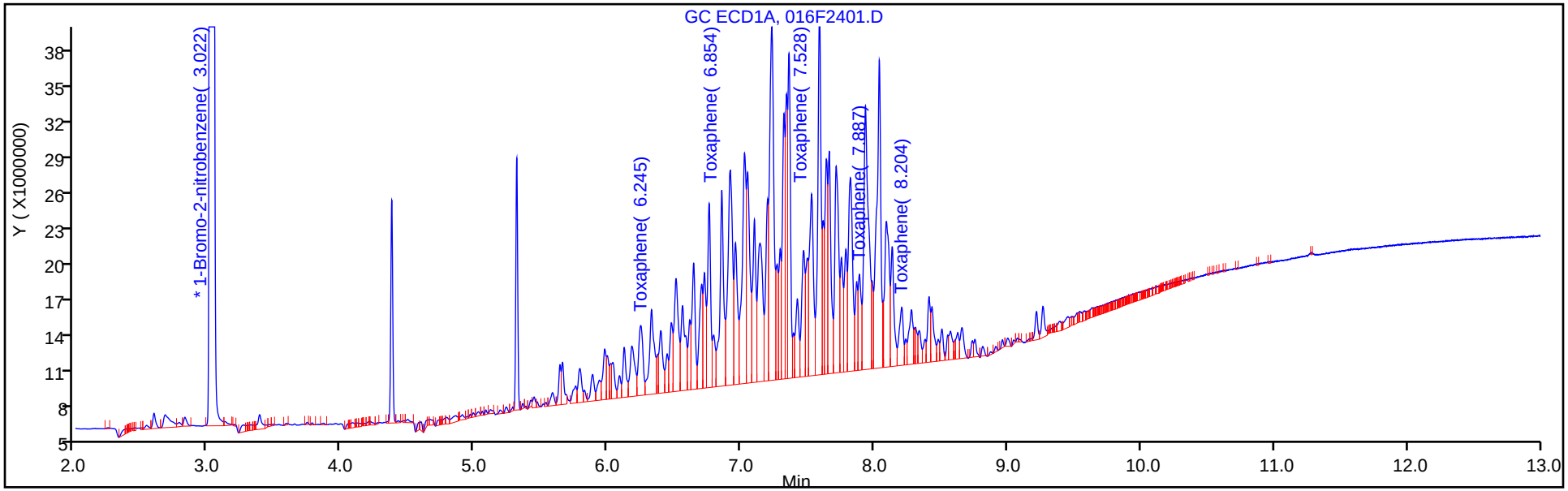
Report Date: 14-Oct-2018 22:11:29 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

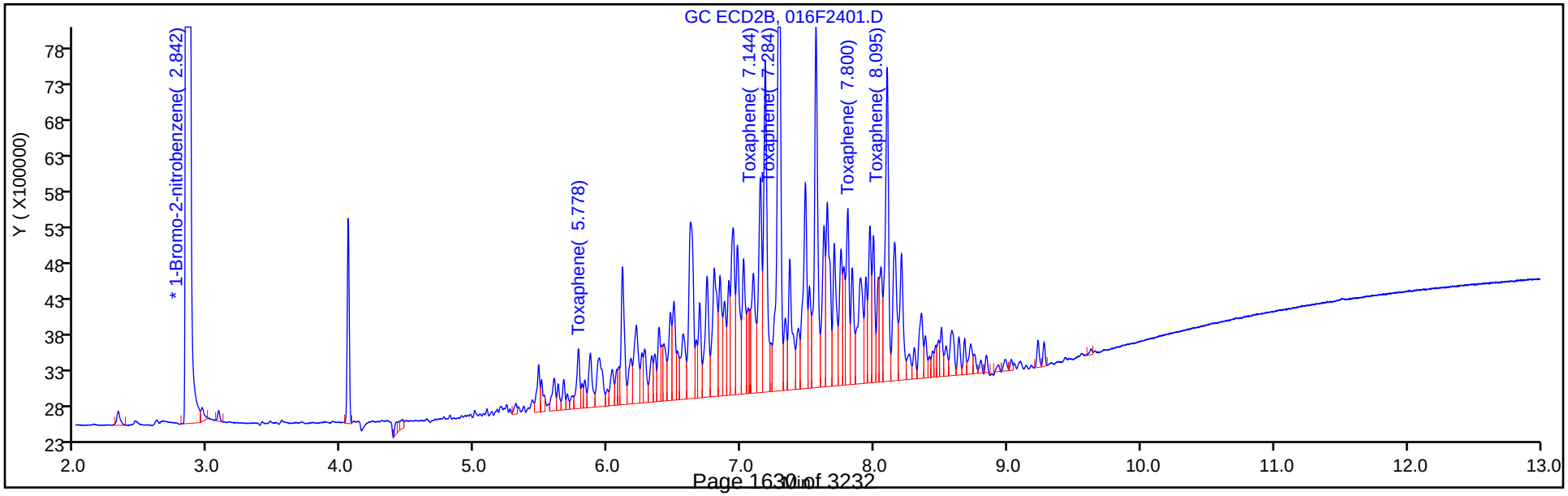
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\016F2401.D

Injection Date:	13-Oct-2018 17:37:55	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD1 TOX			Worklist Smp#:	21
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



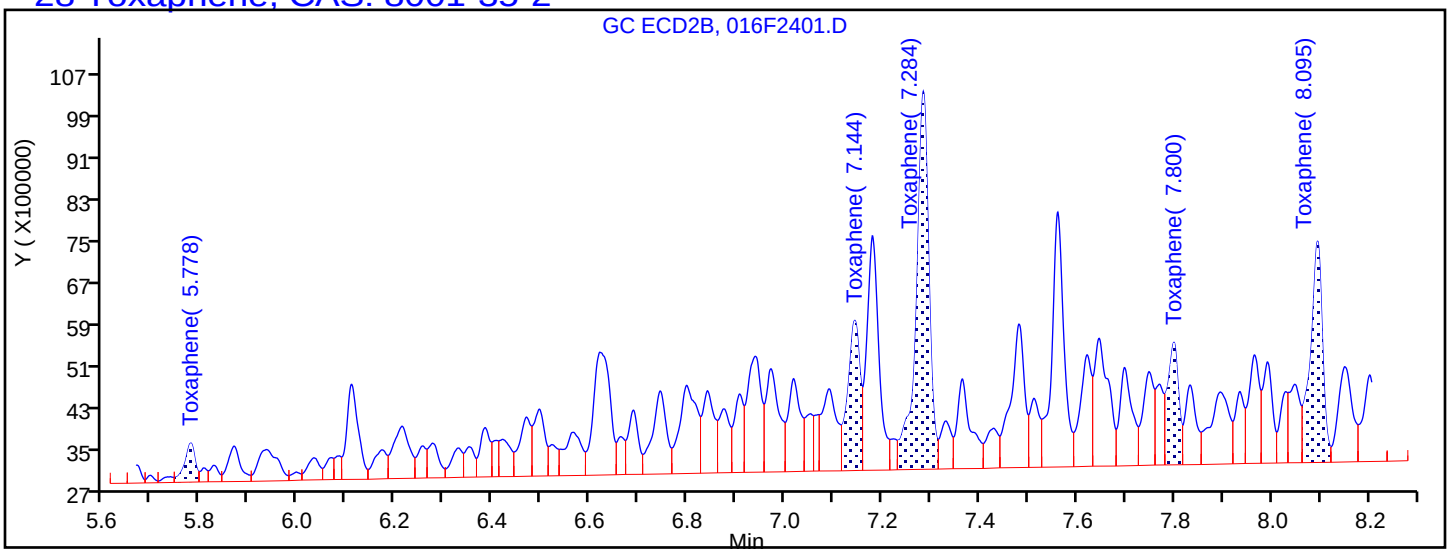
Report Date: 14-Oct-2018 22:11:29 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\016F2401.D

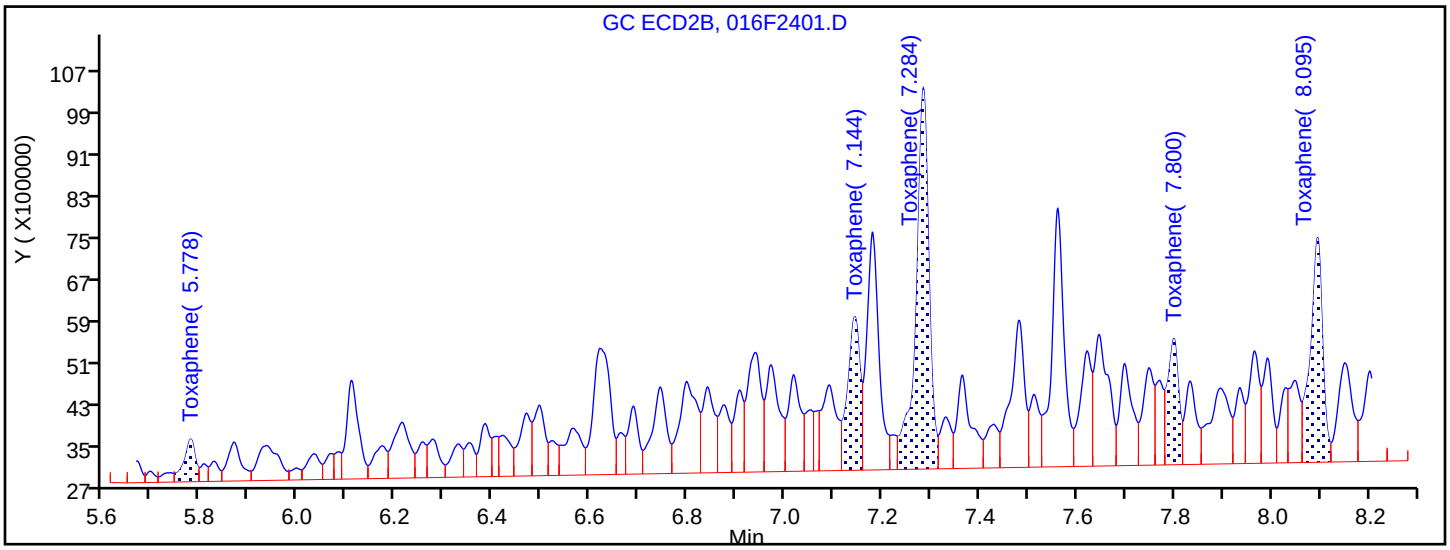
Injection Date:	13-Oct-2018 17:37:55	Instrument ID:	SGC_P2		
Lims ID:	STD1 TOX				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	16	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.778	Response = 1148796
7.144	Response = 5058493
7.284	Response = 13437843
7.800	Response = 3687052
8.095	Response = 7436624



Manual Integration Results

5.778	Response = 1369118	M
7.144	Response = 5249471	M
7.284	Response = 13813356	M
7.800	Response = 3856571	M
8.095	Response = 7701963	M

Reviewer: mooret, 14-Oct-2018 21:34:13

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33989

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/32	027F3501.D
Level 2	STD2 280-433303/31	026F3401.D
Level 3	STD3 280-433303/30	025F3301.D
Level 4	STD4 280-433303/29	024F3201.D
Level 5	STD5 280-433303/28	023F3101.D
Level 6	STD6 280-433303/27	022F3001.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Hexachlorobenzene	1.0899 1.1788	1.0948	1.1161	1.1873	1.1486	Lin2	-0.340	1.1605							0.9990		0.9900
alpha-BHC	1.4325 1.7413	1.5151	1.5784	1.6732	1.7082	Lin2	-1.160	1.6919							0.9990		0.9900
gamma-BHC (Lindane)	1.2873 1.4841	1.3050	1.3541	1.4304	1.4566	Lin2	-0.721	1.4383							0.9980		0.9900
beta-BHC	0.6083 0.5624	0.5533	0.5269	0.5489	0.5547	Lin2	0.2347	0.5421							0.9990		0.9900
delta-BHC	1.2688 1.5059	1.3116	1.3789	1.4639	1.4777	Lin2	-0.911	1.4669							0.9990		0.9900
Heptachlor	1.1423 1.2700	1.1822	1.2288	1.2809	1.2874	Lin2	-0.584	1.2741							1.0000		0.9900
Aldrin	1.2062 1.3690	1.2570	1.3026	1.3742	1.3613	Lin2	-0.684	1.3611							0.9990		0.9900
Heptachlor epoxide	1.0838 1.1495	1.1012	1.1263	1.1655	1.1463	Lin2	-0.297	1.1502							1.0000		0.9900
gamma-Chlordane	1.1384 1.2781	1.1281	1.1791	1.2485	1.2502	Lin2	-0.520	1.2413							0.9980		0.9900
alpha-Chlordane	1.0735 1.2119	1.0963	1.1287	1.1934	1.1895	Lin2	-0.525	1.1868							0.9990		0.9900
4,4'-DDE	1.1109 1.2600	1.1411	1.1961	1.2683	1.2373	Lin2	-0.618	1.2469							0.9990		0.9900
Endosulfan I	1.0381 1.0827	1.0434	1.0691	1.1110	1.0759	Lin2	-0.222	1.0861							1.0000		0.9900
Dieldrin	1.1146 1.2115	1.1397	1.1784	1.2379	1.1993	Lin2	-0.433	1.2115							1.0000		0.9900
Endrin	0.9402 1.0666	0.9630	1.0117	1.0737	1.0470	Lin2	-0.524	1.0549							0.9990		0.9900
4,4'-DDD	0.8803 1.0077	0.8683	0.9102	0.9844	0.9556	Lin2	-0.439	0.9661							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33989

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Endosulfan II	0.9353 0.9815	0.9307	0.9610	1.0302	0.9720	Lin2	-0.252	0.9867							0.9990		0.9900
4,4'-DDT	0.7293 0.8991	0.7495	0.8019	0.8780	0.8772	Lin2	-0.663	0.8704							0.9970		0.9900
Endrin aldehyde	0.7328 0.7638	0.7096	0.7263	0.7800	0.7505	Lin2	-0.135	0.7536							0.9990		0.9900
Methoxychlor	0.3876 0.3901	0.3754	0.3827	0.4082	0.3892	Lin2	-0.035	0.3914							0.9990		0.9900
Endosulfan sulfate	0.8217 0.8872	0.8075	0.8371	0.9081	0.8647	Lin2	-0.276	0.8743							0.9980		0.9900
Endrin ketone	0.8782 0.9231	0.8495	0.8861	0.9671	0.9038	Lin2	-0.230	0.9179							0.9980		0.9900
Tetrachloro-m-xylene	1.0173 1.1251	1.0386	1.0634	1.1370	1.0977	Lin2	-0.428	1.1107							0.9990		0.9900
DCB Decachlorobiphenyl	0.6003 0.5770	0.5495	0.5594	0.5991	0.5570	Lin2	0.0911	0.5671							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33989

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/32	027F3501.D
Level 2	STD2 280-433303/31	026F3401.D
Level 3	STD3 280-433303/30	025F3301.D
Level 4	STD4 280-433303/29	024F3201.D
Level 5	STD5 280-433303/28	023F3101.D
Level 6	STD6 280-433303/27	022F3001.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Hexachlorobenzene	BNB	Lin2	47816993 1380707359	126156548	317851410	649000706	1019295562	4.00 100	10.0	25.0	50.0	75.0
alpha-BHC	BNB	Lin2	62852215 2039469973	174586944	449507972	914630685	1515867171	4.00 100	10.0	25.0	50.0	75.0
gamma-BHC (Lindane)	BNB	Lin2	56481667 1738294623	150377013	385635283	781888254	1292559350	4.00 100	10.0	25.0	50.0	75.0
beta-BHC	BNB	Lin2	26687989 658730126	63756954	150050051	300049327	492255043	4.00 100	10.0	25.0	50.0	75.0
delta-BHC	BNB	Lin2	55669358 1763800464	151129545	392697114	800211131	1311307456	4.00 100	10.0	25.0	50.0	75.0
Heptachlor	BNB	Lin2	50118465 1487484474	136220069	349955154	700142171	1142416982	4.00 100	10.0	25.0	50.0	75.0
Aldrin	BNB	Lin2	52919960 1603385174	144846582	370973392	751162048	1208042264	4.00 100	10.0	25.0	50.0	75.0
Heptachlor epoxide	BNB	Lin2	47553101 1346353314	126886425	320747071	637075296	1017236841	4.00 100	10.0	25.0	50.0	75.0
gamma-Chlordane	BNB	Lin2	49944652 1496975406	129991480	335790425	682439750	1109387779	4.00 100	10.0	25.0	50.0	75.0
alpha-Chlordane	BNB	Lin2	47100490 1419377556	126327949	321433079	652320568	1055599184	4.00 100	10.0	25.0	50.0	75.0
4,4'-DDE	BNB	Lin2	48738148 1475769541	131488025	340651862	693292530	1097991084	4.00 100	10.0	25.0	50.0	75.0
Endosulfan I	BNB	Lin2	45543940 1268053177	120234528	304465713	607276774	954735604	4.00 100	10.0	25.0	50.0	75.0
Dieldrin	BNB	Lin2	48904591 1418985077	131325618	335595524	676681392	1064216521	4.00 100	10.0	25.0	50.0	75.0
Endrin	BNB	Lin2	41251930 1249259754	110965652	288123020	586918822	929144470	4.00 100	10.0	25.0	50.0	75.0
4,4'-DDD	BNB	Lin2	38622027 1180309263	100049743	259223669	538092520	848012397	4.00 100	10.0	25.0	50.0	75.0
Endosulfan II	BNB	Lin2	41034933 1149629449	107239359	273685389	563151672	862538061	4.00 100	10.0	25.0	50.0	75.0

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33989

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
4,4'-DDT	BNB	Lin2	31997998 1053113637	86360678	228369137	479927441	778459968	4.00 100	10.0	25.0	50.0	75.0
Endrin aldehyde	BNB	Lin2	32150414 894620553	81761942	206854248	426357889	665966546	4.00 100	10.0	25.0	50.0	75.0
Methoxychlor	BNB	Lin2	17004835 456885819	43260093	108979408	223151920	345420332	4.00 100	10.0	25.0	50.0	75.0
Endosulfan sulfate	BNB	Lin2	36051087 1039104153	93045319	238398480	496366994	767321325	4.00 100	10.0	25.0	50.0	75.0
Endrin ketone	BNB	Lin2	38530653 1081196479	97881347	252349419	528619675	802034011	4.00 100	10.0	25.0	50.0	75.0
Tetrachloro-m-xylene	BNB	Lin2	44633037 1317820866	119672981	302832702	621494359	974117175	4.00 100	10.0	25.0	50.0	75.0
DCB Decachlorobiphenyl	BNB	Lin2	26336210 675825077	63321098	159322167	327463502	494311523	4.00 100	10.0	25.0	50.0	75.0

Curve Type Legend:
Lin2 = Linear 1/conc^2 ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\022F3001.D
Lims ID: STD6 AB
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Oct-2018 19:22:28 ALS Bottle#: 22 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD6 AB
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:46 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:21:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						413.9	
2						393.8	
						RPD = 4.96	
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.023	-0.002	1756870840	150.0	150.0	
2	2.840	2.842	-0.002	195021437	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.921	3.919	0.002	1317820866	100.0	101.7	
2	3.823	3.823	0.000	151651222	100.0	96.2	
						RPD = 5.52	
5 Hexachlorobenzene							
1	4.327	4.326	0.001	1380707359	100.0	101.9	
2	4.302	4.302	0.000	160717643	100.0	96.5	
						RPD = 5.38	
8 alpha-BHC							
1	4.498	4.497	0.001	2039469973	100.0	103.6	
2	4.447	4.448	-0.001	213039488	100.0	98.9	
						RPD = 4.64	
9 gamma-BHC (Lindane)							
1	4.787	4.785	0.002	1738294623	100.0	103.7	
2	4.762	4.761	0.001	184996515	100.0	98.6	
						RPD = 4.99	
10 beta-BHC							
1	4.863	4.862	0.001	658730126	100.0	103.3	
2	4.837	4.837	0.000	77780555	100.0	97.6	
						RPD = 5.72	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.012	5.010	0.002	1763800464	100.0	103.3	
2	5.070	5.069	0.001	187730350	100.0	98.7	
						RPD = 4.51	
15 Heptachlor							
1	5.188	5.187	0.001	1487484474	100.0	100.1	
2	5.112	5.112	0.000	157743006	100.0	97.5	
						RPD = 2.69	
16 Aldrin							
1	5.458	5.457	0.001	1603385174	100.0	101.1	
2	5.384	5.383	0.001	171135300	100.0	98.1	
						RPD = 3.03	
18 Isodrin							
1	5.785	5.783	0.002	1276942983	100.0	101.0	
2	5.749	5.749	0.000	144685541	100.0	97.8	
						RPD = 3.17	
21 Heptachlor epoxide							
1	6.073	6.072	0.001	1346353314	100.0	100.2	
2	5.932	5.931	0.001	153345134	100.0	96.9	
						RPD = 3.39	
22 trans-Chlordane							
1	6.204	6.204	0.000	1496975406	100.0	103.4	
2	6.131	6.130	0.001	163709394	100.0	98.3	
						RPD = 5.07	
23 cis-Chlordane							
1	6.346	6.344	0.002	1419377556	100.0	102.6	
2	6.287	6.286	0.001	154077138	100.0	97.9	
						RPD = 4.60	
24 4,4'-DDE							
1	6.422	6.421	0.001	1475769541	100.0	101.5	
2	6.470	6.469	0.001	160552956	100.0	97.9	
						RPD = 3.65	
25 Endosulfan I							
1	6.495	6.494	0.001	1268053177	100.0	99.9	
2	6.347	6.346	0.001	144373306	100.0	96.8	
						RPD = 3.18	
27 Dieldrin							
1	6.750	6.748	0.002	1418985077	100.0	100.4	
2	6.640	6.639	0.001	161178584	100.0	97.7	
						RPD = 2.73	
30 Endrin							
1	6.998	6.997	0.001	1249259754	100.0	101.6	
2	6.964	6.963	0.001	142775347	100.0	97.9	
						RPD = 3.71	
32 4,4'-DDD							
1	7.059	7.058	0.001	1180309263	100.0	104.8	
2	7.089	7.089	0.000	131149227	100.0	98.3	
						RPD = 6.34	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.235	7.234	0.001	1149629449	100.0	99.7	
2	7.191	7.190	0.001	134900820	100.0	95.9	
						RPD = 3.88	
35 4,4'-DDT							
1	7.353	7.352	0.001	1053113637	100.0	104.1	
2	7.420	7.419	0.001	115525218	100.0	99.4	
						RPD = 4.57	
36 Endrin aldehyde							
1	7.680	7.679	0.001	894620553	100.0	101.5	
2	7.551	7.550	0.001	109276534	100.0	96.9	
						RPD = 4.65	
37 Methoxychlor							
1	7.857	7.857	0.000	456885819	100.0	99.8	
2	8.151	8.150	0.001	54922574	100.0	96.4	
						RPD = 3.44	
38 Mirex							
1	8.017	8.016	0.001	761678556	100.0	103.8	
2	8.346	8.344	0.002	90852521	100.0	95.7	
						RPD = 8.10	
39 Endosulfan sulfate							
1	8.138	8.138	0.000	1039104153	100.0	101.8	
2	7.842	7.841	0.001	124525276	100.0	96.7	
						RPD = 5.17	
40 Endrin ketone							
1	8.431	8.429	0.002	1081196479	100.0	100.8	
2	8.398	8.396	0.002	136381981	100.0	96.1	
						RPD = 4.74	
$ 41 DCB Decachlorobiphenyl							
1	9.447	9.446	0.001	675825077	100.0	101.6	
2	9.669	9.668	0.001	88747472	100.0	95.6	
						RPD = 6.08	
S 3 Endosulfan, Total							
1						301.4	
2						289.4	
						RPD = 4.08	

Reagents:

8081IcalL6_00025	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

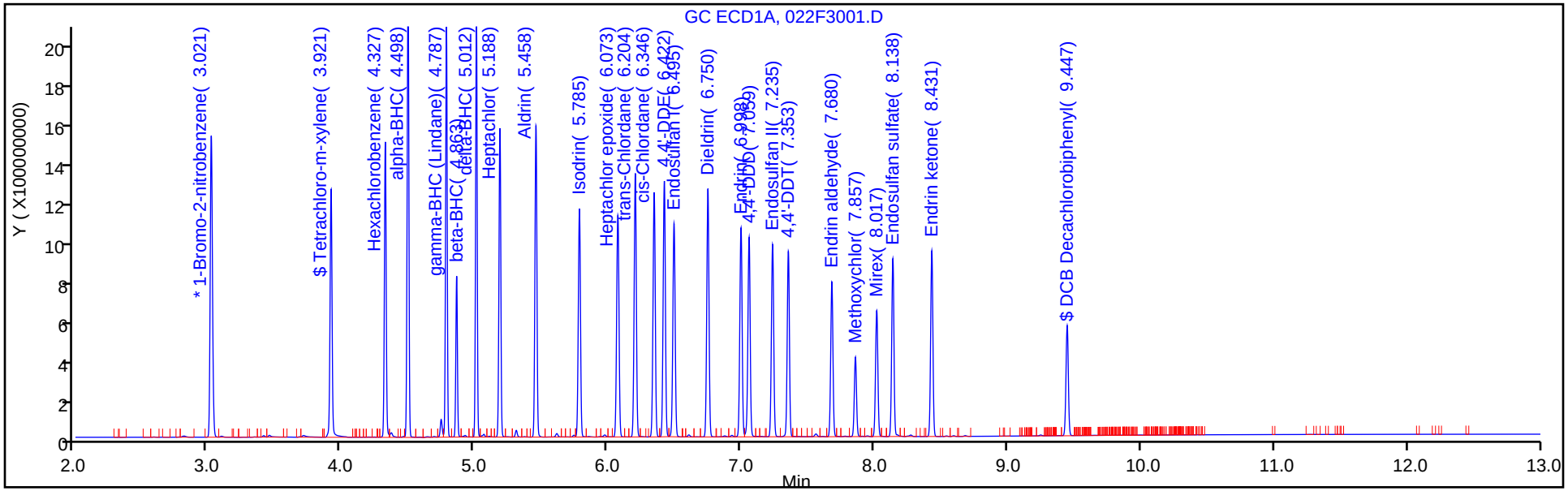
Report Date: 14-Oct-2018 22:11:48 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

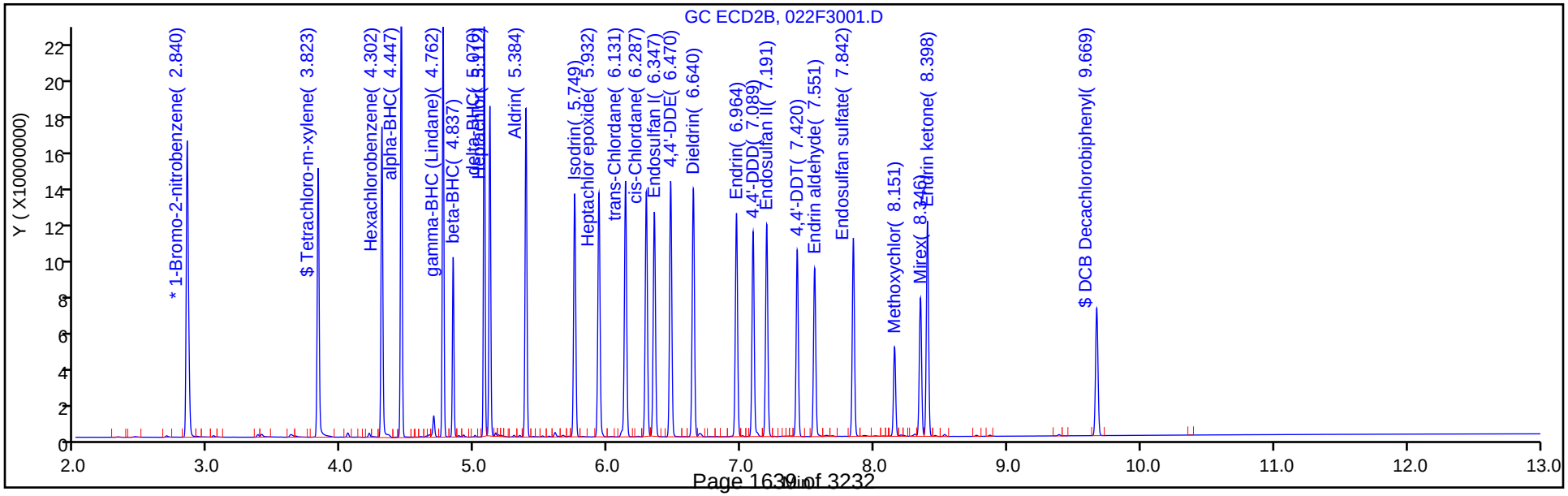
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\022F3001.D

Injection Date:	13-Oct-2018 19:22:28	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD6 AB			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\023F3101.D
Lims ID: STD5 AB
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Oct-2018 19:39:58 ALS Bottle#: 23 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD5
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:49 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						305.3	
2						297.4	
						RPD = 2.65	
* 2 1-Bromo-2-nitrobenzene							
1	3.020	3.023	-0.002	1774800139	150.0	150.0	
2	2.840	2.842	-0.002	196975139	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.920	3.919	0.001	974117175	75.0	74.5	
2	3.823	3.823	0.000	115355955	75.0	72.3	
						RPD = 2.99	
5 Hexachlorobenzene							
1	4.328	4.326	0.002	1019295562	75.0	74.5	
2	4.302	4.302	0.000	120451736	75.0	71.5	
						RPD = 4.17	
8 alpha-BHC							
1	4.498	4.497	0.001	1515867171	75.0	76.4	
2	4.448	4.448	0.000	162579162	75.0	74.7	
						RPD = 2.33	
9 gamma-BHC (Lindane)							
1	4.786	4.785	0.001	1292559350	75.0	76.5	
2	4.761	4.761	0.000	141300627	75.0	74.5	
						RPD = 2.52	
10 beta-BHC							
1	4.862	4.862	0.000	492255043	75.0	76.3	
2	4.837	4.837	0.000	59596054	75.0	73.8	
						RPD = 3.31	
12 delta-BHC							
1	5.011	5.010	0.001	1311307456	75.0	76.2	
2	5.070	5.069	0.001	142822500	75.0	74.3	
						RPD = 2.45	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.188	5.187	0.001	1142416982	75.0	76.2	
2	5.113	5.112	0.001	122155556	75.0	74.7	
						RPD = 2.10	
16 Aldrin							
1	5.458	5.457	0.001	1208042264	75.0	75.5	
2	5.384	5.383	0.001	130679943	75.0	74.1	
						RPD = 1.93	
18 Isodrin							
1	5.785	5.783	0.002	961672330	75.0	75.3	
2	5.750	5.749	0.001	109763292	75.0	73.3	
						RPD = 2.72	
21 Heptachlor epoxide							
1	6.074	6.072	0.002	1017236841	75.0	75.0	
2	5.932	5.931	0.001	117794987	75.0	73.5	
						RPD = 1.98	
22 trans-Chlordane							
1	6.205	6.204	0.001	1109387779	75.0	76.0	
2	6.131	6.130	0.001	123500639	75.0	73.3	
						RPD = 3.54	
23 cis-Chlordane							
1	6.346	6.344	0.002	1055599184	75.0	75.6	
2	6.288	6.286	0.002	116906799	75.0	73.4	
						RPD = 2.90	
24 4,4'-DDE							
1	6.422	6.421	0.001	1097991084	75.0	74.9	
2	6.470	6.469	0.001	121439906	75.0	73.3	
						RPD = 2.23	
25 Endosulfan I							
1	6.495	6.494	0.001	954735604	75.0	74.5	
2	6.348	6.346	0.002	110310449	75.0	73.0	
						RPD = 1.99	
27 Dieldrin							
1	6.750	6.748	0.002	1064216521	75.0	74.6	
2	6.640	6.639	0.001	122303746	75.0	73.3	
						RPD = 1.77	
30 Endrin							
1	6.998	6.997	0.001	929144470	75.0	74.9	
2	6.965	6.963	0.002	108615513	75.0	73.7	
						RPD = 1.66	
32 4,4'-DDD							
1	7.059	7.058	0.001	848012397	75.0	74.6	
2	7.090	7.089	0.001	98409444	75.0	73.0	
						RPD = 2.25	
34 Endosulfan II							
1	7.235	7.234	0.001	862538061	75.0	74.1	
2	7.191	7.190	0.001	103131602	75.0	72.4	
						RPD = 2.33	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1	7.353	7.352	0.001	778459968	75.0	76.4	
2	7.420	7.419	0.001	88104638	75.0	75.1	
						RPD = 1.66	
36 Endrin aldehyde							
1	7.680	7.679	0.001	665966546	75.0	74.9	
2	7.551	7.550	0.001	82965198	75.0	72.7	
						RPD = 2.96	
37 Methoxychlor							
1	7.857	7.857	0.000	345420332	75.0	74.7	
2	8.151	8.150	0.001	42337805	75.0	73.5	
						RPD = 1.63	
38 Mirex							
1	8.016	8.016	0.000	537010702	75.0	72.4	
2	8.345	8.344	0.001	69265800	75.0	71.9	
						RPD = 0.66	
39 Endosulfan sulfate							
1	8.138	8.138	0.000	767321325	75.0	74.5	
2	7.843	7.841	0.002	94443160	75.0	72.4	
						RPD = 2.83	
40 Endrin ketone							
1	8.430	8.429	0.001	802034011	75.0	74.1	
2	8.398	8.396	0.002	103818155	75.0	72.3	
						RPD = 2.42	
$ 41 DCB Decachlorobiphenyl							
1	9.446	9.446	0.000	494311523	75.0	73.5	
2	9.669	9.668	0.001	67193439	75.0	71.4	
						RPD = 2.91	
S 3 Endosulfan, Total							
1						223.1	
2						217.9	
						RPD = 2.38	

Reagents:

8081IcalL5_00026	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

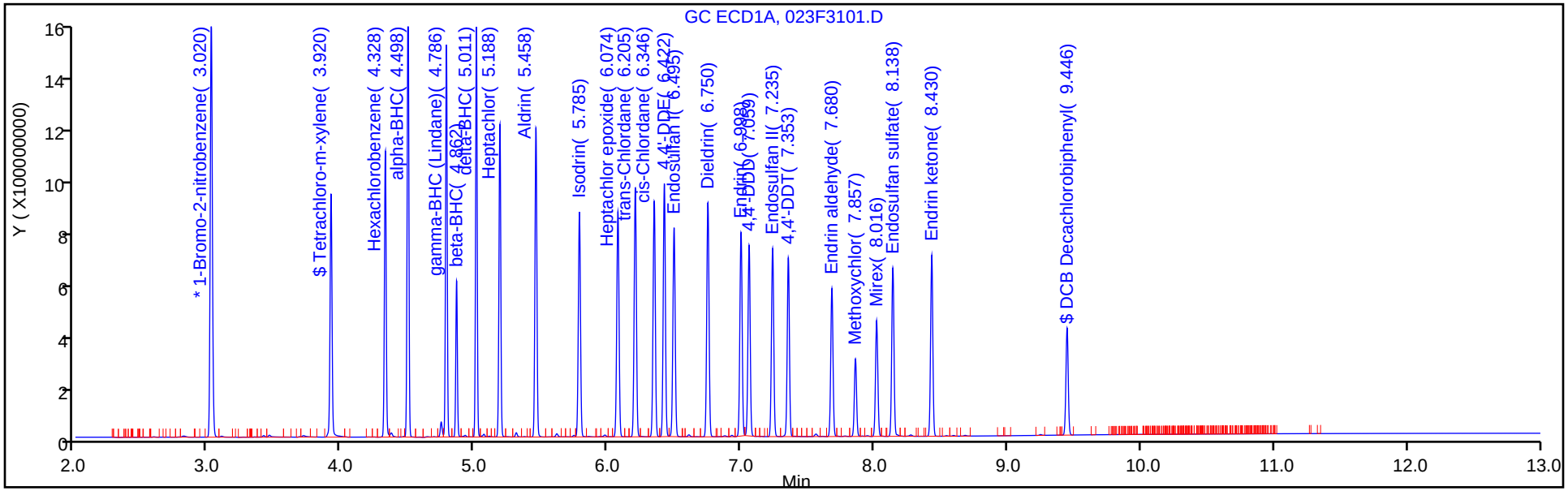
Report Date: 14-Oct-2018 22:11:51 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

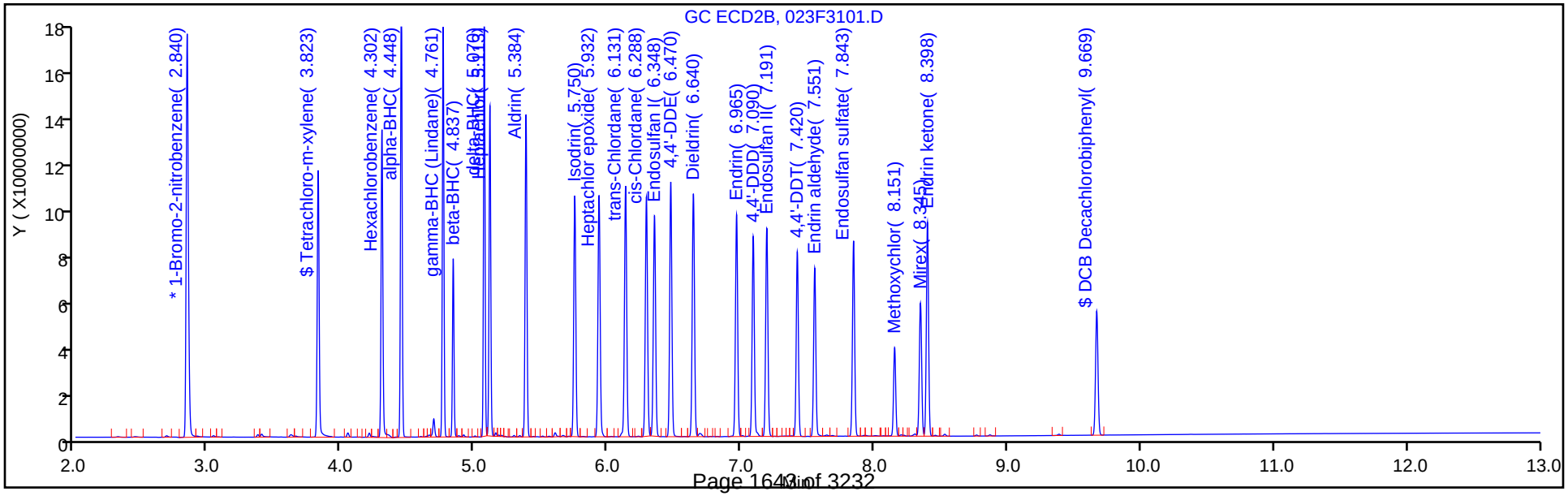
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\023F3101.D

Injection Date:	13-Oct-2018 19:39:58	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD5 AB			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\024F3201.D
Lims ID: STD4 AB
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 13-Oct-2018 19:57:23 ALS Bottle#: 24 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD4
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:53 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:15:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.019	3.019	0.000	1639866372	150.0	150.0	
2	2.839	2.839	0.000	184249474	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.919	3.919	0.000	621494359	50.0	51.6	
2	3.823	3.823	0.000	77802319	50.0	52.0	
						RPD = 0.76	
5 Hexachlorobenzene							
1	4.326	4.326	0.000	649000706	50.0	51.4	
2	4.302	4.302	0.000	82080999	50.0	51.9	
						RPD = 0.91	
8 alpha-BHC							
1	4.497	4.497	0.000	914630685	50.0	50.1	
2	4.448	4.448	0.000	102825287	50.0	50.4	
						RPD = 0.46	
9 gamma-BHC (Lindane)							
1	4.785	4.785	0.000	781888254	50.0	50.2	
2	4.761	4.761	0.000	89108339	50.0	50.2	
						RPD = 0.06	
10 beta-BHC							
1	4.862	4.862	0.000	300049327	50.0	50.2	
2	4.837	4.837	0.000	38193156	50.0	50.3	
						RPD = 0.27	
12 delta-BHC							
1	5.010	5.010	0.000	800211131	50.0	50.5	
2	5.069	5.069	0.000	90510020	50.0	50.3	
						RPD = 0.39	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.187	5.187	0.000	700142171	50.0	50.7	
2	5.112	5.112	0.000	76652553	50.0	50.0	
						RPD = 1.50	
16 Aldrin							
1	5.457	5.457	0.000	751162048	50.0	51.0	
2	5.383	5.383	0.000	83229214	50.0	50.3	
						RPD = 1.26	
18 Isodrin							
1	5.783	5.783	0.000	601057788	50.0	51.1	
2	5.749	5.749	0.000	70720524	50.0	50.3	
						RPD = 1.47	
21 Heptachlor epoxide							
1	6.072	6.072	0.000	637075296	50.0	50.9	
2	5.931	5.931	0.000	75919068	50.0	50.5	
						RPD = 0.86	
22 trans-Chlordane							
1	6.204	6.204	0.000	682439750	50.0	50.7	
2	6.130	6.130	0.000	79344564	50.0	50.2	
						RPD = 0.91	
23 cis-Chlordane							
1	6.344	6.344	0.000	652320568	50.0	50.7	
2	6.286	6.286	0.000	75318619	50.0	50.4	
						RPD = 0.57	
24 4,4'-DDE							
1	6.421	6.421	0.000	693292530	50.0	51.4	
2	6.469	6.469	0.000	79191054	50.0	51.0	
						RPD = 0.68	
25 Endosulfan I							
1	6.494	6.494	0.000	607276774	50.0	51.4	
2	6.346	6.346	0.000	71761841	50.0	50.6	
						RPD = 1.49	
27 Dieldrin							
1	6.748	6.748	0.000	676681392	50.0	51.4	
2	6.639	6.639	0.000	79630835	50.0	50.9	
						RPD = 1.01	
30 Endrin							
1	6.997	6.997	0.000	586918822	50.0	51.4	
2	6.963	6.963	0.000	70123187	50.0	50.8	
						RPD = 1.13	
32 4,4'-DDD							
1	7.058	7.058	0.000	538092520	50.0	51.4	
2	7.089	7.089	0.000	64688838	50.0	51.2	
						RPD = 0.39	
34 Endosulfan II							
1	7.234	7.234	0.000	563151672	50.0	52.5	
2	7.190	7.190	0.000	69296907	50.0	51.8	
						RPD = 1.25	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1	7.352	7.352	0.000	479927441	50.0	51.2	
2	7.419	7.419	0.000	55899373	50.0	51.0	
						RPD = 0.42	
36 Endrin aldehyde							
1	7.679	7.679	0.000	426357889	50.0	51.9	
2	7.550	7.550	0.000	55206907	50.0	51.5	
						RPD = 0.80	
37 Methoxychlor							
1	7.857	7.857	0.000	223151920	50.0	52.2	
2	8.150	8.150	0.000	27972236	50.0	51.8	
						RPD = 0.89	
38 Mirex							
1	8.016	8.016	0.000	349932979	50.0	51.1	
2	8.344	8.344	0.000	46808816	50.0	51.7	
						RPD = 1.13	
39 Endosulfan sulfate							
1	8.138	8.138	0.000	496366994	50.0	52.2	
2	7.841	7.841	0.000	63414174	50.0	51.8	
						RPD = 0.87	
40 Endrin ketone							
1	8.429	8.429	0.000	528619675	50.0	52.9	
2	8.396	8.396	0.000	70279476	50.0	52.2	
						RPD = 1.42	
$ 41 DCB Decachlorobiphenyl							
1	9.446	9.446	0.000	327463502	50.0	52.7	
2	9.668	9.668	0.000	46374378	50.0	52.4	
						RPD = 0.46	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

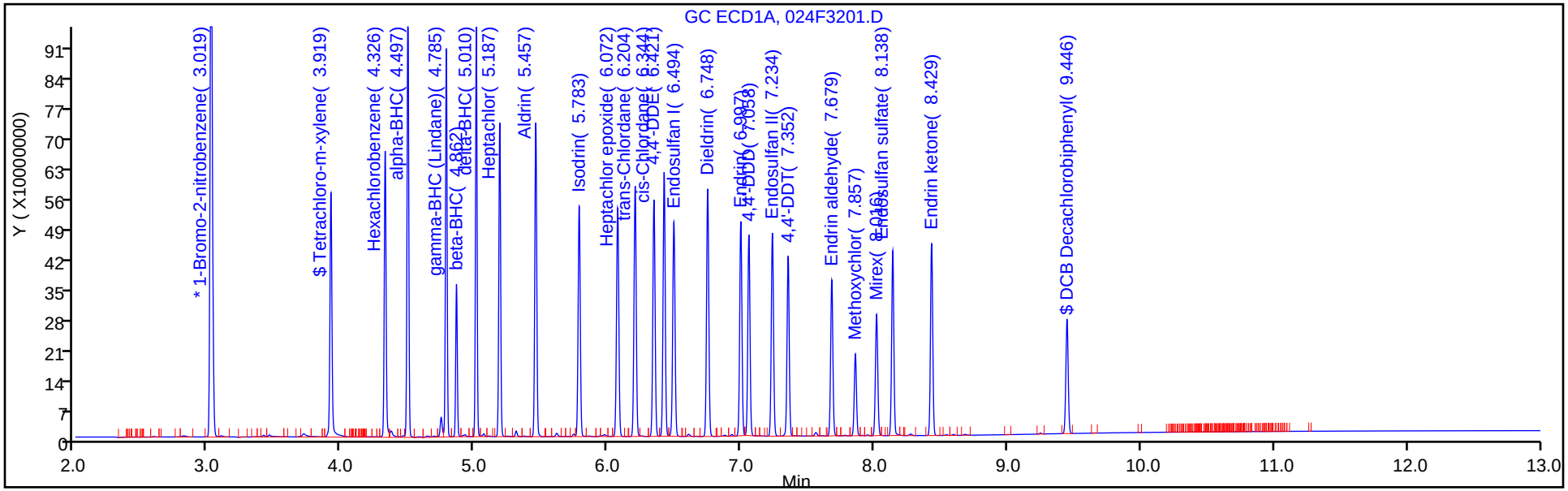
Report Date: 14-Oct-2018 22:11:55 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

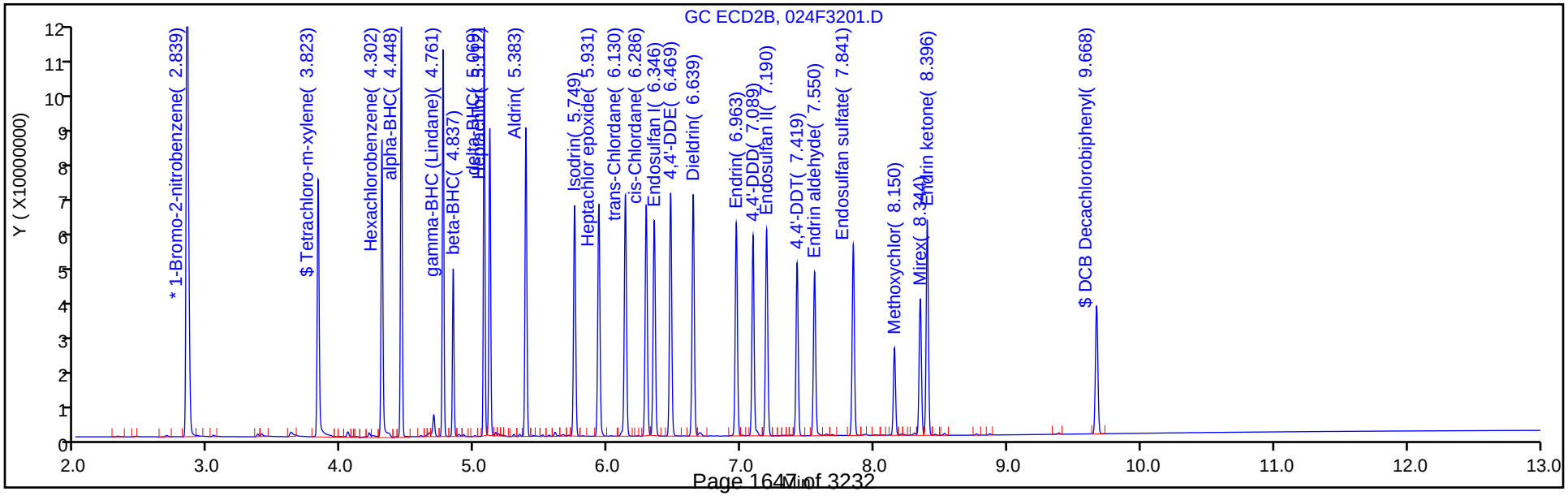
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\024F3201.D

Injection Date:	13-Oct-2018 19:57:23	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD4 AB			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\025F3301.D
Lims ID: STD3 AB
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Oct-2018 20:14:49 ALS Bottle#: 25 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD3
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:56 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:17:21

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						96.0	
2						100.5	
						RPD = 4.51	
* 2 1-Bromo-2-nitrobenzene							
1	3.020	3.019	0.001	1708743357	150.0	150.0	
2	2.839	2.839	0.000	189250238	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.919	3.919	0.000	302832702	25.0	24.3	
2	3.823	3.823	0.000	39633690	25.0	25.4	
						RPD = 4.54	
5 Hexachlorobenzene							
1	4.326	4.326	0.000	317851410	25.0	24.3	
2	4.301	4.302	-0.001	42722842	25.0	26.0	
						RPD = 6.71	
8 alpha-BHC							
1	4.497	4.497	0.000	449507972	25.0	24.0	
2	4.447	4.448	-0.001	52885133	25.0	25.1	
						RPD = 4.26	
9 gamma-BHC (Lindane)							
1	4.785	4.785	0.000	385635283	25.0	24.0	
2	4.761	4.761	0.000	45850109	25.0	25.1	
						RPD = 4.13	
10 beta-BHC							
1	4.862	4.862	0.000	150050051	25.0	23.9	
2	4.836	4.837	-0.001	19996794	25.0	25.3	
						RPD = 5.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.010	5.010	0.000	392697114	25.0	24.1	
2	5.069	5.069	0.000	46474767	25.0	25.1	
						RPD = 3.96	
15 Heptachlor							
1	5.187	5.187	0.000	349955154	25.0	24.6	
2	5.111	5.112	-0.001	40161455	25.0	25.3	
						RPD = 3.00	
16 Aldrin							
1	5.457	5.457	0.000	370973392	25.0	24.4	
2	5.383	5.383	0.000	42909032	25.0	25.1	
						RPD = 2.83	
18 Isodrin							
1	5.783	5.783	0.000	298789524	25.0	24.5	
2	5.748	5.749	-0.001	36890552	25.0	25.3	
						RPD = 3.01	
21 Heptachlor epoxide							
1	6.073	6.072	0.001	320747071	25.0	24.7	
2	5.930	5.931	-0.001	39660540	25.0	25.4	
						RPD = 2.64	
22 trans-Chlordane							
1	6.203	6.204	-0.001	335790425	25.0	24.2	
2	6.129	6.130	-0.001	41653596	25.0	25.5	
						RPD = 5.41	
23 cis-Chlordane							
1	6.344	6.344	0.000	321433079	25.0	24.2	
2	6.285	6.286	-0.001	39100281	25.0	25.2	
						RPD = 4.13	
24 4,4'-DDE							
1	6.421	6.421	0.000	340651862	25.0	24.5	
2	6.469	6.469	0.000	40427222	25.0	25.2	
						RPD = 3.05	
25 Endosulfan I							
1	6.494	6.494	0.000	304465713	25.0	24.8	
2	6.346	6.346	0.000	37660075	25.0	25.5	
						RPD = 2.80	
27 Dieldrin							
1	6.748	6.748	0.000	335595524	25.0	24.7	
2	6.638	6.639	-0.001	40874216	25.0	25.3	
						RPD = 2.54	
30 Endrin							
1	6.997	6.997	0.000	288123020	25.0	24.5	
2	6.963	6.963	0.000	35861993	25.0	25.2	
						RPD = 2.96	
32 4,4'-DDD							
1	7.058	7.058	0.000	259223669	25.0	24.0	
2	7.088	7.089	-0.001	32918226	25.0	25.2	
						RPD = 4.95	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.233	7.234	-0.001	273685389	25.0	24.6	
2	7.190	7.190	0.000	35501572	25.0	25.5	
						RPD = 3.40	
35 4,4'-DDT							
1	7.352	7.352	0.000	228369137	25.0	23.8	
2	7.419	7.419	0.000	27647840	25.0	24.6	
						RPD = 3.42	
36 Endrin aldehyde							
1	7.679	7.679	0.000	206854248	25.0	24.3	
2	7.550	7.550	0.000	28263198	25.0	25.3	
						RPD = 4.30	
37 Methoxychlor							
1	7.856	7.857	-0.001	108979408	25.0	24.5	
2	8.150	8.150	0.000	14155118	25.0	25.3	
						RPD = 3.13	
38 Mirex							
1	8.015	8.016	-0.001	172426127	25.0	24.2	
2	8.344	8.344	0.000	24325156	25.0	25.6	
						RPD = 5.67	
39 Endosulfan sulfate							
1	8.137	8.138	-0.001	238398480	25.0	24.3	
2	7.841	7.841	0.000	32381376	25.0	25.4	
						RPD = 4.66	
40 Endrin ketone							
1	8.429	8.429	0.000	252349419	25.0	24.4	
2	8.396	8.396	0.000	35593065	25.0	25.4	
						RPD = 4.25	
$ 41 DCB Decachlorobiphenyl							
1	9.445	9.446	-0.001	159322167	25.0	24.5	
2	9.668	9.668	0.000	23709545	25.0	25.6	
						RPD = 4.30	
S 3 Endosulfan, Total							
1						73.7	
2						76.4	
						RPD = 3.61	

Reagents:

8081IcalL3_00028	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

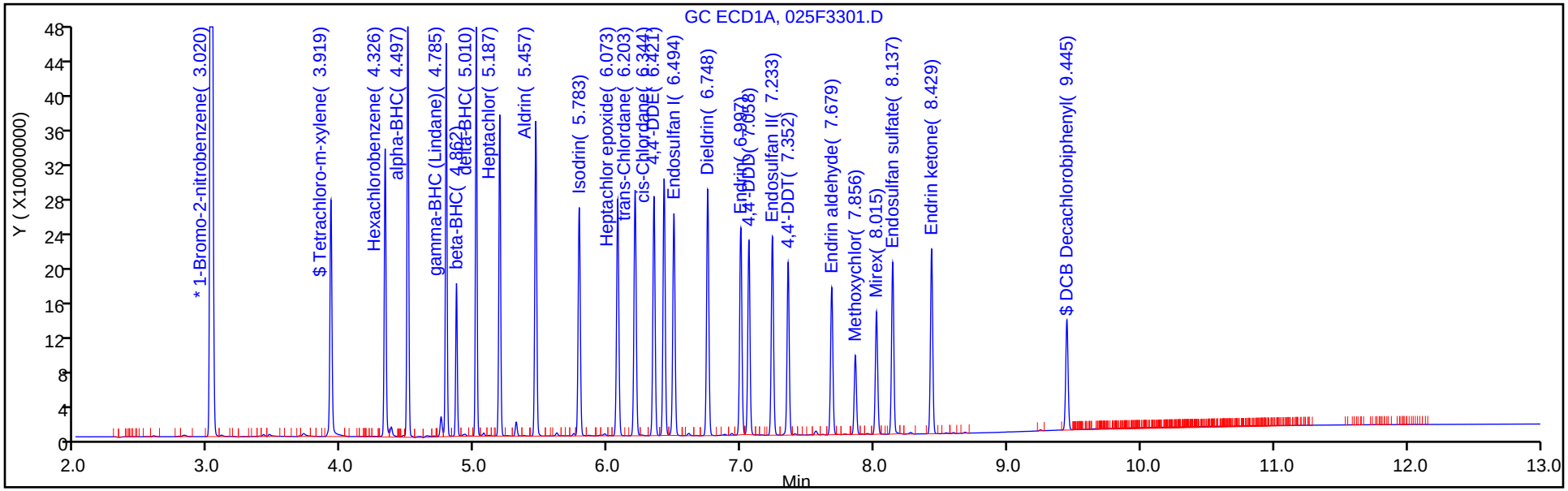
Report Date: 14-Oct-2018 22:11:58 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

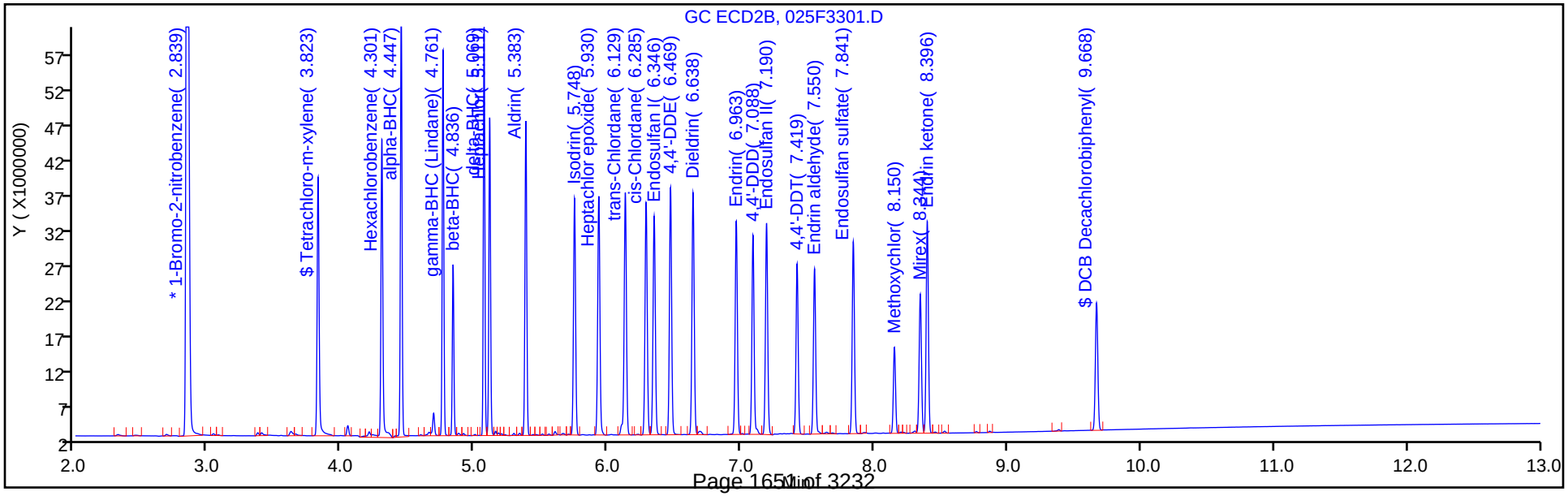
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\025F3301.D

Injection Date:	13-Oct-2018 20:14:49	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD3 AB			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\026F3401.D
Lims ID: STD2 AB
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Oct-2018 20:32:15 ALS Bottle#: 26 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD2
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:17:42

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						38.6	
2						40.9	
						RPD = 5.94	
* 2 1-Bromo-2-nitrobenzene							
1	3.020	3.019	0.001	1728425275	150.0	150.0	
2	2.839	2.839	0.000	187345459	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.918	3.919	-0.001	119672981	10.0	9.74	
2	3.822	3.823	-0.001	16477394	10.0	10.3	
						RPD = 5.80	
5 Hexachlorobenzene							
1	4.325	4.326	-0.001	126156548	10.0	9.73	
2	4.301	4.302	-0.001	17019247	10.0	10.1	
						RPD = 4.06	
8 alpha-BHC							
1	4.496	4.497	-0.001	174586944	10.0	9.64	
2	4.446	4.448	-0.002	21525266	10.0	10.1	
						RPD = 4.69	
9 gamma-BHC (Lindane)							
1	4.784	4.785	-0.001	150377013	10.0	9.57	
2	4.760	4.761	-0.001	18724325	10.0	10.2	
						RPD = 6.55	
10 beta-BHC							
1	4.861	4.862	-0.001	63756954	10.0	9.77	
2	4.836	4.837	-0.001	8495816	10.0	10.4	
						RPD = 6.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.010	5.010	0.000	151129545	10.0	9.56	
2	5.068	5.069	-0.001	18818212	10.0	10.2	
						RPD = 6.40	
15 Heptachlor							
1	5.186	5.187	-0.001	136220069	10.0	9.74	
2	5.111	5.112	-0.001	16505122	10.0	10.3	
						RPD = 5.70	
16 Aldrin							
1	5.456	5.457	-0.001	144846582	10.0	9.74	
2	5.382	5.383	-0.001	17731926	10.0	10.3	
						RPD = 5.89	
18 Isodrin							
1	5.783	5.783	0.000	117749615	10.0	9.72	
2	5.748	5.749	-0.001	15625487	10.0	10.5	
						RPD = 7.33	
21 Heptachlor epoxide							M
1	6.071	6.072	-0.001	126886425	10.0	9.83	
2	5.929	5.931	-0.002	16641254	10.0	10.4	M
						RPD = 5.98	
22 trans-Chlordane							
1	6.202	6.204	-0.002	129991480	10.0	9.51	
2	6.129	6.130	-0.001	16929113	10.0	10.3	
						RPD = 7.70	
23 cis-Chlordane							
1	6.344	6.344	0.000	126327949	10.0	9.68	
2	6.286	6.286	0.000	16380093	10.0	10.4	
						RPD = 7.07	
24 4,4'-DDE							
1	6.420	6.421	-0.001	131488025	10.0	9.65	
2	6.468	6.469	-0.001	16485248	10.0	10.3	
						RPD = 6.16	
25 Endosulfan I							
1	6.493	6.494	-0.001	120234528	10.0	9.81	
2	6.346	6.346	0.000	15849043	10.0	10.5	
						RPD = 6.40	
27 Dieldrin							
1	6.747	6.748	-0.001	131325618	10.0	9.76	
2	6.638	6.639	-0.001	16696805	10.0	10.3	
						RPD = 5.11	
30 Endrin							
1	6.996	6.997	-0.001	110965652	10.0	9.63	
2	6.962	6.963	-0.001	14572762	10.0	10.2	
						RPD = 6.20	
32 4,4'-DDD							
1	7.057	7.058	-0.001	100049743	10.0	9.44	
2	7.088	7.089	-0.001	13387732	10.0	10.2	
						RPD = 7.73	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.233	7.234	-0.001	107239359	10.0	9.69	
2	7.189	7.190	-0.001	14939909	10.0	10.4	
						RPD = 6.87	
35 4,4'-DDT							
1	7.352	7.352	0.000	86360678	10.0	9.37	
2	7.418	7.419	-0.001	11005760	10.0	9.98	
						RPD = 6.32	
36 Endrin aldehyde							
1	7.679	7.679	0.000	81761942	10.0	9.60	
2	7.550	7.550	0.000	11820141	10.0	10.3	
						RPD = 7.30	
37 Methoxychlor							
1	7.856	7.857	-0.001	43260093	10.0	9.68	
2	8.149	8.150	-0.001	5763013	10.0	10.2	
						RPD = 5.03	
38 Mirex							
1	8.015	8.016	-0.001	69898898	10.0	9.68	
2	8.343	8.344	-0.001	10513875	10.0	10.5	
						RPD = 8.20	
39 Endosulfan sulfate							
1	8.137	8.138	-0.001	93045319	10.0	9.55	
2	7.840	7.841	-0.001	13487473	10.0	10.3	
						RPD = 7.54	
40 Endrin ketone							
1	8.428	8.429	-0.001	97881347	10.0	9.50	
2	8.396	8.396	0.000	14668648	10.0	10.3	
						RPD = 7.65	
$ 41 DCB Decachlorobiphenyl							
1	9.443	9.446	-0.003	63321098	10.0	9.53	
2	9.668	9.668	0.000	10078459	10.0	10.4	
						RPD = 8.76	
S 3 Endosulfan, Total							
1						29.1	
2						31.1	
						RPD = 6.93	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

8081IcalL2_00025	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

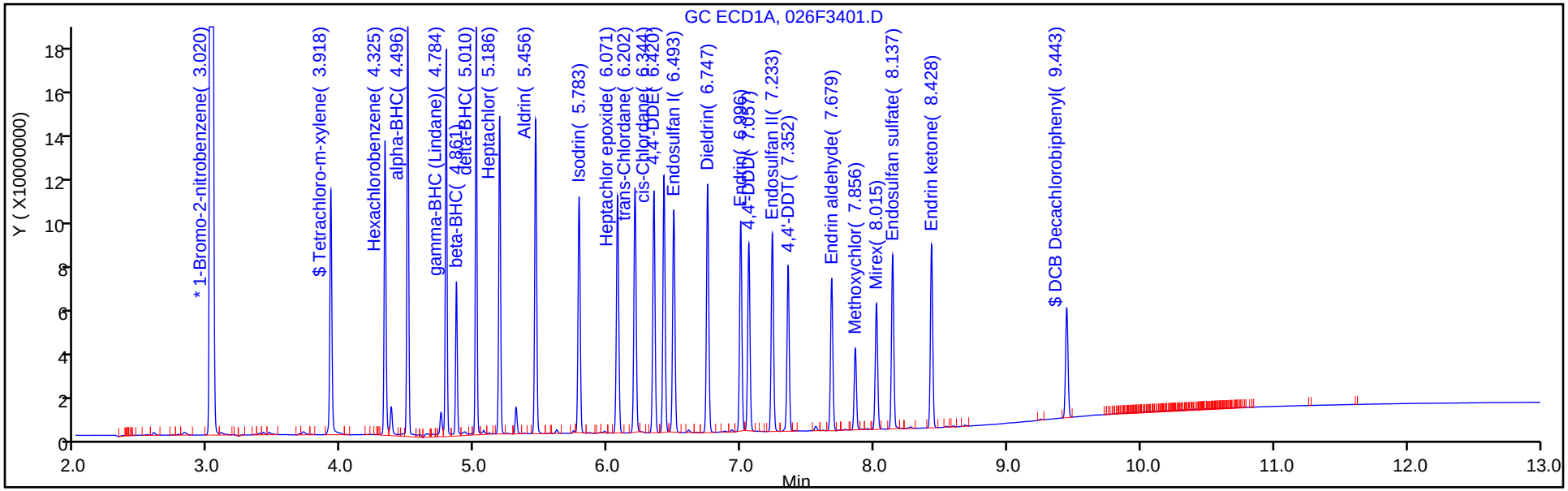
Report Date: 14-Oct-2018 22:12:01 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

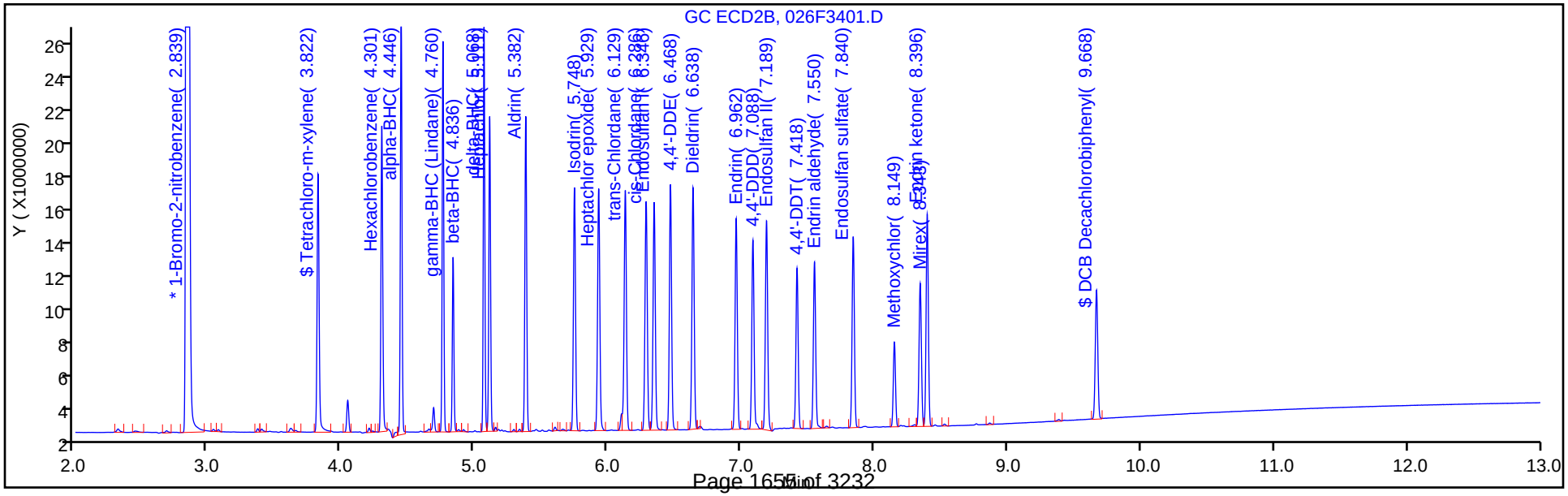
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\026F3401.D

Injection Date:	13-Oct-2018 20:32:15	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD2 AB			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D
Lims ID: STD1 AB
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 13-Oct-2018 20:49:46 ALS Bottle#: 27 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD1
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:04 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:19:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						16.3	
2						15.9	
						RPD = 2.72	
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.019	0.002	1645292180	150.0	150.0	
2	2.839	2.839	0.000	186440198	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.919	3.919	0.000	44633037	4.00	4.05	
2	3.823	3.823	0.000	6851543	4.00	3.94	
						RPD = 2.74	
5 Hexachlorobenzene							
1	4.326	4.326	0.000	47816993	4.00	4.05	
2	4.302	4.302	0.000	7168590	4.00	3.96	
						RPD = 2.34	
8 alpha-BHC							
1	4.497	4.497	0.000	62852215	4.00	4.07	
2	4.447	4.448	-0.001	8858523	4.00	3.98	
						RPD = 2.23	
9 gamma-BHC (Lindane)							
1	4.785	4.785	0.000	56481667	4.00	4.08	
2	4.761	4.761	0.000	7435354	4.00	3.97	
						RPD = 2.89	
10 beta-BHC							
1	4.862	4.862	0.000	26687989	4.00	4.06	
2	4.837	4.837	0.000	3576692	4.00	3.94	
						RPD = 2.98	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.010	5.010	0.000	55669358	4.00	4.08	
2	5.069	5.069	0.000	7424235	4.00	3.97	
						RPD = 2.79	
15 Heptachlor							
1	5.187	5.187	0.000	50118465	4.00	4.04	
2	5.112	5.112	0.000	6621110	4.00	3.95	
						RPD = 2.42	
16 Aldrin							
1	5.457	5.457	0.000	52919960	4.00	4.05	
2	5.383	5.383	0.000	7030048	4.00	3.95	
						RPD = 2.49	
18 Isodrin							
1	5.784	5.783	0.001	44705372	4.00	4.05	
2	5.748	5.749	-0.001	6366004	4.00	3.93	
						RPD = 3.06	
21 Heptachlor epoxide							
1	6.073	6.072	0.001	47553101	4.00	4.03	
2	5.930	5.931	-0.001	6762032	4.00	3.93	
						RPD = 2.56	
22 trans-Chlordane							
1	6.203	6.204	-0.001	49944652	4.00	4.09	
2	6.130	6.130	0.000	6819666	4.00	3.95	
						RPD = 3.42	
23 cis-Chlordane							
1	6.344	6.344	0.000	47100490	4.00	4.06	
2	6.286	6.286	0.000	6646251	4.00	3.94	
						RPD = 3.11	
24 4,4'-DDE							
1	6.421	6.421	0.000	48738148	4.00	4.06	
2	6.469	6.469	0.000	6542674	4.00	3.95	
						RPD = 2.61	
25 Endosulfan I							
1	6.494	6.494	0.000	45543940	4.00	4.03	
2	6.347	6.346	0.001	6507441	4.00	3.92	
						RPD = 2.71	
27 Dieldrin							
1	6.748	6.748	0.000	48904591	4.00	4.04	
2	6.638	6.639	-0.001	6664239	4.00	3.95	
						RPD = 2.17	
30 Endrin							
1	6.997	6.997	0.000	41251930	4.00	4.06	
2	6.963	6.963	0.000	5757882	4.00	3.96	
						RPD = 2.60	
32 4,4'-DDD							
1	7.058	7.058	0.000	38622027	4.00	4.10	
2	7.088	7.089	-0.001	5391187	4.00	3.96	
						RPD = 3.38	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.234	7.234	0.000	41034933	4.00	4.05	
2	7.191	7.190	0.001	6270548	4.00	3.93	
						RPD = 2.93	
35 4,4'-DDT							
1	7.352	7.352	0.000	31997998	4.00	4.11	
2	7.419	7.419	0.000	4302693	4.00	4.01	
						RPD = 2.63	
36 Endrin aldehyde							
1	7.678	7.679	-0.001	32150414	4.00	4.07	
2	7.551	7.550	0.001	4932964	4.00	3.94	
						RPD = 3.18	
37 Methoxychlor							
1	7.857	7.857	0.000	17004835	4.00	4.05	
2	8.150	8.150	0.000	2361021	4.00	3.96	
						RPD = 2.20	
38 Mirex							
1	8.016	8.016	0.000	28621709	4.00	4.16	
2	8.344	8.344	0.000	4546008	4.00	3.91	
						RPD = 6.31	
39 Endosulfan sulfate							
1	8.137	8.138	-0.001	36051087	4.00	4.08	
2	7.841	7.841	0.000	5646467	4.00	3.94	
						RPD = 3.30	
40 Endrin ketone							
1	8.429	8.429	0.000	38530653	4.00	4.08	
2	8.397	8.396	0.001	6086476	4.00	3.95	
						RPD = 3.26	
$ 41 DCB Decachlorobiphenyl							
1	9.446	9.446	0.000	26336210	4.00	4.07	
2	9.668	9.668	0.000	4339575	4.00	3.92	
						RPD = 3.76	
S 3 Endosulfan, Total							
1						12.1	
2						11.8	
						RPD = 2.98	

Reagents:

8081IcalL1_00025	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

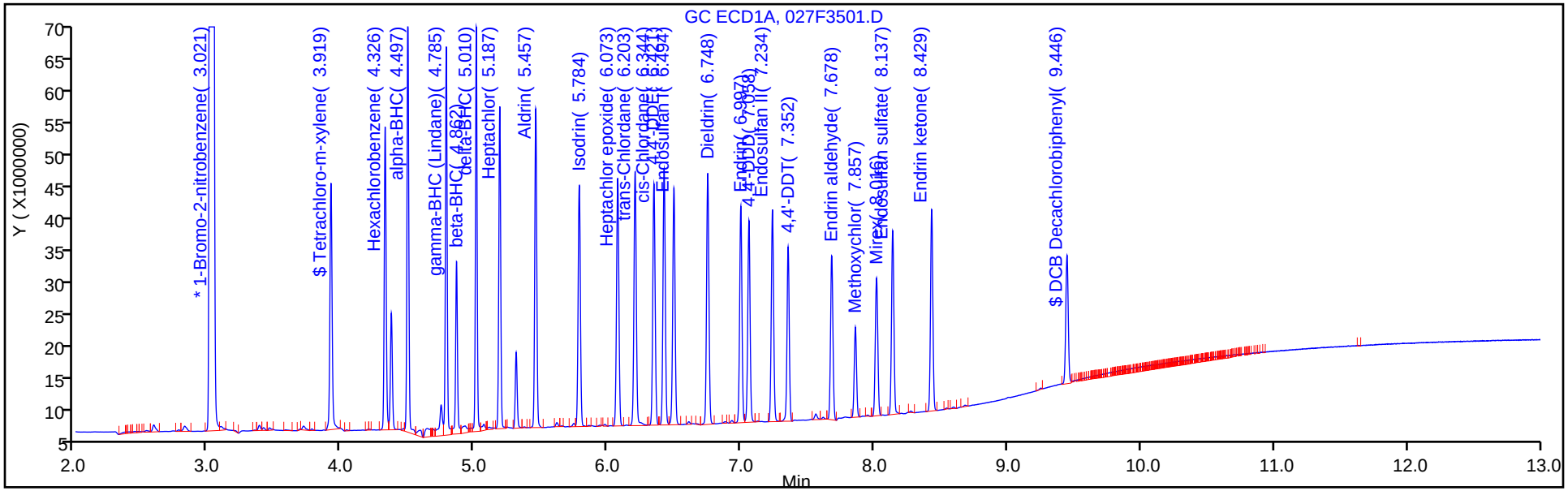
Report Date: 14-Oct-2018 22:12:06 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

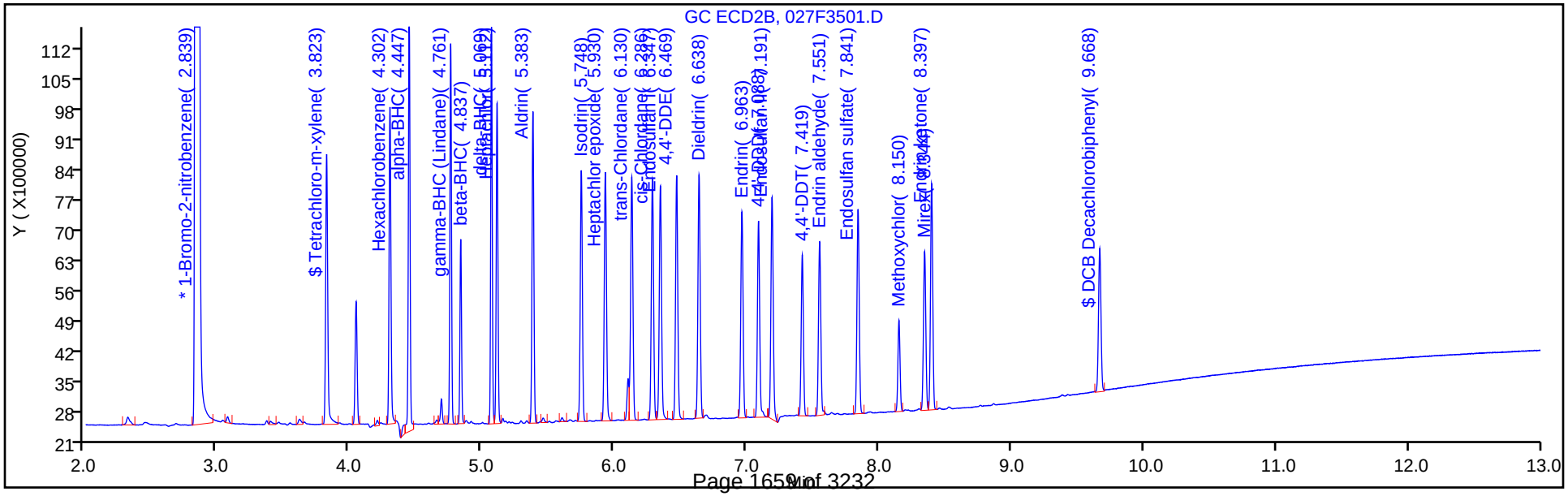
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Injection Date:	13-Oct-2018 20:49:46	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD1 AB			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33990

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/32	027F3501.D
Level 2	STD2 280-433303/31	026F3401.D
Level 3	STD3 280-433303/30	025F3301.D
Level 4	STD4 280-433303/29	024F3201.D
Level 5	STD5 280-433303/28	023F3101.D
Level 6	STD6 280-433303/27	022F3001.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Hexachlorobenzene	1.4419 1.2362	1.3627	1.3545	1.3365	1.2230	Lin2	0.7315	1.2729							0.9980		0.9900
alpha-BHC	1.7818 1.6386	1.7234	1.6767	1.6742	1.6508	Lin2	0.5521	1.6510							1.0000		0.9900
gamma-BHC (Lindane)	1.4955 1.4229	1.4992	1.4536	1.4509	1.4347	Lin2	0.2733	1.4397							1.0000		0.9900
beta-BHC	0.7194 0.5982	0.6802	0.6340	0.6219	0.6051	Lin2	0.4836	0.6082							0.9990		0.9900
delta-BHC	1.4933 1.4439	1.5067	1.4734	1.4737	1.4502	Lin2	0.1758	1.4608							1.0000		0.9900
Heptachlor	1.3317 1.2133	1.3215	1.2733	1.2481	1.2403	Lin2	0.4306	1.2403							0.9990		0.9900
Aldrin	1.4140 1.3163	1.4197	1.3604	1.3552	1.3269	Lin2	0.3719	1.3385							0.9990		0.9900
Heptachlor epoxide	1.3601 1.1794	1.3324	1.2574	1.2361	1.1960	Lin2	0.6880	1.2106							0.9990		0.9900
gamma-Chlordane	1.3717 1.2592	1.3554	1.3206	1.2919	1.2540	Lin2	0.4438	1.2767							0.9990		0.9900
alpha-Chlordane	1.3368 1.1851	1.3115	1.2396	1.2264	1.1870	Lin2	0.6085	1.2038							0.9990		0.9900
Endosulfan I	1.3089 1.1104	1.2690	1.1940	1.1684	1.1200	Lin2	0.7681	1.1397							0.9990		0.9900
4,4'-DDE	1.3160 1.2349	1.3199	1.2817	1.2894	1.2330	Lin2	0.2882	1.2583							0.9990		0.9900
Dieldrin	1.3404 1.2397	1.3368	1.2959	1.2966	1.2418	Lin2	0.3611	1.2658							0.9990		0.9900
Endrin	1.1581 1.0982	1.1668	1.1370	1.1418	1.1028	Lin2	0.2016	1.1195							0.9990		0.9900
4,4'-DDD	1.0844 1.0087	1.0719	1.0436	1.0533	0.9992	Lin2	0.2831	1.0231							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33990

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Endosulfan II	1.2612 1.0376	1.1962	1.1255	1.1283	1.0472	Lin2	0.8286	1.0728							0.9980		0.9900
4,4'-DDT	0.8654 0.8886	0.8812	0.8765	0.9102	0.8946	Lin2	-0.124	0.8951							1.0000		0.9900
Endrin aldehyde	0.9922 0.8405	0.9464	0.8961	0.8989	0.8424	Lin2	0.5740	0.8613							0.9990		0.9900
Endosulfan sulfate	1.1357 0.9578	1.0799	1.0266	1.0325	0.9589	Lin2	0.6631	0.9840							0.9990		0.9900
Methoxychlor	0.4749 0.4224	0.4614	0.4488	0.4555	0.4299	Lin2	0.1701	0.4365							0.9990		0.9900
Endrin ketone	1.2242 1.0490	1.1745	1.1284	1.1443	1.0541	Lin2	0.6163	1.0846							0.9980		0.9900
Tetrachloro-m-xylene	1.3781 1.1664	1.3193	1.2565	1.2668	1.1713	Lin2	0.7692	1.2042							0.9980		0.9900
DCB Decachlorobiphenyl	0.8728 0.6826	0.8069	0.7517	0.7551	0.6823	Lin2	0.7195	0.7066							0.9970		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33990

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/32	027F3501.D
Level 2	STD2 280-433303/31	026F3401.D
Level 3	STD3 280-433303/30	025F3301.D
Level 4	STD4 280-433303/29	024F3201.D
Level 5	STD5 280-433303/28	023F3101.D
Level 6	STD6 280-433303/27	022F3001.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Hexachlorobenzene	BNB	Lin2	7168590 160717643	17019247	42722842	82080999	120451736	4.00 100	10.0	25.0	50.0	75.0
alpha-BHC	BNB	Lin2	8858523 213039488	21525266	52885133	102825287	162579162	4.00 100	10.0	25.0	50.0	75.0
gamma-BHC (Lindane)	BNB	Lin2	7435354 184996515	18724325	45850109	89108339	141300627	4.00 100	10.0	25.0	50.0	75.0
beta-BHC	BNB	Lin2	3576692 77780555	8495816	19996794	38193156	59596054	4.00 100	10.0	25.0	50.0	75.0
delta-BHC	BNB	Lin2	7424235 187730350	18818212	46474767	90510020	142822500	4.00 100	10.0	25.0	50.0	75.0
Heptachlor	BNB	Lin2	6621110 157743006	16505122	40161455	76652553	122155556	4.00 100	10.0	25.0	50.0	75.0
Aldrin	BNB	Lin2	7030048 171135300	17731926	42909032	83229214	130679943	4.00 100	10.0	25.0	50.0	75.0
Heptachlor epoxide	BNB	Lin2	6762032 153345134	16641254	39660540	75919068	117794987	4.00 100	10.0	25.0	50.0	75.0
gamma-Chlordane	BNB	Lin2	6819666 163709394	16929113	41653596	79344564	123500639	4.00 100	10.0	25.0	50.0	75.0
alpha-Chlordane	BNB	Lin2	6646251 154077138	16380093	39100281	75318619	116906799	4.00 100	10.0	25.0	50.0	75.0
Endosulfan I	BNB	Lin2	6507441 144373306	15849043	37660075	71761841	110310449	4.00 100	10.0	25.0	50.0	75.0
4,4'-DDE	BNB	Lin2	6542674 160552956	16485248	40427222	79191054	121439906	4.00 100	10.0	25.0	50.0	75.0
Dieldrin	BNB	Lin2	6664239 161178584	16696805	40874216	79630835	122303746	4.00 100	10.0	25.0	50.0	75.0
Endrin	BNB	Lin2	5757882 142775347	14572762	35861993	70123187	108615513	4.00 100	10.0	25.0	50.0	75.0
4,4'-DDD	BNB	Lin2	5391187 131149227	13387732	32918226	64688838	98409444	4.00 100	10.0	25.0	50.0	75.0
Endosulfan II	BNB	Lin2	6270548 134900820	14939909	35501572	69296907	103131602	4.00 100	10.0	25.0	50.0	75.0

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33990

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
4,4'-DDT	BNB	Lin2	4302693 115525218	11005760	27647840	55899373	88104638	4.00 100	10.0	25.0	50.0	75.0
Endrin aldehyde	BNB	Lin2	4932964 109276534	11820141	28263198	55206907	82965198	4.00 100	10.0	25.0	50.0	75.0
Endosulfan sulfate	BNB	Lin2	5646467 124525276	13487473	32381376	63414174	94443160	4.00 100	10.0	25.0	50.0	75.0
Methoxychlor	BNB	Lin2	2361021 54922574	5763013	14155118	27972236	42337805	4.00 100	10.0	25.0	50.0	75.0
Endrin ketone	BNB	Lin2	6086476 136381981	14668648	35593065	70279476	103818155	4.00 100	10.0	25.0	50.0	75.0
Tetrachloro-m-xylene	BNB	Lin2	6851543 151651222	16477394	39633690	77802319	115355955	4.00 100	10.0	25.0	50.0	75.0
DCB Decachlorobiphenyl	BNB	Lin2	4339575 88747472	10078459	23709545	46374378	67193439	4.00 100	10.0	25.0	50.0	75.0

Curve Type Legend:
Lin2 = Linear 1/conc^2 ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\022F3001.D
Lims ID: STD6 AB
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Oct-2018 19:22:28 ALS Bottle#: 22 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD6 AB
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:46 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:21:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						413.9	
2						393.8	
						RPD = 4.96	
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.023	-0.002	1756870840	150.0	150.0	
2	2.840	2.842	-0.002	195021437	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.921	3.919	0.002	1317820866	100.0	101.7	
2	3.823	3.823	0.000	151651222	100.0	96.2	
						RPD = 5.52	
5 Hexachlorobenzene							
1	4.327	4.326	0.001	1380707359	100.0	101.9	
2	4.302	4.302	0.000	160717643	100.0	96.5	
						RPD = 5.38	
8 alpha-BHC							
1	4.498	4.497	0.001	2039469973	100.0	103.6	
2	4.447	4.448	-0.001	213039488	100.0	98.9	
						RPD = 4.64	
9 gamma-BHC (Lindane)							
1	4.787	4.785	0.002	1738294623	100.0	103.7	
2	4.762	4.761	0.001	184996515	100.0	98.6	
						RPD = 4.99	
10 beta-BHC							
1	4.863	4.862	0.001	658730126	100.0	103.3	
2	4.837	4.837	0.000	77780555	100.0	97.6	
						RPD = 5.72	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.012	5.010	0.002	1763800464	100.0	103.3	
2	5.070	5.069	0.001	187730350	100.0	98.7	
						RPD = 4.51	
15 Heptachlor							
1	5.188	5.187	0.001	1487484474	100.0	100.1	
2	5.112	5.112	0.000	157743006	100.0	97.5	
						RPD = 2.69	
16 Aldrin							
1	5.458	5.457	0.001	1603385174	100.0	101.1	
2	5.384	5.383	0.001	171135300	100.0	98.1	
						RPD = 3.03	
18 Isodrin							
1	5.785	5.783	0.002	1276942983	100.0	101.0	
2	5.749	5.749	0.000	144685541	100.0	97.8	
						RPD = 3.17	
21 Heptachlor epoxide							
1	6.073	6.072	0.001	1346353314	100.0	100.2	
2	5.932	5.931	0.001	153345134	100.0	96.9	
						RPD = 3.39	
22 trans-Chlordane							
1	6.204	6.204	0.000	1496975406	100.0	103.4	
2	6.131	6.130	0.001	163709394	100.0	98.3	
						RPD = 5.07	
23 cis-Chlordane							
1	6.346	6.344	0.002	1419377556	100.0	102.6	
2	6.287	6.286	0.001	154077138	100.0	97.9	
						RPD = 4.60	
24 4,4'-DDE							
1	6.422	6.421	0.001	1475769541	100.0	101.5	
2	6.470	6.469	0.001	160552956	100.0	97.9	
						RPD = 3.65	
25 Endosulfan I							
1	6.495	6.494	0.001	1268053177	100.0	99.9	
2	6.347	6.346	0.001	144373306	100.0	96.8	
						RPD = 3.18	
27 Dieldrin							
1	6.750	6.748	0.002	1418985077	100.0	100.4	
2	6.640	6.639	0.001	161178584	100.0	97.7	
						RPD = 2.73	
30 Endrin							
1	6.998	6.997	0.001	1249259754	100.0	101.6	
2	6.964	6.963	0.001	142775347	100.0	97.9	
						RPD = 3.71	
32 4,4'-DDD							
1	7.059	7.058	0.001	1180309263	100.0	104.8	
2	7.089	7.089	0.000	131149227	100.0	98.3	
						RPD = 6.34	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.235	7.234	0.001	1149629449	100.0	99.7	
2	7.191	7.190	0.001	134900820	100.0	95.9	
						RPD = 3.88	
35 4,4'-DDT							
1	7.353	7.352	0.001	1053113637	100.0	104.1	
2	7.420	7.419	0.001	115525218	100.0	99.4	
						RPD = 4.57	
36 Endrin aldehyde							
1	7.680	7.679	0.001	894620553	100.0	101.5	
2	7.551	7.550	0.001	109276534	100.0	96.9	
						RPD = 4.65	
37 Methoxychlor							
1	7.857	7.857	0.000	456885819	100.0	99.8	
2	8.151	8.150	0.001	54922574	100.0	96.4	
						RPD = 3.44	
38 Mirex							
1	8.017	8.016	0.001	761678556	100.0	103.8	
2	8.346	8.344	0.002	90852521	100.0	95.7	
						RPD = 8.10	
39 Endosulfan sulfate							
1	8.138	8.138	0.000	1039104153	100.0	101.8	
2	7.842	7.841	0.001	124525276	100.0	96.7	
						RPD = 5.17	
40 Endrin ketone							
1	8.431	8.429	0.002	1081196479	100.0	100.8	
2	8.398	8.396	0.002	136381981	100.0	96.1	
						RPD = 4.74	
$ 41 DCB Decachlorobiphenyl							
1	9.447	9.446	0.001	675825077	100.0	101.6	
2	9.669	9.668	0.001	88747472	100.0	95.6	
						RPD = 6.08	
S 3 Endosulfan, Total							
1						301.4	
2						289.4	
						RPD = 4.08	

Reagents:

8081IcalL6_00025	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

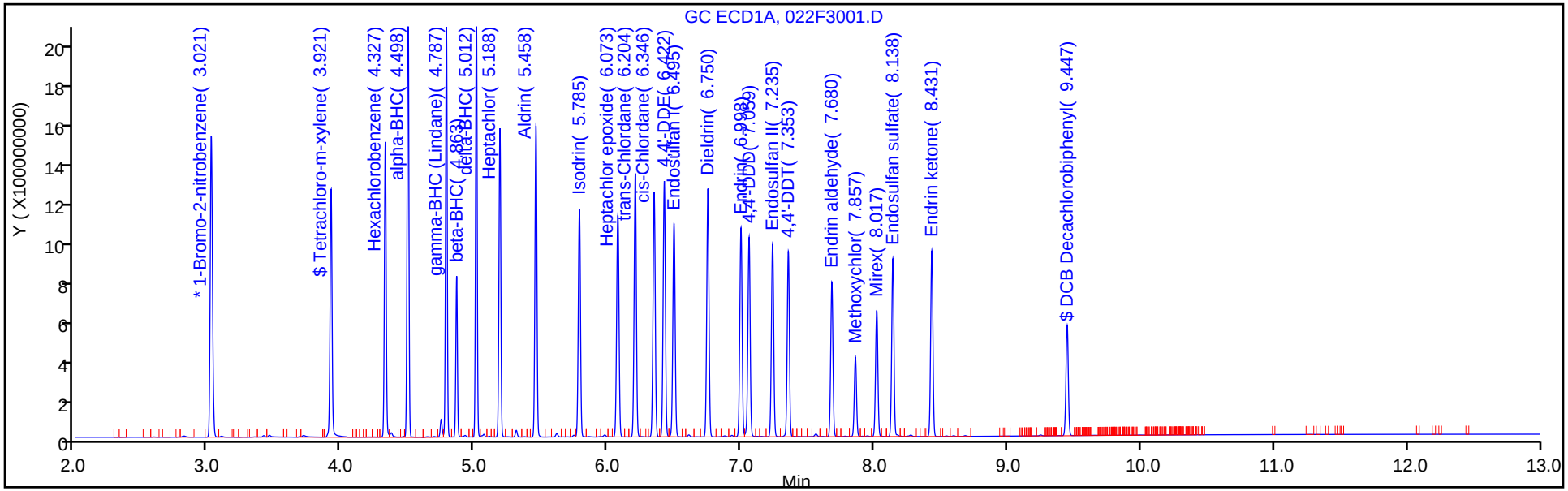
Report Date: 14-Oct-2018 22:11:48 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

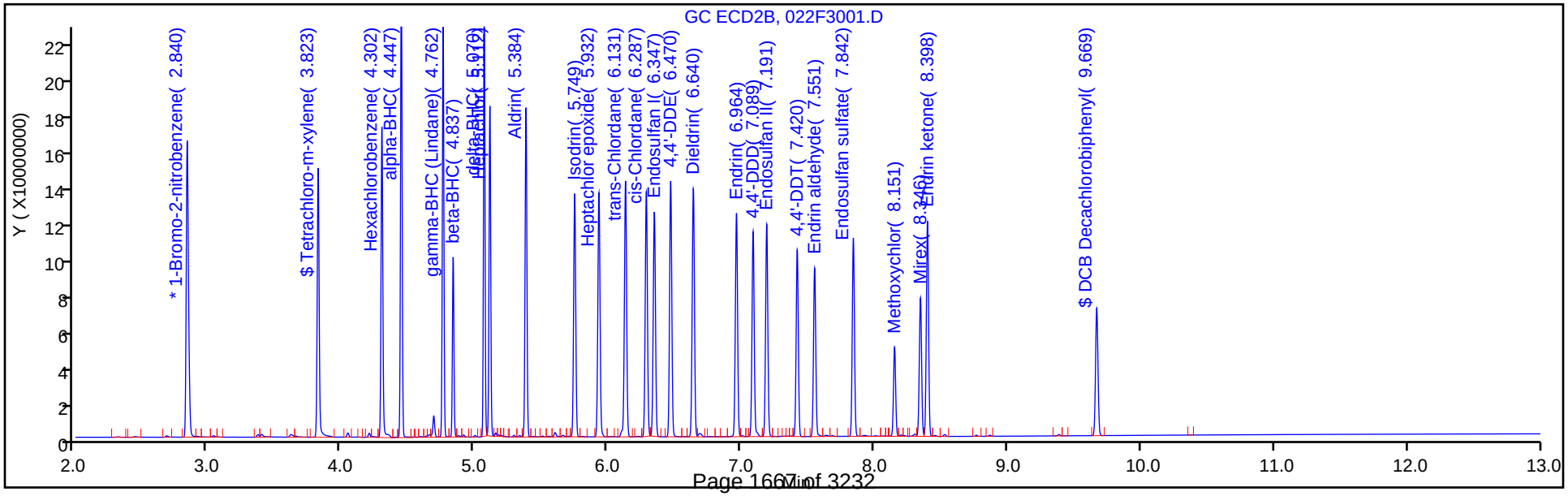
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\022F3001.D

Injection Date:	13-Oct-2018 19:22:28	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD6 AB			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\023F3101.D
Lims ID: STD5 AB
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Oct-2018 19:39:58 ALS Bottle#: 23 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD5
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:49 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						305.3	
2						297.4	
						RPD = 2.65	
* 2 1-Bromo-2-nitrobenzene							
1	3.020	3.023	-0.002	1774800139	150.0	150.0	
2	2.840	2.842	-0.002	196975139	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.920	3.919	0.001	974117175	75.0	74.5	
2	3.823	3.823	0.000	115355955	75.0	72.3	
						RPD = 2.99	
5 Hexachlorobenzene							
1	4.328	4.326	0.002	1019295562	75.0	74.5	
2	4.302	4.302	0.000	120451736	75.0	71.5	
						RPD = 4.17	
8 alpha-BHC							
1	4.498	4.497	0.001	1515867171	75.0	76.4	
2	4.448	4.448	0.000	162579162	75.0	74.7	
						RPD = 2.33	
9 gamma-BHC (Lindane)							
1	4.786	4.785	0.001	1292559350	75.0	76.5	
2	4.761	4.761	0.000	141300627	75.0	74.5	
						RPD = 2.52	
10 beta-BHC							
1	4.862	4.862	0.000	492255043	75.0	76.3	
2	4.837	4.837	0.000	59596054	75.0	73.8	
						RPD = 3.31	
12 delta-BHC							
1	5.011	5.010	0.001	1311307456	75.0	76.2	
2	5.070	5.069	0.001	142822500	75.0	74.3	
						RPD = 2.45	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.188	5.187	0.001	1142416982	75.0	76.2	
2	5.113	5.112	0.001	122155556	75.0	74.7	
						RPD = 2.10	
16 Aldrin							
1	5.458	5.457	0.001	1208042264	75.0	75.5	
2	5.384	5.383	0.001	130679943	75.0	74.1	
						RPD = 1.93	
18 Isodrin							
1	5.785	5.783	0.002	961672330	75.0	75.3	
2	5.750	5.749	0.001	109763292	75.0	73.3	
						RPD = 2.72	
21 Heptachlor epoxide							
1	6.074	6.072	0.002	1017236841	75.0	75.0	
2	5.932	5.931	0.001	117794987	75.0	73.5	
						RPD = 1.98	
22 trans-Chlordane							
1	6.205	6.204	0.001	1109387779	75.0	76.0	
2	6.131	6.130	0.001	123500639	75.0	73.3	
						RPD = 3.54	
23 cis-Chlordane							
1	6.346	6.344	0.002	1055599184	75.0	75.6	
2	6.288	6.286	0.002	116906799	75.0	73.4	
						RPD = 2.90	
24 4,4'-DDE							
1	6.422	6.421	0.001	1097991084	75.0	74.9	
2	6.470	6.469	0.001	121439906	75.0	73.3	
						RPD = 2.23	
25 Endosulfan I							
1	6.495	6.494	0.001	954735604	75.0	74.5	
2	6.348	6.346	0.002	110310449	75.0	73.0	
						RPD = 1.99	
27 Dieldrin							
1	6.750	6.748	0.002	1064216521	75.0	74.6	
2	6.640	6.639	0.001	122303746	75.0	73.3	
						RPD = 1.77	
30 Endrin							
1	6.998	6.997	0.001	929144470	75.0	74.9	
2	6.965	6.963	0.002	108615513	75.0	73.7	
						RPD = 1.66	
32 4,4'-DDD							
1	7.059	7.058	0.001	848012397	75.0	74.6	
2	7.090	7.089	0.001	98409444	75.0	73.0	
						RPD = 2.25	
34 Endosulfan II							
1	7.235	7.234	0.001	862538061	75.0	74.1	
2	7.191	7.190	0.001	103131602	75.0	72.4	
						RPD = 2.33	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1	7.353	7.352	0.001	778459968	75.0	76.4	
2	7.420	7.419	0.001	88104638	75.0	75.1	
						RPD = 1.66	
36 Endrin aldehyde							
1	7.680	7.679	0.001	665966546	75.0	74.9	
2	7.551	7.550	0.001	82965198	75.0	72.7	
						RPD = 2.96	
37 Methoxychlor							
1	7.857	7.857	0.000	345420332	75.0	74.7	
2	8.151	8.150	0.001	42337805	75.0	73.5	
						RPD = 1.63	
38 Mirex							
1	8.016	8.016	0.000	537010702	75.0	72.4	
2	8.345	8.344	0.001	69265800	75.0	71.9	
						RPD = 0.66	
39 Endosulfan sulfate							
1	8.138	8.138	0.000	767321325	75.0	74.5	
2	7.843	7.841	0.002	94443160	75.0	72.4	
						RPD = 2.83	
40 Endrin ketone							
1	8.430	8.429	0.001	802034011	75.0	74.1	
2	8.398	8.396	0.002	103818155	75.0	72.3	
						RPD = 2.42	
$ 41 DCB Decachlorobiphenyl							
1	9.446	9.446	0.000	494311523	75.0	73.5	
2	9.669	9.668	0.001	67193439	75.0	71.4	
						RPD = 2.91	
S 3 Endosulfan, Total							
1						223.1	
2						217.9	
						RPD = 2.38	

Reagents:

8081IcalL5_00026	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

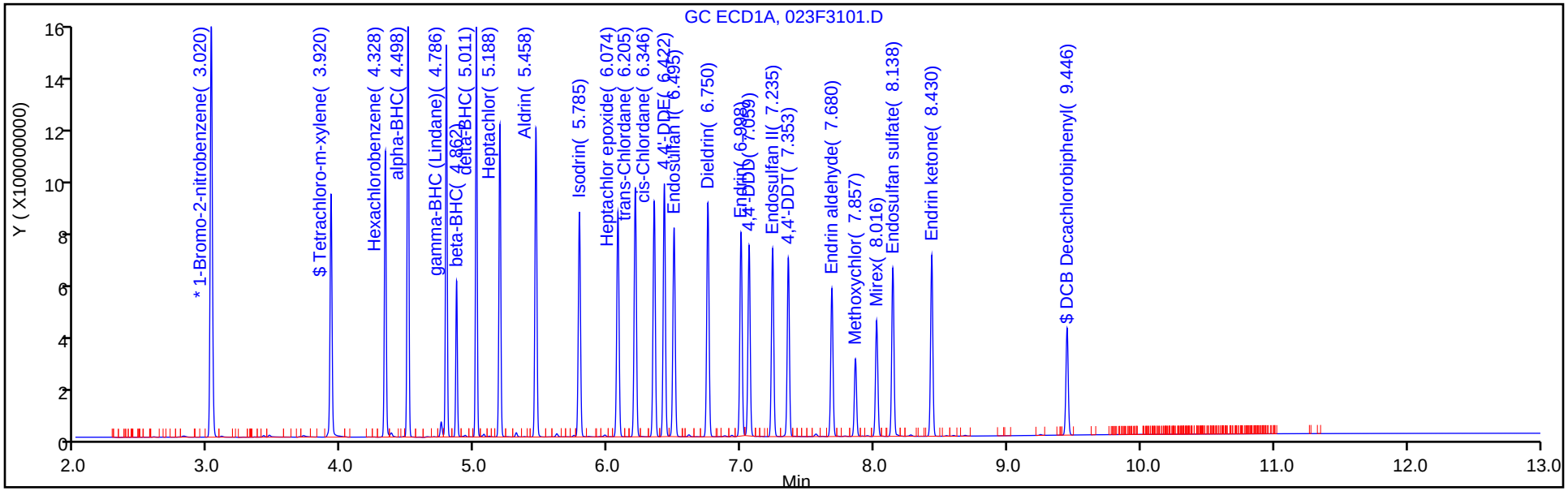
Report Date: 14-Oct-2018 22:11:52 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

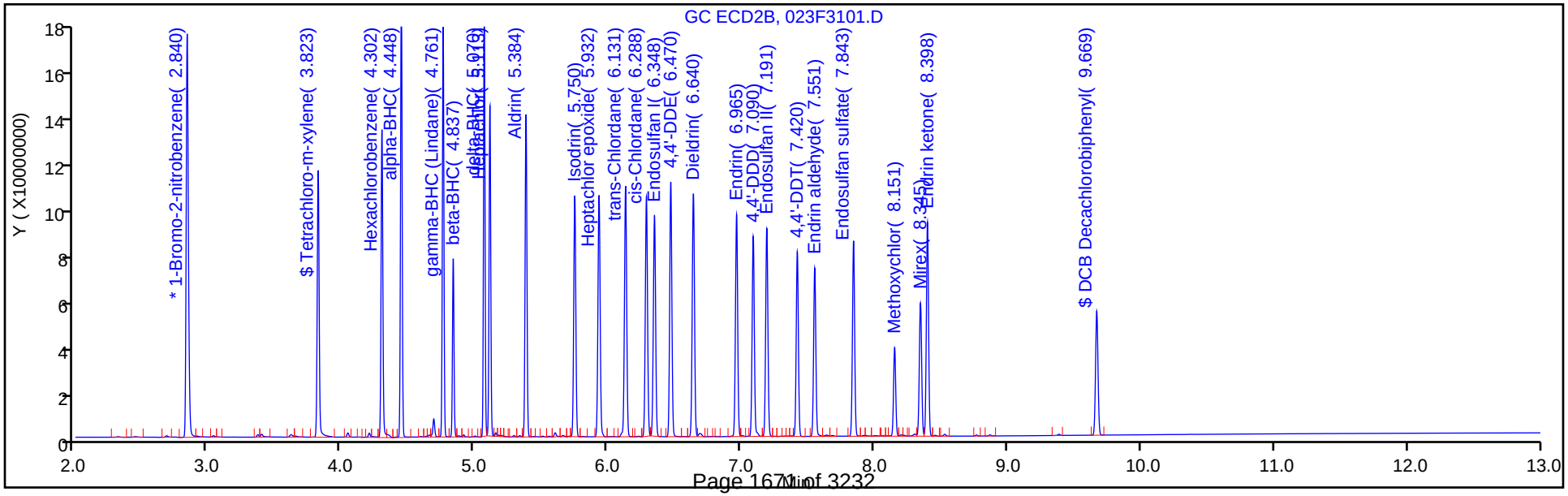
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\023F3101.D

Injection Date:	13-Oct-2018 19:39:58	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD5 AB			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\024F3201.D
Lims ID: STD4 AB
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 13-Oct-2018 19:57:23 ALS Bottle#: 24 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD4
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:53 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:15:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.019	3.019	0.000	1639866372	150.0	150.0	
2	2.839	2.839	0.000	184249474	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.919	3.919	0.000	621494359	50.0	51.6	
2	3.823	3.823	0.000	77802319	50.0	52.0	
						RPD = 0.76	
5 Hexachlorobenzene							
1	4.326	4.326	0.000	649000706	50.0	51.4	
2	4.302	4.302	0.000	82080999	50.0	51.9	
						RPD = 0.91	
8 alpha-BHC							
1	4.497	4.497	0.000	914630685	50.0	50.1	
2	4.448	4.448	0.000	102825287	50.0	50.4	
						RPD = 0.46	
9 gamma-BHC (Lindane)							
1	4.785	4.785	0.000	781888254	50.0	50.2	
2	4.761	4.761	0.000	89108339	50.0	50.2	
						RPD = 0.06	
10 beta-BHC							
1	4.862	4.862	0.000	300049327	50.0	50.2	
2	4.837	4.837	0.000	38193156	50.0	50.3	
						RPD = 0.27	
12 delta-BHC							
1	5.010	5.010	0.000	800211131	50.0	50.5	
2	5.069	5.069	0.000	90510020	50.0	50.3	
						RPD = 0.39	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.187	5.187	0.000	700142171	50.0	50.7	
2	5.112	5.112	0.000	76652553	50.0	50.0	
						RPD = 1.50	
16 Aldrin							
1	5.457	5.457	0.000	751162048	50.0	51.0	
2	5.383	5.383	0.000	83229214	50.0	50.3	
						RPD = 1.26	
18 Isodrin							
1	5.783	5.783	0.000	601057788	50.0	51.1	
2	5.749	5.749	0.000	70720524	50.0	50.3	
						RPD = 1.47	
21 Heptachlor epoxide							
1	6.072	6.072	0.000	637075296	50.0	50.9	
2	5.931	5.931	0.000	75919068	50.0	50.5	
						RPD = 0.86	
22 trans-Chlordane							
1	6.204	6.204	0.000	682439750	50.0	50.7	
2	6.130	6.130	0.000	79344564	50.0	50.2	
						RPD = 0.91	
23 cis-Chlordane							
1	6.344	6.344	0.000	652320568	50.0	50.7	
2	6.286	6.286	0.000	75318619	50.0	50.4	
						RPD = 0.57	
24 4,4'-DDE							
1	6.421	6.421	0.000	693292530	50.0	51.4	
2	6.469	6.469	0.000	79191054	50.0	51.0	
						RPD = 0.68	
25 Endosulfan I							
1	6.494	6.494	0.000	607276774	50.0	51.4	
2	6.346	6.346	0.000	71761841	50.0	50.6	
						RPD = 1.49	
27 Dieldrin							
1	6.748	6.748	0.000	676681392	50.0	51.4	
2	6.639	6.639	0.000	79630835	50.0	50.9	
						RPD = 1.01	
30 Endrin							
1	6.997	6.997	0.000	586918822	50.0	51.4	
2	6.963	6.963	0.000	70123187	50.0	50.8	
						RPD = 1.13	
32 4,4'-DDD							
1	7.058	7.058	0.000	538092520	50.0	51.4	
2	7.089	7.089	0.000	64688838	50.0	51.2	
						RPD = 0.39	
34 Endosulfan II							
1	7.234	7.234	0.000	563151672	50.0	52.5	
2	7.190	7.190	0.000	69296907	50.0	51.8	
						RPD = 1.25	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1	7.352	7.352	0.000	479927441	50.0	51.2	
2	7.419	7.419	0.000	55899373	50.0	51.0	
						RPD = 0.42	
36 Endrin aldehyde							
1	7.679	7.679	0.000	426357889	50.0	51.9	
2	7.550	7.550	0.000	55206907	50.0	51.5	
						RPD = 0.80	
37 Methoxychlor							
1	7.857	7.857	0.000	223151920	50.0	52.2	
2	8.150	8.150	0.000	27972236	50.0	51.8	
						RPD = 0.89	
38 Mirex							
1	8.016	8.016	0.000	349932979	50.0	51.1	
2	8.344	8.344	0.000	46808816	50.0	51.7	
						RPD = 1.13	
39 Endosulfan sulfate							
1	8.138	8.138	0.000	496366994	50.0	52.2	
2	7.841	7.841	0.000	63414174	50.0	51.8	
						RPD = 0.87	
40 Endrin ketone							
1	8.429	8.429	0.000	528619675	50.0	52.9	
2	8.396	8.396	0.000	70279476	50.0	52.2	
						RPD = 1.42	
$ 41 DCB Decachlorobiphenyl							
1	9.446	9.446	0.000	327463502	50.0	52.7	
2	9.668	9.668	0.000	46374378	50.0	52.4	
						RPD = 0.46	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

Report Date: 14-Oct-2018 22:11:55 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\024F3201.D

Injection Date: 13-Oct-2018 19:57:23 Instrument ID: SGC_P2 Operator ID: TEM

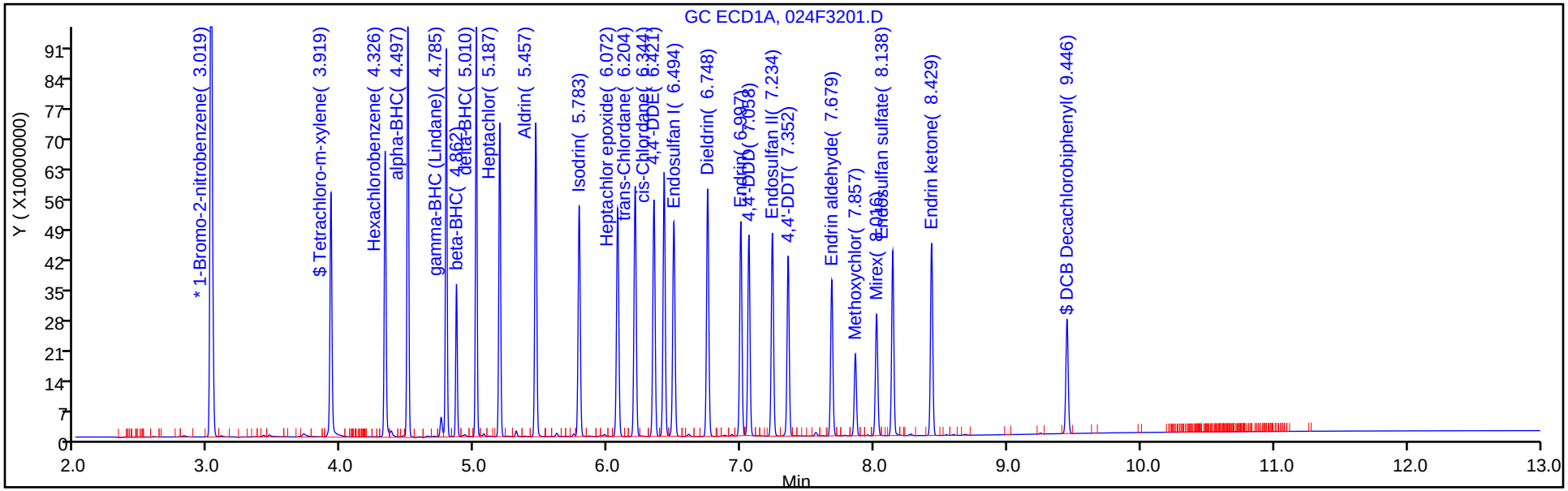
Lims ID: STD4 AB Worklist Smp#: 29

Client ID:

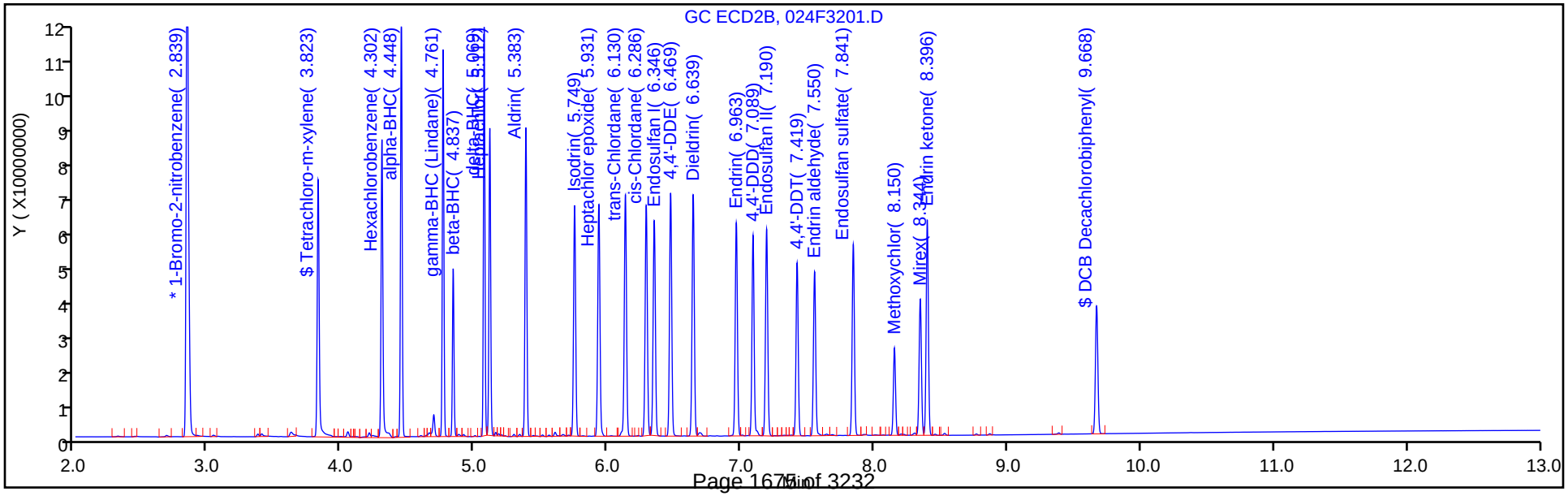
Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 24

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\025F3301.D
Lims ID: STD3 AB
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Oct-2018 20:14:49 ALS Bottle#: 25 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD3
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:56 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:17:21

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						96.0	
2						100.5	
						RPD = 4.51	
* 2 1-Bromo-2-nitrobenzene							
1	3.020	3.019	0.001	1708743357	150.0	150.0	
2	2.839	2.839	0.000	189250238	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.919	3.919	0.000	302832702	25.0	24.3	
2	3.823	3.823	0.000	39633690	25.0	25.4	
						RPD = 4.54	
5 Hexachlorobenzene							
1	4.326	4.326	0.000	317851410	25.0	24.3	
2	4.301	4.302	-0.001	42722842	25.0	26.0	
						RPD = 6.71	
8 alpha-BHC							
1	4.497	4.497	0.000	449507972	25.0	24.0	
2	4.447	4.448	-0.001	52885133	25.0	25.1	
						RPD = 4.26	
9 gamma-BHC (Lindane)							
1	4.785	4.785	0.000	385635283	25.0	24.0	
2	4.761	4.761	0.000	45850109	25.0	25.1	
						RPD = 4.13	
10 beta-BHC							
1	4.862	4.862	0.000	150050051	25.0	23.9	
2	4.836	4.837	-0.001	19996794	25.0	25.3	
						RPD = 5.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.010	5.010	0.000	392697114	25.0	24.1	
2	5.069	5.069	0.000	46474767	25.0	25.1	
						RPD = 3.96	
15 Heptachlor							
1	5.187	5.187	0.000	349955154	25.0	24.6	
2	5.111	5.112	-0.001	40161455	25.0	25.3	
						RPD = 3.00	
16 Aldrin							
1	5.457	5.457	0.000	370973392	25.0	24.4	
2	5.383	5.383	0.000	42909032	25.0	25.1	
						RPD = 2.83	
18 Isodrin							
1	5.783	5.783	0.000	298789524	25.0	24.5	
2	5.748	5.749	-0.001	36890552	25.0	25.3	
						RPD = 3.01	
21 Heptachlor epoxide							
1	6.073	6.072	0.001	320747071	25.0	24.7	
2	5.930	5.931	-0.001	39660540	25.0	25.4	
						RPD = 2.64	
22 trans-Chlordane							
1	6.203	6.204	-0.001	335790425	25.0	24.2	
2	6.129	6.130	-0.001	41653596	25.0	25.5	
						RPD = 5.41	
23 cis-Chlordane							
1	6.344	6.344	0.000	321433079	25.0	24.2	
2	6.285	6.286	-0.001	39100281	25.0	25.2	
						RPD = 4.13	
24 4,4'-DDE							
1	6.421	6.421	0.000	340651862	25.0	24.5	
2	6.469	6.469	0.000	40427222	25.0	25.2	
						RPD = 3.05	
25 Endosulfan I							
1	6.494	6.494	0.000	304465713	25.0	24.8	
2	6.346	6.346	0.000	37660075	25.0	25.5	
						RPD = 2.80	
27 Dieldrin							
1	6.748	6.748	0.000	335595524	25.0	24.7	
2	6.638	6.639	-0.001	40874216	25.0	25.3	
						RPD = 2.54	
30 Endrin							
1	6.997	6.997	0.000	288123020	25.0	24.5	
2	6.963	6.963	0.000	35861993	25.0	25.2	
						RPD = 2.96	
32 4,4'-DDD							
1	7.058	7.058	0.000	259223669	25.0	24.0	
2	7.088	7.089	-0.001	32918226	25.0	25.2	
						RPD = 4.95	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.233	7.234	-0.001	273685389	25.0	24.6	
2	7.190	7.190	0.000	35501572	25.0	25.5	
						RPD = 3.40	
35 4,4'-DDT							
1	7.352	7.352	0.000	228369137	25.0	23.8	
2	7.419	7.419	0.000	27647840	25.0	24.6	
						RPD = 3.42	
36 Endrin aldehyde							
1	7.679	7.679	0.000	206854248	25.0	24.3	
2	7.550	7.550	0.000	28263198	25.0	25.3	
						RPD = 4.30	
37 Methoxychlor							
1	7.856	7.857	-0.001	108979408	25.0	24.5	
2	8.150	8.150	0.000	14155118	25.0	25.3	
						RPD = 3.13	
38 Mirex							
1	8.015	8.016	-0.001	172426127	25.0	24.2	
2	8.344	8.344	0.000	24325156	25.0	25.6	
						RPD = 5.67	
39 Endosulfan sulfate							
1	8.137	8.138	-0.001	238398480	25.0	24.3	
2	7.841	7.841	0.000	32381376	25.0	25.4	
						RPD = 4.66	
40 Endrin ketone							
1	8.429	8.429	0.000	252349419	25.0	24.4	
2	8.396	8.396	0.000	35593065	25.0	25.4	
						RPD = 4.25	
$ 41 DCB Decachlorobiphenyl							
1	9.445	9.446	-0.001	159322167	25.0	24.5	
2	9.668	9.668	0.000	23709545	25.0	25.6	
						RPD = 4.30	
S 3 Endosulfan, Total							
1						73.7	
2						76.4	
						RPD = 3.61	

Reagents:

8081IcalL3_00028	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

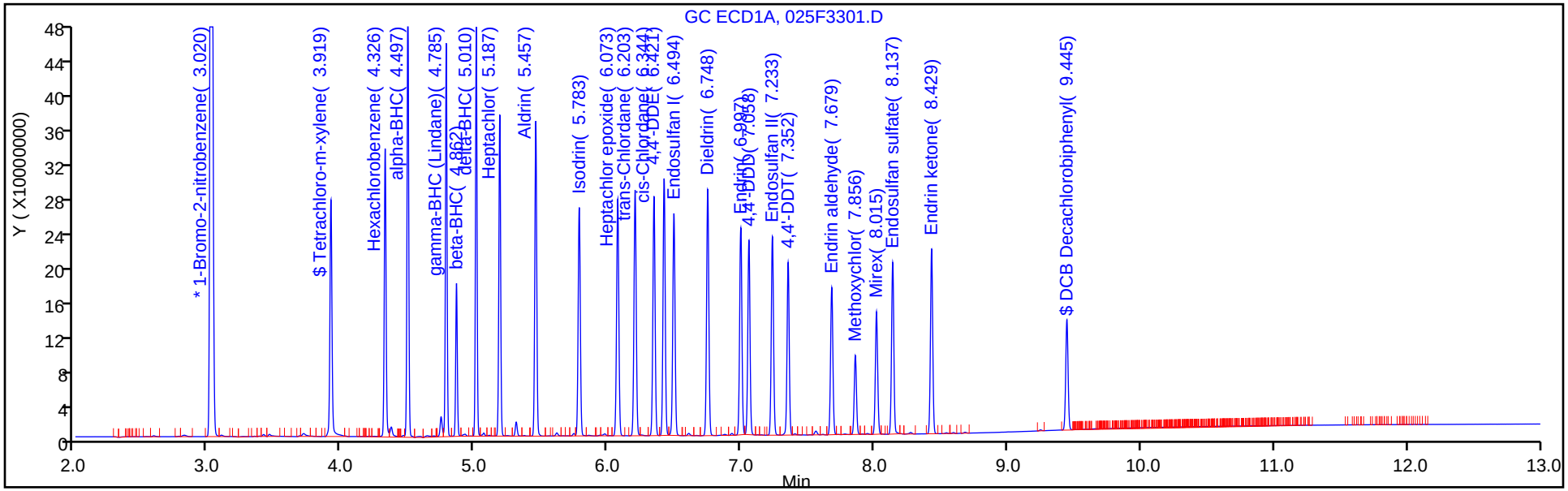
Report Date: 14-Oct-2018 22:11:59 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

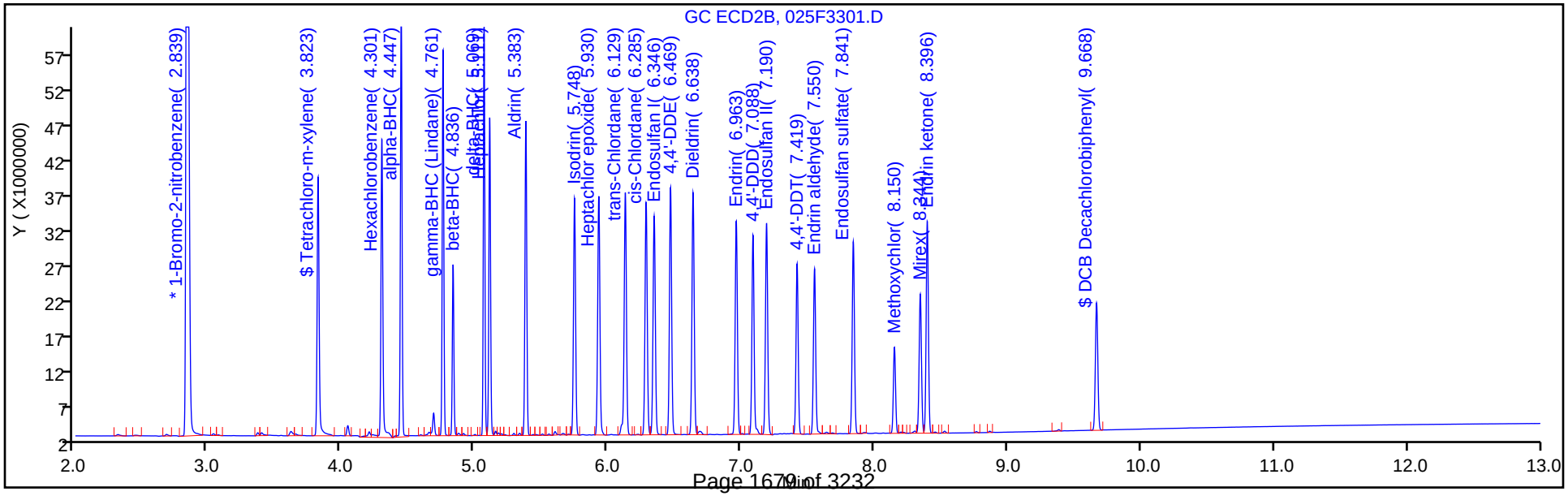
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\025F3301.D

Injection Date:	13-Oct-2018 20:14:49	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD3 AB			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\026F3401.D
Lims ID: STD2 AB
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Oct-2018 20:32:15 ALS Bottle#: 26 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD2
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:17:42

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						38.6	
2						40.9	
						RPD = 5.94	
* 2 1-Bromo-2-nitrobenzene							
1	3.020	3.019	0.001	1728425275	150.0	150.0	
2	2.839	2.839	0.000	187345459	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.918	3.919	-0.001	119672981	10.0	9.74	
2	3.822	3.823	-0.001	16477394	10.0	10.3	
						RPD = 5.80	
5 Hexachlorobenzene							
1	4.325	4.326	-0.001	126156548	10.0	9.73	
2	4.301	4.302	-0.001	17019247	10.0	10.1	
						RPD = 4.06	
8 alpha-BHC							
1	4.496	4.497	-0.001	174586944	10.0	9.64	
2	4.446	4.448	-0.002	21525266	10.0	10.1	
						RPD = 4.69	
9 gamma-BHC (Lindane)							
1	4.784	4.785	-0.001	150377013	10.0	9.57	
2	4.760	4.761	-0.001	18724325	10.0	10.2	
						RPD = 6.55	
10 beta-BHC							
1	4.861	4.862	-0.001	63756954	10.0	9.77	
2	4.836	4.837	-0.001	8495816	10.0	10.4	
						RPD = 6.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.010	5.010	0.000	151129545	10.0	9.56	
2	5.068	5.069	-0.001	18818212	10.0	10.2	
						RPD = 6.40	
15 Heptachlor							
1	5.186	5.187	-0.001	136220069	10.0	9.74	
2	5.111	5.112	-0.001	16505122	10.0	10.3	
						RPD = 5.70	
16 Aldrin							
1	5.456	5.457	-0.001	144846582	10.0	9.74	
2	5.382	5.383	-0.001	17731926	10.0	10.3	
						RPD = 5.89	
18 Isodrin							
1	5.783	5.783	0.000	117749615	10.0	9.72	
2	5.748	5.749	-0.001	15625487	10.0	10.5	
						RPD = 7.33	
21 Heptachlor epoxide							M
1	6.071	6.072	-0.001	126886425	10.0	9.83	
2	5.929	5.931	-0.002	16641254	10.0	10.4	M
						RPD = 5.98	
22 trans-Chlordane							
1	6.202	6.204	-0.002	129991480	10.0	9.51	
2	6.129	6.130	-0.001	16929113	10.0	10.3	
						RPD = 7.70	
23 cis-Chlordane							
1	6.344	6.344	0.000	126327949	10.0	9.68	
2	6.286	6.286	0.000	16380093	10.0	10.4	
						RPD = 7.07	
24 4,4'-DDE							
1	6.420	6.421	-0.001	131488025	10.0	9.65	
2	6.468	6.469	-0.001	16485248	10.0	10.3	
						RPD = 6.16	
25 Endosulfan I							
1	6.493	6.494	-0.001	120234528	10.0	9.81	
2	6.346	6.346	0.000	15849043	10.0	10.5	
						RPD = 6.40	
27 Dieldrin							
1	6.747	6.748	-0.001	131325618	10.0	9.76	
2	6.638	6.639	-0.001	16696805	10.0	10.3	
						RPD = 5.11	
30 Endrin							
1	6.996	6.997	-0.001	110965652	10.0	9.63	
2	6.962	6.963	-0.001	14572762	10.0	10.2	
						RPD = 6.20	
32 4,4'-DDD							
1	7.057	7.058	-0.001	100049743	10.0	9.44	
2	7.088	7.089	-0.001	13387732	10.0	10.2	
						RPD = 7.73	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.233	7.234	-0.001	107239359	10.0	9.69	
2	7.189	7.190	-0.001	14939909	10.0	10.4	
						RPD = 6.87	
35 4,4'-DDT							
1	7.352	7.352	0.000	86360678	10.0	9.37	
2	7.418	7.419	-0.001	11005760	10.0	9.98	
						RPD = 6.32	
36 Endrin aldehyde							
1	7.679	7.679	0.000	81761942	10.0	9.60	
2	7.550	7.550	0.000	11820141	10.0	10.3	
						RPD = 7.30	
37 Methoxychlor							
1	7.856	7.857	-0.001	43260093	10.0	9.68	
2	8.149	8.150	-0.001	5763013	10.0	10.2	
						RPD = 5.03	
38 Mirex							
1	8.015	8.016	-0.001	69898898	10.0	9.68	
2	8.343	8.344	-0.001	10513875	10.0	10.5	
						RPD = 8.20	
39 Endosulfan sulfate							
1	8.137	8.138	-0.001	93045319	10.0	9.55	
2	7.840	7.841	-0.001	13487473	10.0	10.3	
						RPD = 7.54	
40 Endrin ketone							
1	8.428	8.429	-0.001	97881347	10.0	9.50	
2	8.396	8.396	0.000	14668648	10.0	10.3	
						RPD = 7.65	
$ 41 DCB Decachlorobiphenyl							
1	9.443	9.446	-0.003	63321098	10.0	9.53	
2	9.668	9.668	0.000	10078459	10.0	10.4	
						RPD = 8.76	
S 3 Endosulfan, Total							
1						29.1	
2						31.1	
						RPD = 6.93	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

8081IcalL2_00025	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

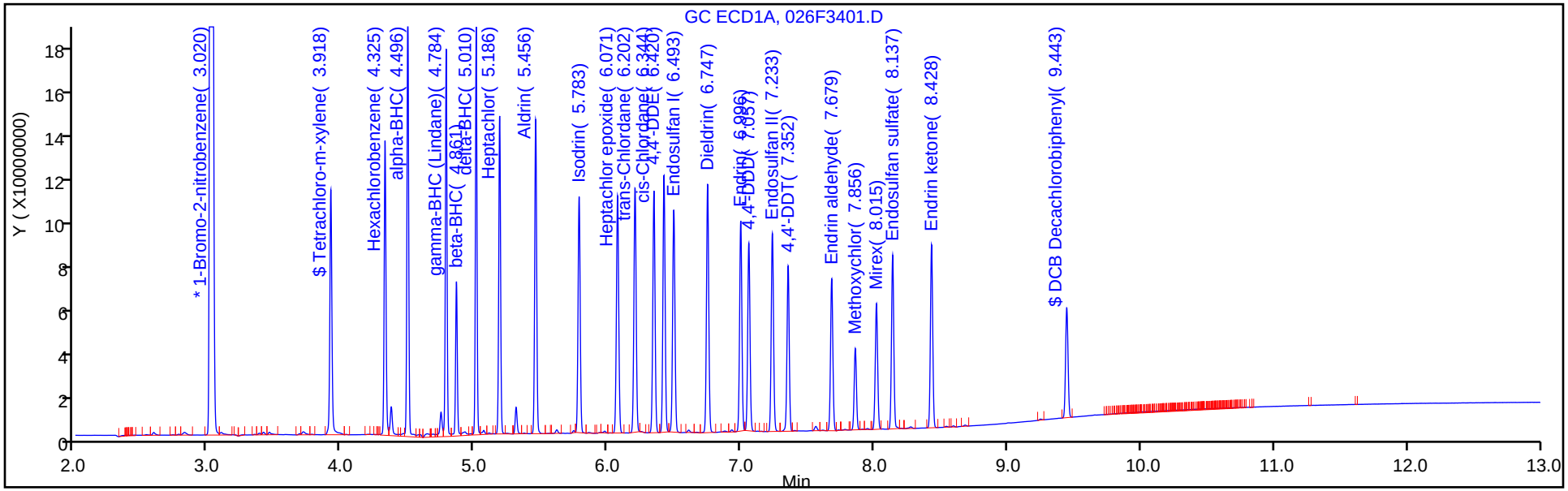
Report Date: 14-Oct-2018 22:12:02 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

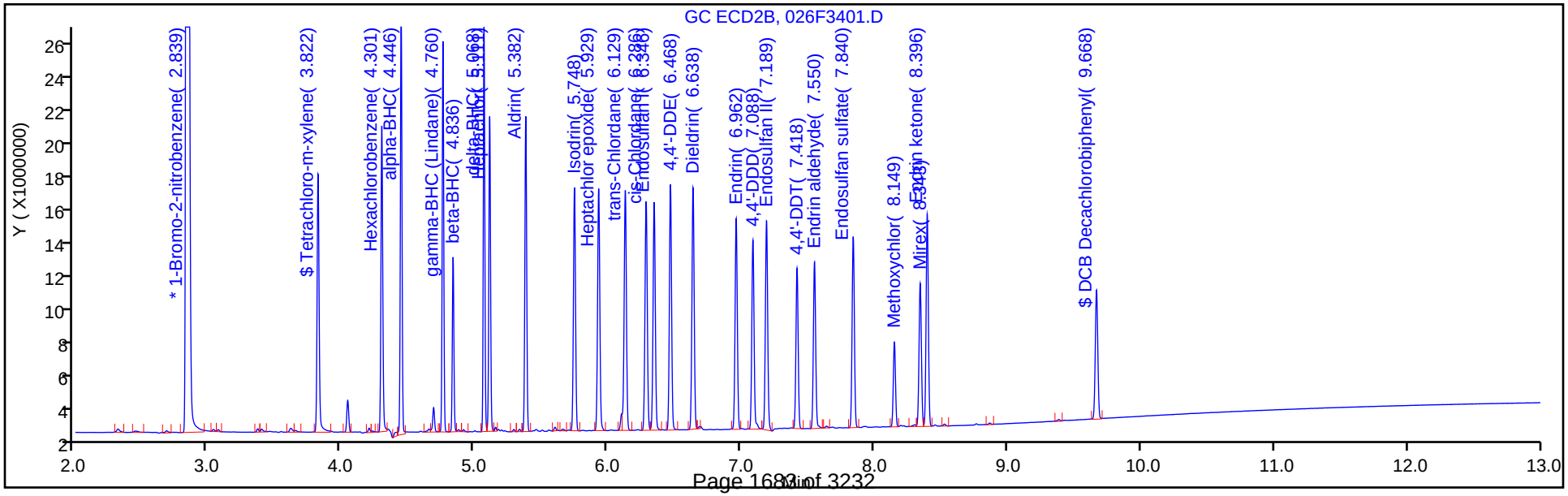
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\026F3401.D

Injection Date:	13-Oct-2018 20:32:15	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD2 AB			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Manual Integration/User Assign Peak Report

TestAmerica Denver

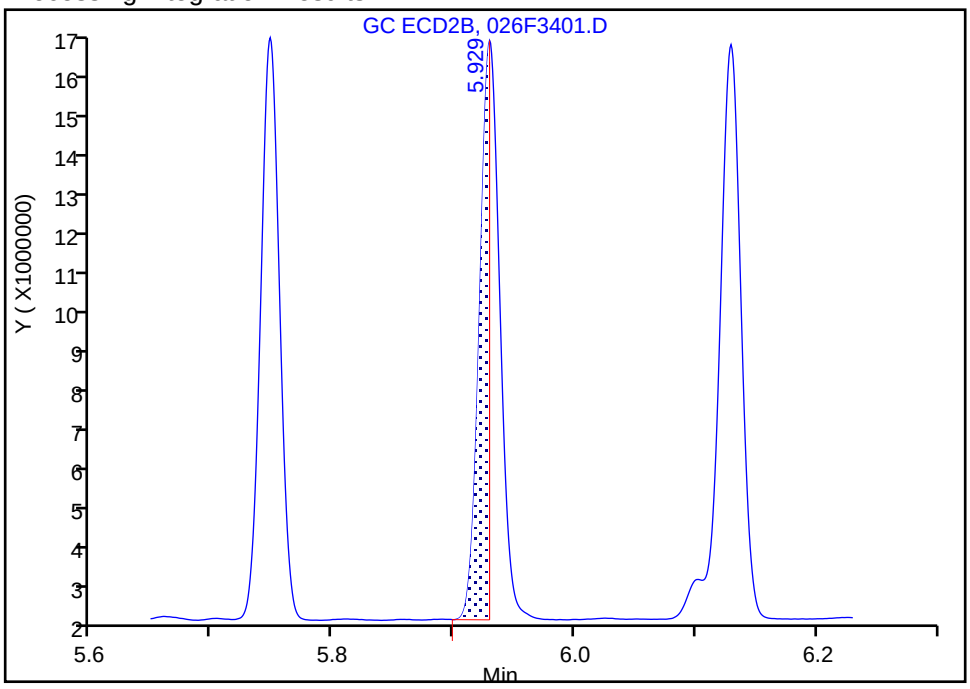
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\026F3401.D
Injection Date: 13-Oct-2018 20:32:15 Instrument ID: SGC_P2
Lims ID: STD2 AB
Client ID:
Operator ID: TEM ALS Bottle#: 26 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: P2 8081 IS Limit Group: GCSV - 8081A - IS
Column: CLP2 (0.32 mm) Detector GC ECD2B

21 Heptachlor epoxide, CAS: 1024-57-3

Signal: 2

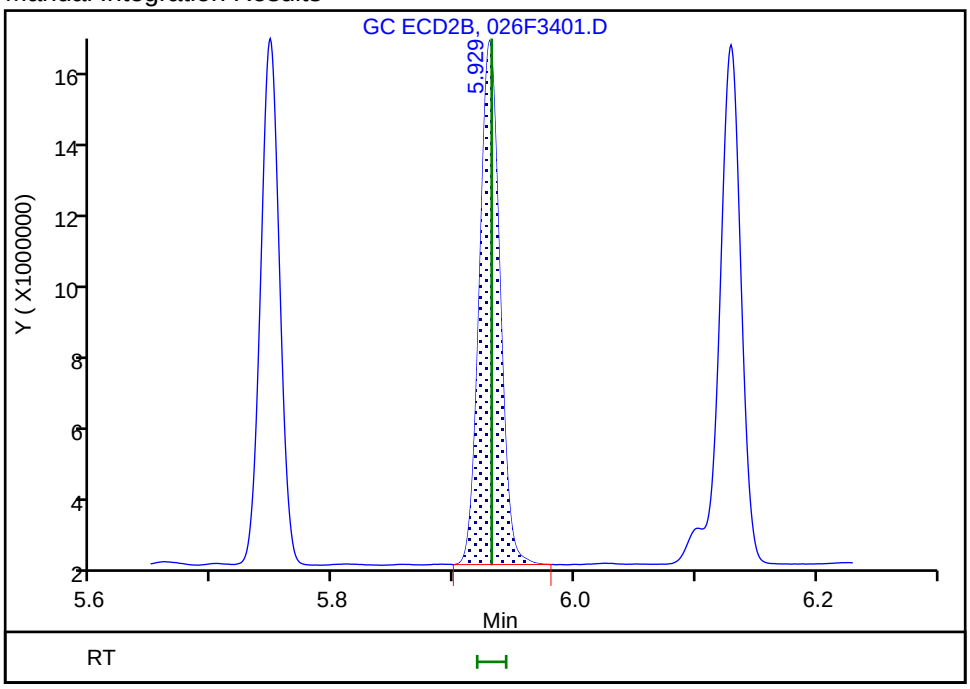
Processing Integration Results

RT: 5.93
Area: 8040349
Amount: 6.830396
Amount Units: ng/mL



Manual Integration Results

RT: 5.93
Area: 16641254
Amount: 10.438106
Amount Units: ng/mL



Reviewer: mooret, 14-Oct-2018 09:17:36
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D
Lims ID: STD1 AB
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 13-Oct-2018 20:49:46 ALS Bottle#: 27 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD1
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:04 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:19:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						16.3	
2						15.9	
						RPD = 2.72	
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.019	0.002	1645292180	150.0	150.0	
2	2.839	2.839	0.000	186440198	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.919	3.919	0.000	44633037	4.00	4.05	
2	3.823	3.823	0.000	6851543	4.00	3.94	
						RPD = 2.74	
5 Hexachlorobenzene							
1	4.326	4.326	0.000	47816993	4.00	4.05	
2	4.302	4.302	0.000	7168590	4.00	3.96	
						RPD = 2.34	
8 alpha-BHC							
1	4.497	4.497	0.000	62852215	4.00	4.07	
2	4.447	4.448	-0.001	8858523	4.00	3.98	
						RPD = 2.23	
9 gamma-BHC (Lindane)							
1	4.785	4.785	0.000	56481667	4.00	4.08	
2	4.761	4.761	0.000	7435354	4.00	3.97	
						RPD = 2.89	
10 beta-BHC							
1	4.862	4.862	0.000	26687989	4.00	4.06	
2	4.837	4.837	0.000	3576692	4.00	3.94	
						RPD = 2.98	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.010	5.010	0.000	55669358	4.00	4.08	
2	5.069	5.069	0.000	7424235	4.00	3.97	
						RPD = 2.79	
15 Heptachlor							
1	5.187	5.187	0.000	50118465	4.00	4.04	
2	5.112	5.112	0.000	6621110	4.00	3.95	
						RPD = 2.42	
16 Aldrin							
1	5.457	5.457	0.000	52919960	4.00	4.05	
2	5.383	5.383	0.000	7030048	4.00	3.95	
						RPD = 2.49	
18 Isodrin							
1	5.784	5.783	0.001	44705372	4.00	4.05	
2	5.748	5.749	-0.001	6366004	4.00	3.93	
						RPD = 3.06	
21 Heptachlor epoxide							
1	6.073	6.072	0.001	47553101	4.00	4.03	
2	5.930	5.931	-0.001	6762032	4.00	3.93	
						RPD = 2.56	
22 trans-Chlordane							
1	6.203	6.204	-0.001	49944652	4.00	4.09	
2	6.130	6.130	0.000	6819666	4.00	3.95	
						RPD = 3.42	
23 cis-Chlordane							
1	6.344	6.344	0.000	47100490	4.00	4.06	
2	6.286	6.286	0.000	6646251	4.00	3.94	
						RPD = 3.11	
24 4,4'-DDE							
1	6.421	6.421	0.000	48738148	4.00	4.06	
2	6.469	6.469	0.000	6542674	4.00	3.95	
						RPD = 2.61	
25 Endosulfan I							
1	6.494	6.494	0.000	45543940	4.00	4.03	
2	6.347	6.346	0.001	6507441	4.00	3.92	
						RPD = 2.71	
27 Dieldrin							
1	6.748	6.748	0.000	48904591	4.00	4.04	
2	6.638	6.639	-0.001	6664239	4.00	3.95	
						RPD = 2.17	
30 Endrin							
1	6.997	6.997	0.000	41251930	4.00	4.06	
2	6.963	6.963	0.000	5757882	4.00	3.96	
						RPD = 2.60	
32 4,4'-DDD							
1	7.058	7.058	0.000	38622027	4.00	4.10	
2	7.088	7.089	-0.001	5391187	4.00	3.96	
						RPD = 3.38	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.234	7.234	0.000	41034933	4.00	4.05	
2	7.191	7.190	0.001	6270548	4.00	3.93	
						RPD = 2.93	
35 4,4'-DDT							
1	7.352	7.352	0.000	31997998	4.00	4.11	
2	7.419	7.419	0.000	4302693	4.00	4.01	
						RPD = 2.63	
36 Endrin aldehyde							
1	7.678	7.679	-0.001	32150414	4.00	4.07	
2	7.551	7.550	0.001	4932964	4.00	3.94	
						RPD = 3.18	
37 Methoxychlor							
1	7.857	7.857	0.000	17004835	4.00	4.05	
2	8.150	8.150	0.000	2361021	4.00	3.96	
						RPD = 2.20	
38 Mirex							
1	8.016	8.016	0.000	28621709	4.00	4.16	
2	8.344	8.344	0.000	4546008	4.00	3.91	
						RPD = 6.31	
39 Endosulfan sulfate							
1	8.137	8.138	-0.001	36051087	4.00	4.08	
2	7.841	7.841	0.000	5646467	4.00	3.94	
						RPD = 3.30	
40 Endrin ketone							
1	8.429	8.429	0.000	38530653	4.00	4.08	
2	8.397	8.396	0.001	6086476	4.00	3.95	
						RPD = 3.26	
$ 41 DCB Decachlorobiphenyl							
1	9.446	9.446	0.000	26336210	4.00	4.07	
2	9.668	9.668	0.000	4339575	4.00	3.92	
						RPD = 3.76	
S 3 Endosulfan, Total							
1						12.1	
2						11.8	
						RPD = 2.98	

Reagents:

8081IcalL1_00025	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

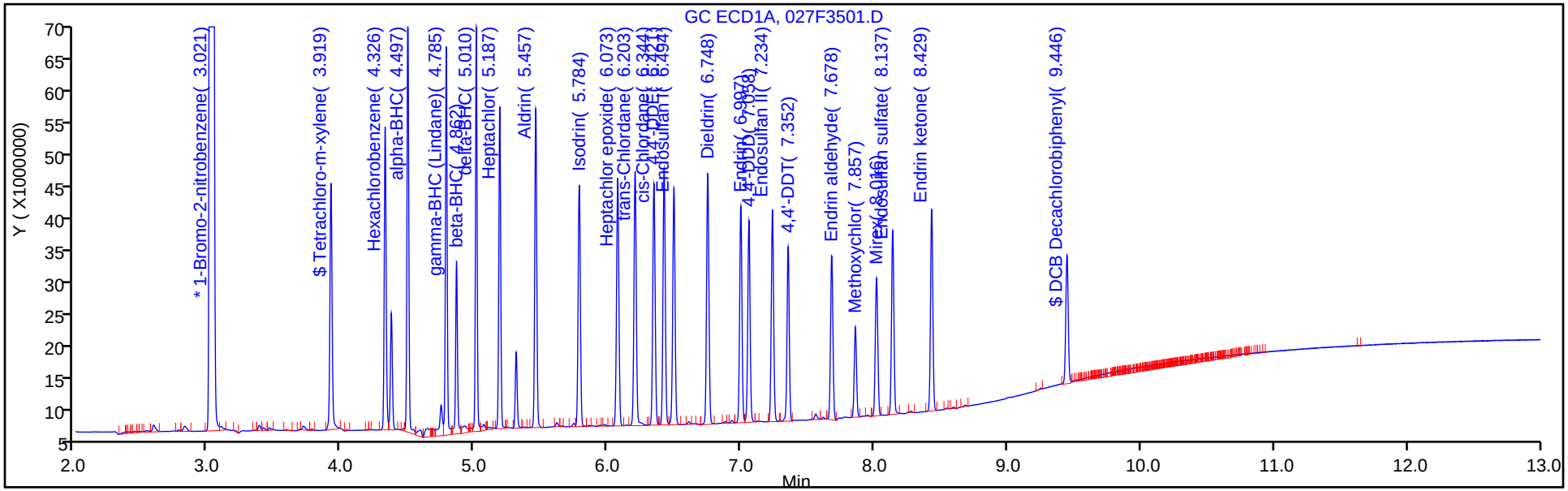
Report Date: 14-Oct-2018 22:12:07 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

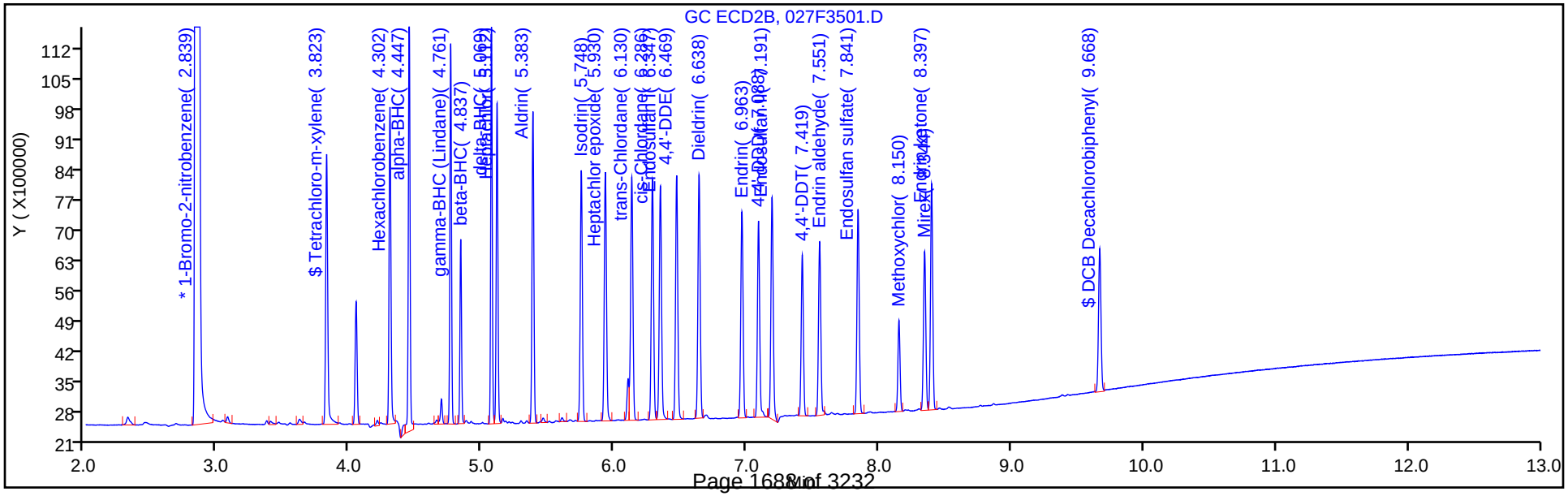
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Injection Date:	13-Oct-2018 20:49:46	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD1 AB			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: PEM 280-438138/7 Calibration Date: 11/19/2018 14:17

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11190007.D Conc. Units: ug/L

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	6.97	476545449	1.55	15	
Endrin aldehyde	7.65	3206087			
Endrin ketone	8.40	4276495			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.32	384256708	1.29	15	
4,4'-DDD	7.03	4367905			
4,4'-DDE	6.40	667980			

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190007.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 19-Nov-2018 14:17:10 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: PEM
Misc. Info.: 280-0076345-007
Operator ID: TEM Instrument ID: SGC_P2
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:01:35 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 08:36:17

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.007	3.006	0.001	1461941418	150.0	150.0	
2	2.812	2.811	0.001	212684347	150.0	150.0	
24 4,4'-DDE							
1	6.396	6.394	0.002	667980		0.5503	
2	6.422	6.420	0.002	122654		-0.1602	
						RPD = 364.32	
30 Endrin							
1	6.969	6.967	0.002	476545449	40.0	46.8	
2	6.909	6.907	0.002	67868625	40.0	42.6	
						RPD = 9.56	
32 4,4'-DDD							
1	7.031	7.029	0.002	4367905		0.9186	
2	7.023	7.035	-0.012	2621511		1.53	
						RPD = 49.97	
35 4,4'-DDT							
1	7.324	7.322	0.002	384256708	40.0	46.1	
2	7.367	7.366	0.001	55762171	40.0	44.1	
						RPD = 4.40	
36 Endrin aldehyde							
1	7.651	7.648	0.003	3206087		0.6158	
2	7.496	7.492	0.004	345927		-0.3832	
						RPD = 858.99	
40 Endrin ketone							
1	8.398	8.397	0.001	4276495		0.7285	
2	8.339	8.336	0.003	753277		-0.0784	
						RPD = 248.23	

Reagents:

8081_EvalBPEM_00013	Amount Added:	1.00	Units: ml	
8081_IS_00008	Amount Added:	75.00	Units: uL	Run Reagent

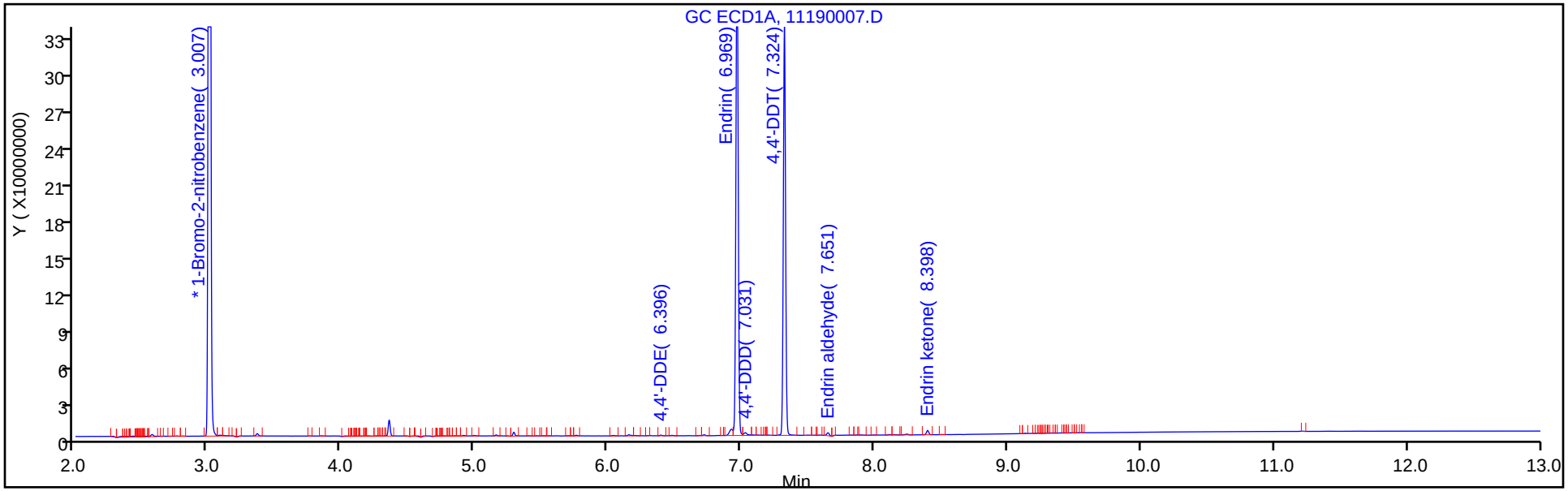
Report Date: 30-Nov-2018 13:03:13 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

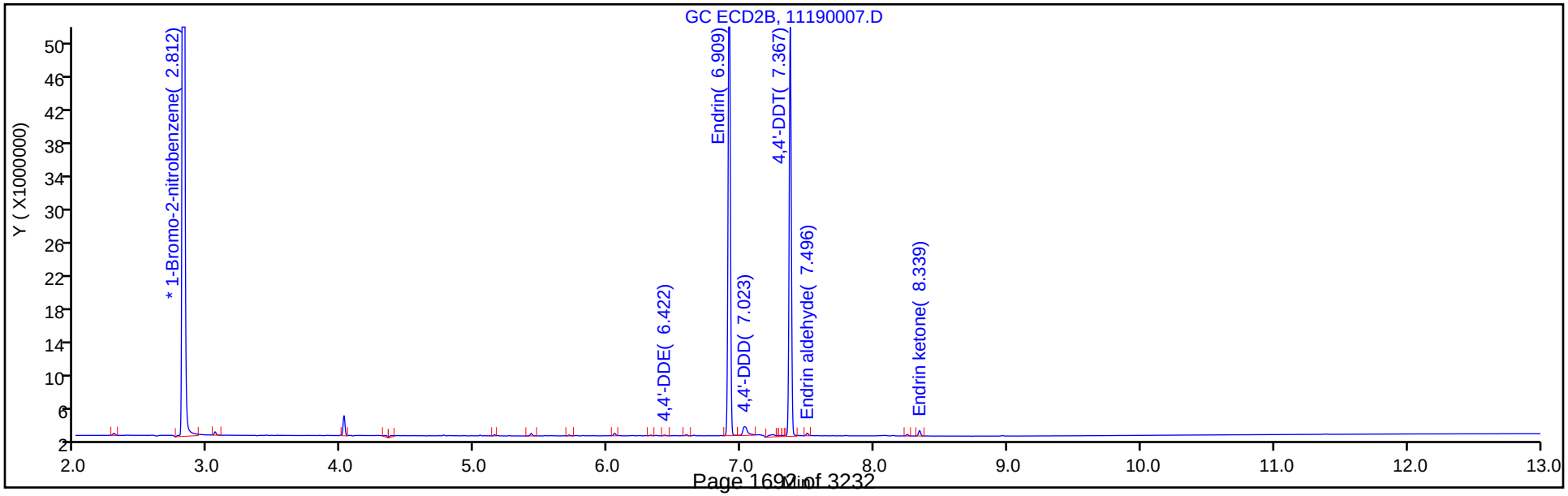
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190007.D

Injection Date:	19-Nov-2018 14:17:10	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	PEM			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: PEM 280-438138/7 Calibration Date: 11/19/2018 14:17

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11190007.D Conc. Units: ug/L

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	6.91	67868625	1.59	15	
Endrin aldehyde	7.50	345927			
Endrin ketone	8.34	753277			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.37	55762171	4.69	15	
4,4'-DDD	7.02	2621511			
4,4'-DDE	6.42	122654			

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190007.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 19-Nov-2018 14:17:10 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: PEM
Misc. Info.: 280-0076345-007
Operator ID: TEM Instrument ID: SGC_P2
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:01:35 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 08:36:17

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.007	3.006	0.001	1461941418	150.0	150.0	
2	2.812	2.811	0.001	212684347	150.0	150.0	
24 4,4'-DDE							
1	6.396	6.394	0.002	667980		0.5503	
2	6.422	6.420	0.002	122654		-0.1602	
						RPD = 364.32	
30 Endrin							
1	6.969	6.967	0.002	476545449	40.0	46.8	
2	6.909	6.907	0.002	67868625	40.0	42.6	
						RPD = 9.56	
32 4,4'-DDD							
1	7.031	7.029	0.002	4367905		0.9186	
2	7.023	7.035	-0.012	2621511		1.53	
						RPD = 49.97	
35 4,4'-DDT							
1	7.324	7.322	0.002	384256708	40.0	46.1	
2	7.367	7.366	0.001	55762171	40.0	44.1	
						RPD = 4.40	
36 Endrin aldehyde							
1	7.651	7.648	0.003	3206087		0.6158	
2	7.496	7.492	0.004	345927		-0.3832	
						RPD = 858.99	
40 Endrin ketone							
1	8.398	8.397	0.001	4276495		0.7285	
2	8.339	8.336	0.003	753277		-0.0784	
						RPD = 248.23	

Reagents:

8081_EvalBPEM_00013	Amount Added:	1.00	Units: ml	
8081_IS_00008	Amount Added:	75.00	Units: uL	Run Reagent

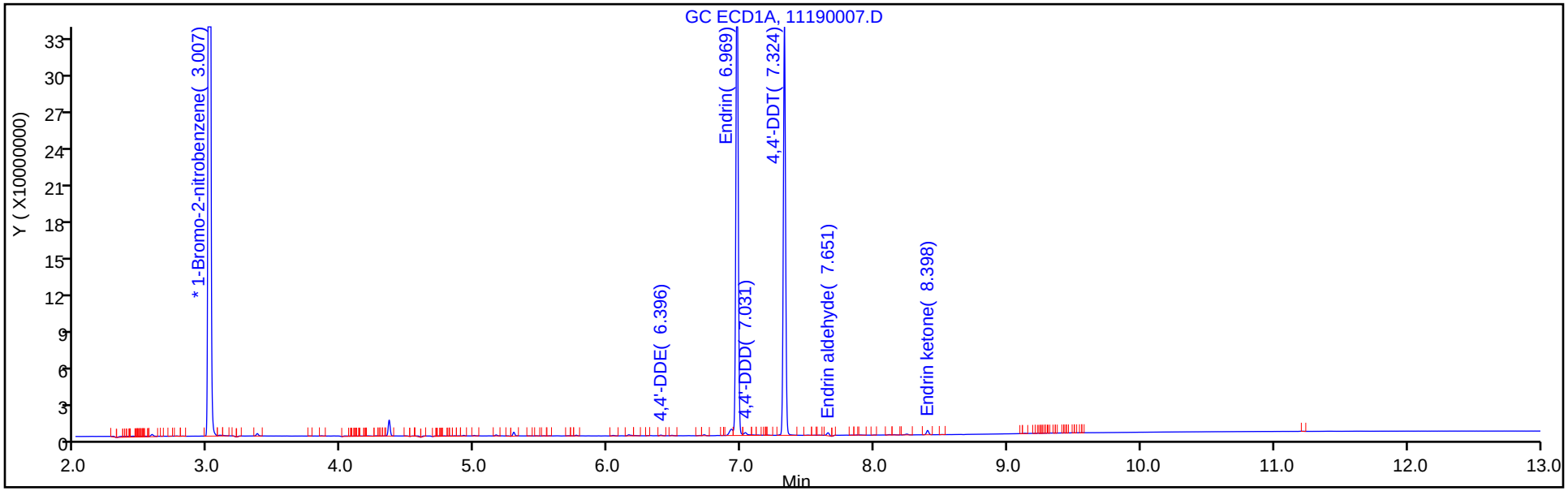
Report Date: 30-Nov-2018 13:03:14 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

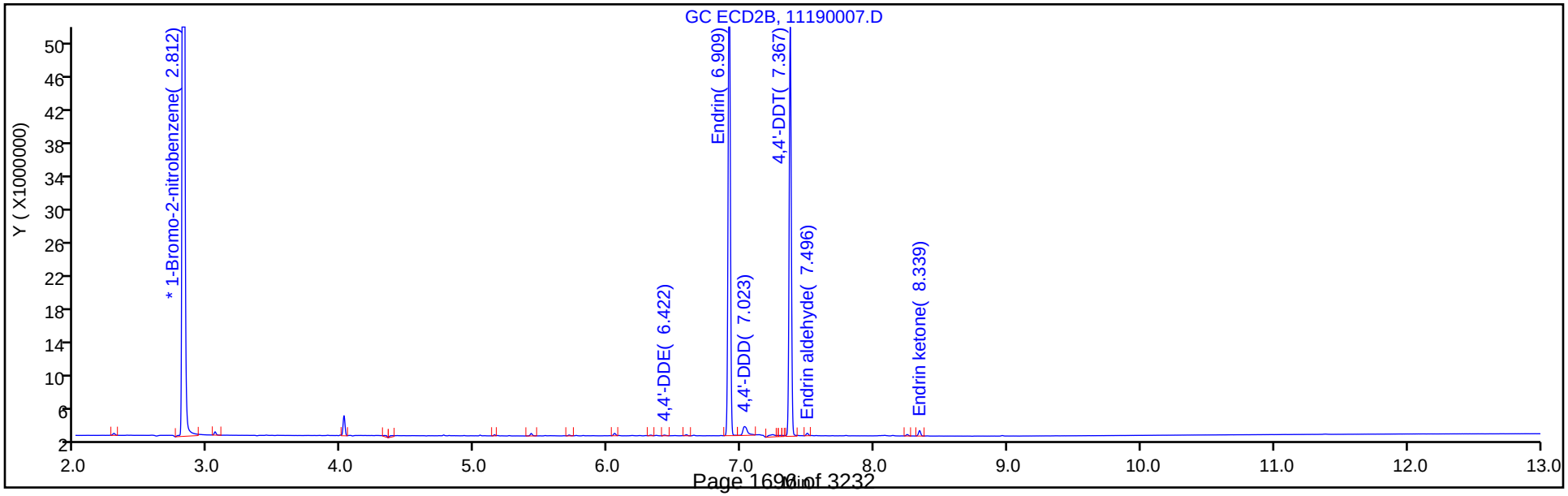
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190007.D

Injection Date:	19-Nov-2018 14:17:10	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	PEM			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: PEM 280-439676/7 Calibration Date: 12/03/2018 13:29

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 12030007.D Conc. Units: ug/L

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	6.96	616134143	1.00	15	
Endrin aldehyde	7.64	2884348			
Endrin ketone	8.39	3326361			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.32	497626430	0.75	15	
4,4'-DDD	7.02	3760818			
4,4'-DDE		0			

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030007.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 03-Dec-2018 13:29:59 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: PEM
Misc. Info.: 280-0076757-007
Operator ID: TEM Instrument ID: SGC_P2
Sublist:

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:47 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 03-Dec-2018 14:30:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.001	3.001	0.000	1917504042	150.0	150.0	
2	2.801	2.801	0.000	219953656	150.0	150.0	
24 4,4'-DDE							
1		6.386				ND	
2		6.404					
30 Endrin							
1	6.960	6.959	0.001	616134143	40.0	46.2	
2	6.891	6.890	0.001	72314849	40.0	43.9	
						RPD = 5.14	
32 4,4'-DDD							
1	7.022	7.021	0.001	3760818		0.7592	
2	7.013	7.019	-0.006	1389961		0.6498	
						RPD = 15.53	
35 4,4'-DDT							
1	7.316	7.315	0.001	497626430	40.0	45.5	
2	7.350	7.349	0.001	60511700	40.0	46.2	
						RPD = 1.65	
36 Endrin aldehyde							
1	7.641	7.640	0.001	2884348		0.4787	
2	7.477	7.475	0.002	325081		-0.4091	
						RPD = 2549.99	
40 Endrin ketone							
1	8.390	8.388	0.002	3326361		0.5339	
2	8.320	8.320	0.000	513839		-0.2451	
						RPD = 539.52	

Reagents:

8081_EvalBPEM_00013	Amount Added:	1.00	Units: ml	
8081_IS_00010	Amount Added:	75.00	Units: uL	Run Reagent

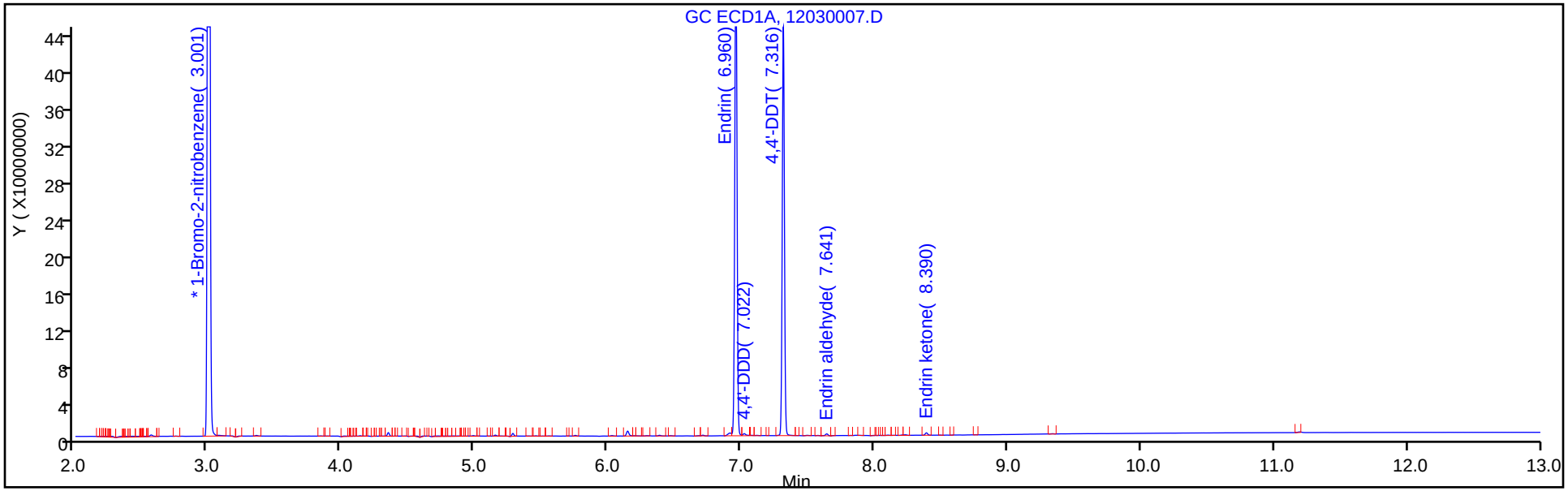
Report Date: 04-Dec-2018 13:50:51 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

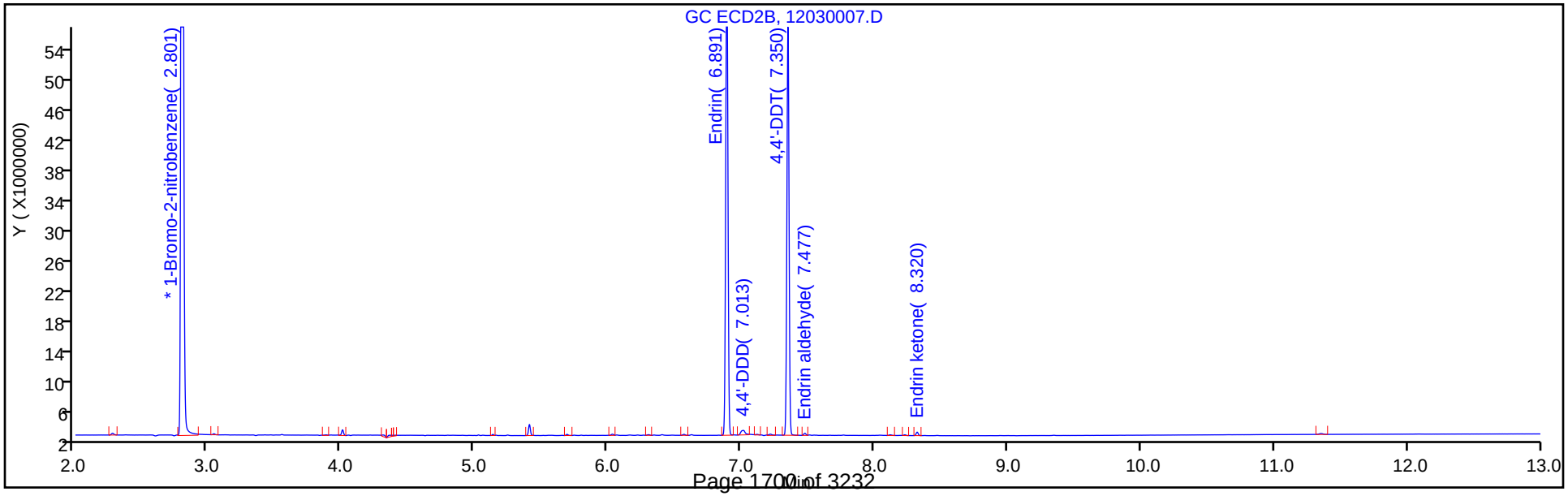
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030007.D

Injection Date:	03-Dec-2018 13:29:59	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	PEM			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: PEM 280-439676/7 Calibration Date: 12/03/2018 13:29

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 12030007.D Conc. Units: ug/L

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	6.89	72314849	1.15	15	
Endrin aldehyde	7.48	325081			
Endrin ketone	8.32	513839			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.35	60511700	2.25	15	
4,4'-DDD	7.01	1389961			
4,4'-DDE		0			

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030007.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 03-Dec-2018 13:29:59 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: PEM
Misc. Info.: 280-0076757-007
Operator ID: TEM Instrument ID: SGC_P2
Sublist:

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:47 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 03-Dec-2018 14:30:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.001	3.001	0.000	1917504042	150.0	150.0	
2	2.801	2.801	0.000	219953656	150.0	150.0	
24 4,4'-DDE							
1		6.386				ND	
2		6.404					
30 Endrin							
1	6.960	6.959	0.001	616134143	40.0	46.2	
2	6.891	6.890	0.001	72314849	40.0	43.9	
						RPD = 5.14	
32 4,4'-DDD							
1	7.022	7.021	0.001	3760818		0.7592	
2	7.013	7.019	-0.006	1389961		0.6498	
						RPD = 15.53	
35 4,4'-DDT							
1	7.316	7.315	0.001	497626430	40.0	45.5	
2	7.350	7.349	0.001	60511700	40.0	46.2	
						RPD = 1.65	
36 Endrin aldehyde							
1	7.641	7.640	0.001	2884348		0.4787	
2	7.477	7.475	0.002	325081		-0.4091	
						RPD = 2549.99	
40 Endrin ketone							
1	8.390	8.388	0.002	3326361		0.5339	
2	8.320	8.320	0.000	513839		-0.2451	
						RPD = 539.52	

Reagents:

8081_EvalBPEM_00013	Amount Added:	1.00	Units: ml	
8081_IS_00010	Amount Added:	75.00	Units: uL	Run Reagent

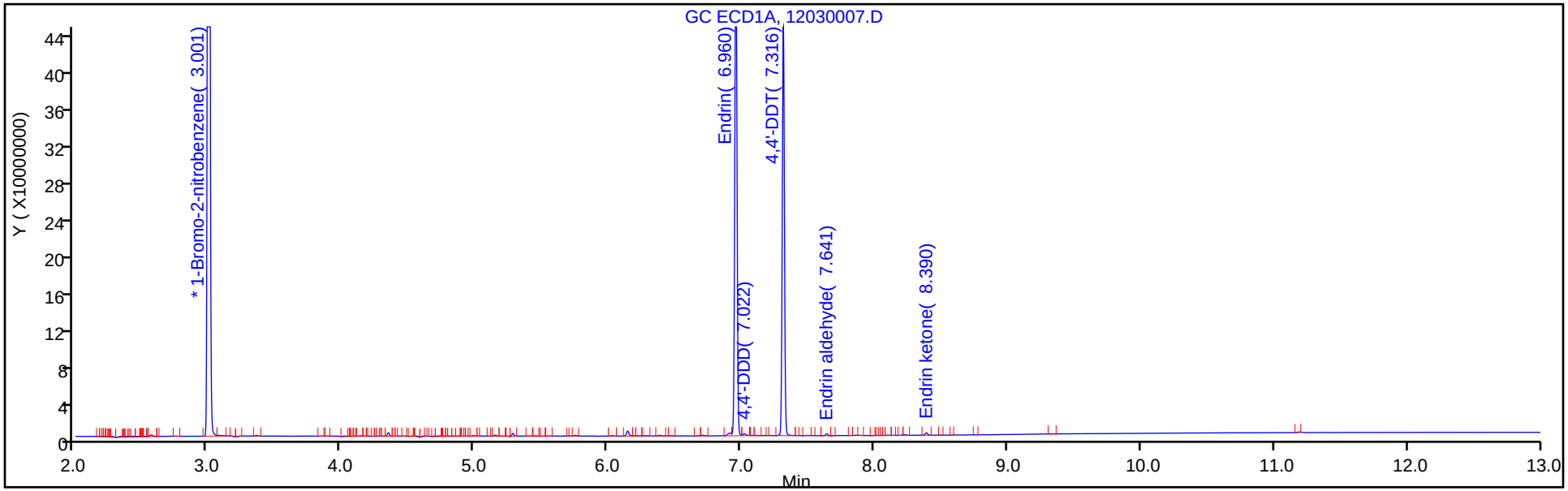
Report Date: 04-Dec-2018 13:50:51 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

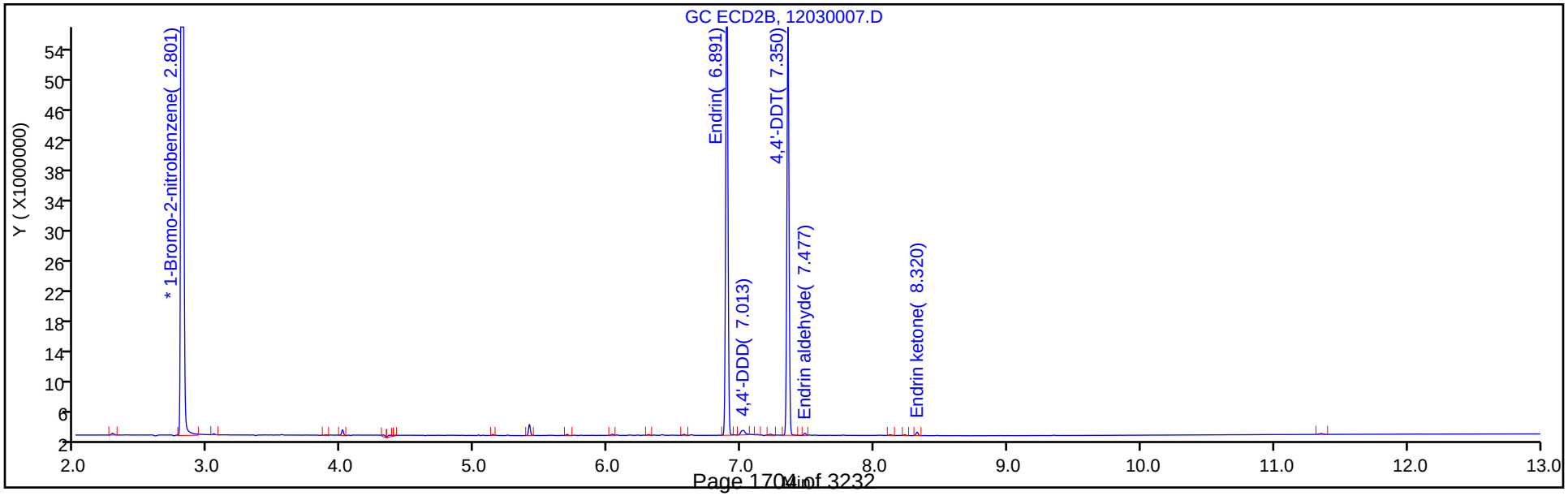
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030007.D

Injection Date:	03-Dec-2018 13:29:59	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	PEM			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-433303/34 | Calibration Date: 10/13/2018 21:24

Instrument ID: SGC_P2 | Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) | Calib End Date: 10/13/2018 17:37

Lab File ID: 029F3701.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0030		464	1000	-53.6*	20.0
Toxaphene Peak 2	Lin2		0.0110		660	1000	-34.0*	20.0
Toxaphene Peak 3	Lin2		0.0151		815	1000	-18.5	20.0
Toxaphene Peak 4	Lin2		0.0082		1080	1000	8.3	20.0
Toxaphene Peak 5	Lin2		0.0114		1480	1000	48.4*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-433303/34 Calibration Date: 10/13/2018 21:24

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 029F3701.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	6.23	6.23	6.26
Toxaphene Peak 2	6.85	6.84	6.87
Toxaphene Peak 3	7.52	7.52	7.54
Toxaphene Peak 4	7.89	7.87	7.90
Toxaphene Peak 5	8.20	8.19	8.22

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\029F3701.D
Lims ID: ICV TOX
Client ID:
Sample Type: ICV
Inject. Date: 13-Oct-2018 21:24:35 ALS Bottle#: 29 Worklist Smp#: 34
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV TOX
Operator ID: TEM Instrument ID: SGC_P2
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:04 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:40:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.018	3.019	-0.001	1963980017	150.0	150.0	
2	2.838	2.839	-0.002	209759075	150.0	150.0	
28 Toxaphene							Ma
1	6.230	6.246	-0.016	39169071	1000.0	464.3	M
1	6.848	6.854	-0.006	144072882	1000.0	660.3	M
1	7.516	7.528	-0.012	197948260	1000.0	815.4	M
1	7.886	7.886	0.000	107438429	1000.0	1083.4	M
1	8.203	8.204	-0.001	149524851	1000.0	1483.7	M
		Average of Peak Amounts =				901.4	
2	5.774	5.778	-0.004	6074445	1000.0	913.0	M
2	7.136	7.145	-0.009	18826032	1000.0	641.9	M
2	7.278	7.286	-0.008	62348552	1000.0	779.1	M
2	7.783	7.800	-0.017	34844907	1000.0	1522.8	M
2	8.088	8.096	-0.008	50429097	1000.0	1128.6	M
		Average of Peak Amounts =				997.1	
					RPD =	10.08	

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

8081ToxICVL3_00013 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

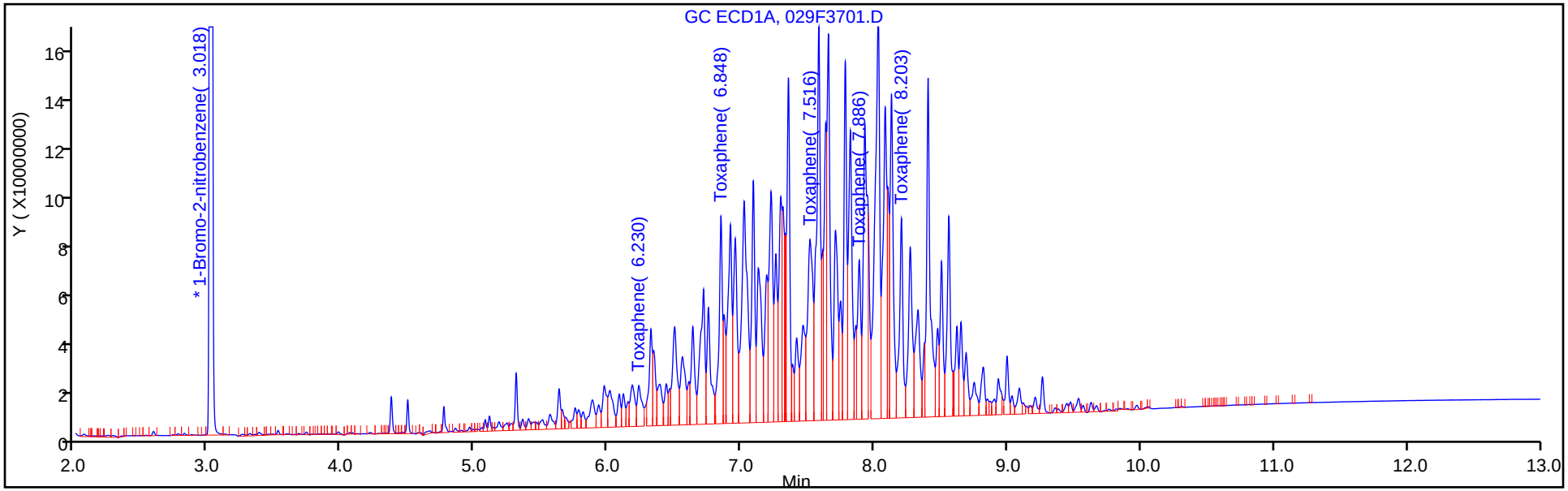
Report Date: 14-Oct-2018 22:12:10 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

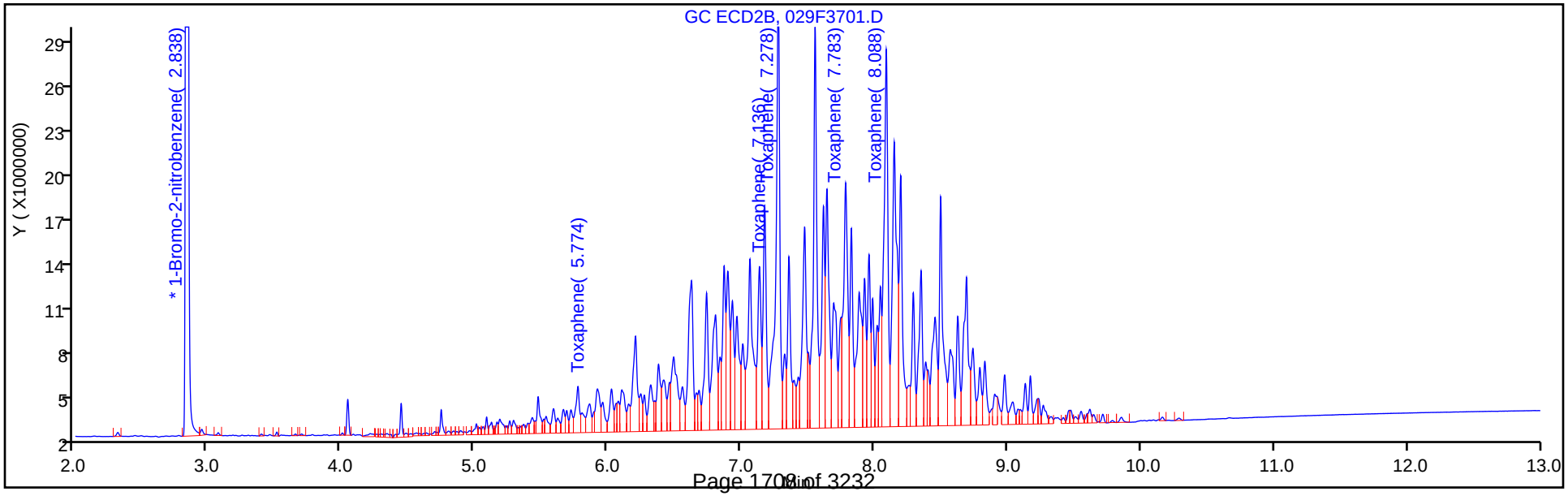
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\029F3701.D

Injection Date:	13-Oct-2018 21:24:35	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	ICV TOX			Worklist Smp#:	34
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:12:10 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\029F3701.D

Injection Date: 13-Oct-2018 21:24:35 Instrument ID: SGC_P2

Lims ID: ICV TOX

Client ID:

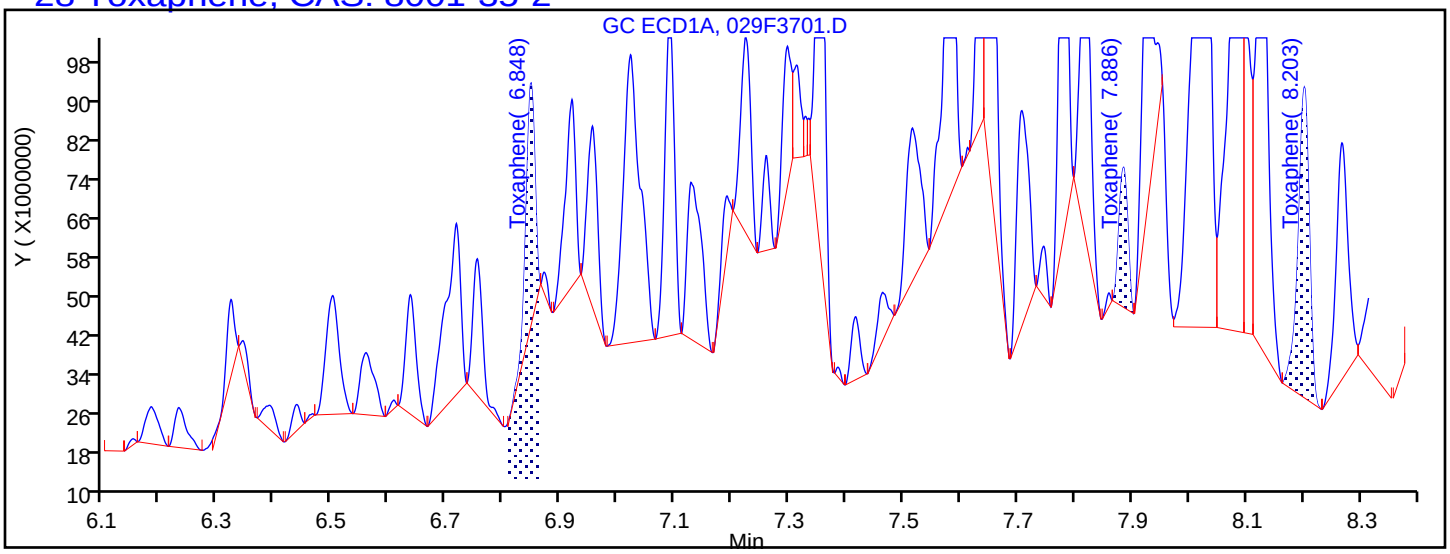
Operator ID: TEM ALS Bottle#: 29 Worklist Smp#: 34

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

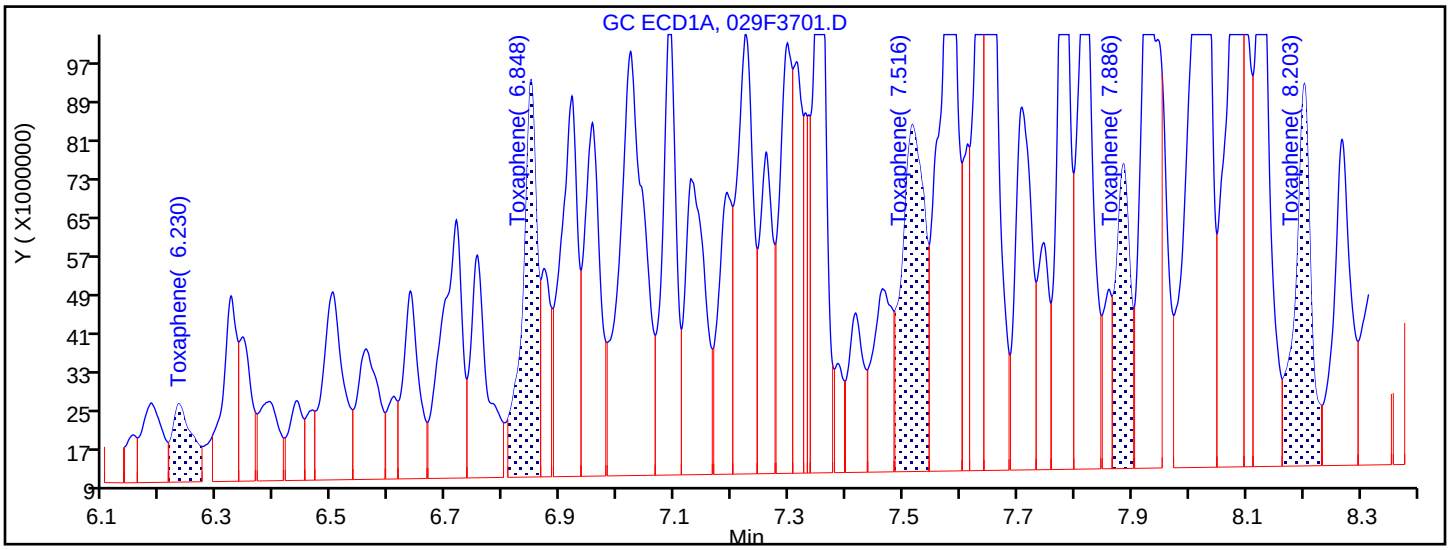
Column: CLP1 (0.32 mm) Detector GC ECD1A

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

6.246	Response = 0
6.848	Response = 54735220
7.528	Response = 0
7.886	Response = 30855926
8.203	Response = 87461515



Manual Integration Results

6.230	Response = 39169071	M
6.848	Response = 144072882	M
7.516	Response = 197948260	M
7.886	Response = 107438429	M
8.203	Response = 149524851	M

Reviewer: mooret, 14-Oct-2018 21:40:44

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-433303/34 Calibration Date: 10/13/2018 21:24

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 029F3701.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0043		913	1000	-8.7	20.0
Toxaphene Peak 2	Lin2		0.0135		642	1000	-35.8*	20.0
Toxaphene Peak 3	Lin2		0.0446		779	1000	-22.1*	20.0
Toxaphene Peak 4	Lin2		0.0249		1520	1000	52.3*	20.0
Toxaphene Peak 5	Lin2		0.0361		1130	1000	12.9	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-433303/34 Calibration Date: 10/13/2018 21:24

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 029F3701.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	5.77	5.77	5.79
Toxaphene Peak 2	7.14	7.13	7.16
Toxaphene Peak 3	7.28	7.27	7.30
Toxaphene Peak 4	7.78	7.79	7.81
Toxaphene Peak 5	8.09	8.08	8.11

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\029F3701.D
Lims ID: ICV TOX
Client ID:
Sample Type: ICV
Inject. Date: 13-Oct-2018 21:24:35 ALS Bottle#: 29 Worklist Smp#: 34
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV TOX
Operator ID: TEM Instrument ID: SGC_P2
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:04 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:40:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.018	3.019	-0.001	1963980017	150.0	150.0	
2	2.838	2.839	-0.002	209759075	150.0	150.0	
28 Toxaphene							Ma
1	6.230	6.246	-0.016	39169071	1000.0	464.3	M
1	6.848	6.854	-0.006	144072882	1000.0	660.3	M
1	7.516	7.528	-0.012	197948260	1000.0	815.4	M
1	7.886	7.886	0.000	107438429	1000.0	1083.4	M
1	8.203	8.204	-0.001	149524851	1000.0	1483.7	M
		Average of Peak Amounts =				901.4	
2	5.774	5.778	-0.004	6074445	1000.0	913.0	M
2	7.136	7.145	-0.009	18826032	1000.0	641.9	M
2	7.278	7.286	-0.008	62348552	1000.0	779.1	M
2	7.783	7.800	-0.017	34844907	1000.0	1522.8	M
2	8.088	8.096	-0.008	50429097	1000.0	1128.6	M
		Average of Peak Amounts =				997.1	
						RPD = 10.08	

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

8081ToxICVL3_00013 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

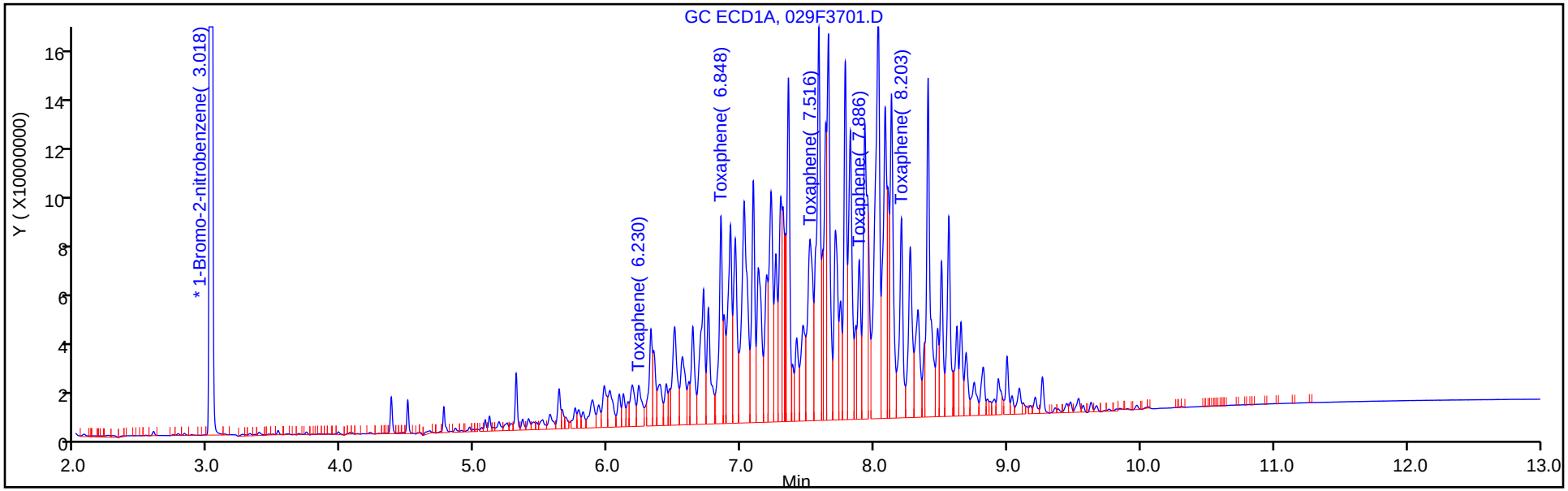
Report Date: 14-Oct-2018 22:12:10 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

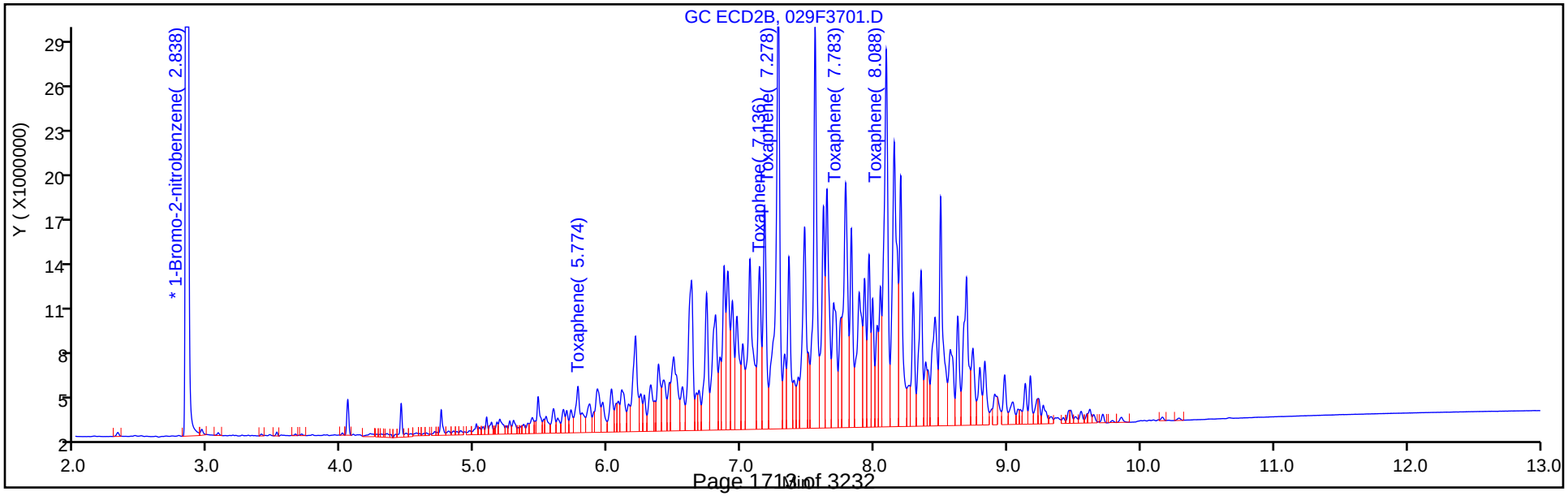
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\029F3701.D

Injection Date:	13-Oct-2018 21:24:35	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	ICV TOX			Worklist Smp#:	34
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



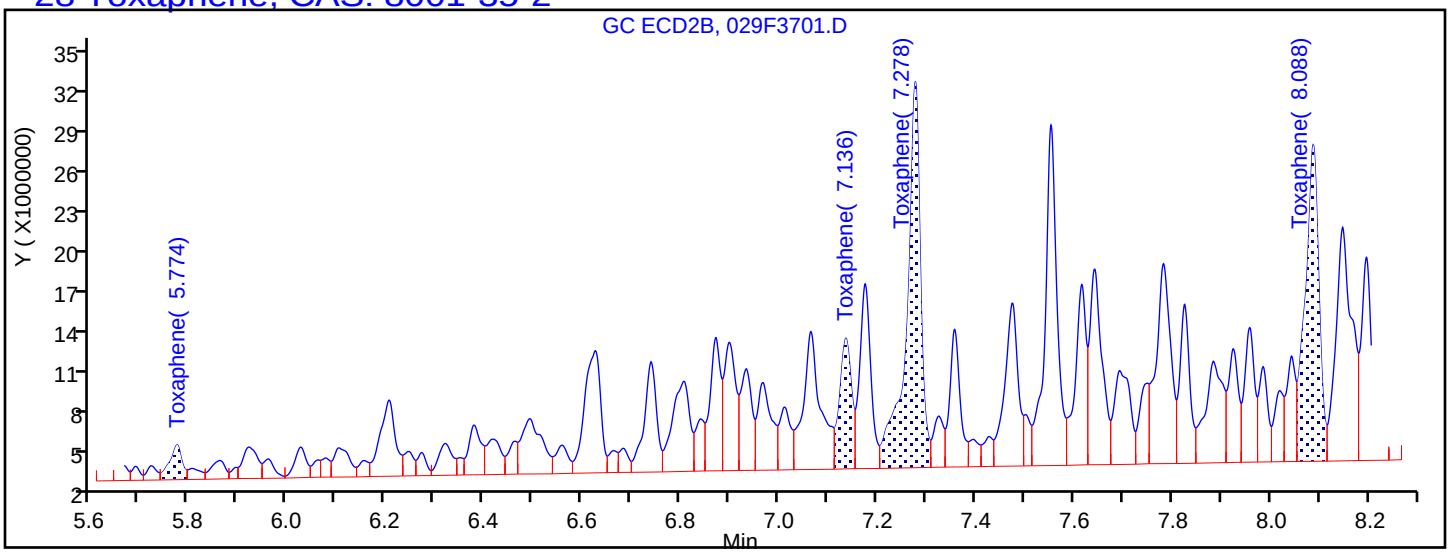
Report Date: 14-Oct-2018 22:12:11 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\029F3701.D

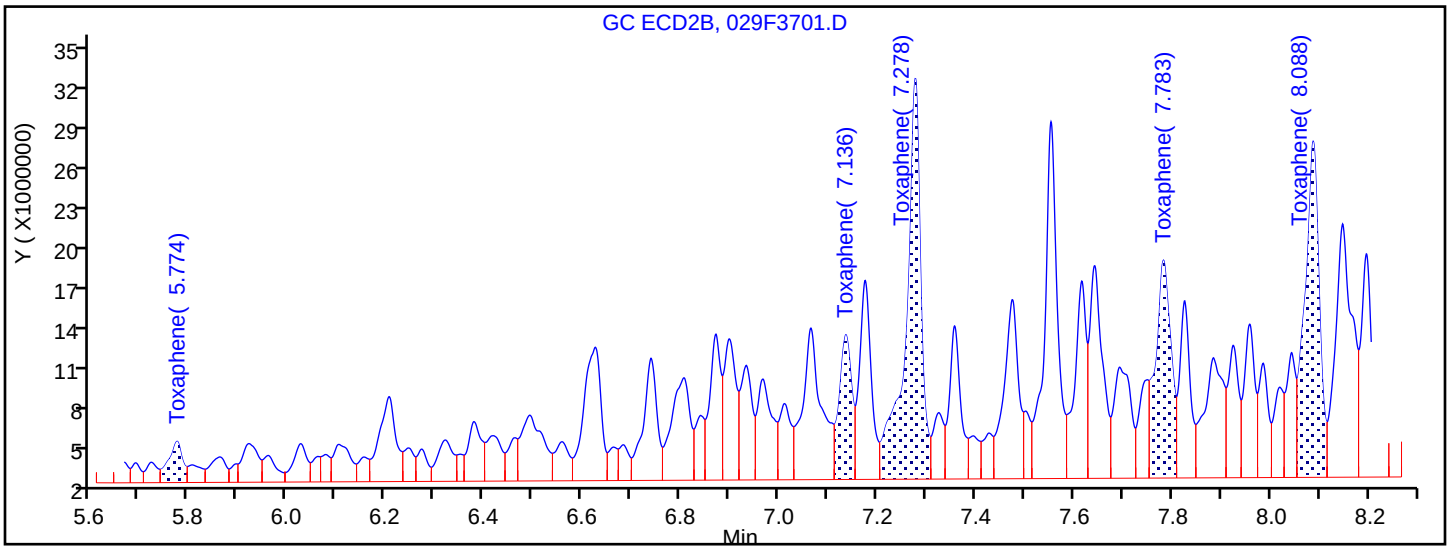
Injection Date:	13-Oct-2018 21:24:35	Instrument ID:	SGC_P2		
Lims ID:	ICV TOX				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	29	Worklist Smp#:	34
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.774	Response = 4545269
7.136	Response = 16204546
7.278	Response = 55594865
7.800	Response = 0
8.088	Response = 45157495



Manual Integration Results

5.774	Response = 6074445	M
7.136	Response = 18826032	M
7.278	Response = 62348552	M
7.783	Response = 34844907	M
8.088	Response = 50429097	M

Reviewer: mooret, 14-Oct-2018 21:40:53

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-433303/36 Calibration Date: 10/13/2018 21:59

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 031F3901.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.128		24.6	25.0	-1.6	20.0
alpha-BHC	Lin2		1.602		24.4	25.0	-2.6	20.0
gamma-BHC (Lindane)	Lin2		1.376		24.4	25.0	-2.4	20.0
beta-BHC	Lin2		0.5291		24.0	25.0	-4.1	20.0
delta-BHC	Lin2		1.370		24.0	25.0	-4.1	20.0
Heptachlor	Lin2		1.251		25.0	25.0	0.0	20.0
Aldrin	Lin2		1.323		24.8	25.0	-0.8	20.0
Heptachlor epoxide	Lin2		1.117		24.5	25.0	-1.8	20.0
gamma-Chlordane	Lin2		1.168		24.0	25.0	-4.2	20.0
alpha-Chlordane	Lin2		1.114		23.9	25.0	-4.4	20.0
4,4'-DDE	Lin2		1.153		23.6	25.0	-5.6	20.0
Endosulfan I	Lin2		1.049		24.3	25.0	-2.6	20.0
Dieldrin	Lin2		1.192		25.0	25.0	-0.2	20.0
Endrin	Lin2		0.9895		23.9	25.0	-4.2	20.0
4,4'-DDD	Lin2		0.8973		23.7	25.0	-5.3	20.0
Endosulfan II	Lin2		0.9210		23.6	25.0	-5.6	20.0
4,4'-DDT	Lin2		0.7862		23.3	25.0	-6.6	20.0
Endrin aldehyde	Lin2		0.7035		23.5	25.0	-5.9	20.0
Methoxychlor	Lin2		0.3555		22.8	25.0	-8.8	20.0
Endosulfan sulfate	Lin2		0.8083		23.4	25.0	-6.3	20.0
Endrin ketone	Lin2		0.8377		23.1	25.0	-7.7	20.0
Tetrachloro-m-xylene	Lin2		1.029		23.5	25.0	-5.9	20.0
DCB Decachlorobiphenyl	Lin2		0.5203		22.8	25.0	-8.9	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-433303/36 Calibration Date: 10/13/2018 21:59

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 031F3901.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.33	4.31	4.34
alpha-BHC	4.50	4.49	4.51
gamma-BHC (Lindane)	4.79	4.77	4.80
beta-BHC	4.86	4.85	4.87
delta-BHC	5.01	5.00	5.02
Heptachlor	5.19	5.18	5.20
Aldrin	5.46	5.45	5.47
Heptachlor epoxide	6.07	6.06	6.08
gamma-Chlordane	6.20	6.19	6.22
alpha-Chlordane	6.35	6.33	6.36
4,4'-DDE	6.42	6.41	6.43
Endosulfan I	6.50	6.48	6.51
Dieldrin	6.75	6.74	6.76
Endrin	7.00	6.99	7.01
4,4'-DDD	7.06	7.05	7.07
Endosulfan II	7.24	7.22	7.25
4,4'-DDT	7.35	7.34	7.36
Endrin aldehyde	7.68	7.67	7.69
Methoxychlor	7.86	7.85	7.87
Endosulfan sulfate	8.14	8.13	8.15
Endrin ketone	8.43	8.42	8.44
Tetrachloro-m-xylene	3.92	3.91	3.93
DCB Decachlorobiphenyl	9.45	9.43	9.46

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\031F3901.D
Lims ID: ICV AB
Client ID:
Sample Type: ICV
Inject. Date: 13-Oct-2018 21:59:26 ALS Bottle#: 31 Worklist Smp#: 36
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV AB
Operator ID: TEM Instrument ID: SGC_P2
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:04 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:19:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1					100.0	96.7	
2					100.0	103.8	
						RPD = 7.09	
* 2 1-Bromo-2-nitrobenzene							
1	3.019	3.019	0.000	1833818877	150.0	150.0	
2	2.837	2.839	-0.002	196779319	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.918	3.919	-0.001	314378706	25.0	23.5	
2	3.822	3.823	-0.001	40975324	25.0	25.3	
						RPD = 7.22	
5 Hexachlorobenzene							
1	4.327	4.326	0.001	344758382	25.0	24.6	
2	4.302	4.302	0.000	43428441	25.0	25.4	
						RPD = 3.35	
8 alpha-BHC							
1	4.497	4.497	0.000	489570974	25.0	24.4	
2	4.447	4.448	-0.001	57087109	25.0	26.0	
						RPD = 6.62	
9 gamma-BHC (Lindane)							
1	4.786	4.785	0.001	420459219	25.0	24.4	
2	4.762	4.761	0.001	50008117	25.0	26.3	
						RPD = 7.40	
10 beta-BHC							
1	4.862	4.862	0.000	161705438	25.0	24.0	
2	4.837	4.837	0.000	21403256	25.0	26.0	
						RPD = 8.26	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.011	5.010	0.001	418721510	25.0	24.0	
2	5.070	5.069	0.001	49051008	25.0	25.5	
						RPD = 6.09	
15 Heptachlor							
1	5.187	5.187	0.000	382406575	25.0	25.0	
2	5.112	5.112	0.000	43506261	25.0	26.4	
						RPD = 5.38	
16 Aldrin							
1	5.458	5.457	0.001	404243124	25.0	24.8	
2	5.384	5.383	0.001	46807354	25.0	26.4	
						RPD = 6.18	
18 Isodrin							
1	5.785	5.783	0.002	312070496	25.0	23.9	
2	5.750	5.749	0.001	38025211	25.0	25.0	
						RPD = 4.80	
21 Heptachlor epoxide							
1	6.074	6.072	0.002	341495179	25.0	24.5	
2	5.932	5.931	0.001	42252977	25.0	26.0	
						RPD = 5.91	
22 trans-Chlordane							
1	6.204	6.204	0.000	357105555	25.0	24.0	
2	6.132	6.130	0.002	43276821	25.0	25.5	
						RPD = 6.23	
23 cis-Chlordane							
1	6.347	6.344	0.003	340403751	25.0	23.9	
2	6.287	6.286	0.001	41538812	25.0	25.8	
						RPD = 7.62	
24 4,4'-DDE							
1	6.422	6.421	0.001	352295573	25.0	23.6	
2	6.471	6.469	0.002	42170047	25.0	25.3	
						RPD = 6.99	
25 Endosulfan I							
1	6.496	6.494	0.002	320496682	25.0	24.3	
2	6.348	6.346	0.002	39747580	25.0	25.9	
						RPD = 6.24	
27 Dieldrin							
1	6.750	6.748	0.002	364318480	25.0	25.0	
2	6.641	6.639	0.002	44056375	25.0	26.2	
						RPD = 5.04	
30 Endrin							
1	6.998	6.997	0.001	302410533	25.0	23.9	
2	6.964	6.963	0.001	37475292	25.0	25.3	
						RPD = 5.64	
32 4,4'-DDD							
1	7.058	7.058	0.000	274241112	25.0	23.7	
2	7.089	7.089	0.000	33960824	25.0	25.0	
						RPD = 5.56	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.236	7.234	0.002	281476331	25.0	23.6	
2	7.192	7.190	0.002	36361969	25.0	25.1	
						RPD = 6.06	
35 4,4'-DDT							
1	7.353	7.352	0.001	240280393	25.0	23.3	
2	7.421	7.419	0.002	30504127	25.0	26.1	
						RPD = 11.22	
36 Endrin aldehyde							
1	7.681	7.679	0.002	215019147	25.0	23.5	
2	7.552	7.550	0.002	29378162	25.0	25.3	
						RPD = 7.44	
37 Methoxychlor							
1	7.857	7.857	0.000	108660913	25.0	22.8	
2	8.152	8.150	0.002	14100142	25.0	24.2	
						RPD = 6.10	
38 Mirex							
1	8.017	8.016	0.001	154479193	25.0	20.2	
2	8.346	8.344	0.002	24486294	25.0	24.7	
						RPD = 20.27	
39 Endosulfan sulfate							
1	8.139	8.138	0.001	247058157	25.0	23.4	
2	7.843	7.841	0.002	33389158	25.0	25.2	
						RPD = 7.25	
40 Endrin ketone							
1	8.432	8.429	0.003	256015167	25.0	23.1	
2	8.398	8.396	0.002	36099125	25.0	24.8	
						RPD = 7.26	
$ 41 DCB Decachlorobiphenyl							
1	9.447	9.446	0.001	159008498	25.0	22.8	
2	9.669	9.668	0.001	23458218	25.0	24.3	
						RPD = 6.44	
S 3 Endosulfan, Total							
1					75.0	71.4	
2					75.0	76.2	
						RPD = 6.51	

Reagents:

8081ABICVL3_00035	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

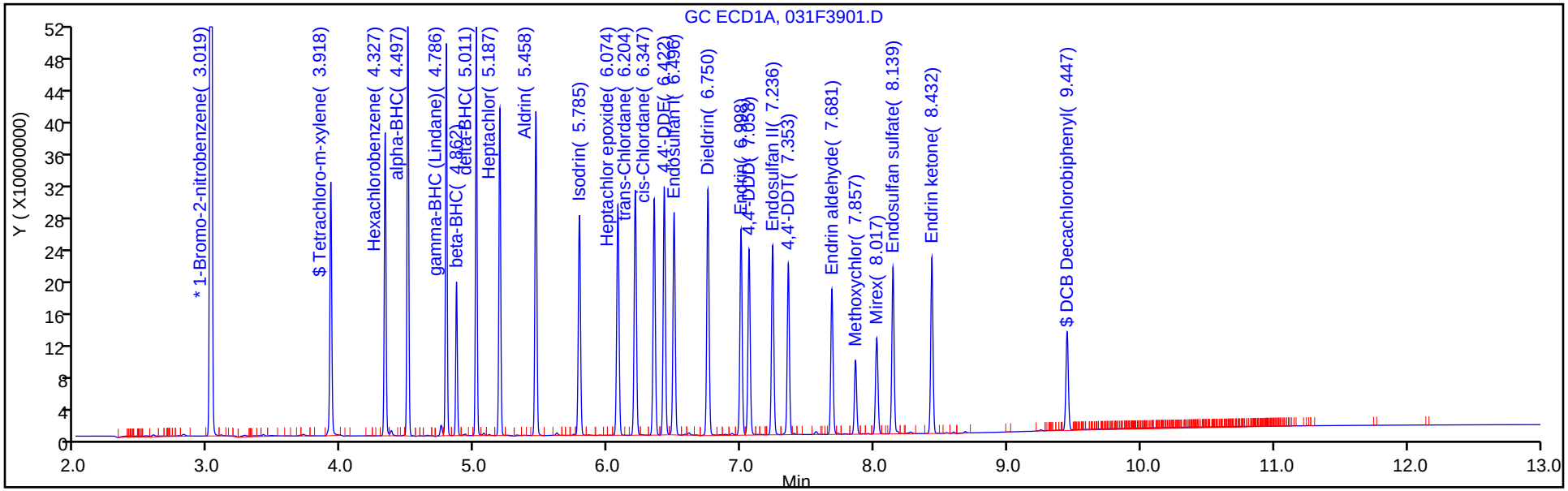
Report Date: 14-Oct-2018 22:12:18 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

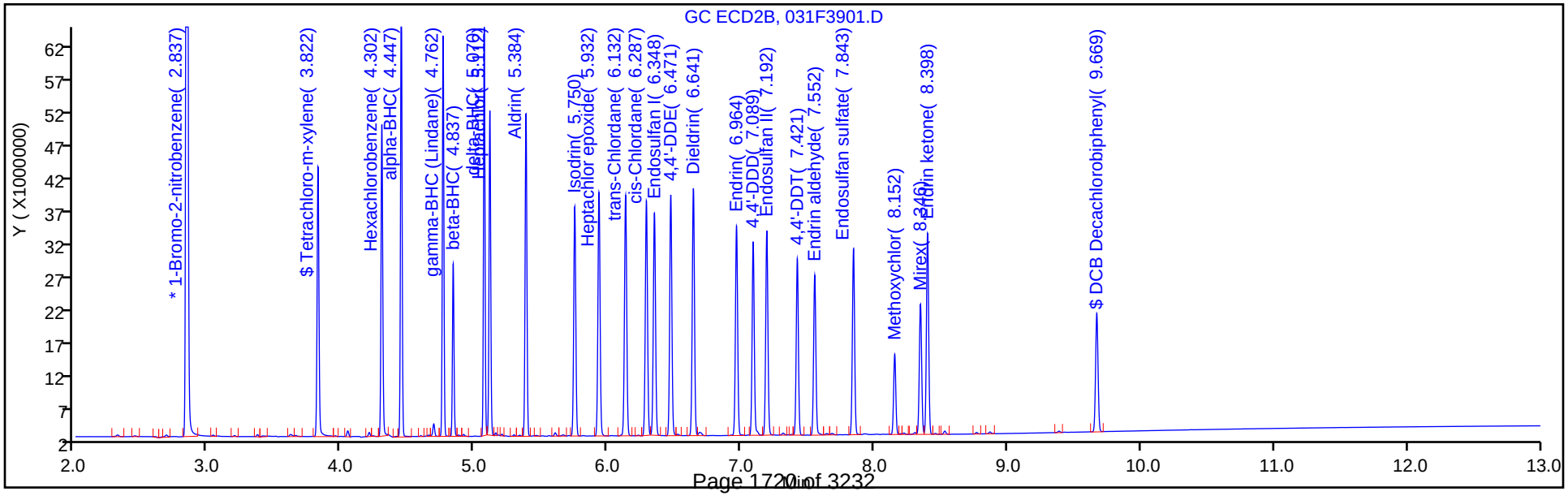
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\031F3901.D

Injection Date:	13-Oct-2018 21:59:26	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	ICV AB			Worklist Smp#:	36
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-433303/36 Calibration Date: 10/13/2018 21:59

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 031F3901.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.324		25.4	25.0	1.7	20.0
alpha-BHC	Lin2		1.741		26.0	25.0	4.1	20.0
gamma-BHC (Lindane)	Lin2		1.525		26.3	25.0	5.1	20.0
beta-BHC	Lin2		0.6526		26.0	25.0	4.1	20.0
delta-BHC	Lin2		1.496		25.5	25.0	1.9	20.0
Heptachlor	Lin2		1.327		26.4	25.0	5.6	20.0
Aldrin	Lin2		1.427		26.4	25.0	5.5	20.0
Heptachlor epoxide	Lin2		1.288		26.0	25.0	4.2	20.0
gamma-Chlordane	Lin2		1.320		25.5	25.0	2.0	20.0
alpha-Chlordane	Lin2		1.267		25.8	25.0	3.2	20.0
Endosulfan I	Lin2		1.212		25.9	25.0	3.6	20.0
4,4'-DDE	Lin2		1.286		25.3	25.0	1.3	20.0
Dieldrin	Lin2		1.343		26.2	25.0	5.0	20.0
Endrin	Lin2		1.143		25.3	25.0	1.3	20.0
4,4'-DDD	Lin2		1.036		25.0	25.0	0.1	20.0
Endosulfan II	Lin2		1.109		25.1	25.0	0.3	20.0
4,4'-DDT	Lin2		0.9301		26.1	25.0	4.5	20.0
Endrin aldehyde	Lin2		0.8958		25.3	25.0	1.3	20.0
Endosulfan sulfate	Lin2		1.018		25.2	25.0	0.8	20.0
Methoxychlor	Lin2		0.4299		24.2	25.0	-3.1	20.0
Endrin ketone	Lin2		1.101		24.8	25.0	-0.8	20.0
Tetrachloro-m-xylene	Lin2		1.249		25.3	25.0	1.2	20.0
DCB Decachlorobiphenyl	Lin2		0.7153		24.3	25.0	-2.8	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-433303/36 Calibration Date: 10/13/2018 21:59

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 031F3901.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.30	4.29	4.31
alpha-BHC	4.45	4.44	4.46
gamma-BHC (Lindane)	4.76	4.75	4.77
beta-BHC	4.84	4.83	4.85
delta-BHC	5.07	5.06	5.08
Heptachlor	5.11	5.10	5.12
Aldrin	5.38	5.37	5.40
Heptachlor epoxide	5.93	5.92	5.94
gamma-Chlordane	6.13	6.12	6.14
alpha-Chlordane	6.29	6.27	6.30
Endosulfan I	6.35	6.33	6.36
4,4'-DDE	6.47	6.46	6.48
Dieldrin	6.64	6.63	6.65
Endrin	6.96	6.95	6.98
4,4'-DDD	7.09	7.08	7.10
Endosulfan II	7.19	7.18	7.20
4,4'-DDT	7.42	7.41	7.43
Endrin aldehyde	7.55	7.54	7.56
Endosulfan sulfate	7.84	7.83	7.85
Methoxychlor	8.15	8.14	8.16
Endrin ketone	8.40	8.38	8.41
Tetrachloro-m-xylene	3.82	3.81	3.84
DCB Decachlorobiphenyl	9.67	9.66	9.68

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\031F3901.D
Lims ID: ICV AB
Client ID:
Sample Type: ICV
Inject. Date: 13-Oct-2018 21:59:26 ALS Bottle#: 31 Worklist Smp#: 36
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV AB
Operator ID: TEM Instrument ID: SGC_P2
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:04 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:19:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1					100.0	96.7	
2					100.0	103.8	
						RPD = 7.09	
* 2 1-Bromo-2-nitrobenzene							
1	3.019	3.019	0.000	1833818877	150.0	150.0	
2	2.837	2.839	-0.002	196779319	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.918	3.919	-0.001	314378706	25.0	23.5	
2	3.822	3.823	-0.001	40975324	25.0	25.3	
						RPD = 7.22	
5 Hexachlorobenzene							
1	4.327	4.326	0.001	344758382	25.0	24.6	
2	4.302	4.302	0.000	43428441	25.0	25.4	
						RPD = 3.35	
8 alpha-BHC							
1	4.497	4.497	0.000	489570974	25.0	24.4	
2	4.447	4.448	-0.001	57087109	25.0	26.0	
						RPD = 6.62	
9 gamma-BHC (Lindane)							
1	4.786	4.785	0.001	420459219	25.0	24.4	
2	4.762	4.761	0.001	50008117	25.0	26.3	
						RPD = 7.40	
10 beta-BHC							
1	4.862	4.862	0.000	161705438	25.0	24.0	
2	4.837	4.837	0.000	21403256	25.0	26.0	
						RPD = 8.26	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.011	5.010	0.001	418721510	25.0	24.0	
2	5.070	5.069	0.001	49051008	25.0	25.5	
						RPD = 6.09	
15 Heptachlor							
1	5.187	5.187	0.000	382406575	25.0	25.0	
2	5.112	5.112	0.000	43506261	25.0	26.4	
						RPD = 5.38	
16 Aldrin							
1	5.458	5.457	0.001	404243124	25.0	24.8	
2	5.384	5.383	0.001	46807354	25.0	26.4	
						RPD = 6.18	
18 Isodrin							
1	5.785	5.783	0.002	312070496	25.0	23.9	
2	5.750	5.749	0.001	38025211	25.0	25.0	
						RPD = 4.80	
21 Heptachlor epoxide							
1	6.074	6.072	0.002	341495179	25.0	24.5	
2	5.932	5.931	0.001	42252977	25.0	26.0	
						RPD = 5.91	
22 trans-Chlordane							
1	6.204	6.204	0.000	357105555	25.0	24.0	
2	6.132	6.130	0.002	43276821	25.0	25.5	
						RPD = 6.23	
23 cis-Chlordane							
1	6.347	6.344	0.003	340403751	25.0	23.9	
2	6.287	6.286	0.001	41538812	25.0	25.8	
						RPD = 7.62	
24 4,4'-DDE							
1	6.422	6.421	0.001	352295573	25.0	23.6	
2	6.471	6.469	0.002	42170047	25.0	25.3	
						RPD = 6.99	
25 Endosulfan I							
1	6.496	6.494	0.002	320496682	25.0	24.3	
2	6.348	6.346	0.002	39747580	25.0	25.9	
						RPD = 6.24	
27 Dieldrin							
1	6.750	6.748	0.002	364318480	25.0	25.0	
2	6.641	6.639	0.002	44056375	25.0	26.2	
						RPD = 5.04	
30 Endrin							
1	6.998	6.997	0.001	302410533	25.0	23.9	
2	6.964	6.963	0.001	37475292	25.0	25.3	
						RPD = 5.64	
32 4,4'-DDD							
1	7.058	7.058	0.000	274241112	25.0	23.7	
2	7.089	7.089	0.000	33960824	25.0	25.0	
						RPD = 5.56	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.236	7.234	0.002	281476331	25.0	23.6	
2	7.192	7.190	0.002	36361969	25.0	25.1	
						RPD = 6.06	
35 4,4'-DDT							
1	7.353	7.352	0.001	240280393	25.0	23.3	
2	7.421	7.419	0.002	30504127	25.0	26.1	
						RPD = 11.22	
36 Endrin aldehyde							
1	7.681	7.679	0.002	215019147	25.0	23.5	
2	7.552	7.550	0.002	29378162	25.0	25.3	
						RPD = 7.44	
37 Methoxychlor							
1	7.857	7.857	0.000	108660913	25.0	22.8	
2	8.152	8.150	0.002	14100142	25.0	24.2	
						RPD = 6.10	
38 Mirex							
1	8.017	8.016	0.001	154479193	25.0	20.2	
2	8.346	8.344	0.002	24486294	25.0	24.7	
						RPD = 20.27	
39 Endosulfan sulfate							
1	8.139	8.138	0.001	247058157	25.0	23.4	
2	7.843	7.841	0.002	33389158	25.0	25.2	
						RPD = 7.25	
40 Endrin ketone							
1	8.432	8.429	0.003	256015167	25.0	23.1	
2	8.398	8.396	0.002	36099125	25.0	24.8	
						RPD = 7.26	
$ 41 DCB Decachlorobiphenyl							
1	9.447	9.446	0.001	159008498	25.0	22.8	
2	9.669	9.668	0.001	23458218	25.0	24.3	
						RPD = 6.44	
S 3 Endosulfan, Total							
1					75.0	71.4	
2					75.0	76.2	
						RPD = 6.51	

Reagents:

8081ABICVL3_00035	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

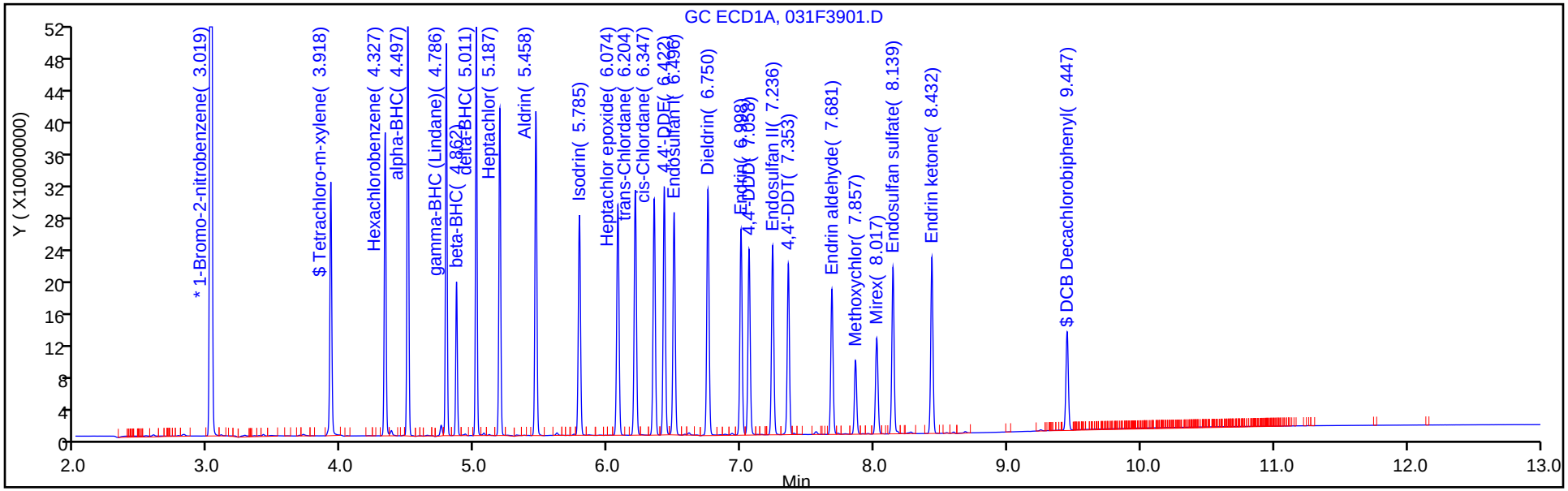
Report Date: 14-Oct-2018 22:12:19 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

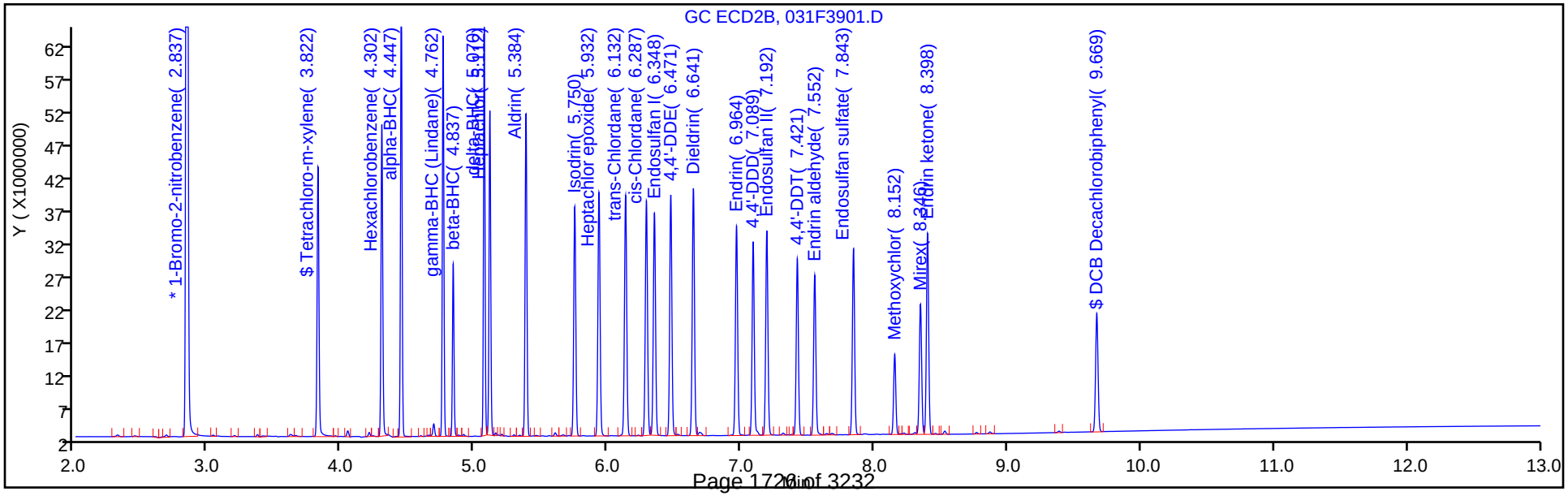
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\031F3901.D

Injection Date:	13-Oct-2018 21:59:26	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	ICV AB			Worklist Smp#:	36
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438138/11 Calibration Date: 11/19/2018 15:27

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11190011.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0075		2180	2000	9.2	20.0
Toxaphene Peak 2	Lin2		0.0189		2150	2000	7.5	20.0
Toxaphene Peak 3	Lin2		0.0222		2270	2000	13.4	20.0
Toxaphene Peak 4	Lin2		0.0091		2320	2000	15.9	20.0
Toxaphene Peak 5	Lin2		0.0100		2510	2000	25.7*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438138/11 Calibration Date: 11/19/2018 15:27

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11190011.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	6.21	6.20	6.23
Toxaphene Peak 2	6.82	6.81	6.83
Toxaphene Peak 3	7.49	7.48	7.50
Toxaphene Peak 4	7.85	7.84	7.86
Toxaphene Peak 5	8.17	8.15	8.18

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190011.D
Lims ID: CCV TOX
Client ID:
Sample Type: CCV
Inject. Date: 19-Nov-2018 15:27:14 ALS Bottle#: 5 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV TOX
Misc. Info.: 280-0076345-011
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:01:23 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 08:39:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.006	3.006	0.000	1512391662	150.0	150.0	
2	2.811	2.811	0.000	222959495	150.0	150.0	
28 Toxaphene							
1	6.214	6.214	0.000	150830240	2000.0	2184.3	
1	6.818	6.818	0.000	380030119	2000.0	2150.4	
1	7.491	7.491	0.000	447720609	2000.0	2268.3	
1	7.850	7.850	0.000	183990531	2000.0	2318.3	
1	8.166	8.166	0.000	200973675	2000.0	2513.8	
		Average of Peak Amounts =				2287.0	
2	5.730	5.730	0.000	13995807	2000.0	2040.5	
2	7.083	7.083	0.000	63032033	2000.0	2044.0	
2	7.223	7.223	0.000	172008202	2000.0	2019.7	
2	7.738	7.738	0.000	49788276	2000.0	2044.1	
2	8.031	8.031	0.000	93835688	2000.0	1974.1	
		Average of Peak Amounts =				2024.5	
						RPD = 12.18	

Reagents:

8081TOXCCVL4_00015	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

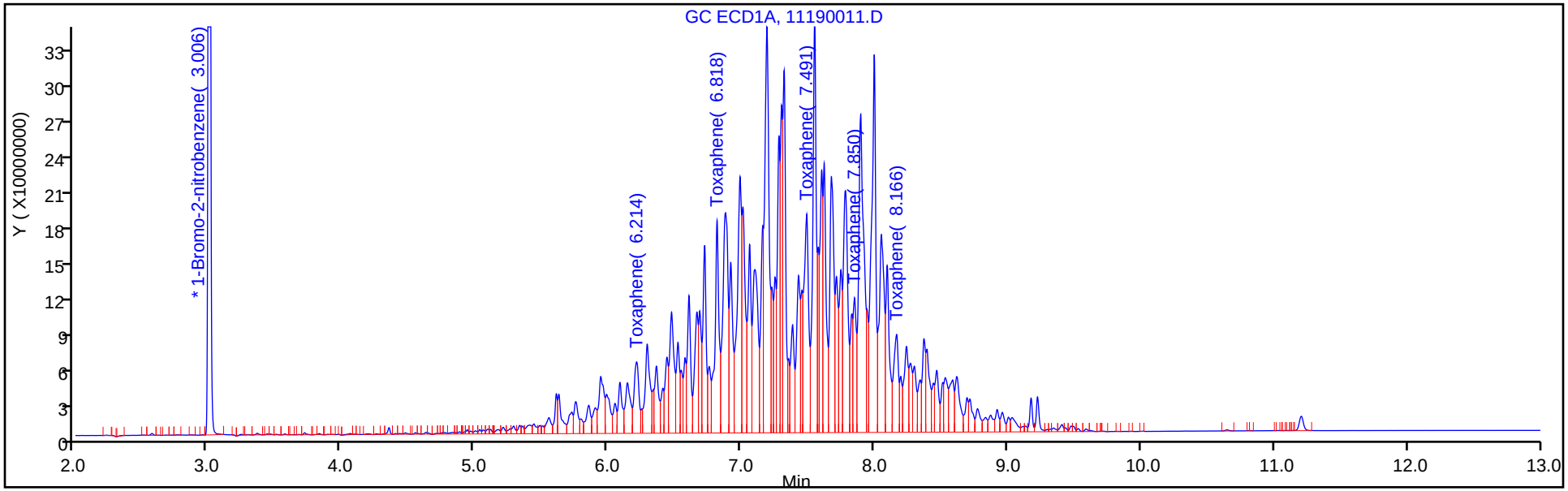
Report Date: 30-Nov-2018 13:01:25 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

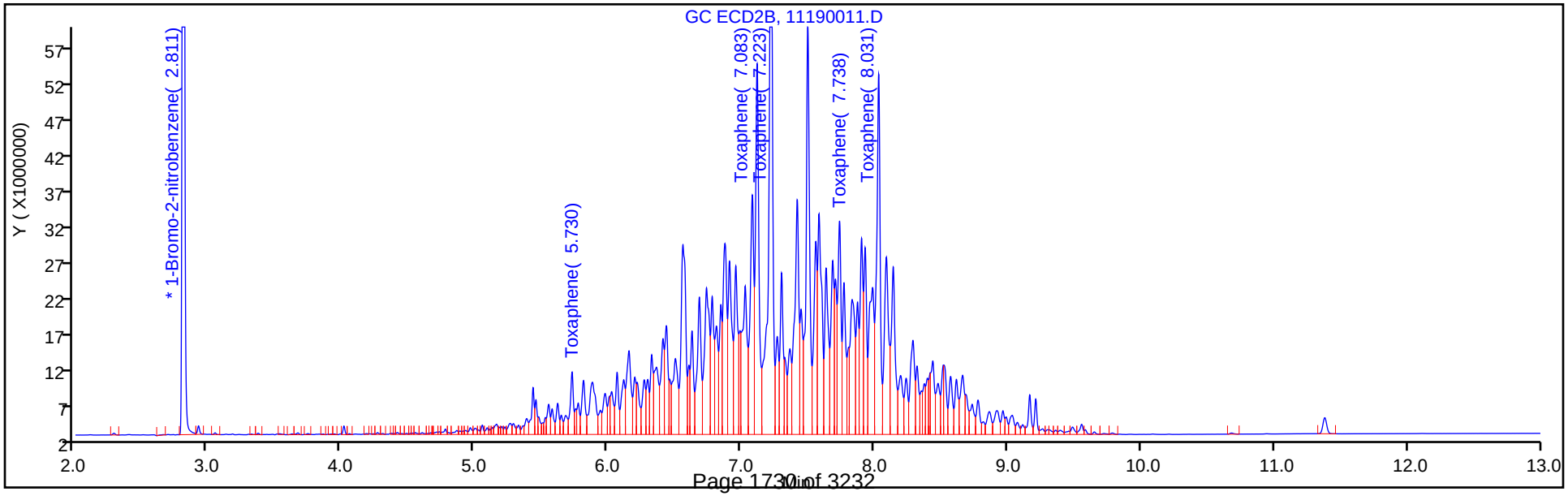
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190011.D

Injection Date:	19-Nov-2018 15:27:14	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV TOX			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438138/11 Calibration Date: 11/19/2018 15:27

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11190011.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0047		2040	2000	2.0	20.0
Toxaphene Peak 2	Lin2		0.0212		2040	2000	2.2	20.0
Toxaphene Peak 3	Lin2		0.0579		2020	2000	1.0	20.0
Toxaphene Peak 4	Lin2		0.0168		2040	2000	2.2	20.0
Toxaphene Peak 5	Lin2		0.0316		1970	2000	-1.3	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438138/11 Calibration Date: 11/19/2018 15:27

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11190011.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	5.73	5.72	5.74
Toxaphene Peak 2	7.08	7.07	7.10
Toxaphene Peak 3	7.22	7.21	7.24
Toxaphene Peak 4	7.74	7.73	7.75
Toxaphene Peak 5	8.03	8.02	8.04

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190011.D
Lims ID: CCV TOX
Client ID:
Sample Type: CCV
Inject. Date: 19-Nov-2018 15:27:14 ALS Bottle#: 5 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV TOX
Misc. Info.: 280-0076345-011
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:01:23 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 08:39:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.006	3.006	0.000	1512391662	150.0	150.0	
2	2.811	2.811	0.000	222959495	150.0	150.0	
28 Toxaphene							
1	6.214	6.214	0.000	150830240	2000.0	2184.3	
1	6.818	6.818	0.000	380030119	2000.0	2150.4	
1	7.491	7.491	0.000	447720609	2000.0	2268.3	
1	7.850	7.850	0.000	183990531	2000.0	2318.3	
1	8.166	8.166	0.000	200973675	2000.0	2513.8	
		Average of Peak Amounts =				2287.0	
2	5.730	5.730	0.000	13995807	2000.0	2040.5	
2	7.083	7.083	0.000	63032033	2000.0	2044.0	
2	7.223	7.223	0.000	172008202	2000.0	2019.7	
2	7.738	7.738	0.000	49788276	2000.0	2044.1	
2	8.031	8.031	0.000	93835688	2000.0	1974.1	
		Average of Peak Amounts =				2024.5	
						RPD = 12.18	

Reagents:

8081TOXCCVL4_00015	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

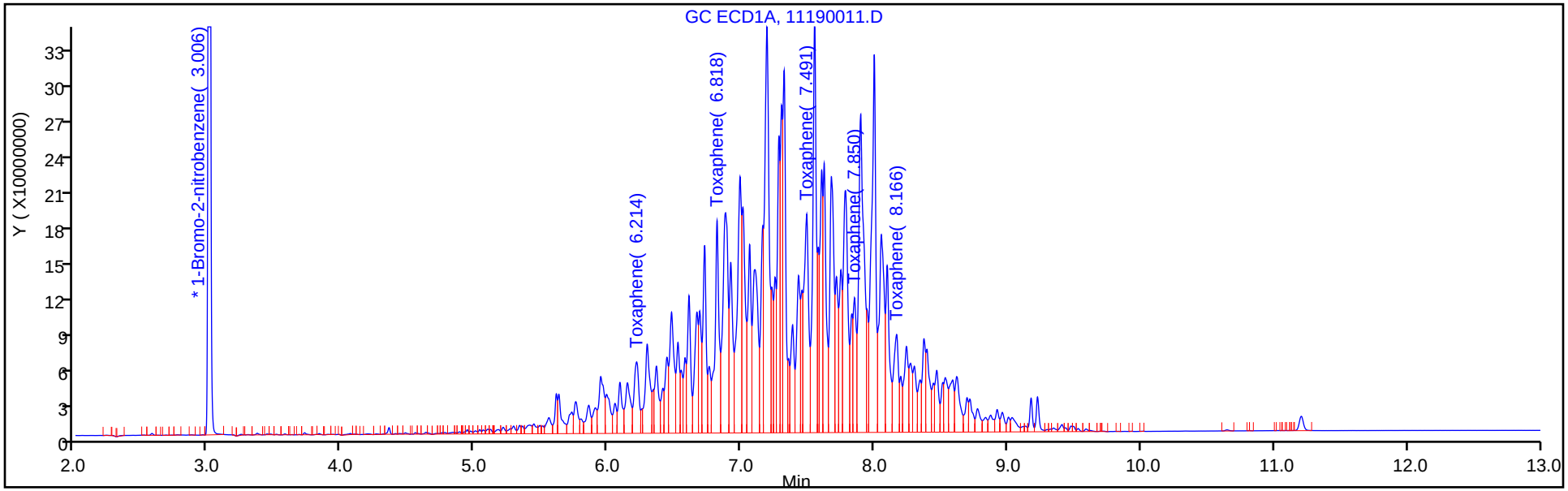
Report Date: 30-Nov-2018 13:01:27 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

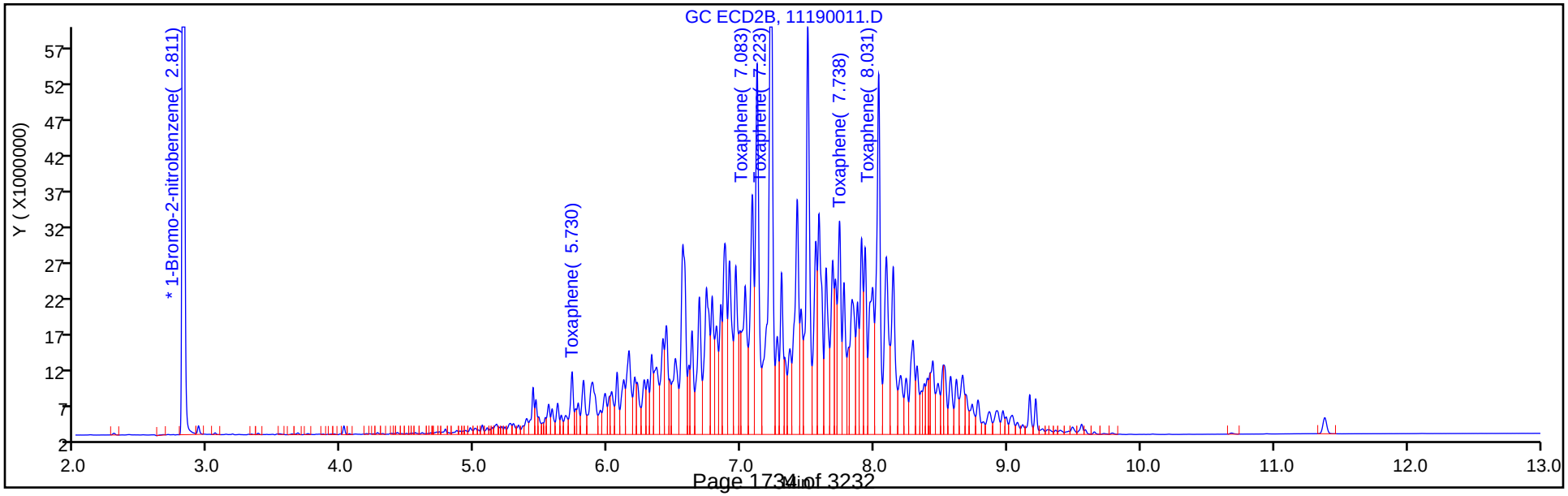
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190011.D

Injection Date:	19-Nov-2018 15:27:14	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV TOX			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVIS 280-438138/13 Calibration Date: 11/19/2018 16:02

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11190013.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.073		46.5	50.0	-6.9	20.0
alpha-BHC	Lin2		1.629		48.8	50.0	-2.4	20.0
gamma-BHC (Lindane)	Lin2		1.420		49.9	50.0	-0.3	20.0
beta-BHC	Lin2		0.5544		50.7	50.0	1.4	20.0
delta-BHC	Lin2		1.451		50.1	50.0	0.2	20.0
Heptachlor	Lin2		1.255		49.7	50.0	-0.6	20.0
Aldrin	Lin2		1.306		48.5	50.0	-3.0	20.0
Heptachlor epoxide	Lin2		1.133		49.5	50.0	-1.0	20.0
gamma-Chlordane	Lin2		1.208		49.1	50.0	-1.8	20.0
alpha-Chlordane	Lin2		1.149		48.8	50.0	-2.3	20.0
4,4'-DDE	Lin2		1.150		46.6	50.0	-6.8	20.0
Endosulfan I	Lin2		1.064		49.2	50.0	-1.6	20.0
Dieldrin	Lin2		1.148		47.7	50.0	-4.5	20.0
Endrin	Lin2		1.122		53.7	50.0	7.4	20.0
4,4'-DDD	Lin2		0.9236		48.3	50.0	-3.5	20.0
Endosulfan II	Lin2		0.9877		50.3	50.0	0.6	20.0
4,4'-DDT	Lin2		0.8908		51.9	50.0	3.9	20.0
Endrin aldehyde	Lin2		0.7540		50.2	50.0	0.4	20.0
Methoxychlor	Lin2		0.4224		54.1	50.0	8.1	20.0
Endosulfan sulfate	Lin2		0.9225		53.1	50.0	6.1	20.0
Endrin ketone	Lin2		0.9338		51.1	50.0	2.2	20.0
Tetrachloro-m-xylene	Lin2		0.9940		45.1	50.0	-9.7	20.0
DCB Decachlorobiphenyl	Lin2		0.5527		48.6	50.0	-2.9	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVIS 280-438138/13 Calibration Date: 11/19/2018 16:02

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11190013.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.31	4.30	4.32
alpha-BHC	4.48	4.47	4.49
gamma-BHC (Lindane)	4.77	4.76	4.78
beta-BHC	4.85	4.83	4.86
delta-BHC	4.99	4.98	5.01
Heptachlor	5.17	5.16	5.18
Aldrin	5.44	5.43	5.45
Heptachlor epoxide	6.05	6.03	6.06
gamma-Chlordane	6.18	6.17	6.19
alpha-Chlordane	6.32	6.31	6.33
4,4'-DDE	6.39	6.38	6.41
Endosulfan I	6.47	6.45	6.48
Dieldrin	6.72	6.71	6.73
Endrin	6.97	6.96	6.98
4,4'-DDD	7.03	7.02	7.04
Endosulfan II	7.21	7.19	7.22
4,4'-DDT	7.32	7.31	7.33
Endrin aldehyde	7.65	7.64	7.66
Methoxychlor	7.83	7.81	7.84
Endosulfan sulfate	8.11	8.09	8.12
Endrin ketone	8.40	8.39	8.41
Tetrachloro-m-xylene	3.90	3.89	3.91
DCB Decachlorobiphenyl	9.41	9.40	9.42

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190013.D
Lims ID: CCVIS AB
Client ID:
Sample Type: CCVIS
Inject. Date: 19-Nov-2018 16:02:16 ALS Bottle#: 7 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS AB
Misc. Info.: 280-0076345-013
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:01:35 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 08:41:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.006	3.006	0.000	1627666051	150.0	150.0	
2	2.811	2.811	0.000	240336799	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.902	3.902	0.000	539295214	50.0	45.1	
2	3.792	3.792	0.000	83772970	50.0	42.8	
						RPD = 5.35	
5 Hexachlorobenzene							
1	4.311	4.311	0.000	582357460	50.0	46.5	
2	4.270	4.270	0.000	89695425	50.0	43.4	
						RPD = 6.97	
8 alpha-BHC							
1	4.481	4.481	0.000	883759501	50.0	48.8	
2	4.415	4.415	0.000	126833112	50.0	47.6	
						RPD = 2.51	
9 gamma-BHC (Lindane)							
1	4.769	4.769	0.000	770571119	50.0	49.9	
2	4.728	4.728	0.000	110686185	50.0	47.8	
						RPD = 4.26	
10 beta-BHC							
1	4.846	4.846	0.000	300811628	50.0	50.7	
2	4.805	4.805	0.000	46376948	50.0	46.8	
						RPD = 8.01	
12 delta-BHC							
1	4.994	4.994	0.000	787513288	50.0	50.1	
2	5.037	5.037	0.000	110293569	50.0	47.0	
						RPD = 6.37	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.168	5.168	0.000	680710073	50.0	49.7	
2	5.079	5.079	0.000	99780232	50.0	49.9	
						RPD = 0.34	
16 Aldrin							
1	5.437	5.437	0.000	708829044	50.0	48.5	
2	5.346	5.346	0.000	99680537	50.0	46.2	
						RPD = 4.85	
18 Isodrin							
1	5.761	5.761	0.000	570583391	50.0	48.8	
2	5.705	5.705	0.000	83240921	50.0	45.3	
						RPD = 7.44	
21 Heptachlor epoxide							
1	6.046	6.046	0.000	614467556	50.0	49.5	
2	5.884	5.884	0.000	90926225	50.0	46.3	
						RPD = 6.64	
22 trans-Chlordane							
1	6.177	6.177	0.000	655606874	50.0	49.1	
2	6.081	6.081	0.000	92577616	50.0	44.9	
						RPD = 8.90	
23 cis-Chlordane							
1	6.318	6.318	0.000	623208970	50.0	48.8	
2	6.236	6.236	0.000	88919650	50.0	45.6	
						RPD = 6.86	
24 4,4'-DDE							
1	6.394	6.394	0.000	623807099	50.0	46.6	
2	6.420	6.420	0.000	89502064	50.0	44.2	
						RPD = 5.37	
25 Endosulfan I							
1	6.466	6.466	0.000	577150827	50.0	49.2	
2	6.296	6.296	0.000	84526407	50.0	45.6	
						RPD = 7.51	
27 Dieldrin							
1	6.720	6.720	0.000	623021303	50.0	47.7	
2	6.586	6.586	0.000	92626437	50.0	45.4	
						RPD = 5.08	
30 Endrin							
1	6.967	6.967	0.000	608767556	50.0	53.7	
2	6.907	6.907	0.000	88894850	50.0	49.4	
						RPD = 8.35	
32 4,4'-DDD							
1	7.029	7.029	0.000	501087561	50.0	48.3	
2	7.035	7.035	0.000	73423212	50.0	44.5	
						RPD = 8.05	
34 Endosulfan II							
1	7.205	7.205	0.000	535875586	50.0	50.3	
2	7.134	7.134	0.000	78692821	50.0	45.0	
						RPD = 11.12	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1	7.322	7.322	0.000	483286846	50.0	51.9	
2	7.366	7.366	0.000	70745193	50.0	49.5	
						RPD = 4.86	
36 Endrin aldehyde							
1	7.648	7.648	0.000	409105689	50.0	50.2	
2	7.492	7.492	0.000	62414126	50.0	44.6	
						RPD = 11.92	
37 Methoxychlor							
1	7.826	7.826	0.000	229192865	50.0	54.1	
2	8.095	8.095	0.000	34376436	50.0	48.8	
						RPD = 10.30	
38 Mirex							
1	7.985	7.985	0.000	356501874	50.0	52.4	
2	8.286	8.286	0.000	52205269	50.0	44.0	
						RPD = 17.48	
39 Endosulfan sulfate							
1	8.106	8.106	0.000	500501559	50.0	53.1	
2	7.784	7.784	0.000	72309545	50.0	45.2	
						RPD = 16.04	
40 Endrin ketone							
1	8.397	8.397	0.000	506621816	50.0	51.1	
2	8.336	8.336	0.000	76996694	50.0	43.7	
						RPD = 15.55	
$ 41 DCB Decachlorobiphenyl							
1	9.409	9.409	0.000	299886121	50.0	48.6	
2	9.606	9.606	0.000	50205877	50.0	43.3	
						RPD = 11.41	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

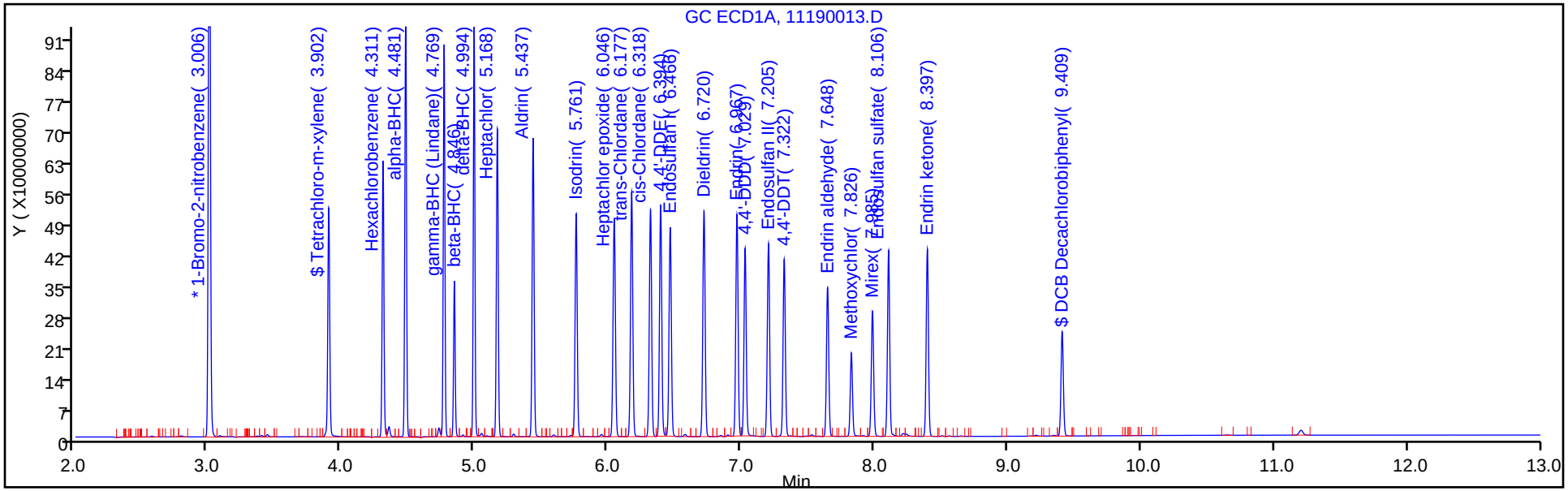
Report Date: 30-Nov-2018 13:01:37 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

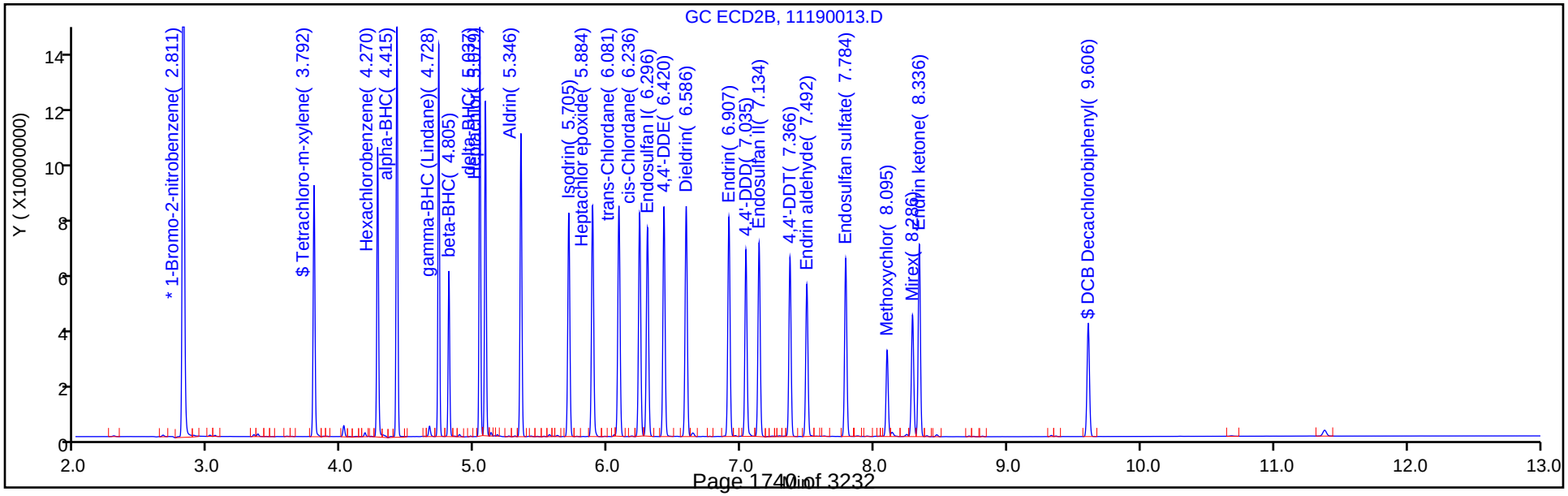
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190013.D

Injection Date:	19-Nov-2018 16:02:16	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCVIS AB			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVIS 280-438138/13 Calibration Date: 11/19/2018 16:02

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11190013.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.120		43.4	50.0	-13.2	20.0
alpha-BHC	Lin2		1.583		47.6	50.0	-4.8	20.0
gamma-BHC (Lindane)	Lin2		1.382		47.8	50.0	-4.4	20.0
beta-BHC	Lin2		0.5789		46.8	50.0	-6.4	20.0
delta-BHC	Lin2		1.377		47.0	50.0	-6.0	20.0
Heptachlor	Lin2		1.246		49.9	50.0	-0.3	20.0
Aldrin	Lin2		1.244		46.2	50.0	-7.6	20.0
Heptachlor epoxide	Lin2		1.135		46.3	50.0	-7.4	20.0
gamma-Chlordane	Lin2		1.156		44.9	50.0	-10.2	20.0
alpha-Chlordane	Lin2		1.110		45.6	50.0	-8.8	20.0
Endosulfan I	Lin2		1.055		45.6	50.0	-8.8	20.0
4,4'-DDE	Lin2		1.117		44.2	50.0	-11.7	20.0
Dieldrin	Lin2		1.156		45.4	50.0	-9.2	20.0
Endrin	Lin2		1.110		49.4	50.0	-1.2	20.0
4,4'-DDD	Lin2		0.9165		44.5	50.0	-11.0	20.0
Endosulfan II	Lin2		0.9823		45.0	50.0	-10.0	20.0
4,4'-DDT	Lin2		0.8831		49.5	50.0	-1.1	20.0
Endrin aldehyde	Lin2		0.7791		44.6	50.0	-10.9	20.0
Endosulfan sulfate	Lin2		0.9026		45.2	50.0	-9.6	20.0
Methoxychlor	Lin2		0.4291		48.8	50.0	-2.5	20.0
Endrin ketone	Lin2		0.9611		43.7	50.0	-12.5	20.0
Tetrachloro-m-xylene	Lin2		1.046		42.8	50.0	-14.4	20.0
DCB Decachlorobiphenyl	Lin2		0.6267		43.3	50.0	-13.3	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVIS 280-438138/13 Calibration Date: 11/19/2018 16:02

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11190013.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.27	4.26	4.28
alpha-BHC	4.42	4.40	4.43
gamma-BHC (Lindane)	4.73	4.72	4.74
beta-BHC	4.81	4.79	4.82
delta-BHC	5.04	5.03	5.05
Heptachlor	5.08	5.07	5.09
Aldrin	5.35	5.33	5.36
Heptachlor epoxide	5.88	5.87	5.90
gamma-Chlordane	6.08	6.07	6.09
alpha-Chlordane	6.24	6.22	6.25
Endosulfan I	6.30	6.28	6.31
4,4'-DDE	6.42	6.41	6.43
Dieldrin	6.59	6.57	6.60
Endrin	6.91	6.90	6.92
4,4'-DDD	7.04	7.02	7.05
Endosulfan II	7.13	7.12	7.15
4,4'-DDT	7.37	7.35	7.38
Endrin aldehyde	7.49	7.48	7.50
Endosulfan sulfate	7.78	7.77	7.80
Methoxychlor	8.10	8.08	8.11
Endrin ketone	8.34	8.32	8.35
Tetrachloro-m-xylene	3.79	3.78	3.80
DCB Decachlorobiphenyl	9.61	9.59	9.62

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190013.D
Lims ID: CCVIS AB
Client ID:
Sample Type: CCVIS
Inject. Date: 19-Nov-2018 16:02:16 ALS Bottle#: 7 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS AB
Misc. Info.: 280-0076345-013
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:01:35 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 08:41:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.006	3.006	0.000	1627666051	150.0	150.0	
2	2.811	2.811	0.000	240336799	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.902	3.902	0.000	539295214	50.0	45.1	
2	3.792	3.792	0.000	83772970	50.0	42.8	
						RPD = 5.35	
5 Hexachlorobenzene							
1	4.311	4.311	0.000	582357460	50.0	46.5	
2	4.270	4.270	0.000	89695425	50.0	43.4	
						RPD = 6.97	
8 alpha-BHC							
1	4.481	4.481	0.000	883759501	50.0	48.8	
2	4.415	4.415	0.000	126833112	50.0	47.6	
						RPD = 2.51	
9 gamma-BHC (Lindane)							
1	4.769	4.769	0.000	770571119	50.0	49.9	
2	4.728	4.728	0.000	110686185	50.0	47.8	
						RPD = 4.26	
10 beta-BHC							
1	4.846	4.846	0.000	300811628	50.0	50.7	
2	4.805	4.805	0.000	46376948	50.0	46.8	
						RPD = 8.01	
12 delta-BHC							
1	4.994	4.994	0.000	787513288	50.0	50.1	
2	5.037	5.037	0.000	110293569	50.0	47.0	
						RPD = 6.37	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.168	5.168	0.000	680710073	50.0	49.7	
2	5.079	5.079	0.000	99780232	50.0	49.9	
						RPD = 0.34	
16 Aldrin							
1	5.437	5.437	0.000	708829044	50.0	48.5	
2	5.346	5.346	0.000	99680537	50.0	46.2	
						RPD = 4.85	
18 Isodrin							
1	5.761	5.761	0.000	570583391	50.0	48.8	
2	5.705	5.705	0.000	83240921	50.0	45.3	
						RPD = 7.44	
21 Heptachlor epoxide							
1	6.046	6.046	0.000	614467556	50.0	49.5	
2	5.884	5.884	0.000	90926225	50.0	46.3	
						RPD = 6.64	
22 trans-Chlordane							
1	6.177	6.177	0.000	655606874	50.0	49.1	
2	6.081	6.081	0.000	92577616	50.0	44.9	
						RPD = 8.90	
23 cis-Chlordane							
1	6.318	6.318	0.000	623208970	50.0	48.8	
2	6.236	6.236	0.000	88919650	50.0	45.6	
						RPD = 6.86	
24 4,4'-DDE							
1	6.394	6.394	0.000	623807099	50.0	46.6	
2	6.420	6.420	0.000	89502064	50.0	44.2	
						RPD = 5.37	
25 Endosulfan I							
1	6.466	6.466	0.000	577150827	50.0	49.2	
2	6.296	6.296	0.000	84526407	50.0	45.6	
						RPD = 7.51	
27 Dieldrin							
1	6.720	6.720	0.000	623021303	50.0	47.7	
2	6.586	6.586	0.000	92626437	50.0	45.4	
						RPD = 5.08	
30 Endrin							
1	6.967	6.967	0.000	608767556	50.0	53.7	
2	6.907	6.907	0.000	88894850	50.0	49.4	
						RPD = 8.35	
32 4,4'-DDD							
1	7.029	7.029	0.000	501087561	50.0	48.3	
2	7.035	7.035	0.000	73423212	50.0	44.5	
						RPD = 8.05	
34 Endosulfan II							
1	7.205	7.205	0.000	535875586	50.0	50.3	
2	7.134	7.134	0.000	78692821	50.0	45.0	
						RPD = 11.12	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1	7.322	7.322	0.000	483286846	50.0	51.9	
2	7.366	7.366	0.000	70745193	50.0	49.5	
						RPD = 4.86	
36 Endrin aldehyde							
1	7.648	7.648	0.000	409105689	50.0	50.2	
2	7.492	7.492	0.000	62414126	50.0	44.6	
						RPD = 11.92	
37 Methoxychlor							
1	7.826	7.826	0.000	229192865	50.0	54.1	
2	8.095	8.095	0.000	34376436	50.0	48.8	
						RPD = 10.30	
38 Mirex							
1	7.985	7.985	0.000	356501874	50.0	52.4	
2	8.286	8.286	0.000	52205269	50.0	44.0	
						RPD = 17.48	
39 Endosulfan sulfate							
1	8.106	8.106	0.000	500501559	50.0	53.1	
2	7.784	7.784	0.000	72309545	50.0	45.2	
						RPD = 16.04	
40 Endrin ketone							
1	8.397	8.397	0.000	506621816	50.0	51.1	
2	8.336	8.336	0.000	76996694	50.0	43.7	
						RPD = 15.55	
$ 41 DCB Decachlorobiphenyl							
1	9.409	9.409	0.000	299886121	50.0	48.6	
2	9.606	9.606	0.000	50205877	50.0	43.3	
						RPD = 11.41	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

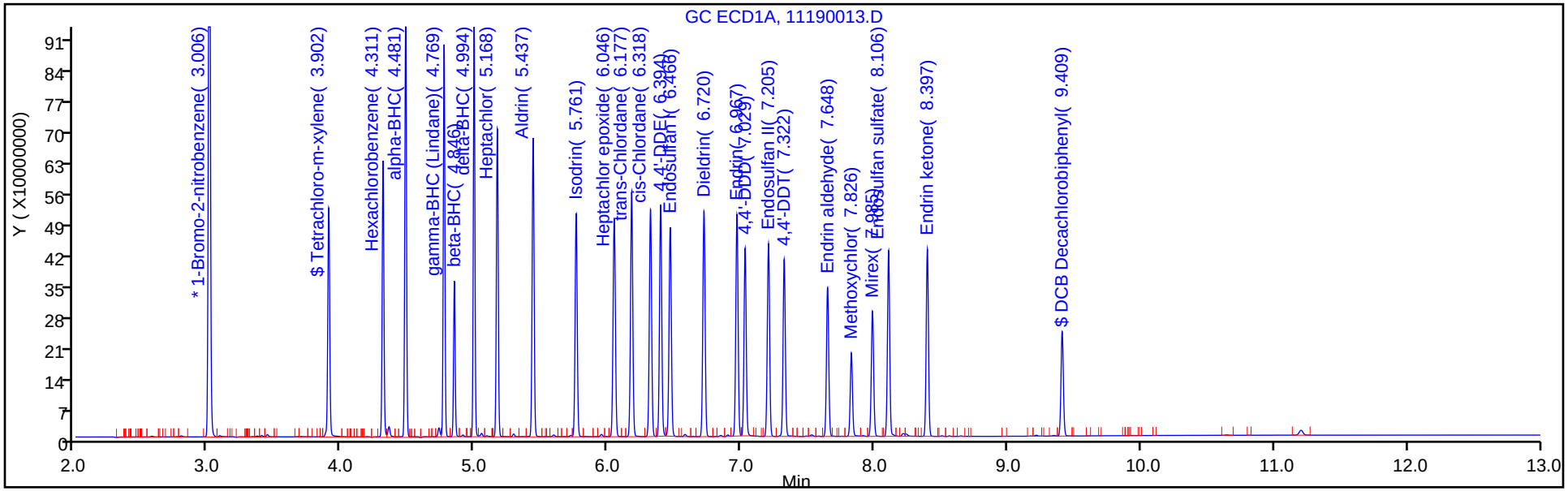
Report Date: 30-Nov-2018 13:01:37 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

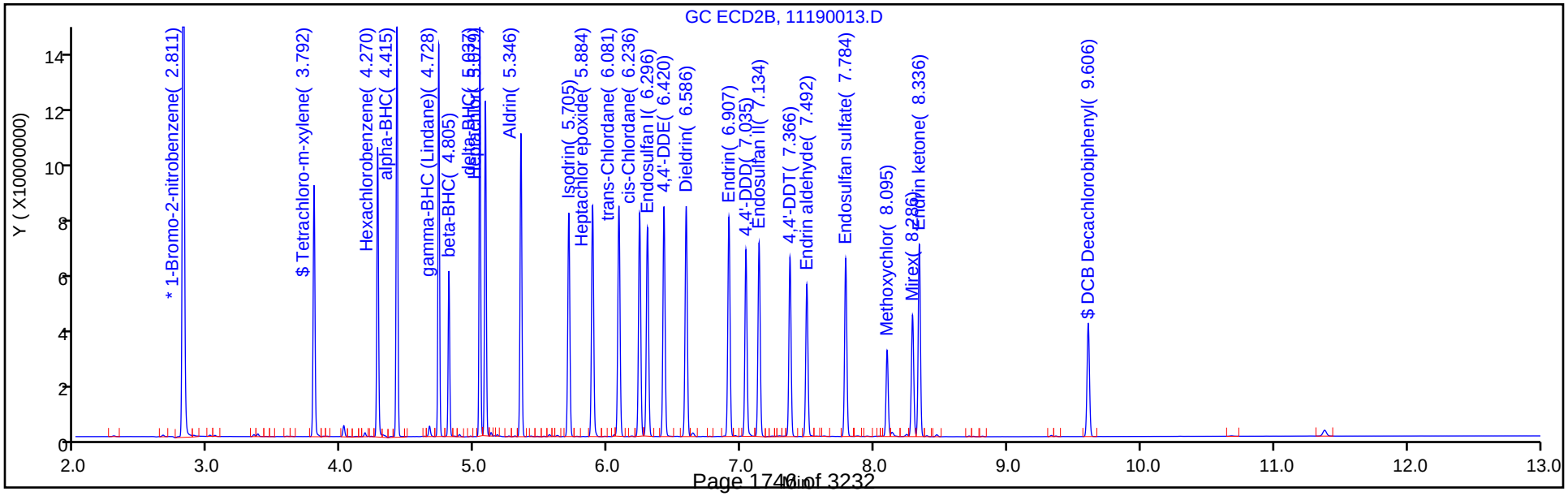
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190013.D

Injection Date:	19-Nov-2018 16:02:16	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCVIS AB			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438138/35 Calibration Date: 11/19/2018 22:09

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11190035.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0077		2250	2000	12.4	20.0
Toxaphene Peak 2	Lin2		0.0196		2230	2000	11.5	20.0
Toxaphene Peak 3	Lin2		0.0213		2180	2000	9.1	20.0
Toxaphene Peak 4	Lin2		0.0093		2350	2000	17.5	20.0
Toxaphene Peak 5	Lin2		0.0104		2630	2000	31.3*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438138/35 Calibration Date: 11/19/2018 22:09

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11190035.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	6.21	6.20	6.22
Toxaphene Peak 2	6.82	6.80	6.83
Toxaphene Peak 3	7.49	7.48	7.50
Toxaphene Peak 4	7.85	7.84	7.86
Toxaphene Peak 5	8.17	8.15	8.18

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190035.D
Lims ID: CCV TOX
Client ID:
Sample Type: CCV
Inject. Date: 19-Nov-2018 22:09:35 ALS Bottle#: 29 Worklist Smp#: 35
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV TOX
Misc. Info.: 280-0076345-035
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:02:47 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.007	3.002	0.005	1523364729	150.0	150.0	
2	2.811	2.805	0.006	227251789	150.0	150.0	
28 Toxaphene							
1	6.214	6.210	0.004	156415177	2000.0	2247.8	
1	6.818	6.815	0.003	397100092	2000.0	2229.1	
1	7.492	7.488	0.004	433447270	2000.0	2182.7	
1	7.848	7.847	0.001	187942075	2000.0	2349.9	
1	8.166	8.164	0.002	211923911	2000.0	2627.0	
		Average of Peak Amounts =				2327.3	
2	5.729	5.725	0.004	13793543	2000.0	1971.3	
2	7.083	7.077	0.006	63796364	2000.0	2029.6	
2	7.223	7.218	0.005	176362699	2000.0	2031.7	
2	7.737	7.732	0.005	50793090	2000.0	2045.9	
2	8.031	8.026	0.005	97042952	2000.0	2003.0	
		Average of Peak Amounts =				2016.3	
						RPD = 14.32	

Reagents:

8081TOXCCVL4_00015 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

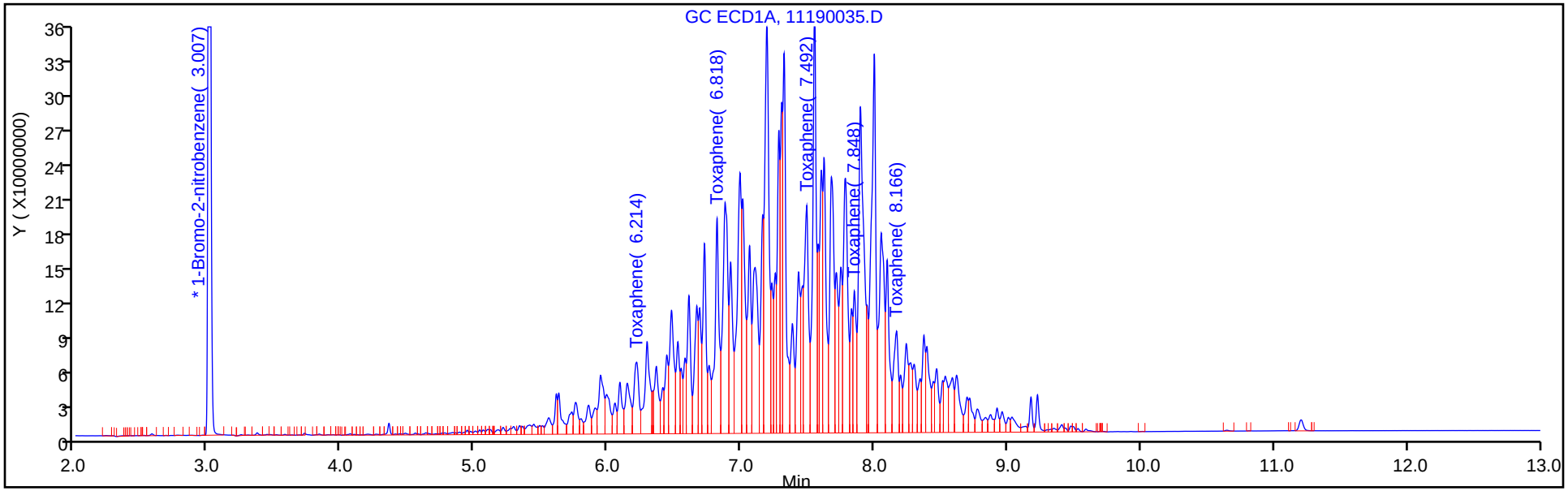
Report Date: 30-Nov-2018 13:02:49 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

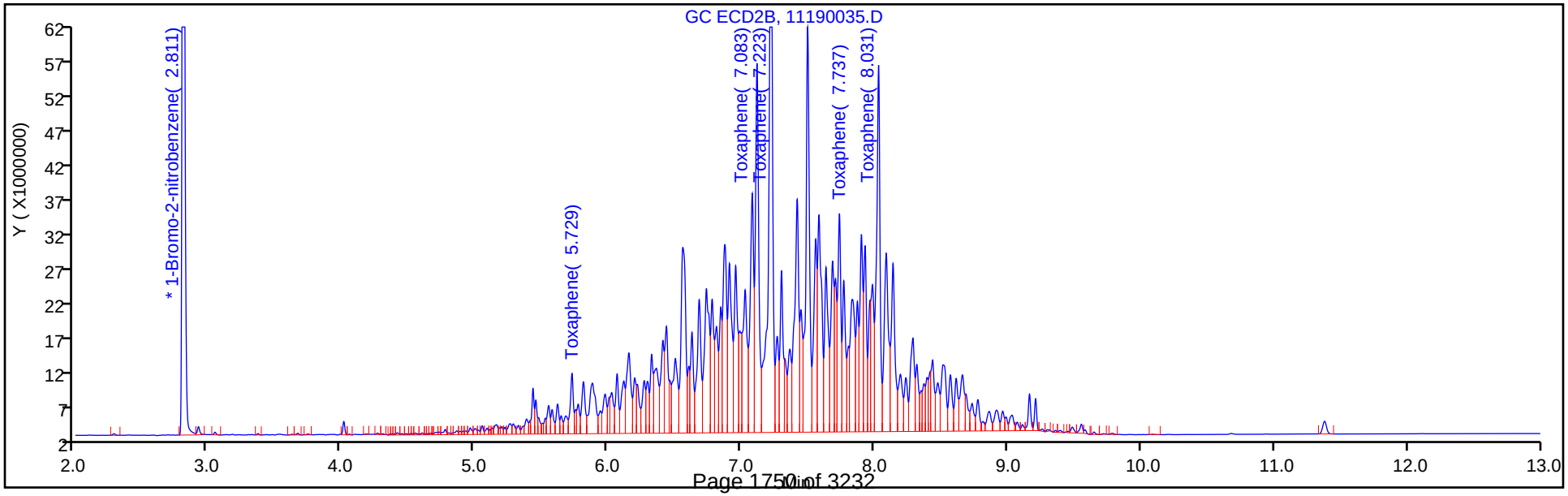
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190035.D

Injection Date:	19-Nov-2018 22:09:35	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV TOX			Worklist Smp#:	35
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438138/35 Calibration Date: 11/19/2018 22:09

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11190035.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0046		1970	2000	-1.4	20.0
Toxaphene Peak 2	Lin2		0.0211		2030	2000	1.5	20.0
Toxaphene Peak 3	Lin2		0.0582		2030	2000	1.6	20.0
Toxaphene Peak 4	Lin2		0.0168		2050	2000	2.3	20.0
Toxaphene Peak 5	Lin2		0.0320		2000	2000	0.2	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438138/35 Calibration Date: 11/19/2018 22:09

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11190035.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	5.73	5.71	5.74
Toxaphene Peak 2	7.08	7.07	7.09
Toxaphene Peak 3	7.22	7.21	7.23
Toxaphene Peak 4	7.74	7.72	7.74
Toxaphene Peak 5	8.03	8.01	8.04

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190035.D
Lims ID: CCV TOX
Client ID:
Sample Type: CCV
Inject. Date: 19-Nov-2018 22:09:35 ALS Bottle#: 29 Worklist Smp#: 35
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV TOX
Misc. Info.: 280-0076345-035
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:02:47 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.007	3.002	0.005	1523364729	150.0	150.0	
2	2.811	2.805	0.006	227251789	150.0	150.0	
28 Toxaphene							
1	6.214	6.210	0.004	156415177	2000.0	2247.8	
1	6.818	6.815	0.003	397100092	2000.0	2229.1	
1	7.492	7.488	0.004	433447270	2000.0	2182.7	
1	7.848	7.847	0.001	187942075	2000.0	2349.9	
1	8.166	8.164	0.002	211923911	2000.0	2627.0	
		Average of Peak Amounts =				2327.3	
2	5.729	5.725	0.004	13793543	2000.0	1971.3	
2	7.083	7.077	0.006	63796364	2000.0	2029.6	
2	7.223	7.218	0.005	176362699	2000.0	2031.7	
2	7.737	7.732	0.005	50793090	2000.0	2045.9	
2	8.031	8.026	0.005	97042952	2000.0	2003.0	
		Average of Peak Amounts =				2016.3	
						RPD = 14.32	

Reagents:

8081TOXCCVL4_00015 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

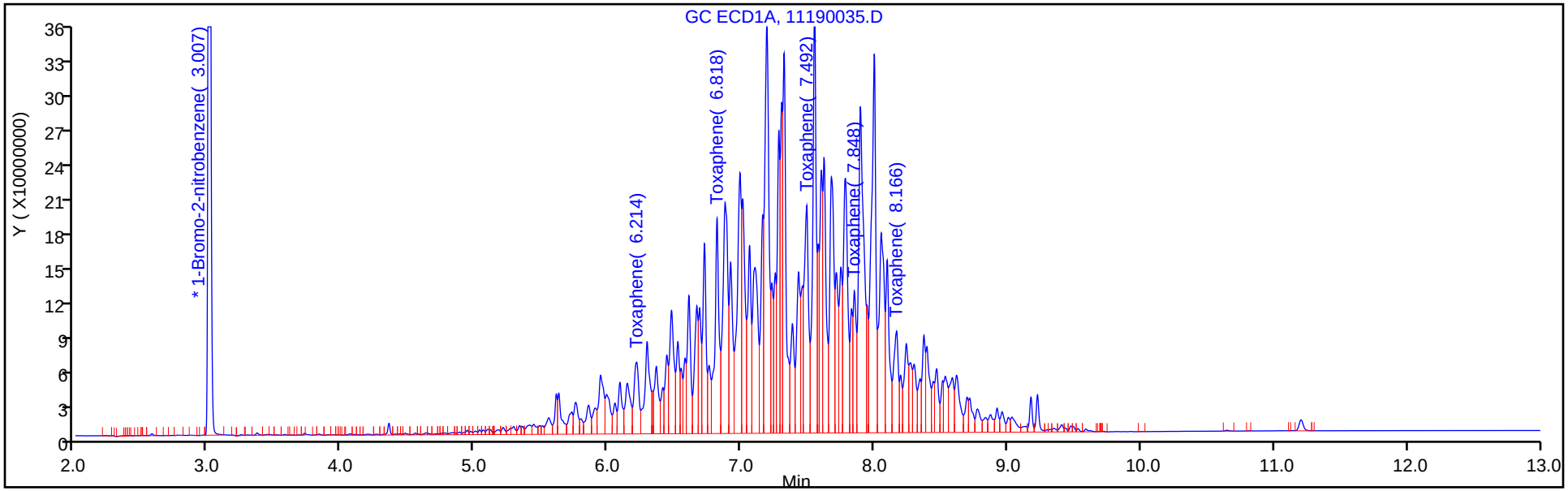
Report Date: 30-Nov-2018 13:02:49 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

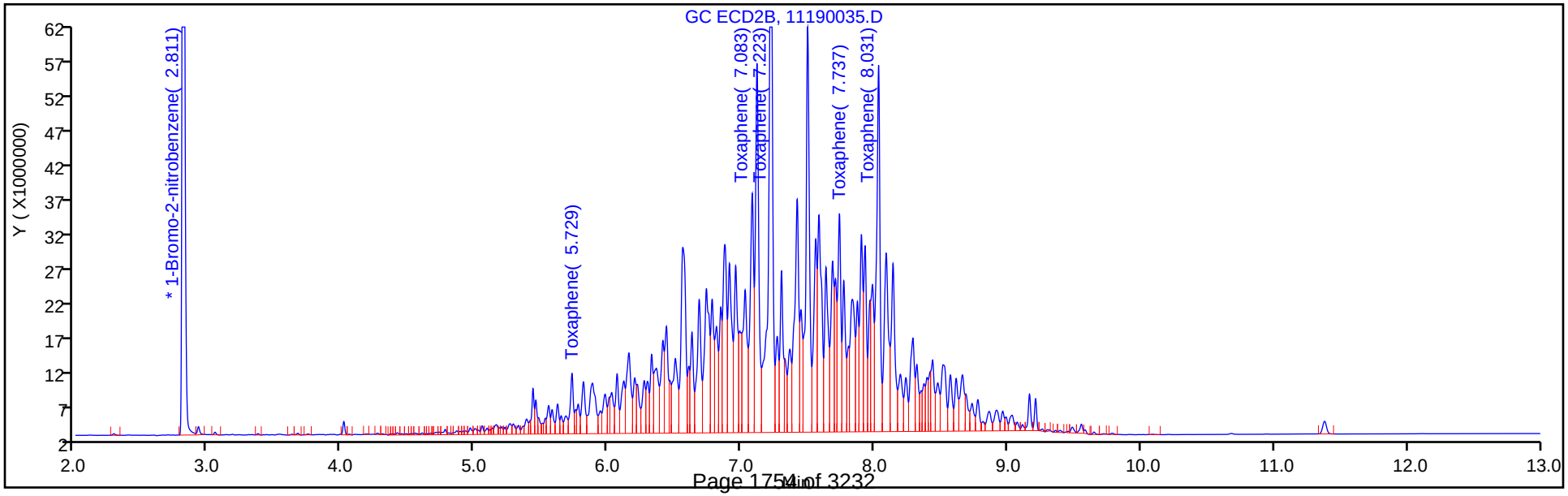
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190035.D

Injection Date:	19-Nov-2018 22:09:35	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV TOX			Worklist Smp#:	35
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438138/37 Calibration Date: 11/19/2018 22:44

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11190037.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.165		50.5	50.0	1.0	20.0
alpha-BHC	Lin2		1.705		51.1	50.0	2.2	20.0
gamma-BHC (Lindane)	Lin2		1.483		52.0	50.0	4.1	20.0
beta-BHC	Lin2		0.5752		52.6	50.0	5.2	20.0
delta-BHC	Lin2		1.513		52.2	50.0	4.4	20.0
Heptachlor	Lin2		1.330		52.7	50.0	5.3	20.0
Aldrin	Lin2		1.416		52.5	50.0	5.0	20.0
Heptachlor epoxide	Lin2		1.198		52.3	50.0	4.6	20.0
gamma-Chlordane	Lin2		1.280		52.0	50.0	4.0	20.0
alpha-Chlordane	Lin2		1.222		51.9	50.0	3.9	20.0
4,4'-DDE	Lin2		1.233		49.9	50.0	-0.1	20.0
Endosulfan I	Lin2		1.147		53.0	50.0	6.0	20.0
Dieldrin	Lin2		1.275		53.0	50.0	6.0	20.0
Endrin	Lin2		1.194		57.1	50.0	14.2	20.0
4,4'-DDD	Lin2		0.9908		51.7	50.0	3.5	20.0
Endosulfan II	Lin2		1.073		54.7	50.0	9.3	20.0
4,4'-DDT	Lin2		0.9729		56.6	50.0	13.3	20.0
Endrin aldehyde	Lin2		0.8504		56.6	50.0	13.2	20.0
Methoxychlor	Lin2		0.4930		63.1	50.0	26.1*	20.0
Endosulfan sulfate	Lin2		1.035		59.5	50.0	19.0	20.0
Endrin ketone	Lin2		1.093		59.8	50.0	19.6	20.0
Tetrachloro-m-xylene	Lin2		1.097		49.8	50.0	-0.4	20.0
DCB Decachlorobiphenyl	Lin2		0.7251		63.8	50.0	27.5*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438138/37 Calibration Date: 11/19/2018 22:44

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11190037.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.31	4.29	4.32
alpha-BHC	4.48	4.47	4.49
gamma-BHC (Lindane)	4.77	4.75	4.78
beta-BHC	4.85	4.83	4.85
delta-BHC	4.99	4.98	5.00
Heptachlor	5.17	5.15	5.18
Aldrin	5.44	5.42	5.45
Heptachlor epoxide	6.05	6.03	6.05
gamma-Chlordane	6.18	6.16	6.18
alpha-Chlordane	6.32	6.30	6.33
4,4'-DDE	6.39	6.38	6.40
Endosulfan I	6.47	6.45	6.47
Dieldrin	6.72	6.70	6.73
Endrin	6.97	6.95	6.98
4,4'-DDD	7.03	7.01	7.04
Endosulfan II	7.20	7.19	7.21
4,4'-DDT	7.32	7.31	7.33
Endrin aldehyde	7.65	7.63	7.66
Methoxychlor	7.83	7.81	7.84
Endosulfan sulfate	8.11	8.09	8.11
Endrin ketone	8.40	8.38	8.41
Tetrachloro-m-xylene	3.90	3.89	3.91
DCB Decachlorobiphenyl	9.41	9.40	9.42

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190037.D
Lims ID: CCV AB
Client ID:
Sample Type: CCV
Inject. Date: 19-Nov-2018 22:44:33 ALS Bottle#: 31 Worklist Smp#: 37
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS AB
Misc. Info.: 280-0076345-037
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:02:54 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 09:09:18

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						207.9	
2						197.5	
						RPD = 5.17	
* 2 1-Bromo-2-nitrobenzene							
1	3.006	3.002	0.004	1475561871	150.0	150.0	
2	2.811	2.805	0.006	219977752	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.902	3.899	0.003	539778987	50.0	49.8	
2	3.792	3.786	0.006	83908981	50.0	46.9	
						RPD = 6.02	
5 Hexachlorobenzene							
1	4.310	4.306	0.004	573097202	50.0	50.5	
2	4.269	4.265	0.004	92296180	50.0	48.9	
						RPD = 3.28	
8 alpha-BHC							
1	4.480	4.477	0.003	838774128	50.0	51.1	
2	4.415	4.410	0.005	121891371	50.0	50.0	
						RPD = 2.13	
9 gamma-BHC (Lindane)							
1	4.768	4.766	0.002	729210818	50.0	52.0	
2	4.728	4.724	0.004	105060658	50.0	49.6	
						RPD = 4.86	
10 beta-BHC							
1	4.845	4.842	0.003	282930896	50.0	52.6	
2	4.805	4.801	0.004	44170506	50.0	48.7	
						RPD = 7.68	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	4.993	4.991	0.002	744271169	50.0	52.2	
2	5.036	5.033	0.003	105555978	50.0	49.2	
						RPD = 6.01	
15 Heptachlor							
1	5.167	5.165	0.002	654215732	50.0	52.7	
2	5.078	5.075	0.003	93677654	50.0	51.2	
						RPD = 2.89	
16 Aldrin							
1	5.436	5.433	0.003	696320238	50.0	52.5	
2	5.346	5.341	0.005	98010824	50.0	49.7	
						RPD = 5.59	
18 Isodrin							
1	5.759	5.756	0.003	566648140	50.0	53.5	
2	5.704	5.700	0.004	82194177	50.0	49.0	
						RPD = 8.82	
21 Heptachlor epoxide							
1	6.045	6.041	0.004	589083511	50.0	52.3	
2	5.883	5.877	0.006	87946299	50.0	49.0	
						RPD = 6.62	
22 trans-Chlordane							
1	6.176	6.172	0.004	629708383	50.0	52.0	
2	6.081	6.076	0.005	91241817	50.0	48.4	
						RPD = 7.19	
23 cis-Chlordane							
1	6.316	6.314	0.002	601219896	50.0	51.9	
2	6.236	6.231	0.005	87118743	50.0	48.8	
						RPD = 6.15	
24 4,4'-DDE							
1	6.393	6.391	0.002	606494706	50.0	49.9	
2	6.419	6.415	0.004	87938473	50.0	47.4	
						RPD = 5.17	
25 Endosulfan I							
1	6.465	6.462	0.003	564067818	50.0	53.0	
2	6.295	6.290	0.005	82793980	50.0	48.9	
						RPD = 8.12	
27 Dieldrin							
1	6.718	6.716	0.002	627252887	50.0	53.0	
2	6.585	6.580	0.005	91650838	50.0	49.1	
						RPD = 7.65	
30 Endrin							
1	6.966	6.963	0.003	587489139	50.0	57.1	
2	6.906	6.901	0.005	86665011	50.0	52.6	
						RPD = 8.21	
32 4,4'-DDD							
1	7.027	7.025	0.002	487308826	50.0	51.7	
2	7.034	7.029	0.005	72478901	50.0	48.0	
						RPD = 7.41	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.202	7.199	0.003	527956968	50.0	54.7	
2	7.132	7.127	0.005	78708143	50.0	49.3	
						RPD = 10.39	
35 4,4'-DDT							
1	7.321	7.319	0.002	478514159	50.0	56.6	
2	7.364	7.360	0.004	71430788	50.0	54.6	
						RPD = 3.76	
36 Endrin aldehyde							
1	7.646	7.645	0.001	418284937	50.0	56.6	
2	7.491	7.486	0.005	63558491	50.0	49.7	
						RPD = 13.08	
37 Methoxychlor							
1	7.826	7.823	0.003	242478493	50.0	63.1	
2	8.094	8.090	0.004	36839228	50.0	57.2	
						RPD = 9.84	
38 Mirex							
1	7.984	7.981	0.003	361970084	50.0	58.7	
2	8.285	8.280	0.005	53863565	50.0	49.7	
						RPD = 16.54	
39 Endosulfan sulfate							
1	8.105	8.102	0.003	508912577	50.0	59.5	
2	7.782	7.778	0.004	73737298	50.0	50.4	
						RPD = 16.49	
40 Endrin ketone							
1	8.396	8.394	0.002	537629161	50.0	59.8	
2	8.336	8.331	0.005	80396902	50.0	50.0	
						RPD = 17.88	
$ 41 DCB Decachlorobiphenyl							
1	9.409	9.407	0.002	356644668	50.0	63.8	
2	9.604	9.600	0.004	53587525	50.0	50.7	
						RPD = 22.84	
S 3 Endosulfan, Total							
1						167.1	
2						148.5	
						RPD = 11.78	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

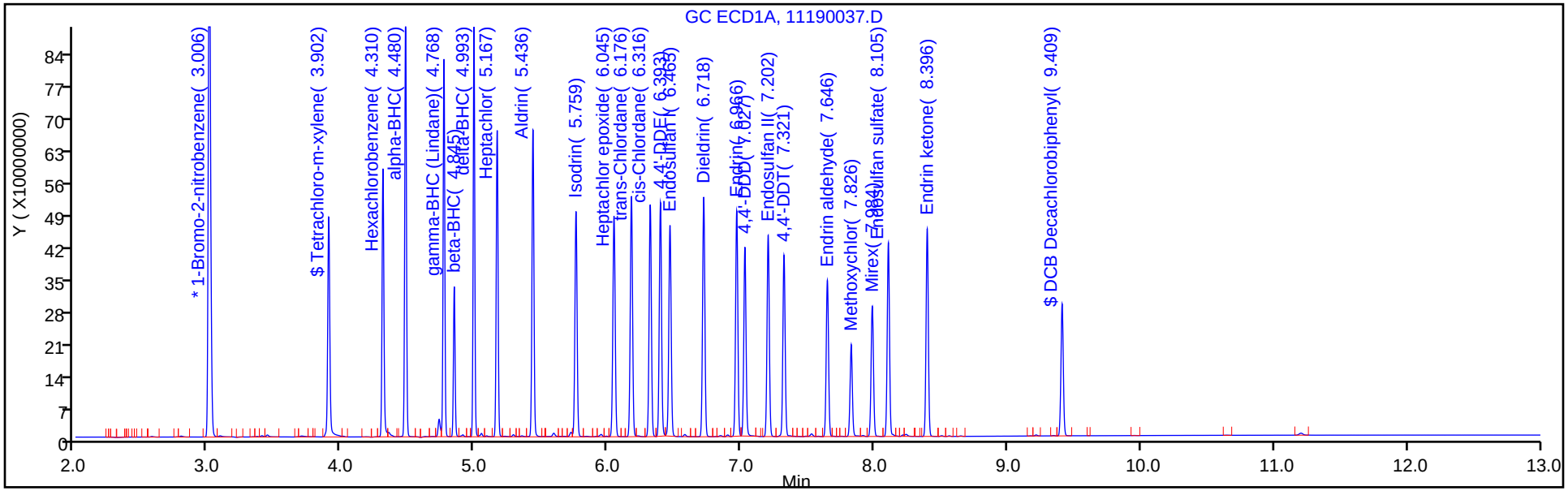
Report Date: 30-Nov-2018 13:02:55 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

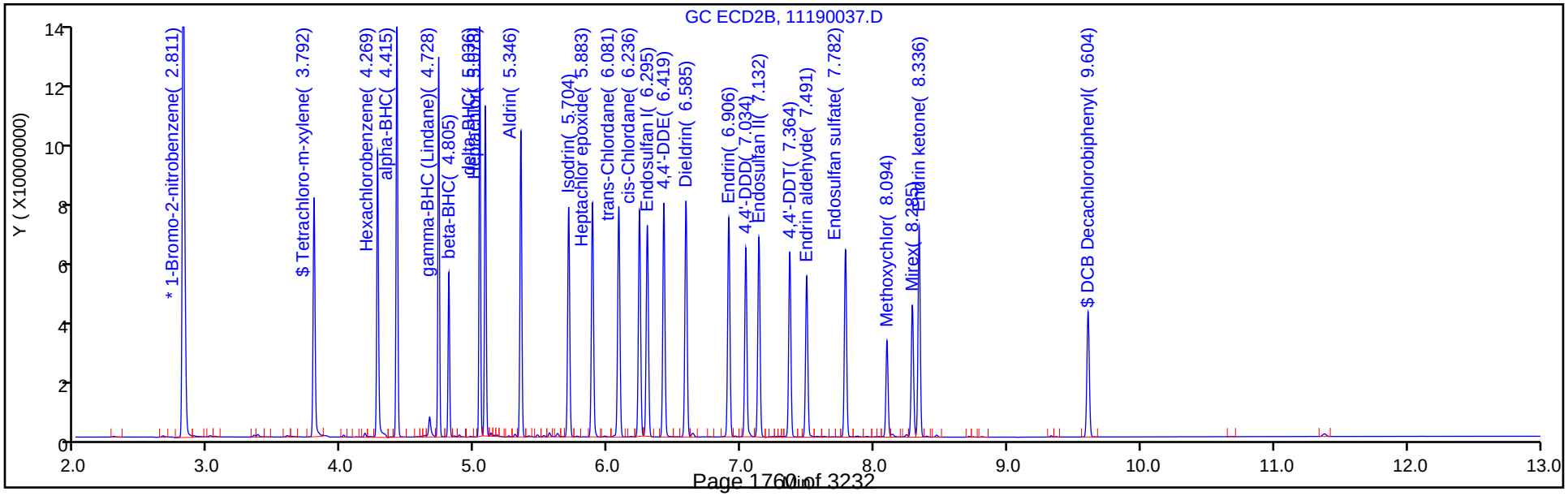
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190037.D

Injection Date:	19-Nov-2018 22:44:33	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV AB			Worklist Smp#:	37
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438138/37 Calibration Date: 11/19/2018 22:44

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11190037.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.259		48.9	50.0	-2.3	20.0
alpha-BHC	Lin2		1.662		50.0	50.0	0.0	20.0
gamma-BHC (Lindane)	Lin2		1.433		49.6	50.0	-0.9	20.0
beta-BHC	Lin2		0.6024		48.7	50.0	-2.5	20.0
delta-BHC	Lin2		1.440		49.2	50.0	-1.7	20.0
Heptachlor	Lin2		1.278		51.2	50.0	2.3	20.0
Aldrin	Lin2		1.337		49.7	50.0	-0.7	20.0
Heptachlor epoxide	Lin2		1.199		49.0	50.0	-2.1	20.0
gamma-Chlordane	Lin2		1.244		48.4	50.0	-3.2	20.0
alpha-Chlordane	Lin2		1.188		48.8	50.0	-2.3	20.0
Endosulfan I	Lin2		1.129		48.9	50.0	-2.3	20.0
4,4'-DDE	Lin2		1.199		47.4	50.0	-5.2	20.0
Dieldrin	Lin2		1.250		49.1	50.0	-1.8	20.0
Endrin	Lin2		1.182		52.6	50.0	5.2	20.0
4,4'-DDD	Lin2		0.9885		48.0	50.0	-3.9	20.0
Endosulfan II	Lin2		1.073		49.3	50.0	-1.5	20.0
4,4'-DDT	Lin2		0.9742		54.6	50.0	9.1	20.0
Endrin aldehyde	Lin2		0.8668		49.7	50.0	-0.7	20.0
Endosulfan sulfate	Lin2		1.006		50.4	50.0	0.8	20.0
Methoxychlor	Lin2		0.5024		57.2	50.0	14.3	20.0
Endrin ketone	Lin2		1.096		50.0	50.0	-0.0	20.0
Tetrachloro-m-xylene	Lin2		1.144		46.9	50.0	-6.2	20.0
DCB Decachlorobiphenyl	Lin2		0.7308		50.7	50.0	1.4	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438138/37 Calibration Date: 11/19/2018 22:44

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11190037.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.27	4.25	4.28
alpha-BHC	4.42	4.40	4.42
gamma-BHC (Lindane)	4.73	4.71	4.74
beta-BHC	4.81	4.79	4.81
delta-BHC	5.04	5.02	5.05
Heptachlor	5.08	5.06	5.09
Aldrin	5.35	5.33	5.35
Heptachlor epoxide	5.88	5.87	5.89
gamma-Chlordane	6.08	6.06	6.09
alpha-Chlordane	6.24	6.22	6.24
Endosulfan I	6.30	6.28	6.30
4,4'-DDE	6.42	6.40	6.43
Dieldrin	6.59	6.57	6.59
Endrin	6.91	6.89	6.91
4,4'-DDD	7.03	7.02	7.04
Endosulfan II	7.13	7.12	7.14
4,4'-DDT	7.36	7.35	7.37
Endrin aldehyde	7.49	7.47	7.50
Endosulfan sulfate	7.78	7.77	7.79
Methoxychlor	8.09	8.08	8.10
Endrin ketone	8.34	8.32	8.34
Tetrachloro-m-xylene	3.79	3.77	3.80
DCB Decachlorobiphenyl	9.60	9.59	9.61

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190037.D
Lims ID: CCV AB
Client ID:
Sample Type: CCV
Inject. Date: 19-Nov-2018 22:44:33 ALS Bottle#: 31 Worklist Smp#: 37
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS AB
Misc. Info.: 280-0076345-037
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:02:54 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 09:09:18

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						207.9	
2						197.5	
						RPD = 5.17	
* 2 1-Bromo-2-nitrobenzene							
1	3.006	3.002	0.004	1475561871	150.0	150.0	
2	2.811	2.805	0.006	219977752	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.902	3.899	0.003	539778987	50.0	49.8	
2	3.792	3.786	0.006	83908981	50.0	46.9	
						RPD = 6.02	
5 Hexachlorobenzene							
1	4.310	4.306	0.004	573097202	50.0	50.5	
2	4.269	4.265	0.004	92296180	50.0	48.9	
						RPD = 3.28	
8 alpha-BHC							
1	4.480	4.477	0.003	838774128	50.0	51.1	
2	4.415	4.410	0.005	121891371	50.0	50.0	
						RPD = 2.13	
9 gamma-BHC (Lindane)							
1	4.768	4.766	0.002	729210818	50.0	52.0	
2	4.728	4.724	0.004	105060658	50.0	49.6	
						RPD = 4.86	
10 beta-BHC							
1	4.845	4.842	0.003	282930896	50.0	52.6	
2	4.805	4.801	0.004	44170506	50.0	48.7	
						RPD = 7.68	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	4.993	4.991	0.002	744271169	50.0	52.2	
2	5.036	5.033	0.003	105555978	50.0	49.2	
						RPD = 6.01	
15 Heptachlor							
1	5.167	5.165	0.002	654215732	50.0	52.7	
2	5.078	5.075	0.003	93677654	50.0	51.2	
						RPD = 2.89	
16 Aldrin							
1	5.436	5.433	0.003	696320238	50.0	52.5	
2	5.346	5.341	0.005	98010824	50.0	49.7	
						RPD = 5.59	
18 Isodrin							
1	5.759	5.756	0.003	566648140	50.0	53.5	
2	5.704	5.700	0.004	82194177	50.0	49.0	
						RPD = 8.82	
21 Heptachlor epoxide							
1	6.045	6.041	0.004	589083511	50.0	52.3	
2	5.883	5.877	0.006	87946299	50.0	49.0	
						RPD = 6.62	
22 trans-Chlordane							
1	6.176	6.172	0.004	629708383	50.0	52.0	
2	6.081	6.076	0.005	91241817	50.0	48.4	
						RPD = 7.19	
23 cis-Chlordane							
1	6.316	6.314	0.002	601219896	50.0	51.9	
2	6.236	6.231	0.005	87118743	50.0	48.8	
						RPD = 6.15	
24 4,4'-DDE							
1	6.393	6.391	0.002	606494706	50.0	49.9	
2	6.419	6.415	0.004	87938473	50.0	47.4	
						RPD = 5.17	
25 Endosulfan I							
1	6.465	6.462	0.003	564067818	50.0	53.0	
2	6.295	6.290	0.005	82793980	50.0	48.9	
						RPD = 8.12	
27 Dieldrin							
1	6.718	6.716	0.002	627252887	50.0	53.0	
2	6.585	6.580	0.005	91650838	50.0	49.1	
						RPD = 7.65	
30 Endrin							
1	6.966	6.963	0.003	587489139	50.0	57.1	
2	6.906	6.901	0.005	86665011	50.0	52.6	
						RPD = 8.21	
32 4,4'-DDD							
1	7.027	7.025	0.002	487308826	50.0	51.7	
2	7.034	7.029	0.005	72478901	50.0	48.0	
						RPD = 7.41	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.202	7.199	0.003	527956968	50.0	54.7	
2	7.132	7.127	0.005	78708143	50.0	49.3	
						RPD = 10.39	
35 4,4'-DDT							
1	7.321	7.319	0.002	478514159	50.0	56.6	
2	7.364	7.360	0.004	71430788	50.0	54.6	
						RPD = 3.76	
36 Endrin aldehyde							
1	7.646	7.645	0.001	418284937	50.0	56.6	
2	7.491	7.486	0.005	63558491	50.0	49.7	
						RPD = 13.08	
37 Methoxychlor							
1	7.826	7.823	0.003	242478493	50.0	63.1	
2	8.094	8.090	0.004	36839228	50.0	57.2	
						RPD = 9.84	
38 Mirex							
1	7.984	7.981	0.003	361970084	50.0	58.7	
2	8.285	8.280	0.005	53863565	50.0	49.7	
						RPD = 16.54	
39 Endosulfan sulfate							
1	8.105	8.102	0.003	508912577	50.0	59.5	
2	7.782	7.778	0.004	73737298	50.0	50.4	
						RPD = 16.49	
40 Endrin ketone							
1	8.396	8.394	0.002	537629161	50.0	59.8	
2	8.336	8.331	0.005	80396902	50.0	50.0	
						RPD = 17.88	
$ 41 DCB Decachlorobiphenyl							
1	9.409	9.407	0.002	356644668	50.0	63.8	
2	9.604	9.600	0.004	53587525	50.0	50.7	
						RPD = 22.84	
S 3 Endosulfan, Total							
1						167.1	
2						148.5	
						RPD = 11.78	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

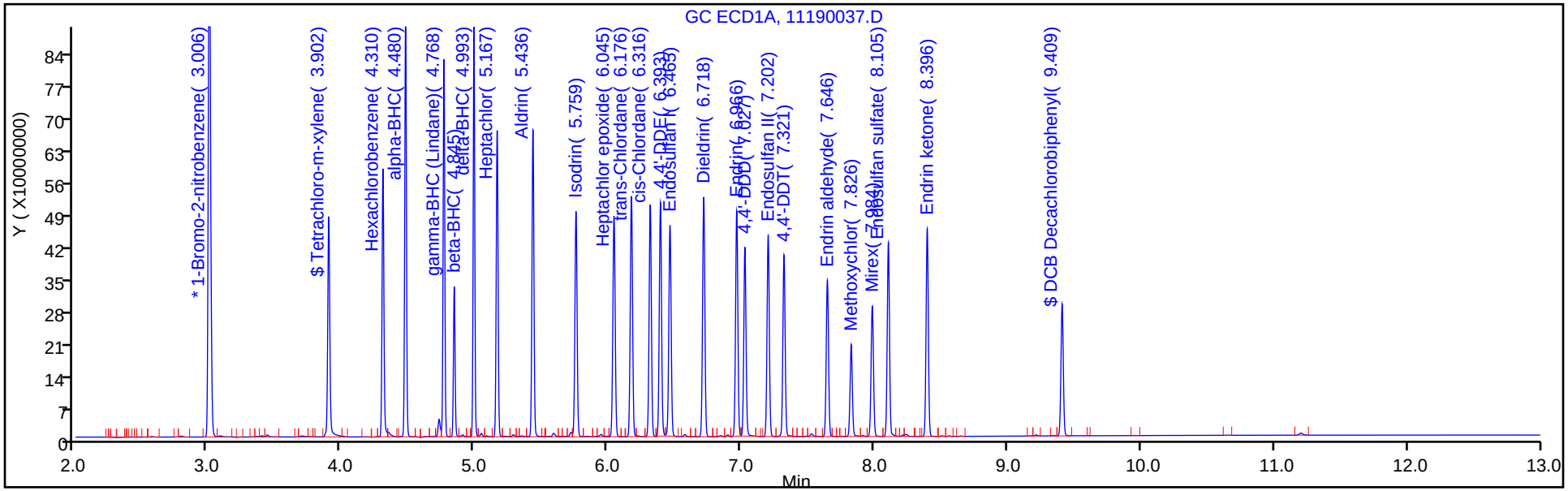
Report Date: 30-Nov-2018 13:02:55 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

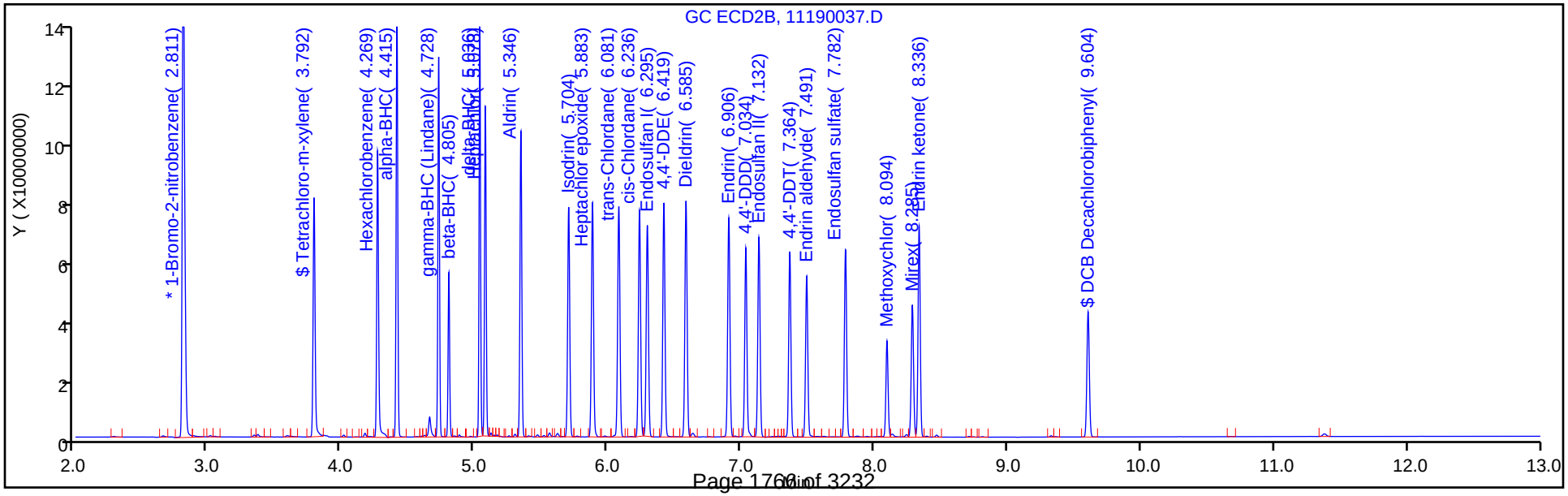
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190037.D

Injection Date:	19-Nov-2018 22:44:33	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV AB			Worklist Smp#:	37
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-439676/11 Calibration Date: 12/03/2018 14:39

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 12030011.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0068		1970	2000	-1.3	20.0
Toxaphene Peak 2	Lin2		0.0182		2080	2000	3.9	20.0
Toxaphene Peak 3	Lin2		0.0217		2220	2000	11.0	20.0
Toxaphene Peak 4	Lin2		0.0094		2380	2000	19.0	20.0
Toxaphene Peak 5	Lin2		0.0097		2450	2000	22.7*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-439676/11 Calibration Date: 12/03/2018 14:39

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 12030011.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	6.21	6.20	6.22
Toxaphene Peak 2	6.81	6.80	6.82
Toxaphene Peak 3	7.48	7.47	7.50
Toxaphene Peak 4	7.84	7.83	7.86
Toxaphene Peak 5	8.16	8.15	8.17

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030011.D
Lims ID: CCV TOX
Client ID:
Sample Type: CCV
Inject. Date: 03-Dec-2018 14:39:58 ALS Bottle#: 5 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV TOX
Misc. Info.: 280-0076757-011
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:49:50 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 03-Dec-2018 14:57:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.001	3.001	0.000	1982796402	150.0	150.0	
2	2.800	2.800	0.000	227418667	150.0	150.0	
28 Toxaphene							M
1	6.207	6.207	0.000	178437386	2000.0	1974.4	
1	6.811	6.811	0.000	480958930	2000.0	2077.4	
1	7.483	7.483	0.000	573905699	2000.0	2219.2	
1	7.843	7.843	0.000	247839926	2000.0	2379.9	
1	8.158	8.158	0.000	256840115	2000.0	2453.0	
		Average of Peak Amounts =				2220.8	
2	5.717	5.717	0.000	12379672	2000.0	1762.5	M
2	7.067	7.067	0.000	64567495	2000.0	2052.8	M
2	7.207	7.207	0.000	176339113	2000.0	2030.0	M
2	7.721	7.721	0.000	51053160	2000.0	2054.8	M
2	8.015	8.015	0.000	97438025	2000.0	2009.7	M
		Average of Peak Amounts =				1981.9	
						RPD = 11.37	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081TOXCCVL4_00015 Amount Added: 1.00 Units: ml
8081_IS_00010 Amount Added: 75.00 Units: uL Run Reagent

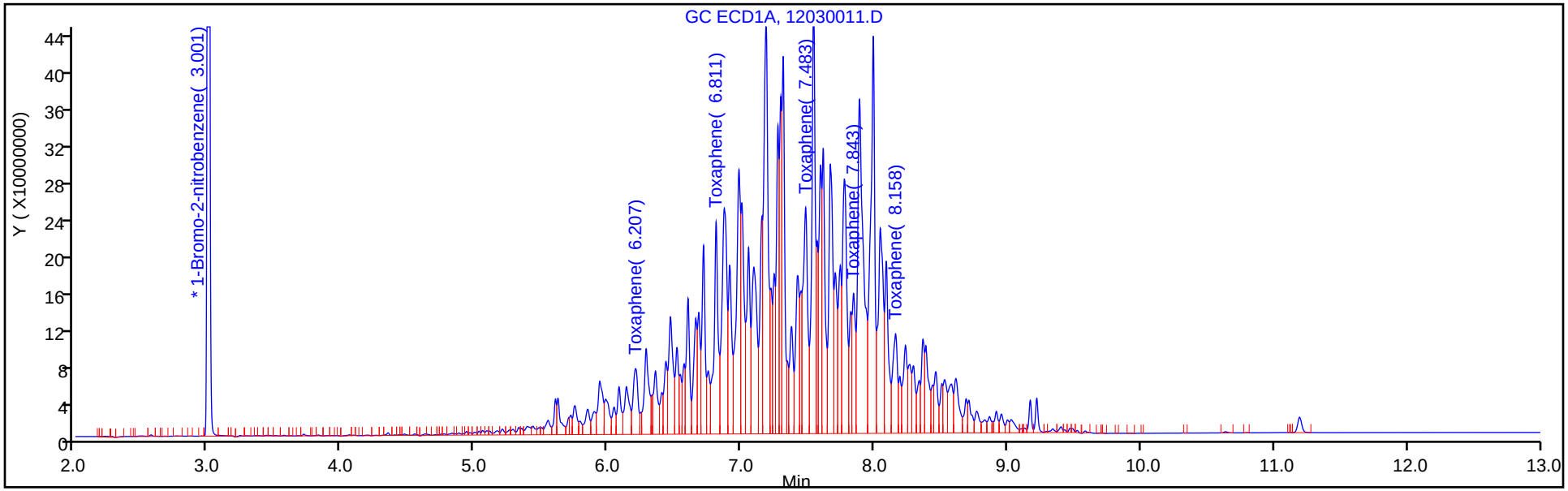
Report Date: 04-Dec-2018 13:49:50 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

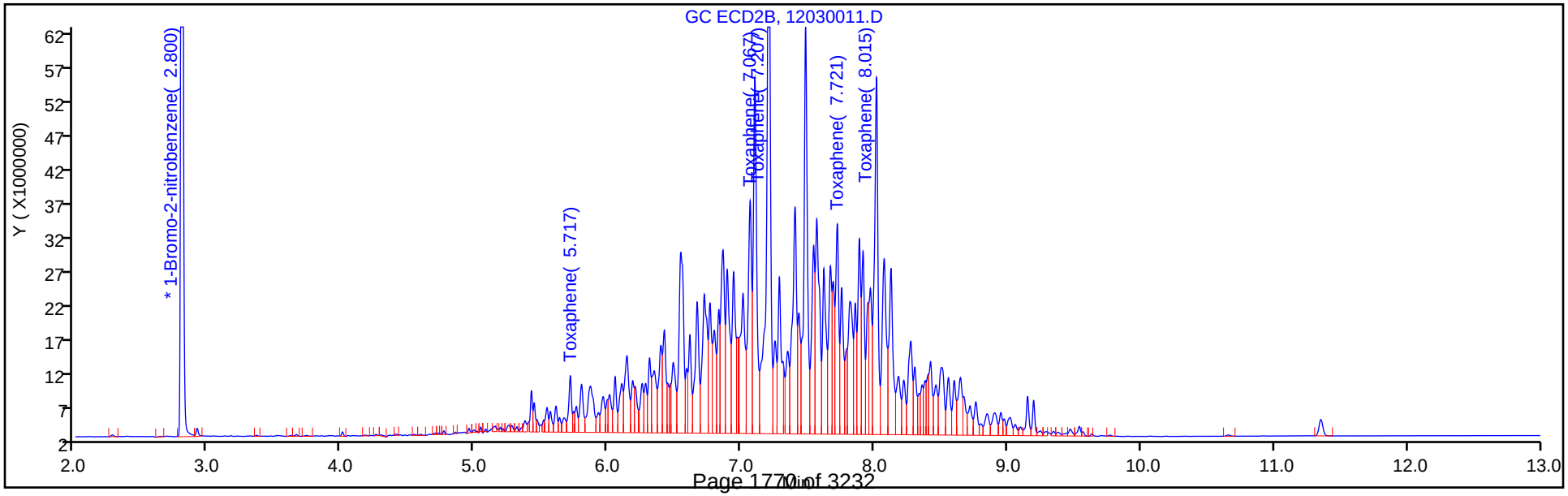
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030011.D

Injection Date:	03-Dec-2018 14:39:58	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV TOX			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-439676/11 Calibration Date: 12/03/2018 14:39

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 12030011.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0041		1760	2000	-11.9	20.0
Toxaphene Peak 2	Lin2		0.0213		2050	2000	2.6	20.0
Toxaphene Peak 3	Lin2		0.0582		2030	2000	1.5	20.0
Toxaphene Peak 4	Lin2		0.0168		2050	2000	2.7	20.0
Toxaphene Peak 5	Lin2		0.0321		2010	2000	0.5	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-439676/11 Calibration Date: 12/03/2018 14:39

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 12030011.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	5.72	5.71	5.73
Toxaphene Peak 2	7.07	7.06	7.08
Toxaphene Peak 3	7.21	7.20	7.22
Toxaphene Peak 4	7.72	7.71	7.73
Toxaphene Peak 5	8.02	8.00	8.03

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030011.D
Lims ID: CCV TOX
Client ID:
Sample Type: CCV
Inject. Date: 03-Dec-2018 14:39:58 ALS Bottle#: 5 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV TOX
Misc. Info.: 280-0076757-011
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:49:50 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 03-Dec-2018 14:57:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.001	3.001	0.000	1982796402	150.0	150.0	
2	2.800	2.800	0.000	227418667	150.0	150.0	
28 Toxaphene							M
1	6.207	6.207	0.000	178437386	2000.0	1974.4	
1	6.811	6.811	0.000	480958930	2000.0	2077.4	
1	7.483	7.483	0.000	573905699	2000.0	2219.2	
1	7.843	7.843	0.000	247839926	2000.0	2379.9	
1	8.158	8.158	0.000	256840115	2000.0	2453.0	
		Average of Peak Amounts =				2220.8	
2	5.717	5.717	0.000	12379672	2000.0	1762.5	M
2	7.067	7.067	0.000	64567495	2000.0	2052.8	M
2	7.207	7.207	0.000	176339113	2000.0	2030.0	M
2	7.721	7.721	0.000	51053160	2000.0	2054.8	M
2	8.015	8.015	0.000	97438025	2000.0	2009.7	M
		Average of Peak Amounts =				1981.9	
						RPD = 11.37	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081TOXCCVL4_00015 Amount Added: 1.00 Units: ml
8081_IS_00010 Amount Added: 75.00 Units: uL Run Reagent

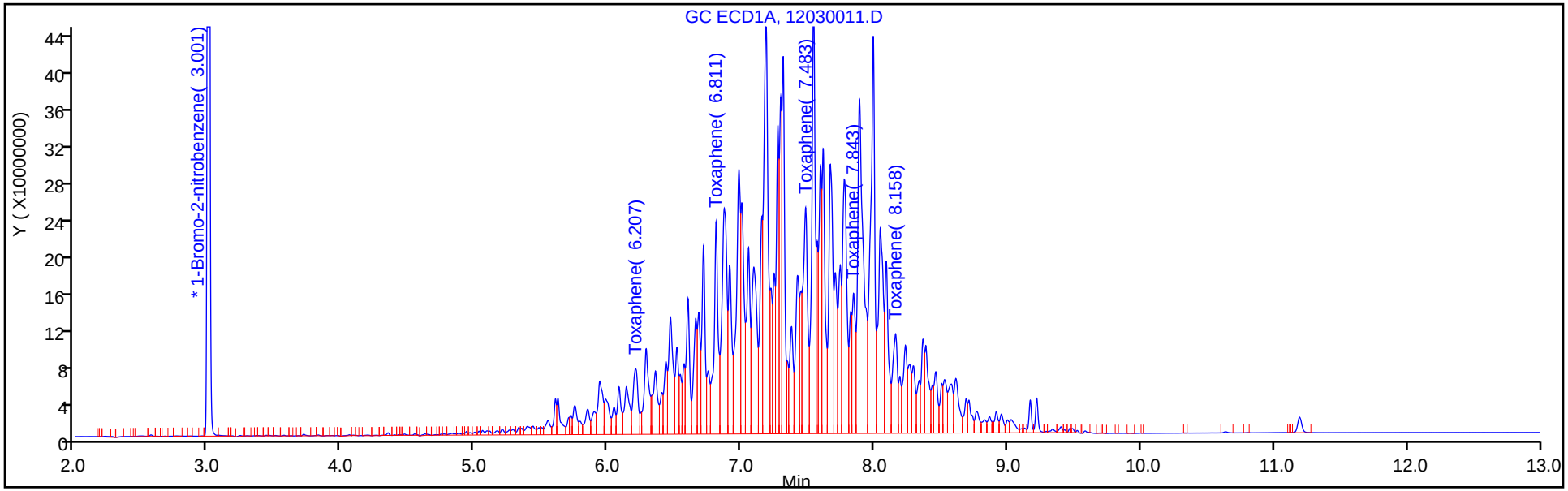
Report Date: 04-Dec-2018 13:49:52 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

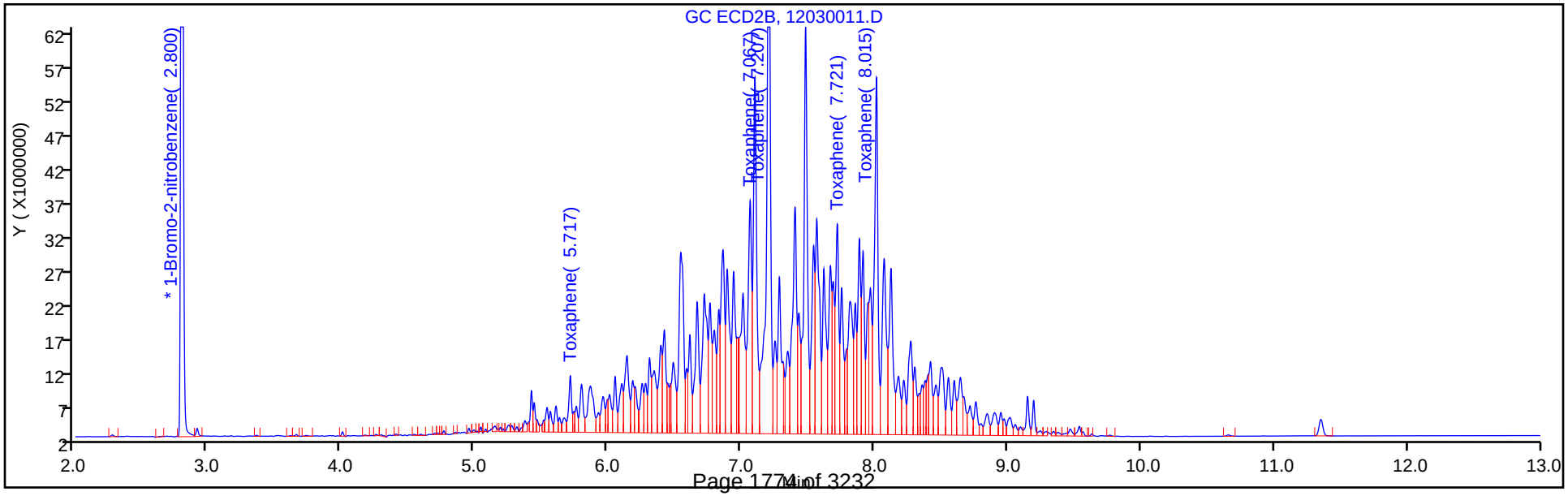
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030011.D

Injection Date:	03-Dec-2018 14:39:58	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV TOX			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



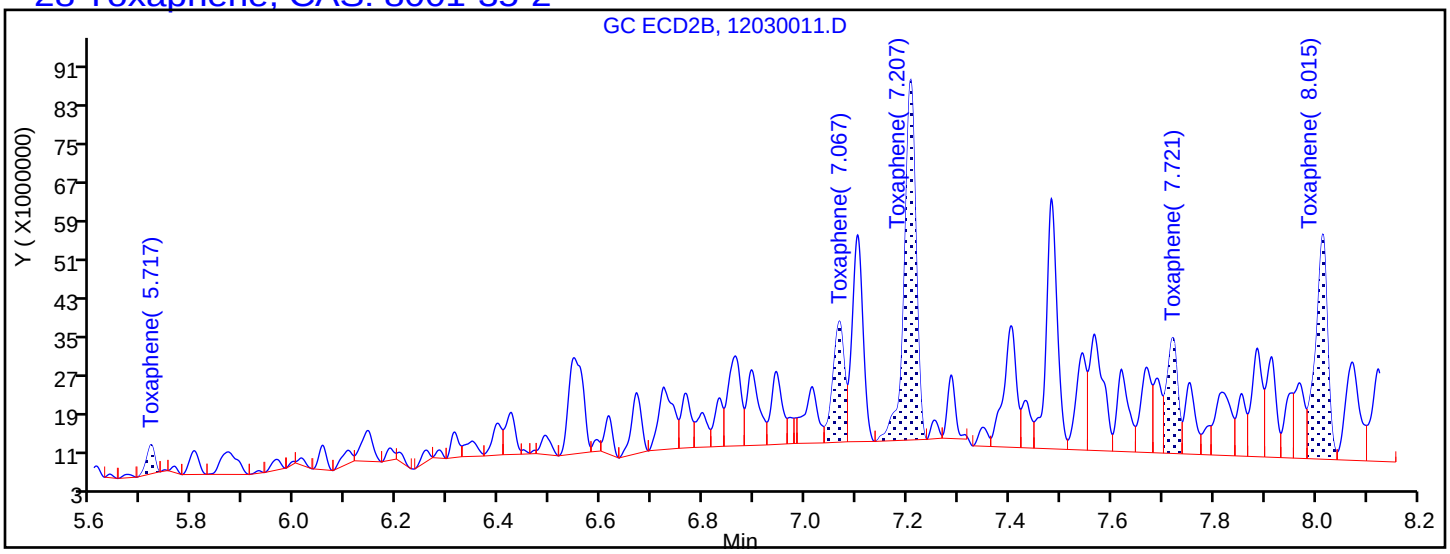
Report Date: 04-Dec-2018 13:49:52 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030011.D

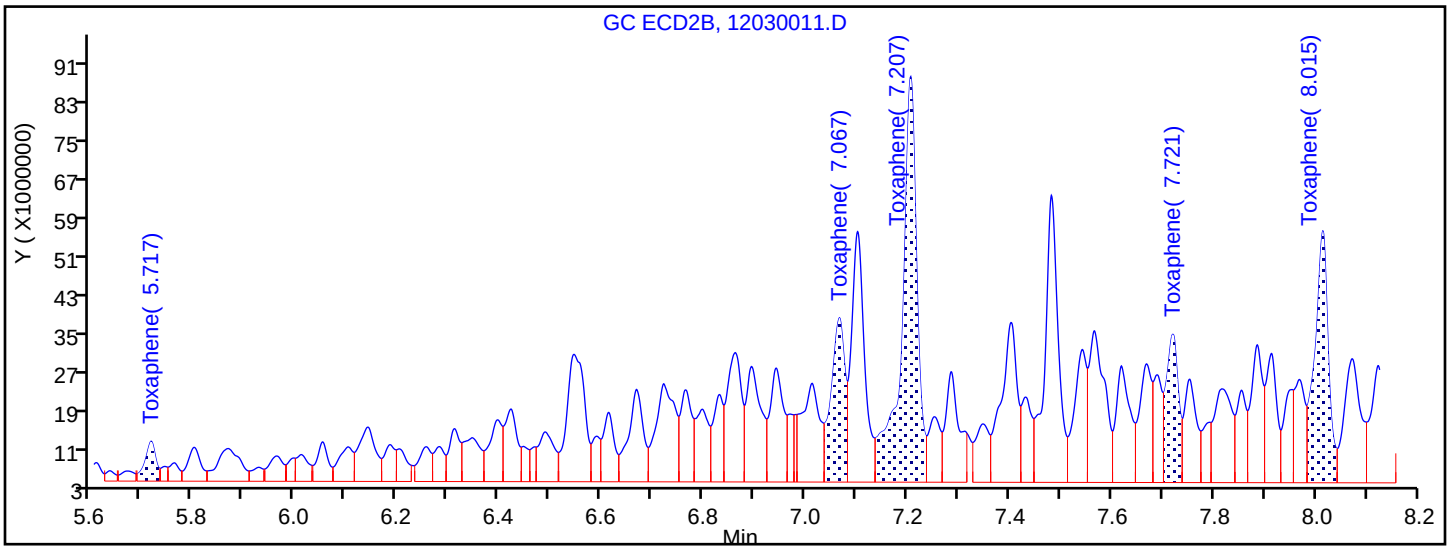
Injection Date:	03-Dec-2018 14:39:58	Instrument ID:	SGC_P2		
Lims ID:	CCV TOX				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	5	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.717	Response = 6738444
7.067	Response = 39896146
7.207	Response = 119491849
7.721	Response = 36202116
8.015	Response = 77543417



Manual Integration Results

5.717	Response = 12379672	M
7.067	Response = 64567495	M
7.207	Response = 176339113	M
7.721	Response = 51053160	M
8.015	Response = 97438025	M

Reviewer: bacat, 03-Dec-2018 14:57:04

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVIS 280-439676/13 Calibration Date: 12/03/2018 15:15

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 12030013.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.118		48.5	50.0	-3.1	20.0
alpha-BHC	Lin2		1.700		50.9	50.0	1.9	20.0
gamma-BHC (Lindane)	Lin2		1.475		51.8	50.0	3.6	20.0
beta-BHC	Lin2		0.5628		51.5	50.0	2.9	20.0
delta-BHC	Lin2		1.508		52.0	50.0	4.1	20.0
Heptachlor	Lin2		1.358		53.8	50.0	7.5	20.0
Aldrin	Lin2		1.385		51.4	50.0	2.8	20.0
Heptachlor epoxide	Lin2		1.187		51.8	50.0	3.7	20.0
gamma-Chlordane	Lin2		1.278		51.9	50.0	3.8	20.0
alpha-Chlordane	Lin2		1.217		51.7	50.0	3.4	20.0
4,4'-DDE	Lin2		1.225		49.6	50.0	-0.8	20.0
Endosulfan I	Lin2		1.129		52.2	50.0	4.3	20.0
Dieldrin	Lin2		1.245		51.7	50.0	3.5	20.0
Endrin	Lin2		1.187		56.7	50.0	13.5	20.0
4,4'-DDD	Lin2		0.9896		51.7	50.0	3.3	20.0
Endosulfan II	Lin2		1.048		53.3	50.0	6.7	20.0
4,4'-DDT	Lin2		0.9802		57.1	50.0	14.1	20.0
Endrin aldehyde	Lin2		0.8189		54.5	50.0	9.0	20.0
Methoxychlor	Lin2		0.4515		57.8	50.0	15.5	20.0
Endosulfan sulfate	Lin2		1.013		58.2	50.0	16.5	20.0
Endrin ketone	Lin2		1.031		56.4	50.0	12.8	20.0
Tetrachloro-m-xylene	Lin2		1.038		47.1	50.0	-5.8	20.0
DCB Decachlorobiphenyl	Lin2		0.6555		57.6	50.0	15.3	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVIS 280-439676/13 Calibration Date: 12/03/2018 15:15

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 12030013.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.30	4.29	4.32
alpha-BHC	4.47	4.46	4.49
gamma-BHC (Lindane)	4.76	4.75	4.78
beta-BHC	4.84	4.83	4.85
delta-BHC	4.99	4.98	5.00
Heptachlor	5.16	5.15	5.18
Aldrin	5.43	5.42	5.44
Heptachlor epoxide	6.04	6.03	6.05
gamma-Chlordane	6.17	6.16	6.18
alpha-Chlordane	6.31	6.30	6.32
4,4'-DDE	6.39	6.37	6.40
Endosulfan I	6.46	6.45	6.47
Dieldrin	6.71	6.70	6.72
Endrin	6.96	6.95	6.97
4,4'-DDD	7.02	7.01	7.03
Endosulfan II	7.20	7.18	7.21
4,4'-DDT	7.32	7.30	7.33
Endrin aldehyde	7.64	7.63	7.65
Methoxychlor	7.82	7.81	7.83
Endosulfan sulfate	8.10	8.09	8.11
Endrin ketone	8.39	8.38	8.40
Tetrachloro-m-xylene	3.90	3.88	3.91
DCB Decachlorobiphenyl	9.40	9.39	9.41

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030013.D
Lims ID: CCVIS AB
Client ID:
Sample Type: CCVIS
Inject. Date: 03-Dec-2018 15:15:04 ALS Bottle#: 7 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS AB
Misc. Info.: 280-0076757-013
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 03-Dec-2018 15:59:53

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.000	3.000	0.000	2035852431	150.0	150.0	
2	2.799	2.799	0.000	231185737	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.896	3.896	0.000	704483564	50.0	47.1	
2	3.781	3.781	0.000	90865754	50.0	48.3	
						RPD = 2.52	
5 Hexachlorobenzene							
1	4.304	4.304	0.000	758834830	50.0	48.5	
2	4.258	4.258	0.000	96858670	50.0	48.8	
						RPD = 0.67	
8 alpha-BHC							
1	4.474	4.474	0.000	1153662455	50.0	50.9	
2	4.403	4.403	0.000	132511155	50.0	51.7	
						RPD = 1.59	
9 gamma-BHC (Lindane)							
1	4.763	4.763	0.000	1001184582	50.0	51.8	
2	4.717	4.717	0.000	115694895	50.0	51.9	
						RPD = 0.31	
10 beta-BHC							
1	4.840	4.840	0.000	381890342	50.0	51.5	
2	4.793	4.793	0.000	48411862	50.0	50.8	
						RPD = 1.21	
12 delta-BHC							
1	4.989	4.989	0.000	1023536563	50.0	52.0	
2	5.027	5.027	0.000	116084181	50.0	51.4	
						RPD = 1.14	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.163	5.163	0.000	921695664	50.0	53.8	
2	5.068	5.068	0.000	104684568	50.0	54.4	
						RPD = 1.22	
16 Aldrin							
1	5.431	5.431	0.000	940159415	50.0	51.4	
2	5.333	5.333	0.000	106951503	50.0	51.6	
						RPD = 0.33	
18 Isodrin							
1	5.753	5.753	0.000	759250049	50.0	51.9	
2	5.691	5.691	0.000	89204990	50.0	50.6	
						RPD = 2.66	
21 Heptachlor epoxide							
1	6.038	6.038	0.000	805369047	50.0	51.8	
2	5.868	5.868	0.000	96449447	50.0	51.1	
						RPD = 1.40	
22 trans-Chlordane							
1	6.169	6.169	0.000	867091906	50.0	51.9	
2	6.065	6.065	0.000	100347270	50.0	50.6	
						RPD = 2.42	
23 cis-Chlordane							
1	6.310	6.310	0.000	825538887	50.0	51.7	
2	6.221	6.221	0.000	95670795	50.0	51.1	
						RPD = 1.23	
24 4,4'-DDE							
1	6.386	6.386	0.000	831438075	50.0	49.6	
2	6.404	6.404	0.000	97130929	50.0	49.9	
						RPD = 0.46	
25 Endosulfan I							
1	6.459	6.459	0.000	766023332	50.0	52.2	
2	6.280	6.280	0.000	90505198	50.0	50.9	
						RPD = 2.56	
27 Dieldrin							
1	6.711	6.711	0.000	844643646	50.0	51.7	
2	6.570	6.570	0.000	99901136	50.0	50.9	
						RPD = 1.57	
30 Endrin							
1	6.959	6.959	0.000	805300994	50.0	56.7	
2	6.890	6.890	0.000	95620412	50.0	55.2	
						RPD = 2.69	
32 4,4'-DDD							
1	7.021	7.021	0.000	671588658	50.0	51.7	
2	7.019	7.019	0.000	79712281	50.0	50.3	
						RPD = 2.73	
34 Endosulfan II							
1	7.195	7.195	0.000	710985998	50.0	53.3	
2	7.117	7.117	0.000	84906267	50.0	50.6	
						RPD = 5.33	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1	7.315	7.315	0.000	665187215	50.0	57.1	
2	7.349	7.349	0.000	78119627	50.0	56.8	
						RPD = 0.53	
36 Endrin aldehyde							
1	7.640	7.640	0.000	555698387	50.0	54.5	
2	7.475	7.475	0.000	67929032	50.0	50.5	
						RPD = 7.63	
37 Methoxychlor							
1	7.819	7.819	0.000	306362233	50.0	57.8	
2	8.080	8.080	0.000	38364299	50.0	56.6	
						RPD = 1.97	
38 Mirex							
1	7.978	7.978	0.000	481588192	50.0	56.6	
2	8.269	8.269	0.000	57756301	50.0	50.8	
						RPD = 10.88	
39 Endosulfan sulfate							
1	8.098	8.098	0.000	687304416	50.0	58.2	
2	7.768	7.768	0.000	79197278	50.0	51.5	
						RPD = 12.19	
40 Endrin ketone							
1	8.388	8.388	0.000	699771761	50.0	56.4	
2	8.320	8.320	0.000	85560033	50.0	50.6	
						RPD = 10.85	
$ 41 DCB Decachlorobiphenyl							
1	9.402	9.402	0.000	444833559	50.0	57.6	
2	9.588	9.588	0.000	55341316	50.0	49.8	
						RPD = 14.58	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00010	Amount Added: 75.00	Units: uL	Run Reagent

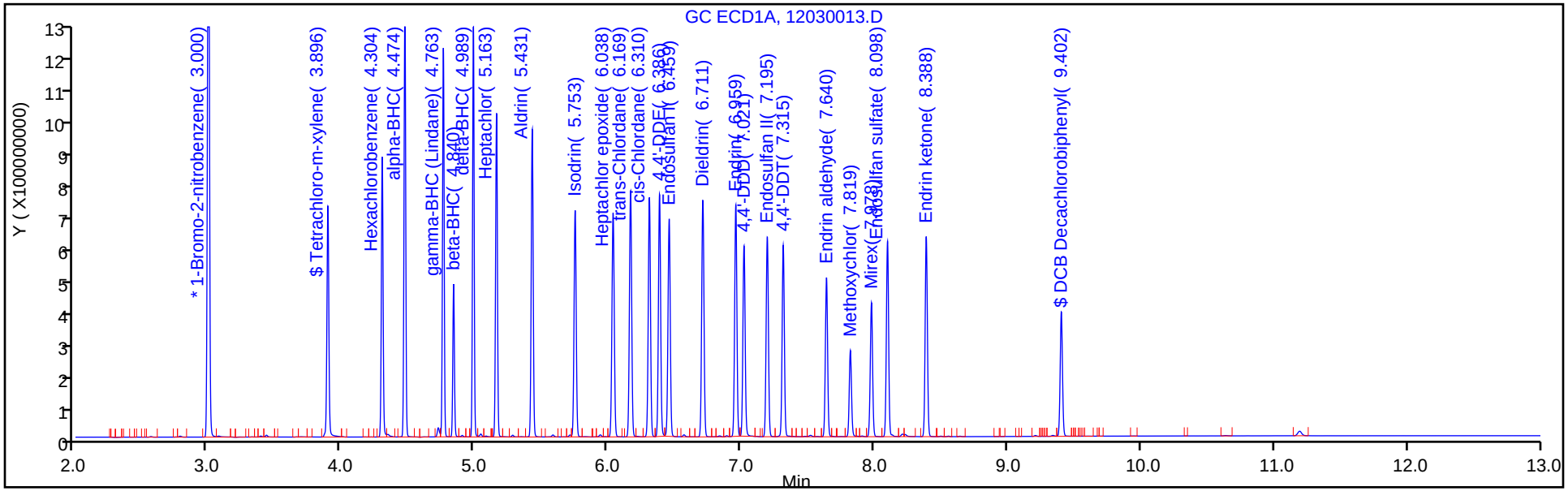
Report Date: 04-Dec-2018 13:50:01 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

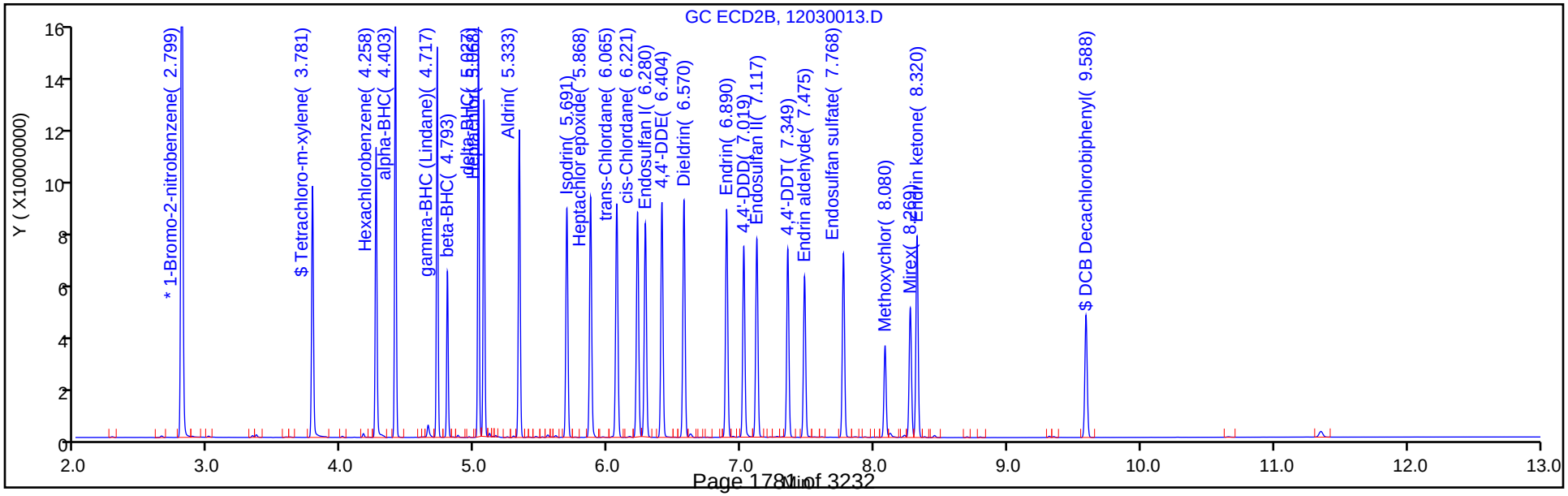
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030013.D

Injection Date:	03-Dec-2018 15:15:04	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCVIS AB			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVIS 280-439676/13 Calibration Date: 12/03/2018 15:15

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 12030013.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.257		48.8	50.0	-2.4	20.0
alpha-BHC	Lin2		1.720		51.7	50.0	3.5	20.0
gamma-BHC (Lindane)	Lin2		1.501		51.9	50.0	3.9	20.0
beta-BHC	Lin2		0.6282		50.8	50.0	1.7	20.0
delta-BHC	Lin2		1.506		51.4	50.0	2.9	20.0
Heptachlor	Lin2		1.358		54.4	50.0	8.8	20.0
Aldrin	Lin2		1.388		51.6	50.0	3.1	20.0
Heptachlor epoxide	Lin2		1.252		51.1	50.0	2.3	20.0
gamma-Chlordane	Lin2		1.302		50.6	50.0	1.3	20.0
alpha-Chlordane	Lin2		1.241		51.1	50.0	2.1	20.0
Endosulfan I	Lin2		1.174		50.9	50.0	1.7	20.0
4,4'-DDE	Lin2		1.260		49.9	50.0	-0.3	20.0
Dieldrin	Lin2		1.296		50.9	50.0	1.8	20.0
Endrin	Lin2		1.241		55.2	50.0	10.5	20.0
4,4'-DDD	Lin2		1.034		50.3	50.0	0.6	20.0
Endosulfan II	Lin2		1.102		50.6	50.0	1.2	20.0
4,4'-DDT	Lin2		1.014		56.8	50.0	13.5	20.0
Endrin aldehyde	Lin2		0.8815		50.5	50.0	1.0	20.0
Endosulfan sulfate	Lin2		1.028		51.5	50.0	3.1	20.0
Methoxychlor	Lin2		0.4978		56.6	50.0	13.3	20.0
Endrin ketone	Lin2		1.110		50.6	50.0	1.2	20.0
Tetrachloro-m-xylene	Lin2		1.179		48.3	50.0	-3.4	20.0
DCB Decachlorobiphenyl	Lin2		0.7181		49.8	50.0	-0.4	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVIS 280-439676/13 Calibration Date: 12/03/2018 15:15

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 12030013.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.26	4.25	4.27
alpha-BHC	4.40	4.39	4.42
gamma-BHC (Lindane)	4.72	4.71	4.73
beta-BHC	4.79	4.78	4.81
delta-BHC	5.03	5.02	5.04
Heptachlor	5.07	5.06	5.08
Aldrin	5.33	5.32	5.35
Heptachlor epoxide	5.87	5.86	5.88
gamma-Chlordane	6.07	6.05	6.08
alpha-Chlordane	6.22	6.21	6.23
Endosulfan I	6.28	6.27	6.29
4,4'-DDE	6.40	6.39	6.42
Dieldrin	6.57	6.56	6.58
Endrin	6.89	6.88	6.90
4,4'-DDD	7.02	7.01	7.03
Endosulfan II	7.12	7.11	7.13
4,4'-DDT	7.35	7.34	7.36
Endrin aldehyde	7.48	7.46	7.49
Endosulfan sulfate	7.77	7.76	7.78
Methoxychlor	8.08	8.07	8.09
Endrin ketone	8.32	8.31	8.33
Tetrachloro-m-xylene	3.78	3.77	3.79
DCB Decachlorobiphenyl	9.59	9.58	9.60

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030013.D
Lims ID: CCVIS AB
Client ID:
Sample Type: CCVIS
Inject. Date: 03-Dec-2018 15:15:04 ALS Bottle#: 7 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS AB
Misc. Info.: 280-0076757-013
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 03-Dec-2018 15:59:53

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.000	3.000	0.000	2035852431	150.0	150.0	
2	2.799	2.799	0.000	231185737	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.896	3.896	0.000	704483564	50.0	47.1	
2	3.781	3.781	0.000	90865754	50.0	48.3	
						RPD = 2.52	
5 Hexachlorobenzene							
1	4.304	4.304	0.000	758834830	50.0	48.5	
2	4.258	4.258	0.000	96858670	50.0	48.8	
						RPD = 0.67	
8 alpha-BHC							
1	4.474	4.474	0.000	1153662455	50.0	50.9	
2	4.403	4.403	0.000	132511155	50.0	51.7	
						RPD = 1.59	
9 gamma-BHC (Lindane)							
1	4.763	4.763	0.000	1001184582	50.0	51.8	
2	4.717	4.717	0.000	115694895	50.0	51.9	
						RPD = 0.31	
10 beta-BHC							
1	4.840	4.840	0.000	381890342	50.0	51.5	
2	4.793	4.793	0.000	48411862	50.0	50.8	
						RPD = 1.21	
12 delta-BHC							
1	4.989	4.989	0.000	1023536563	50.0	52.0	
2	5.027	5.027	0.000	116084181	50.0	51.4	
						RPD = 1.14	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.163	5.163	0.000	921695664	50.0	53.8	
2	5.068	5.068	0.000	104684568	50.0	54.4	
						RPD = 1.22	
16 Aldrin							
1	5.431	5.431	0.000	940159415	50.0	51.4	
2	5.333	5.333	0.000	106951503	50.0	51.6	
						RPD = 0.33	
18 Isodrin							
1	5.753	5.753	0.000	759250049	50.0	51.9	
2	5.691	5.691	0.000	89204990	50.0	50.6	
						RPD = 2.66	
21 Heptachlor epoxide							
1	6.038	6.038	0.000	805369047	50.0	51.8	
2	5.868	5.868	0.000	96449447	50.0	51.1	
						RPD = 1.40	
22 trans-Chlordane							
1	6.169	6.169	0.000	867091906	50.0	51.9	
2	6.065	6.065	0.000	100347270	50.0	50.6	
						RPD = 2.42	
23 cis-Chlordane							
1	6.310	6.310	0.000	825538887	50.0	51.7	
2	6.221	6.221	0.000	95670795	50.0	51.1	
						RPD = 1.23	
24 4,4'-DDE							
1	6.386	6.386	0.000	831438075	50.0	49.6	
2	6.404	6.404	0.000	97130929	50.0	49.9	
						RPD = 0.46	
25 Endosulfan I							
1	6.459	6.459	0.000	766023332	50.0	52.2	
2	6.280	6.280	0.000	90505198	50.0	50.9	
						RPD = 2.56	
27 Dieldrin							
1	6.711	6.711	0.000	844643646	50.0	51.7	
2	6.570	6.570	0.000	99901136	50.0	50.9	
						RPD = 1.57	
30 Endrin							
1	6.959	6.959	0.000	805300994	50.0	56.7	
2	6.890	6.890	0.000	95620412	50.0	55.2	
						RPD = 2.69	
32 4,4'-DDD							
1	7.021	7.021	0.000	671588658	50.0	51.7	
2	7.019	7.019	0.000	79712281	50.0	50.3	
						RPD = 2.73	
34 Endosulfan II							
1	7.195	7.195	0.000	710985998	50.0	53.3	
2	7.117	7.117	0.000	84906267	50.0	50.6	
						RPD = 5.33	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1	7.315	7.315	0.000	665187215	50.0	57.1	
2	7.349	7.349	0.000	78119627	50.0	56.8	
						RPD = 0.53	
36 Endrin aldehyde							
1	7.640	7.640	0.000	555698387	50.0	54.5	
2	7.475	7.475	0.000	67929032	50.0	50.5	
						RPD = 7.63	
37 Methoxychlor							
1	7.819	7.819	0.000	306362233	50.0	57.8	
2	8.080	8.080	0.000	38364299	50.0	56.6	
						RPD = 1.97	
38 Mirex							
1	7.978	7.978	0.000	481588192	50.0	56.6	
2	8.269	8.269	0.000	57756301	50.0	50.8	
						RPD = 10.88	
39 Endosulfan sulfate							
1	8.098	8.098	0.000	687304416	50.0	58.2	
2	7.768	7.768	0.000	79197278	50.0	51.5	
						RPD = 12.19	
40 Endrin ketone							
1	8.388	8.388	0.000	699771761	50.0	56.4	
2	8.320	8.320	0.000	85560033	50.0	50.6	
						RPD = 10.85	
$ 41 DCB Decachlorobiphenyl							
1	9.402	9.402	0.000	444833559	50.0	57.6	
2	9.588	9.588	0.000	55341316	50.0	49.8	
						RPD = 14.58	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00010	Amount Added: 75.00	Units: uL	Run Reagent

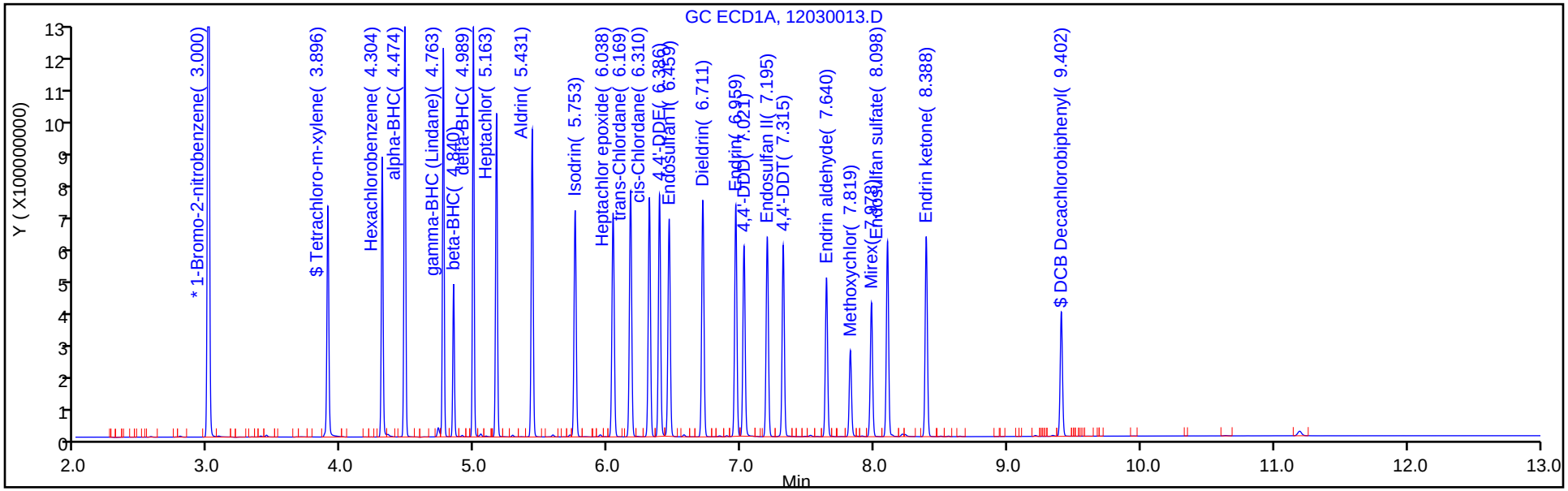
Report Date: 04-Dec-2018 13:50:02 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

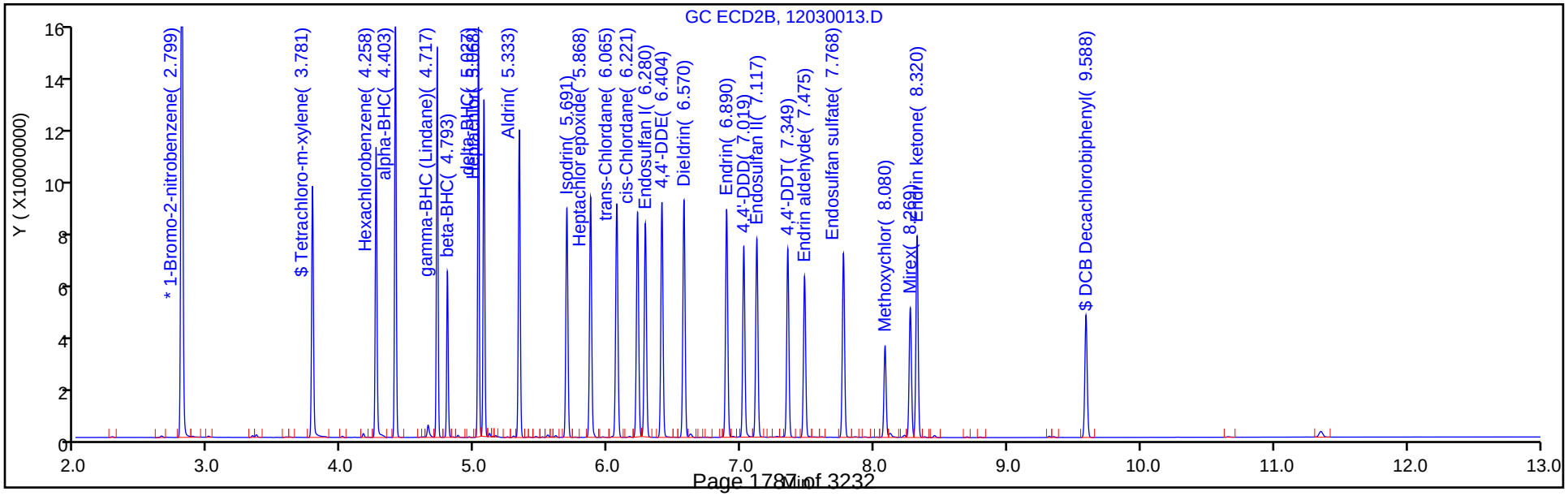
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030013.D

Injection Date:	03-Dec-2018 15:15:04	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCVIS AB			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-439676/25 Calibration Date: 12/03/2018 18:44

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 12030025.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0058		1690	2000	-15.6	20.0
Toxaphene Peak 2	Lin2		0.0164		1880	2000	-6.2	20.0
Toxaphene Peak 3	Lin2		0.0200		2050	2000	2.4	20.0
Toxaphene Peak 4	Lin2		0.0081		2080	2000	3.8	20.0
Toxaphene Peak 5	Lin2		0.0090		2280	2000	14.0	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-439676/25 Calibration Date: 12/03/2018 18:44

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 12030025.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	6.21	6.20	6.22
Toxaphene Peak 2	6.81	6.80	6.82
Toxaphene Peak 3	7.48	7.47	7.50
Toxaphene Peak 4	7.84	7.83	7.86
Toxaphene Peak 5	8.16	8.15	8.17

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030025.D
Lims ID: CCV TOX
Client ID:
Sample Type: CCV
Inject. Date: 03-Dec-2018 18:44:55 ALS Bottle#: 19 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV TOX
Misc. Info.: 280-0076757-025
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:27 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 04-Dec-2018 08:39:06

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.001	3.001	0.000	1897716616	150.0	150.0	
2	2.801	2.801	0.000	224391818	150.0	150.0	
28 Toxaphene							
1	6.206	6.207	-0.001	145599278	2000.0	1688.3	
1	6.810	6.811	-0.001	414784337	2000.0	1876.5	
1	7.483	7.483	0.000	505599203	2000.0	2048.0	
1	7.841	7.843	-0.002	205958153	2000.0	2076.1	
1	8.158	8.158	0.000	227697906	2000.0	2279.7	
		Average of Peak Amounts =				1993.7	
2	5.715	5.717	-0.002	12910498	2000.0	1865.9	
2	7.066	7.067	-0.001	61603451	2000.0	1984.6	
2	7.205	7.207	-0.002	163868456	2000.0	1911.9	
2	7.721	7.721	0.000	48403477	2000.0	1974.8	
2	8.015	8.015	0.000	90946001	2000.0	1901.2	
		Average of Peak Amounts =				1927.7	
						RPD = 3.37	

Reagents:

8081TOXCCVL4_00015 Amount Added: 1.00 Units: mL
8081_IS_00010 Amount Added: 75.00 Units: uL Run Reagent

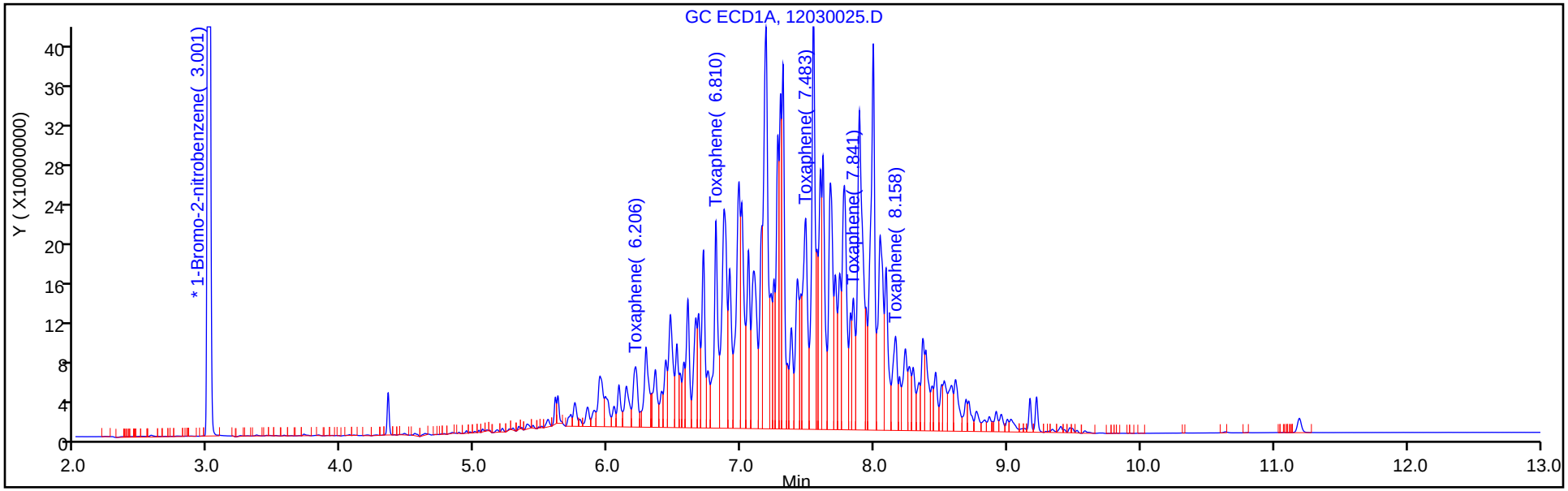
Report Date: 04-Dec-2018 13:50:28 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

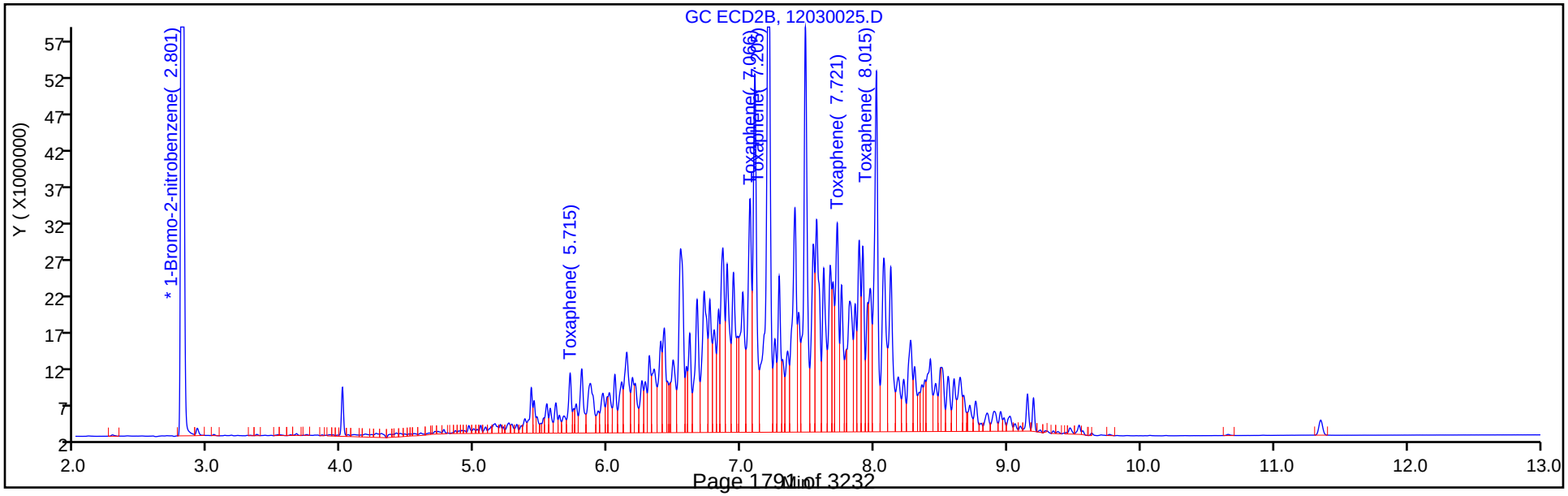
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030025.D

Injection Date:	03-Dec-2018 18:44:55	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV TOX			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-439676/25 Calibration Date: 12/03/2018 18:44

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 12030025.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0043		1870	2000	-6.7	20.0
Toxaphene Peak 2	Lin2		0.0206		1980	2000	-0.8	20.0
Toxaphene Peak 3	Lin2		0.0548		1910	2000	-4.4	20.0
Toxaphene Peak 4	Lin2		0.0162		1970	2000	-1.3	20.0
Toxaphene Peak 5	Lin2		0.0304		1900	2000	-4.9	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-439676/25 Calibration Date: 12/03/2018 18:44

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 12030025.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	5.72	5.71	5.73
Toxaphene Peak 2	7.07	7.06	7.08
Toxaphene Peak 3	7.21	7.20	7.22
Toxaphene Peak 4	7.72	7.71	7.73
Toxaphene Peak 5	8.02	8.00	8.03

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030025.D
Lims ID: CCV TOX
Client ID:
Sample Type: CCV
Inject. Date: 03-Dec-2018 18:44:55 ALS Bottle#: 19 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV TOX
Misc. Info.: 280-0076757-025
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:27 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 04-Dec-2018 08:39:06

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.001	3.001	0.000	1897716616	150.0	150.0	
2	2.801	2.801	0.000	224391818	150.0	150.0	
28 Toxaphene							
1	6.206	6.207	-0.001	145599278	2000.0	1688.3	
1	6.810	6.811	-0.001	414784337	2000.0	1876.5	
1	7.483	7.483	0.000	505599203	2000.0	2048.0	
1	7.841	7.843	-0.002	205958153	2000.0	2076.1	
1	8.158	8.158	0.000	227697906	2000.0	2279.7	
		Average of Peak Amounts =				1993.7	
2	5.715	5.717	-0.002	12910498	2000.0	1865.9	
2	7.066	7.067	-0.001	61603451	2000.0	1984.6	
2	7.205	7.207	-0.002	163868456	2000.0	1911.9	
2	7.721	7.721	0.000	48403477	2000.0	1974.8	
2	8.015	8.015	0.000	90946001	2000.0	1901.2	
		Average of Peak Amounts =				1927.7	
						RPD = 3.37	

Reagents:

8081TOXCCVL4_00015 Amount Added: 1.00 Units: mL
8081_IS_00010 Amount Added: 75.00 Units: uL Run Reagent

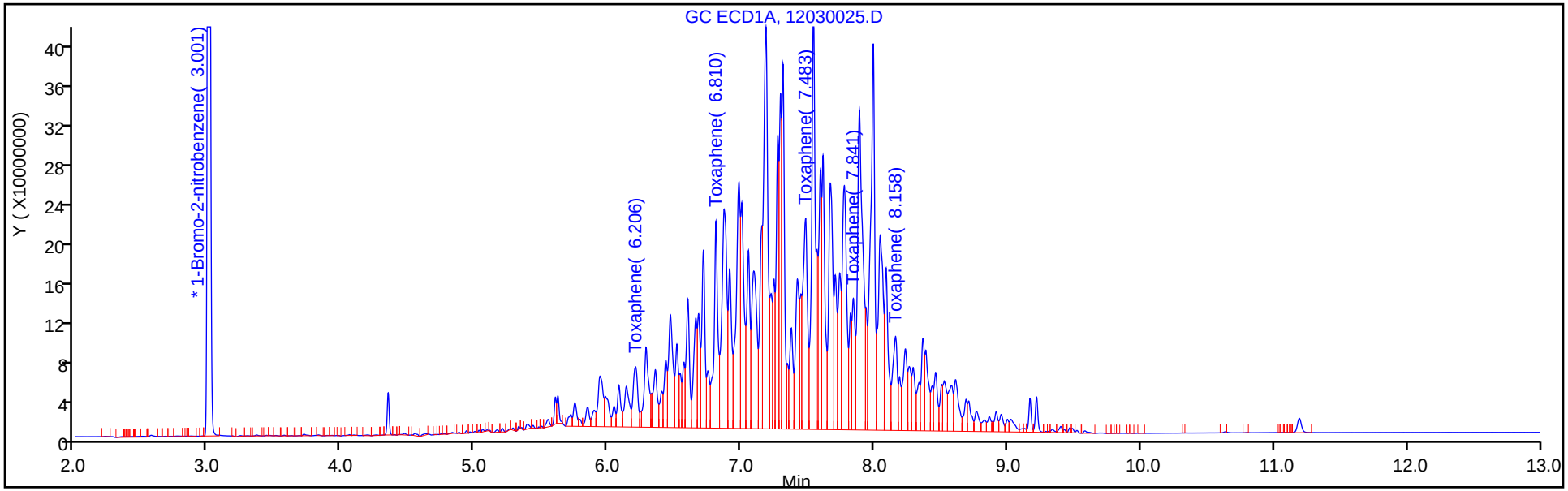
Report Date: 04-Dec-2018 13:50:28 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

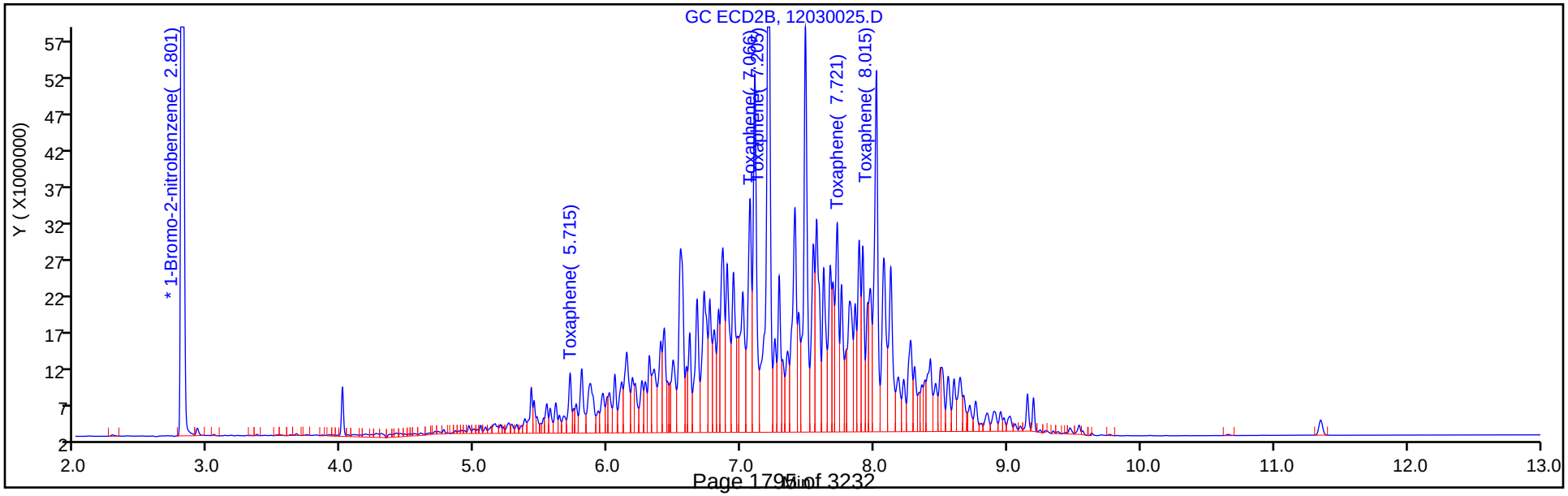
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030025.D

Injection Date:	03-Dec-2018 18:44:55	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV TOX			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-439676/27 Calibration Date: 12/03/2018 19:19

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 12030027.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.134		49.1	50.0	-1.7	20.0
alpha-BHC	Lin2		1.722		51.6	50.0	3.1	20.0
gamma-BHC (Lindane)	Lin2		1.488		52.2	50.0	4.5	20.0
beta-BHC	Lin2		0.5646		51.6	50.0	3.3	20.0
delta-BHC	Lin2		1.509		52.0	50.0	4.1	20.0
Heptachlor	Lin2		1.362		53.9	50.0	7.8	20.0
Aldrin	Lin2		1.418		52.6	50.0	5.2	20.0
Heptachlor epoxide	Lin2		1.207		52.7	50.0	5.5	20.0
gamma-Chlordane	Lin2		1.316		53.4	50.0	6.8	20.0
alpha-Chlordane	Lin2		1.242		52.8	50.0	5.5	20.0
4,4'-DDE	Lin2		1.257		50.9	50.0	1.8	20.0
Endosulfan I	Lin2		1.177		54.4	50.0	8.8	20.0
Dieldrin	Lin2		1.234		51.3	50.0	2.6	20.0
Endrin	Lin2		1.197		57.2	50.0	14.5	20.0
4,4'-DDD	Lin2		1.012		52.8	50.0	5.6	20.0
Endosulfan II	Lin2		1.075		54.7	50.0	9.4	20.0
4,4'-DDT	Lin2		0.9938		57.8	50.0	15.7	20.0
Endrin aldehyde	Lin2		0.8259		55.0	50.0	10.0	20.0
Methoxychlor	Lin2		0.4722		60.4	50.0	20.8*	20.0
Endosulfan sulfate	Lin2		1.042		59.9	50.0	19.9	20.0
Endrin ketone	Lin2		1.078		59.0	50.0	17.9	20.0
Tetrachloro-m-xylene	Lin2		1.055		47.9	50.0	-4.3	20.0
DCB Decachlorobiphenyl	Lin2		0.6957		61.2	50.0	22.3*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-439676/27 Calibration Date: 12/03/2018 19:19

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 12030027.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.30	4.29	4.32
alpha-BHC	4.47	4.46	4.49
gamma-BHC (Lindane)	4.76	4.75	4.78
beta-BHC	4.84	4.83	4.85
delta-BHC	4.99	4.98	5.00
Heptachlor	5.16	5.15	5.18
Aldrin	5.43	5.42	5.44
Heptachlor epoxide	6.04	6.03	6.05
gamma-Chlordane	6.17	6.16	6.18
alpha-Chlordane	6.31	6.30	6.32
4,4'-DDE	6.39	6.37	6.40
Endosulfan I	6.46	6.45	6.47
Dieldrin	6.71	6.70	6.72
Endrin	6.96	6.95	6.97
4,4'-DDD	7.02	7.01	7.03
Endosulfan II	7.20	7.18	7.21
4,4'-DDT	7.31	7.30	7.33
Endrin aldehyde	7.64	7.63	7.65
Methoxychlor	7.82	7.81	7.83
Endosulfan sulfate	8.10	8.09	8.11
Endrin ketone	8.39	8.38	8.40
Tetrachloro-m-xylene	3.90	3.88	3.91
DCB Decachlorobiphenyl	9.40	9.39	9.41

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030027.D
Lims ID: CCV AB
Client ID:
Sample Type: CCV
Inject. Date: 03-Dec-2018 19:19:48 ALS Bottle#: 21 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV AB
Misc. Info.: 280-0076757-027
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:31 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 04-Dec-2018 08:42:08

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						207.5	
2						205.4	
						RPD = 1.03	
* 2 1-Bromo-2-nitrobenzene							
1	3.001	3.001	-0.001	1916199073	150.0	150.0	
2	2.801	2.801	-0.001	223817723	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.896	3.896	0.000	673697520	50.0	47.9	
2	3.781	3.781	0.000	89051687	50.0	48.9	
						RPD = 2.19	
5 Hexachlorobenzene							
1	4.304	4.304	0.000	724242261	50.0	49.1	
2	4.259	4.258	0.001	96044612	50.0	50.0	
						RPD = 1.71	
8 alpha-BHC							
1	4.474	4.474	0.000	1099881928	50.0	51.6	
2	4.404	4.403	0.001	129301719	50.0	52.2	
						RPD = 1.11	
9 gamma-BHC (Lindane)							
1	4.763	4.763	0.000	950535449	50.0	52.2	
2	4.717	4.717	0.000	110765656	50.0	51.4	
						RPD = 1.67	
10 beta-BHC							
1	4.840	4.840	0.000	360606324	50.0	51.6	
2	4.794	4.793	0.001	46689986	50.0	50.7	
						RPD = 1.92	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	4.988	4.989	-0.001	963599351	50.0	52.0	
2	5.026	5.027	-0.001	111847518	50.0	51.2	
						RPD = 1.65	
15 Heptachlor							
1	5.161	5.163	-0.002	869927186	50.0	53.9	
2	5.068	5.068	0.000	99892485	50.0	53.6	
						RPD = 0.51	
16 Aldrin							
1	5.431	5.431	0.000	905601425	50.0	52.6	
2	5.334	5.333	0.001	103898874	50.0	51.7	
						RPD = 1.62	
18 Isodrin							
1	5.752	5.753	-0.001	718469667	50.0	52.2	
2	5.691	5.691	0.000	86362182	50.0	50.6	
						RPD = 3.19	
21 Heptachlor epoxide							
1	6.037	6.038	-0.001	771118962	50.0	52.7	
2	5.869	5.868	0.001	93176064	50.0	51.0	
						RPD = 3.32	
22 trans-Chlordane							
1	6.169	6.169	0.000	840386602	50.0	53.4	
2	6.066	6.065	0.001	97083948	50.0	50.6	
						RPD = 5.39	
23 cis-Chlordane							
1	6.309	6.310	-0.001	793106525	50.0	52.8	
2	6.221	6.221	0.000	92510286	50.0	51.0	
						RPD = 3.39	
24 4,4'-DDE							
1	6.386	6.386	0.000	803025689	50.0	50.9	
2	6.404	6.404	0.000	93426286	50.0	49.5	
						RPD = 2.75	
25 Endosulfan I							
1	6.458	6.459	-0.001	751876134	50.0	54.4	
2	6.280	6.280	0.000	87626277	50.0	50.9	
						RPD = 6.73	
27 Dieldrin							
1	6.711	6.711	0.000	788219102	50.0	51.3	
2	6.569	6.570	-0.001	97086325	50.0	51.1	
						RPD = 0.33	
30 Endrin							
1	6.958	6.959	-0.001	764786252	50.0	57.2	
2	6.891	6.890	0.001	91642891	50.0	54.7	
						RPD = 4.59	
32 4,4'-DDD							
1	7.020	7.021	-0.001	646107392	50.0	52.8	
2	7.019	7.019	0.000	77976400	50.0	50.8	
						RPD = 3.86	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.195	7.195	0.000	686409793	50.0	54.7	
2	7.116	7.117	-0.001	83059135	50.0	51.1	
						RPD = 6.80	
35 4,4'-DDT							
1	7.314	7.315	-0.001	634749512	50.0	57.8	
2	7.350	7.349	0.001	75949781	50.0	57.0	
						RPD = 1.47	
36 Endrin aldehyde							
1	7.639	7.640	-0.001	527518108	50.0	55.0	
2	7.476	7.475	0.001	66401183	50.0	51.0	
						RPD = 7.50	
37 Methoxychlor							
1	7.818	7.819	-0.001	301604084	50.0	60.4	
2	8.080	8.080	0.000	38337636	50.0	58.5	
						RPD = 3.27	
38 Mirex							
1	7.976	7.978	-0.002	465381256	50.0	58.1	
2	8.270	8.269	0.001	57145197	50.0	51.9	
						RPD = 11.29	
39 Endosulfan sulfate							
1	8.097	8.098	-0.001	665845927	50.0	59.9	
2	7.767	7.768	-0.001	77433634	50.0	52.1	
						RPD = 14.05	
40 Endrin ketone							
1	8.389	8.388	0.001	688359659	50.0	59.0	
2	8.320	8.320	0.000	84911720	50.0	51.9	
						RPD = 12.73	
$ 41 DCB Decachlorobiphenyl							
1	9.401	9.402	-0.001	444348843	50.0	61.2	
2	9.587	9.588	-0.001	55703115	50.0	51.8	
						RPD = 16.56	
S 3 Endosulfan, Total							
1						169.0	
2						154.0	
						RPD = 9.29	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00010	Amount Added: 75.00	Units: uL	Run Reagent

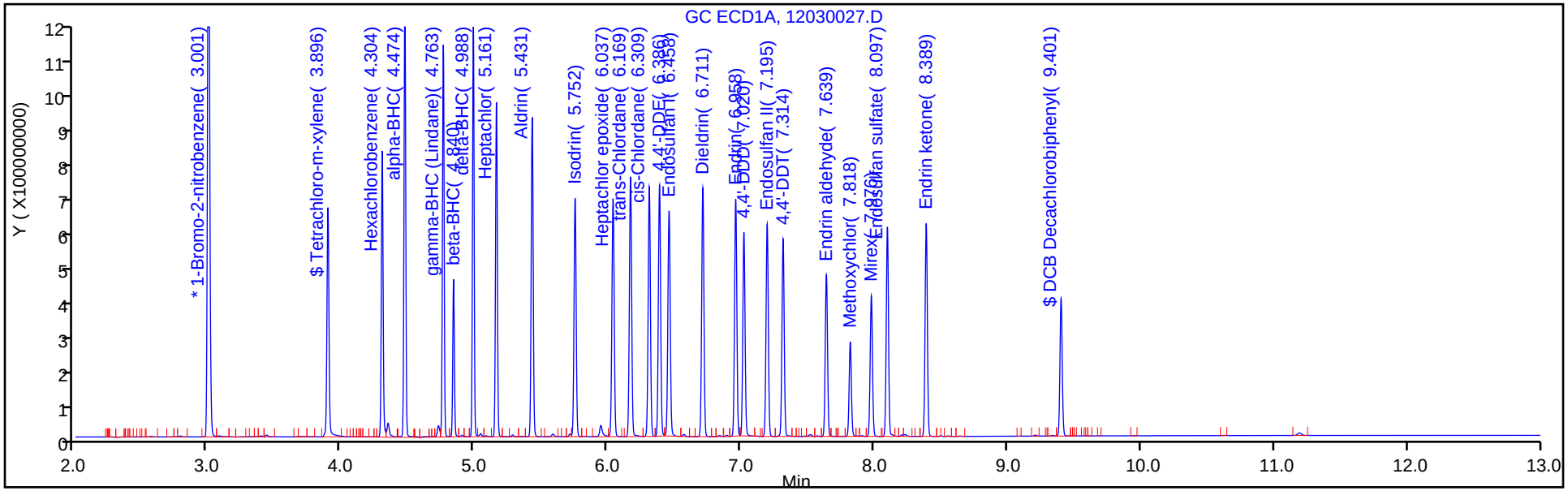
Report Date: 04-Dec-2018 13:50:31 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

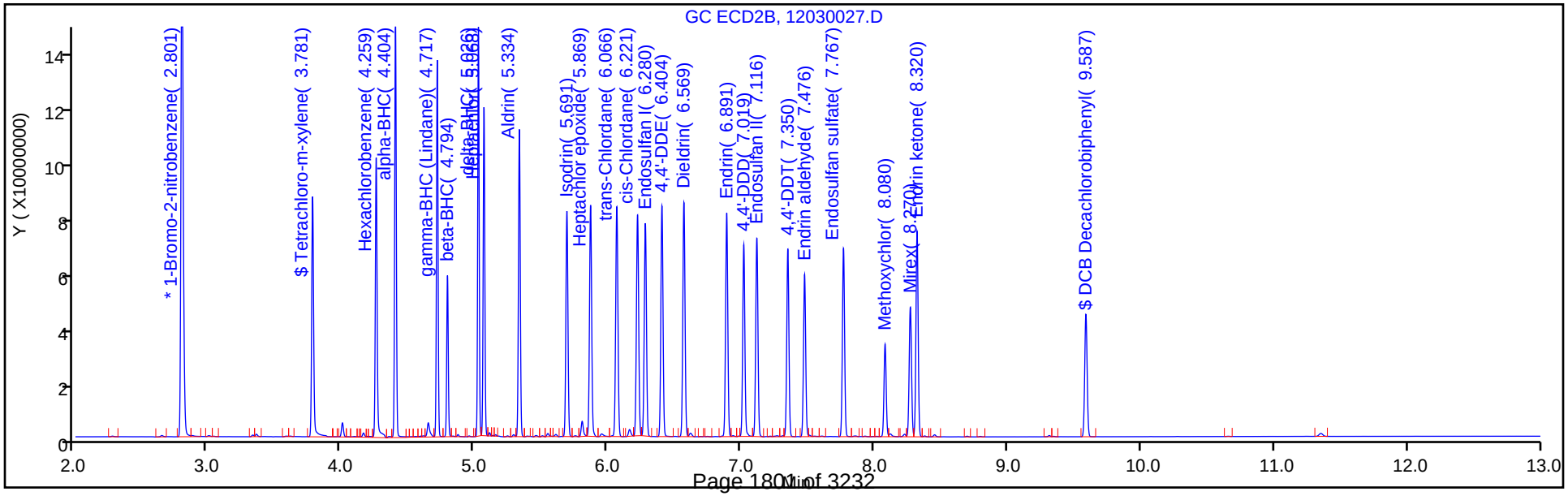
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030027.D

Injection Date:	03-Dec-2018 19:19:48	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV AB			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-439676/27 Calibration Date: 12/03/2018 19:19

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 12030027.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.287		50.0	50.0	-0.0	20.0
alpha-BHC	Lin2		1.733		52.2	50.0	4.3	20.0
gamma-BHC (Lindane)	Lin2		1.485		51.4	50.0	2.7	20.0
beta-BHC	Lin2		0.6258		50.7	50.0	1.3	20.0
delta-BHC	Lin2		1.499		51.2	50.0	2.4	20.0
Heptachlor	Lin2		1.339		53.6	50.0	7.3	20.0
Aldrin	Lin2		1.393		51.7	50.0	3.5	20.0
Heptachlor epoxide	Lin2		1.249		51.0	50.0	2.0	20.0
gamma-Chlordane	Lin2		1.301		50.6	50.0	1.2	20.0
alpha-Chlordane	Lin2		1.240		51.0	50.0	2.0	20.0
Endosulfan I	Lin2		1.175		50.9	50.0	1.7	20.0
4,4'-DDE	Lin2		1.252		49.5	50.0	-0.9	20.0
Dieldrin	Lin2		1.301		51.1	50.0	2.2	20.0
Endrin	Lin2		1.228		54.7	50.0	9.4	20.0
4,4'-DDD	Lin2		1.045		50.8	50.0	1.6	20.0
Endosulfan II	Lin2		1.113		51.1	50.0	2.2	20.0
4,4'-DDT	Lin2		1.018		57.0	50.0	14.0	20.0
Endrin aldehyde	Lin2		0.8900		51.0	50.0	2.0	20.0
Endosulfan sulfate	Lin2		1.038		52.1	50.0	4.1	20.0
Methoxychlor	Lin2		0.5139		58.5	50.0	16.9	20.0
Endrin ketone	Lin2		1.138		51.9	50.0	3.8	20.0
Tetrachloro-m-xylene	Lin2		1.194		48.9	50.0	-2.2	20.0
DCB Decachlorobiphenyl	Lin2		0.7466		51.8	50.0	3.6	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-439676/27 Calibration Date: 12/03/2018 19:19

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 12030027.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.26	4.25	4.27
alpha-BHC	4.40	4.39	4.42
gamma-BHC (Lindane)	4.72	4.71	4.73
beta-BHC	4.79	4.78	4.81
delta-BHC	5.03	5.02	5.04
Heptachlor	5.07	5.06	5.08
Aldrin	5.33	5.32	5.35
Heptachlor epoxide	5.87	5.86	5.88
gamma-Chlordane	6.07	6.05	6.08
alpha-Chlordane	6.22	6.21	6.23
Endosulfan I	6.28	6.27	6.29
4,4'-DDE	6.40	6.39	6.42
Dieldrin	6.57	6.56	6.58
Endrin	6.89	6.88	6.90
4,4'-DDD	7.02	7.01	7.03
Endosulfan II	7.12	7.11	7.13
4,4'-DDT	7.35	7.34	7.36
Endrin aldehyde	7.48	7.46	7.49
Endosulfan sulfate	7.77	7.76	7.78
Methoxychlor	8.08	8.07	8.09
Endrin ketone	8.32	8.31	8.33
Tetrachloro-m-xylene	3.78	3.77	3.79
DCB Decachlorobiphenyl	9.59	9.58	9.60

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030027.D
Lims ID: CCV AB
Client ID:
Sample Type: CCV
Inject. Date: 03-Dec-2018 19:19:48 ALS Bottle#: 21 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV AB
Misc. Info.: 280-0076757-027
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 04-Dec-2018 13:50:31 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: bacat Date: 04-Dec-2018 08:42:08

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						207.5	
2						205.4	
						RPD = 1.03	
* 2 1-Bromo-2-nitrobenzene							
1	3.001	3.001	-0.001	1916199073	150.0	150.0	
2	2.801	2.801	-0.001	223817723	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.896	3.896	0.000	673697520	50.0	47.9	
2	3.781	3.781	0.000	89051687	50.0	48.9	
						RPD = 2.19	
5 Hexachlorobenzene							
1	4.304	4.304	0.000	724242261	50.0	49.1	
2	4.259	4.258	0.001	96044612	50.0	50.0	
						RPD = 1.71	
8 alpha-BHC							
1	4.474	4.474	0.000	1099881928	50.0	51.6	
2	4.404	4.403	0.001	129301719	50.0	52.2	
						RPD = 1.11	
9 gamma-BHC (Lindane)							
1	4.763	4.763	0.000	950535449	50.0	52.2	
2	4.717	4.717	0.000	110765656	50.0	51.4	
						RPD = 1.67	
10 beta-BHC							
1	4.840	4.840	0.000	360606324	50.0	51.6	
2	4.794	4.793	0.001	46689986	50.0	50.7	
						RPD = 1.92	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	4.988	4.989	-0.001	963599351	50.0	52.0	
2	5.026	5.027	-0.001	111847518	50.0	51.2	
						RPD = 1.65	
15 Heptachlor							
1	5.161	5.163	-0.002	869927186	50.0	53.9	
2	5.068	5.068	0.000	99892485	50.0	53.6	
						RPD = 0.51	
16 Aldrin							
1	5.431	5.431	0.000	905601425	50.0	52.6	
2	5.334	5.333	0.001	103898874	50.0	51.7	
						RPD = 1.62	
18 Isodrin							
1	5.752	5.753	-0.001	718469667	50.0	52.2	
2	5.691	5.691	0.000	86362182	50.0	50.6	
						RPD = 3.19	
21 Heptachlor epoxide							
1	6.037	6.038	-0.001	771118962	50.0	52.7	
2	5.869	5.868	0.001	93176064	50.0	51.0	
						RPD = 3.32	
22 trans-Chlordane							
1	6.169	6.169	0.000	840386602	50.0	53.4	
2	6.066	6.065	0.001	97083948	50.0	50.6	
						RPD = 5.39	
23 cis-Chlordane							
1	6.309	6.310	-0.001	793106525	50.0	52.8	
2	6.221	6.221	0.000	92510286	50.0	51.0	
						RPD = 3.39	
24 4,4'-DDE							
1	6.386	6.386	0.000	803025689	50.0	50.9	
2	6.404	6.404	0.000	93426286	50.0	49.5	
						RPD = 2.75	
25 Endosulfan I							
1	6.458	6.459	-0.001	751876134	50.0	54.4	
2	6.280	6.280	0.000	87626277	50.0	50.9	
						RPD = 6.73	
27 Dieldrin							
1	6.711	6.711	0.000	788219102	50.0	51.3	
2	6.569	6.570	-0.001	97086325	50.0	51.1	
						RPD = 0.33	
30 Endrin							
1	6.958	6.959	-0.001	764786252	50.0	57.2	
2	6.891	6.890	0.001	91642891	50.0	54.7	
						RPD = 4.59	
32 4,4'-DDD							
1	7.020	7.021	-0.001	646107392	50.0	52.8	
2	7.019	7.019	0.000	77976400	50.0	50.8	
						RPD = 3.86	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.195	7.195	0.000	686409793	50.0	54.7	
2	7.116	7.117	-0.001	83059135	50.0	51.1	
						RPD = 6.80	
35 4,4'-DDT							
1	7.314	7.315	-0.001	634749512	50.0	57.8	
2	7.350	7.349	0.001	75949781	50.0	57.0	
						RPD = 1.47	
36 Endrin aldehyde							
1	7.639	7.640	-0.001	527518108	50.0	55.0	
2	7.476	7.475	0.001	66401183	50.0	51.0	
						RPD = 7.50	
37 Methoxychlor							
1	7.818	7.819	-0.001	301604084	50.0	60.4	
2	8.080	8.080	0.000	38337636	50.0	58.5	
						RPD = 3.27	
38 Mirex							
1	7.976	7.978	-0.002	465381256	50.0	58.1	
2	8.270	8.269	0.001	57145197	50.0	51.9	
						RPD = 11.29	
39 Endosulfan sulfate							
1	8.097	8.098	-0.001	665845927	50.0	59.9	
2	7.767	7.768	-0.001	77433634	50.0	52.1	
						RPD = 14.05	
40 Endrin ketone							
1	8.389	8.388	0.001	688359659	50.0	59.0	
2	8.320	8.320	0.000	84911720	50.0	51.9	
						RPD = 12.73	
$ 41 DCB Decachlorobiphenyl							
1	9.401	9.402	-0.001	444348843	50.0	61.2	
2	9.587	9.588	-0.001	55703115	50.0	51.8	
						RPD = 16.56	
S 3 Endosulfan, Total							
1						169.0	
2						154.0	
						RPD = 9.29	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00010	Amount Added: 75.00	Units: uL	Run Reagent

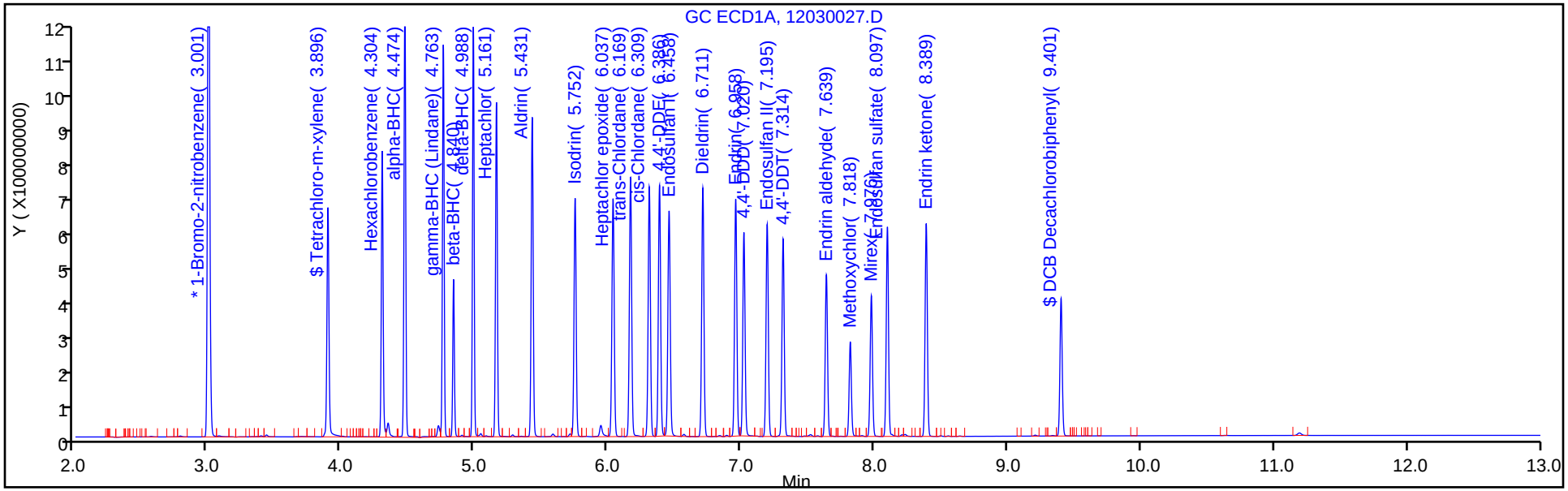
Report Date: 04-Dec-2018 13:50:32 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

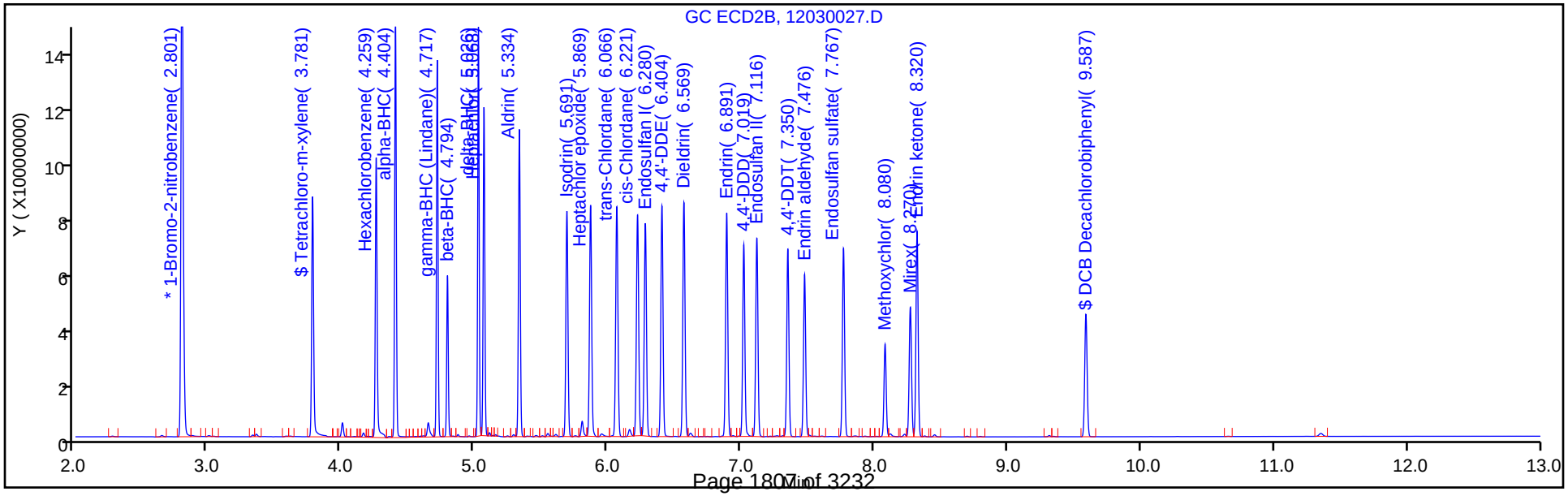
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181203-76757.b\12030027.D

Injection Date:	03-Dec-2018 19:19:48	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV AB			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-435616/1-A

Matrix: Water | Lab File ID: 11190028.D

Analysis Method: 8081B | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 1000(mL) | Date Analyzed: 11/19/2018 20:24

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP1 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438138 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.020	U	0.050	0.020	0.0077
72-55-9	4,4'-DDE	0.020	U	0.050	0.020	0.0075
50-29-3	4,4'-DDT	0.050	U	0.050	0.050	0.015
309-00-2	Aldrin	0.020	U	0.050	0.020	0.0059
319-84-6	alpha-BHC	0.020	U	0.050	0.020	0.0053
5103-71-9	alpha-Chlordane	0.020	U	0.050	0.020	0.0053
319-85-7	beta-BHC	0.020	U	0.050	0.020	0.0087
319-86-8	delta-BHC	0.020	U	0.050	0.020	0.0058
60-57-1	Dieldrin	0.020	U	0.050	0.020	0.0063
959-98-8	Endosulfan I	0.020	U	0.050	0.020	0.0058
33213-65-9	Endosulfan II	0.020	U	0.050	0.020	0.0070
1031-07-8	Endosulfan sulfate	0.020	U	0.050	0.020	0.0057
72-20-8	Endrin	0.020	U	0.050	0.020	0.0079
7421-93-4	Endrin aldehyde	0.020	U	0.050	0.020	0.0088
53494-70-5	Endrin ketone	0.020	U	0.050	0.020	0.0070
58-89-9	gamma-BHC (Lindane)	0.020	U	0.050	0.020	0.0069
5103-74-2	gamma-Chlordane	0.020	U	0.050	0.020	0.0091
76-44-8	Heptachlor	0.020	U	0.050	0.020	0.0077
1024-57-3	Heptachlor epoxide	0.020	U	0.050	0.020	0.0075
72-43-5	Methoxychlor	0.050	U	0.050	0.050	0.013
8001-35-2	Toxaphene	0.80	U	2.0	0.80	0.37

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	104		34-122
877-09-8	Tetrachloro-m-xylene	78		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190028.D
Lims ID: MB 280-435616/1-A
Client ID:
Sample Type: MB
Inject. Date: 19-Nov-2018 20:24:40 ALS Bottle#: 22 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-435616/1-
Misc. Info.: 280-0076345-028
Operator ID: TEM Instrument ID: SGC_P2

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:01:35 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 08:52:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1		1.000				ND	
2		0.000					
* 2 1-Bromo-2-nitrobenzene							
1	3.008	3.006	0.001	1460849988	150.0	150.0	
2	2.811	2.811	0.001	215992740	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.904	3.902	0.002	163861424	20.0	15.5	
2	3.793	3.792	0.001	27569999	20.0	15.3	
						RPD = 1.77	
5 Hexachlorobenzene							
1		4.311				ND	
2		4.270					
6 Diallate							
1		4.335				ND	
2		4.223					
7 Propachlor							
1		4.475				ND	
2		4.101					
8 alpha-BHC							
1		4.481				ND	
2		4.415					
9 gamma-BHC (Lindane)							
1		4.769				ND	
2		4.728					
10 beta-BHC							
1		4.846				ND	
2		4.805					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
11 2,4,5-Trichlorophenol							
1		4.861				ND	
2		4.772					
12 delta-BHC							
1		4.994				ND	
2		5.037					
13 Technical Chlordane							
1		5.101				ND	
1		5.566					
1		6.177					
1		6.315					
1		7.131					
2		4.965					
2		5.485					
2		6.081					
2		6.237					
2		7.181					
14 Chlordane (technical)							
1		5.101				ND	
1		5.566					
1		6.177					
1		6.315					
1		7.131					
2		4.965					
2		5.485					
2		6.081					
2		6.237					
2		7.181					
15 Heptachlor							
1		5.168				ND	
2		5.079					
16 Aldrin							
1		5.437				ND	
2		5.346					
17 Chlorpyrifos							
1	5.665	5.667	-0.002	2958852		-0.2475	
2	5.565	5.566	-0.001	225613		-2.17	
						RPD = -158.98	
LOD = 0.002000							
18 Isodrin							
1		5.761				ND	
2		5.705					
19 Dicofol							
1		5.798				ND	
2		5.665					
20 2,4'-DDE							
1		6.028				ND	
2		6.088					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
21 Heptachlor epoxide							
1		6.046				ND	
2		5.884					
22 trans-Chlordane							
1		6.177				ND	
2		6.081					
28 Toxaphene							
1		6.214				ND	
1		6.818					
1		7.491					
1		7.850					
1		8.166					
2		5.730					
2		7.083					
2		7.223					
2		7.738					
2		8.031					
23 cis-Chlordane							
1		6.318				ND	
2		6.236					
24 4,4'-DDE							
1		6.394				ND	
2		6.420					
25 Endosulfan I							
1		6.466				ND	
2		6.296					
26 2,4'-DDD							
1		6.578				ND	
2		6.633					
27 Dieldrin							
1		6.720				ND	
2		6.586					
29 2,4'-DDT							
1		6.846				ND	
2		6.955					
30 Endrin							
1		6.967				ND	
2		6.907					
31 Kepone							
1		7.008				ND	
2		7.024					
32 4,4'-DDD							
1		7.029				ND	
2		7.035					
33 Chlorobenzilate							
1		7.041				ND	
2		6.901					
34 Endosulfan II							
1	7.201	7.205	-0.004	147604		0.2707	
2	7.120	7.134	-0.014	263339		-0.6019	
						RPD = -526.99	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1		7.322				ND	
2		7.366					
36 Endrin aldehyde							
1		7.648				ND	
2		7.492					
37 Methoxychlor							
1		7.826				ND	
2		8.095					
38 Mirex							
1		7.985				ND	
2		8.286					
39 Endosulfan sulfate							
1		8.106				ND	
2		7.784					
40 Endrin ketone							
1		8.397				ND	
2		8.336					
$ 41 DCB Decachlorobiphenyl							
1	9.410	9.409	0.001	115873407	20.0	20.8	
2	9.605	9.606	-0.001	18766148	20.0	17.4	
						RPD = 17.74	
42 Tris(2,3-dibromopropyl)phosphate							
1		11.202				ND	
2		11.380					
S 3 Endosulfan, Total							
1						0.2707	
2						-0.6019	
						RPD = -526.99	

LOD = 0.002000

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

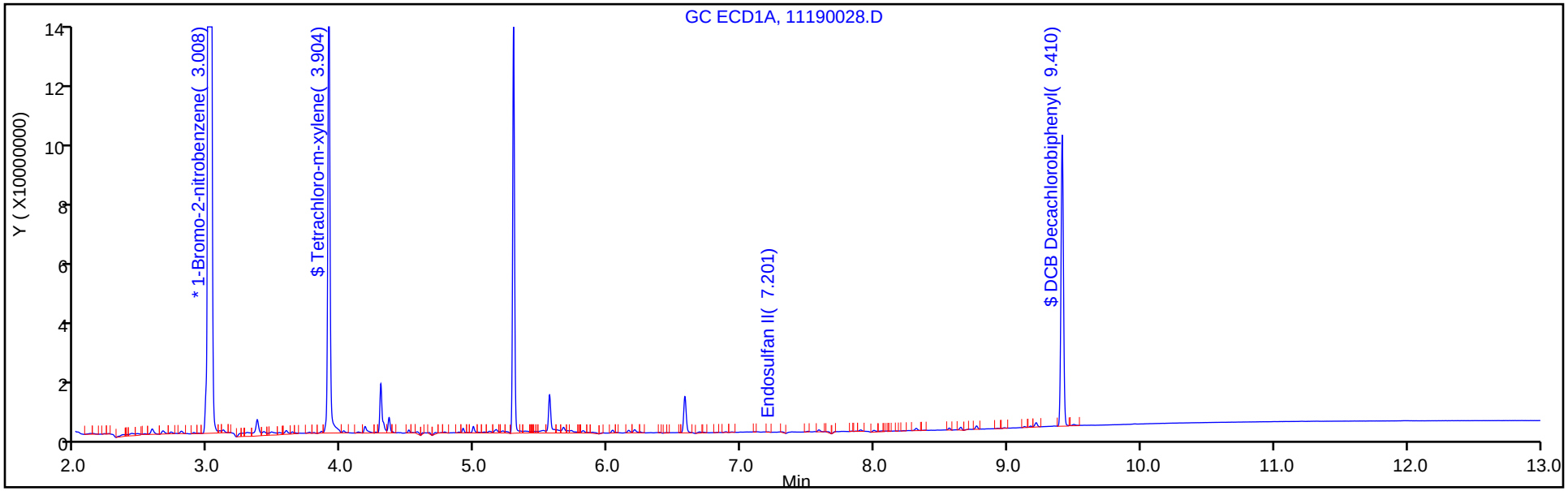
Report Date: 30-Nov-2018 13:02:18 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

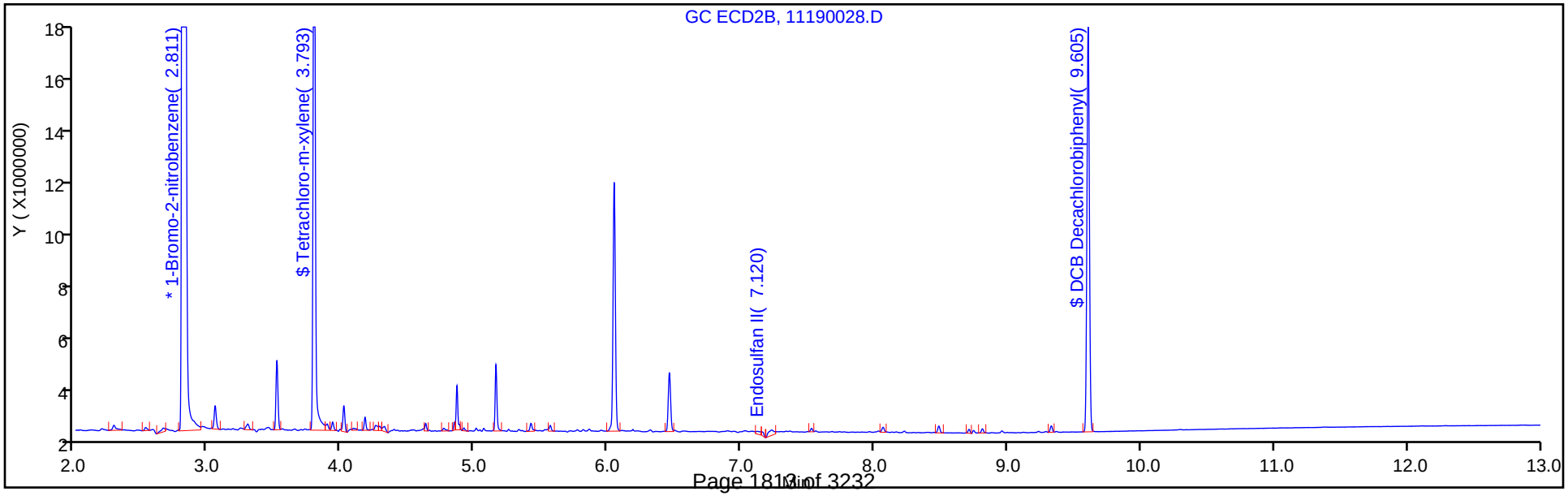
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190028.D

Injection Date:	19-Nov-2018 20:24:40	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	MB 280-435616/1-A			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190028.D				
Lims ID:	MB 280-435616/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	19-Nov-2018 20:24:40	ALS Bottle#:	22	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB 280-435616/1-				
Misc. Info.:	280-0076345-028				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	30-Nov-2018 13:01:35	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: bacat		Date:	20-Nov-2018 08:52:11		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.5	77.67
$ 41 DCB Decachlorobiphenyl	20.0	20.8	104.09

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.3	76.31
$ 41 DCB Decachlorobiphenyl	20.0	17.4	87.13

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-435616/2-A

Matrix: Water | Lab File ID: 11190029.D

Analysis Method: 8081B | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 1000(mL) | Date Analyzed: 11/19/2018 20:42

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP1 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438138 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.557		0.050	0.020	0.0077
72-55-9	4,4'-DDE	0.519		0.050	0.020	0.0075
50-29-3	4,4'-DDT	0.571		0.050	0.050	0.015
309-00-2	Aldrin	0.461		0.050	0.020	0.0059
319-84-6	alpha-BHC	0.510		0.050	0.020	0.0053
5103-71-9	alpha-Chlordane	0.543		0.050	0.020	0.0053
319-85-7	beta-BHC	0.512		0.050	0.020	0.0087
319-86-8	delta-BHC	0.541		0.050	0.020	0.0058
60-57-1	Dieldrin	0.566		0.050	0.020	0.0063
959-98-8	Endosulfan I	0.513		0.050	0.020	0.0058
33213-65-9	Endosulfan II	0.478		0.050	0.020	0.0070
1031-07-8	Endosulfan sulfate	0.565		0.050	0.020	0.0057
72-20-8	Endrin	0.559		0.050	0.020	0.0079
7421-93-4	Endrin aldehyde	0.471		0.050	0.020	0.0088
53494-70-5	Endrin ketone	0.554		0.050	0.020	0.0070
58-89-9	gamma-BHC (Lindane)	0.529		0.050	0.020	0.0069
5103-74-2	gamma-Chlordane	0.542		0.050	0.020	0.0091
76-44-8	Heptachlor	0.502		0.050	0.020	0.0077
1024-57-3	Heptachlor epoxide	0.557		0.050	0.020	0.0075
72-43-5	Methoxychlor	0.616		0.050	0.050	0.013

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	106		34-122
877-09-8	Tetrachloro-m-xylene	75		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190029.D
Lims ID: LCS 280-435616/2-A
Client ID:
Sample Type: LCS
Inject. Date: 19-Nov-2018 20:42:14 ALS Bottle#: 23 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-435616/2
Misc. Info.: 280-0076345-029
Operator ID: TEM Instrument ID: SGC_P2

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:01:35 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 08:54:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.008	3.006	0.002	1451680770	150.0	150.0	
2	2.811	2.811	0.001	218689164	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.904	3.902	0.002	157106827	20.0	15.0	
2	3.792	3.792	0.000	26985236	20.0	14.7	
						RPD = 1.80	
5 Hexachlorobenzene							
1	4.311	4.311	0.000	468355911	50.0	42.0	
2	4.271	4.270	0.001	75148080	50.0	39.9	
						RPD = 5.07	
8 alpha-BHC							
1	4.481	4.481	0.000	823373877	50.0	51.0	
2	4.416	4.415	0.001	119106191	50.0	49.1	
						RPD = 3.64	
9 gamma-BHC (Lindane)							
1	4.769	4.769	0.000	730007992	50.0	52.9	
2	4.729	4.728	0.001	106046170	50.0	50.3	
						RPD = 5.06	
10 beta-BHC							
1	4.846	4.846	0.000	271159794	50.0	51.2	
2	4.805	4.805	0.000	42157587	50.0	46.7	
						RPD = 9.19	
12 delta-BHC							
1	4.994	4.994	0.000	759384638	50.0	54.1	
2	5.037	5.037	0.000	107049618	50.0	50.1	
						RPD = 7.61	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.168	5.168	0.000	613864449	50.0	50.2	
2	5.079	5.079	0.000	86956245	50.0	47.7	
						RPD = 5.10	
16 Aldrin							
1	5.437	5.437	0.000	600869251	50.0	46.1	
2	5.346	5.346	0.000	85524716	50.0	43.5	
						RPD = 5.73	
21 Heptachlor epoxide							
1	6.046	6.046	0.000	617003227	50.0	55.7	
2	5.884	5.884	0.000	91607637	50.0	51.3	
						RPD = 8.13	
22 trans-Chlordane							
1	6.176	6.177	-0.001	646529725	50.0	54.2	
2	6.081	6.081	0.000	92680109	50.0	49.4	
						RPD = 9.25	
23 cis-Chlordane							
1	6.318	6.318	0.000	618871776	50.0	54.3	
2	6.237	6.236	0.001	89136697	50.0	50.3	
						RPD = 7.72	
24 4,4'-DDE							
1	6.394	6.394	0.000	620655410	50.0	51.9	
2	6.420	6.420	0.000	89505648	50.0	48.6	
						RPD = 6.70	
25 Endosulfan I							
1	6.466	6.466	0.000	536959841	50.0	51.3	
2	6.296	6.296	0.000	79229226	50.0	47.0	
						RPD = 8.71	
27 Dieldrin							
1	6.720	6.720	0.000	658855680	50.0	56.6	
2	6.586	6.586	0.000	95394122	50.0	51.4	
						RPD = 9.53	
30 Endrin							
1	6.966	6.967	-0.001	565801112	50.0	55.9	
2	6.908	6.907	0.001	83136568	50.0	50.8	
						RPD = 9.68	
32 4,4'-DDD							
1	7.029	7.029	0.000	516923766	50.0	55.7	
2	7.035	7.035	0.000	75910972	50.0	50.6	
						RPD = 9.63	
34 Endosulfan II							
1	7.204	7.205	-0.001	453691844	50.0	47.8	
2	7.133	7.134	-0.001	68067156	50.0	42.7	
						RPD = 11.10	
35 4,4'-DDT							
1	7.321	7.322	-0.001	474280785	50.0	57.1	
2	7.366	7.366	0.000	73320524	50.0	56.3	
						RPD = 1.31	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
36 Endrin aldehyde							
1	7.648	7.648	0.000	341842494	50.0	47.1	
2	7.492	7.492	0.000	51143677	50.0	40.1	
						RPD = 16.04	
37 Methoxychlor							
1	7.826	7.826	0.000	233001363	50.0	61.6	
2	8.096	8.095	0.001	34929763	50.0	54.5	
						RPD = 12.24	
39 Endosulfan sulfate							
1	8.105	8.106	-0.001	475285840	50.0	56.5	
2	7.784	7.784	0.000	68121810	50.0	46.8	
						RPD = 18.73	
40 Endrin ketone							
1	8.397	8.397	0.000	490102089	50.0	55.4	
2	8.336	8.336	0.000	73582377	50.0	46.0	
						RPD = 18.65	
$ 41 DCB Decachlorobiphenyl							
1	9.409	9.409	0.000	117750270	20.0	21.3	
2	9.605	9.606	-0.001	19163067	20.0	17.6	
						RPD = 19.08	

Reagents:

8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

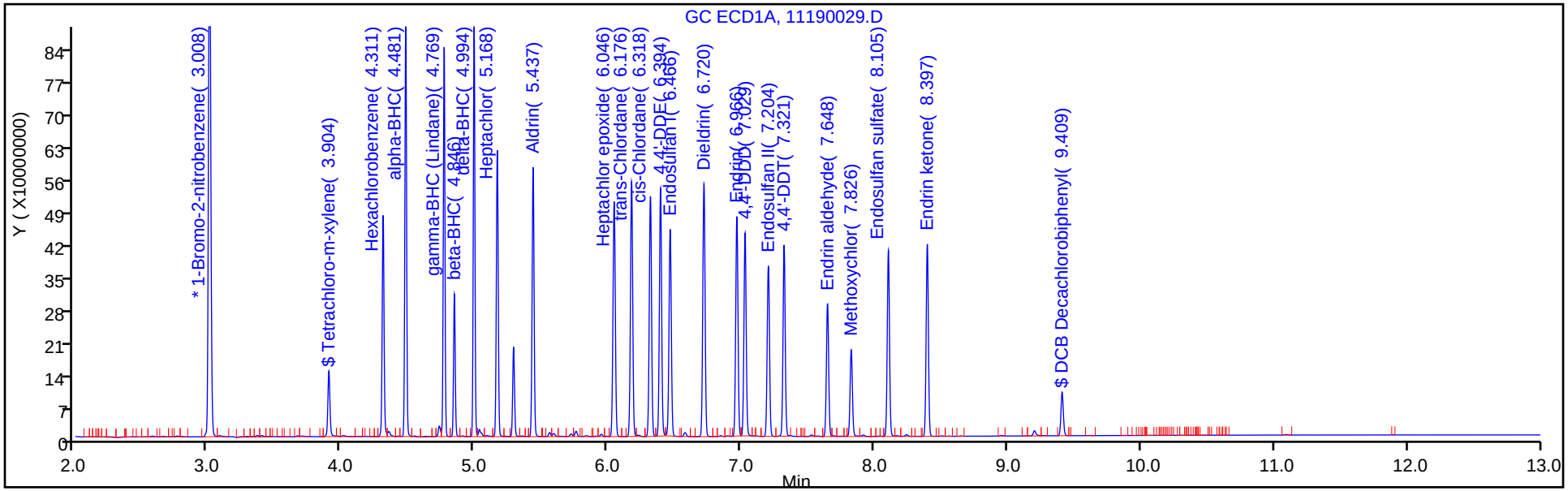
Report Date: 30-Nov-2018 13:02:22 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

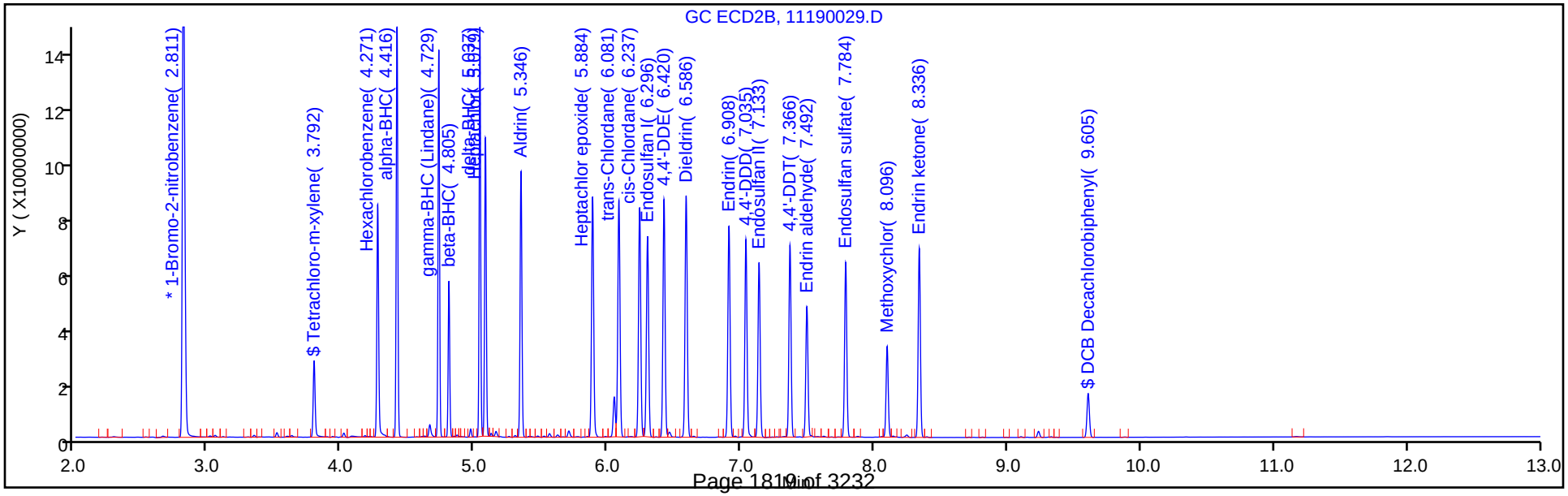
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190029.D

Injection Date:	19-Nov-2018 20:42:14	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	LCS 280-435616/2-A			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\11190029.D				
Lims ID:	LCS 280-435616/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	19-Nov-2018 20:42:14	ALS Bottle#:	23	Worklist Smp#:	29
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 280-435616/2				
Misc. Info.:	280-0076345-029				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\ChromNA\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	30-Nov-2018 13:01:35	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: bacat		Date:	20-Nov-2018 08:54:40		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.0	75.00
$ 41 DCB Decachlorobiphenyl	20.0	21.3	106.46

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	14.7	73.66
$ 41 DCB Decachlorobiphenyl	20.0	17.6	87.92

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-435616/6-A

Matrix: Water | Lab File ID: 11190031.D

Analysis Method: 8081B | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 1000(mL) | Date Analyzed: 11/19/2018 21:17

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP1 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438138 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
8001-35-2	Toxaphene	2.11		2.0	0.80	0.37

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	90		34-122
877-09-8	Tetrachloro-m-xylene	73		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190031.D
Lims ID: LCS 280-435616/6-A
Client ID:
Sample Type: LCS
Inject. Date: 19-Nov-2018 21:17:07 ALS Bottle#: 25 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-435616/6
Misc. Info.: 280-0076345-031
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:01:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 08:55:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.006	3.002	0.004	1576433209	150.0	150.0	
2	2.811	2.805	0.006	232541777	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.903	3.899	0.004	165619844	20.0	14.6	
2	3.792	3.786	0.006	27700751	20.0	14.2	
						RPD = 2.59	
28 Toxaphene							M
1	6.204	6.210	-0.006	4743944	200.0	99.3	
1	6.819	6.815	0.004	21702190	200.0	161.2	
1	7.485	7.488	-0.003	32951174	200.0	220.9	
1	7.854	7.847	0.007	16580198	200.0	268.3	
1	8.173	8.164	0.009	17788109	200.0	306.4	
		Average of Peak Amounts =				211.2	
2	5.729	5.725	0.004	1392230	200.0	147.0	M
2	7.082	7.077	0.005	5694939	200.0	167.7	M
2	7.221	7.218	0.003	15285947	200.0	173.5	M
2	7.726	7.732	-0.006	8031039	200.0	323.3	M
2	8.032	8.026	0.006	11013807	200.0	224.1	M
		Average of Peak Amounts =				207.1	
						RPD = 1.97	
$ 41 DCB Decachlorobiphenyl							
1	9.409	9.407	0.002	108394672	20.0	18.0	
2	9.604	9.600	0.004	17825949	20.0	15.3	
						RPD = 16.65	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

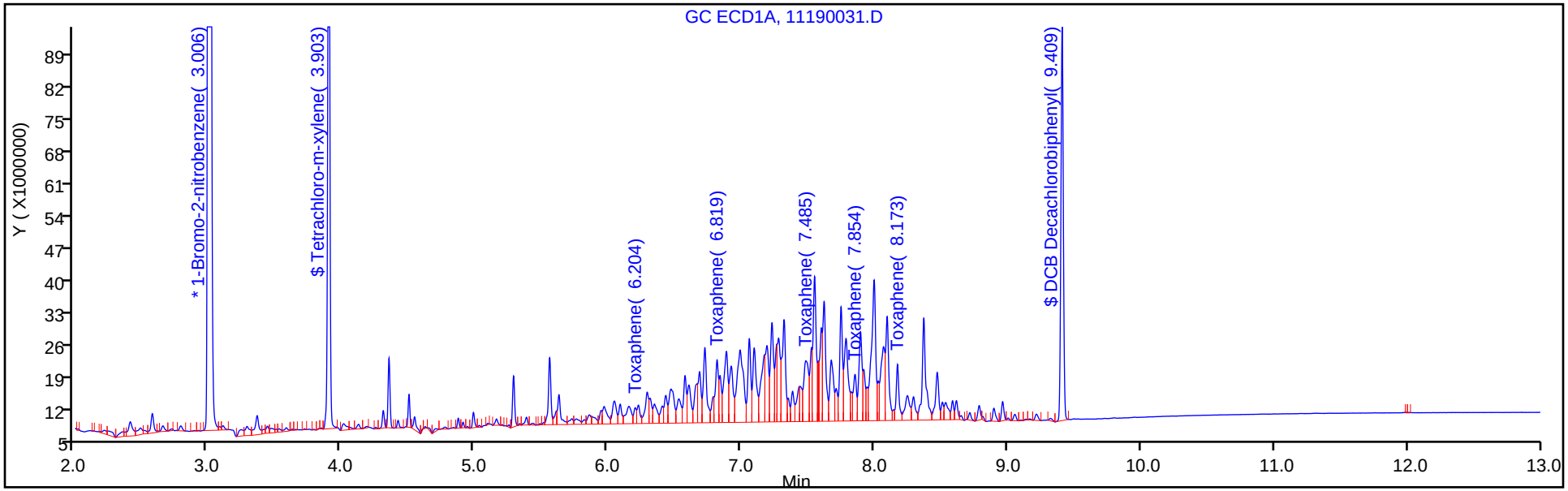
Report Date: 30-Nov-2018 13:02:34 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

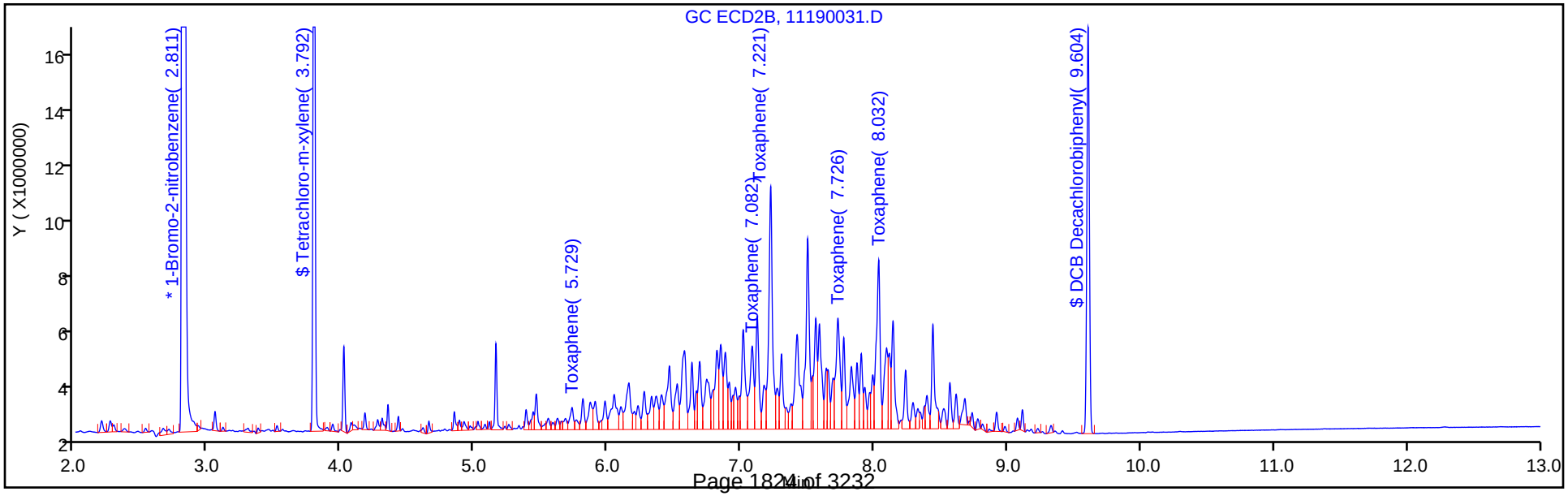
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190031.D

Injection Date:	19-Nov-2018 21:17:07	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	LCS 280-435616/6-A			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190031.D				
Lims ID:	LCS 280-435616/6-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	19-Nov-2018 21:17:07	ALS Bottle#:	25	Worklist Smp#:	31
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 280-435616/6				
Misc. Info.:	280-0076345-031				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	30-Nov-2018 13:01:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: bacat		Date:	20-Nov-2018 08:55:36		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	14.6	72.87
$ 41 DCB Decachlorobiphenyl	20.0	18.0	90.13

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	14.2	71.00
$ 41 DCB Decachlorobiphenyl	20.0	15.3	76.27

Report Date: 30-Nov-2018 13:02:34 Chrom Revision: 2.3 21-Nov-2018 13:56:44

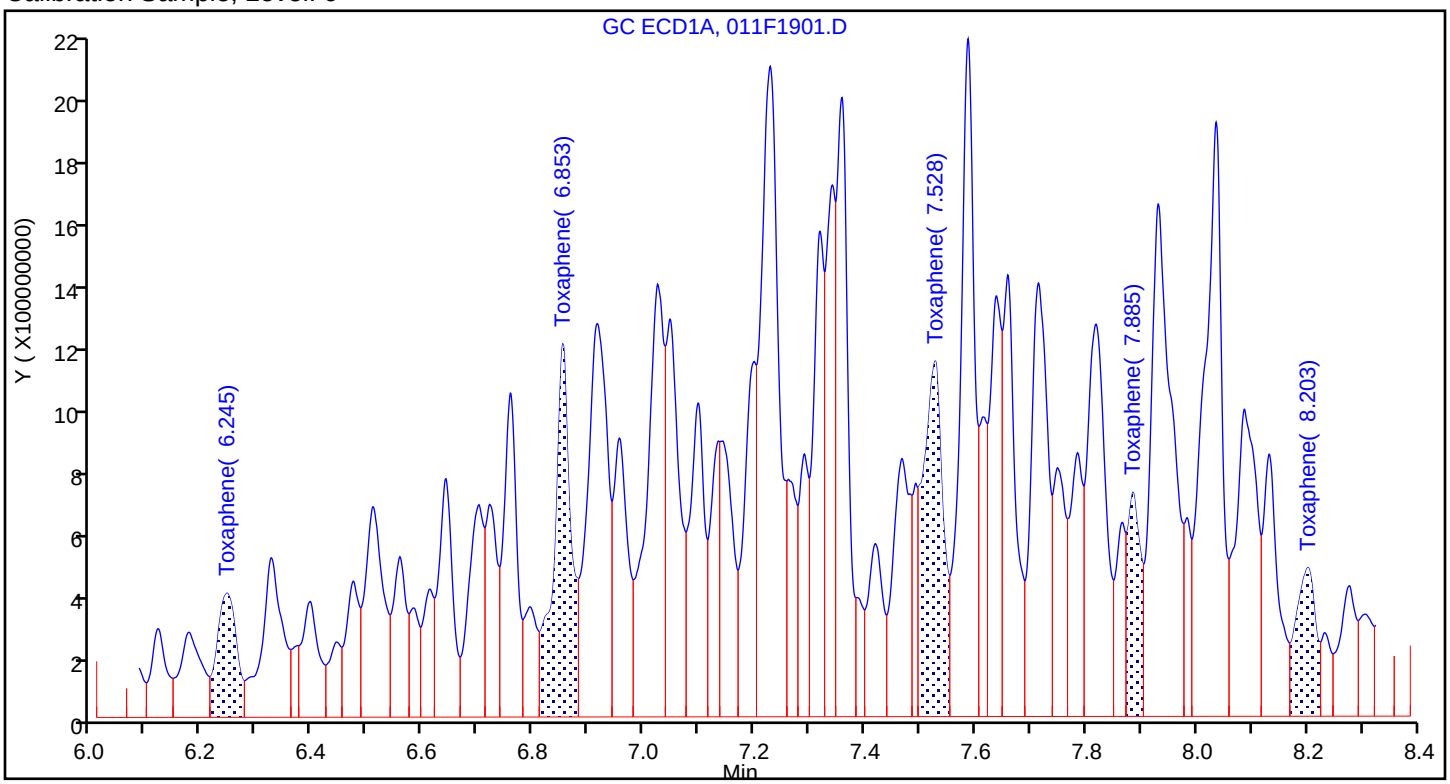
TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190031.D

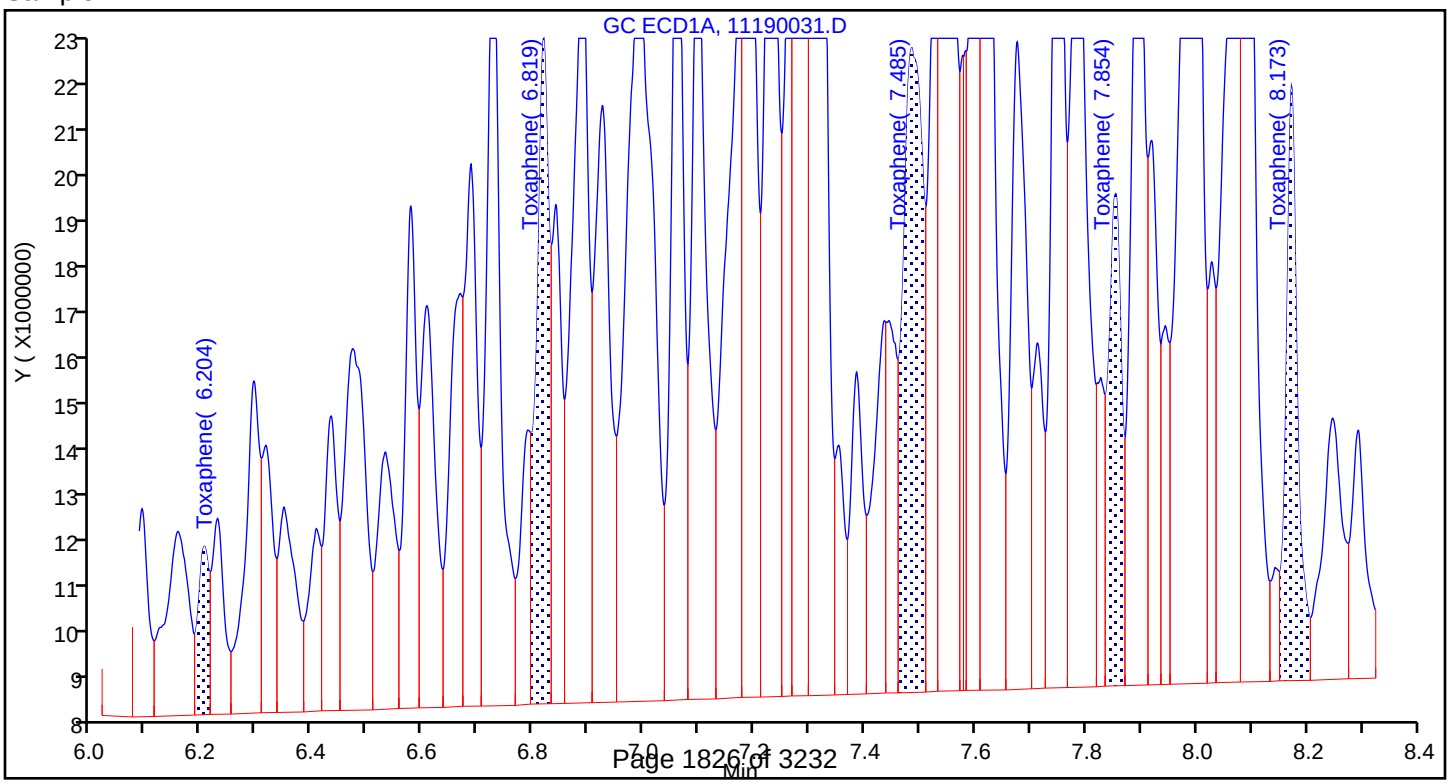
Injection Date:	19-Nov-2018 21:17:07	Instrument ID:	SGC_P2		
Lims ID:	LCS 280-435616/6-A				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	25	Worklist Smp#:	31
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP1 (0.32 mm)	Detector	GC ECD1A		

28 Toxaphene, CAS: 8001-35-2

Calibration Sample, Level: 6



Sample



FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-435616/3-A

Matrix: Water | Lab File ID: 11190030.D

Analysis Method: 8081B | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 1000(mL) | Date Analyzed: 11/19/2018 20:59

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP1 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438138 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.592		0.050	0.020	0.0077
72-55-9	4,4'-DDE	0.554		0.050	0.020	0.0075
50-29-3	4,4'-DDT	0.598		0.050	0.050	0.015
309-00-2	Aldrin	0.487		0.050	0.020	0.0059
319-84-6	alpha-BHC	0.540		0.050	0.020	0.0053
5103-71-9	alpha-Chlordane	0.576		0.050	0.020	0.0053
319-85-7	beta-BHC	0.540		0.050	0.020	0.0087
319-86-8	delta-BHC	0.565		0.050	0.020	0.0058
60-57-1	Dieldrin	0.603		0.050	0.020	0.0063
959-98-8	Endosulfan I	0.552		0.050	0.020	0.0058
33213-65-9	Endosulfan II	0.548		0.050	0.020	0.0070
1031-07-8	Endosulfan sulfate	0.674	Q	0.050	0.020	0.0057
72-20-8	Endrin	0.642		0.050	0.020	0.0079
7421-93-4	Endrin aldehyde	0.584		0.050	0.020	0.0088
53494-70-5	Endrin ketone	0.621		0.050	0.020	0.0070
58-89-9	gamma-BHC (Lindane)	0.559		0.050	0.020	0.0069
5103-74-2	gamma-Chlordane	0.575		0.050	0.020	0.0091
76-44-8	Heptachlor	0.533		0.050	0.020	0.0077
1024-57-3	Heptachlor epoxide	0.589		0.050	0.020	0.0075
72-43-5	Methoxychlor	0.682		0.050	0.050	0.013

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	115		34-122
877-09-8	Tetrachloro-m-xylene	82		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190030.D
Lims ID: LCSD 280-435616/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 19-Nov-2018 20:59:40 ALS Bottle#: 24 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-435616/
Misc. Info.: 280-0076345-030
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:01:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 08:55:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.007	3.002	0.005	1356833685	150.0	150.0	
2	2.812	2.805	0.007	203602779	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.903	3.899	0.004	160440601	20.0	16.4	
2	3.793	3.786	0.007	27193535	20.0	16.0	
						RPD = 2.20	
5 Hexachlorobenzene							
1	4.310	4.306	0.004	459541550	50.0	44.1	
2	4.270	4.265	0.005	74868376	50.0	42.8	
						RPD = 3.03	
8 alpha-BHC							
1	4.480	4.477	0.003	815856325	50.0	54.0	
2	4.415	4.410	0.005	118257483	50.0	52.4	
						RPD = 2.93	
9 gamma-BHC (Lindane)							
1	4.769	4.766	0.003	720925257	50.0	55.9	
2	4.729	4.724	0.005	104034248	50.0	53.0	
						RPD = 5.26	
10 beta-BHC							
1	4.845	4.842	0.003	267023446	50.0	54.0	
2	4.805	4.801	0.004	41235705	50.0	49.2	
						RPD = 9.43	
12 delta-BHC							
1	4.994	4.991	0.003	742052562	50.0	56.5	
2	5.037	5.033	0.004	104575923	50.0	52.6	
						RPD = 7.19	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.169	5.165	0.004	608947180	50.0	53.3	
2	5.080	5.075	0.005	85847194	50.0	50.6	
						RPD = 5.10	
16 Aldrin							
1	5.436	5.433	0.003	593229655	50.0	48.7	
2	5.345	5.341	0.004	83795892	50.0	45.8	
						RPD = 6.01	
21 Heptachlor epoxide							
1	6.045	6.041	0.004	610546841	50.0	58.9	
2	5.884	5.877	0.007	90272407	50.0	54.4	
						RPD = 8.07	
22 trans-Chlordane							
1	6.176	6.172	0.004	640599286	50.0	57.5	
2	6.081	6.076	0.005	91443408	50.0	52.4	
						RPD = 9.20	
23 cis-Chlordane							
1	6.318	6.314	0.004	613342617	50.0	57.6	
2	6.237	6.231	0.006	87948896	50.0	53.3	
						RPD = 7.67	
24 4,4'-DDE							
1	6.394	6.391	0.003	618854882	50.0	55.4	
2	6.420	6.415	0.005	88699504	50.0	51.7	
						RPD = 6.84	
25 Endosulfan I							
1	6.465	6.462	0.003	539948539	50.0	55.2	
2	6.295	6.290	0.005	79281160	50.0	50.6	
						RPD = 8.68	
27 Dieldrin							
1	6.719	6.716	0.003	656949448	50.0	60.3	
2	6.585	6.580	0.005	94477514	50.0	54.7	
						RPD = 9.74	
30 Endrin							
1	6.966	6.963	0.003	608197786	50.0	64.2	
2	6.907	6.901	0.006	88468672	50.0	58.0	
						RPD = 10.14	
32 4,4'-DDD							
1	7.028	7.025	0.003	513403558	50.0	59.2	
2	7.035	7.029	0.006	75450757	50.0	54.1	
						RPD = 9.08	
34 Endosulfan II							
1	7.203	7.199	0.004	486896475	50.0	54.8	
2	7.133	7.127	0.006	72138023	50.0	48.8	
						RPD = 11.67	
35 4,4'-DDT							
1	7.321	7.319	0.002	465048891	50.0	59.8	
2	7.365	7.360	0.005	72262376	50.0	59.6	
						RPD = 0.35	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
36 Endrin aldehyde							
1	7.647	7.645	0.002	396812041	50.0	58.4	
2	7.493	7.486	0.007	58879544	50.0	49.7	
						RPD = 16.09	
37 Methoxychlor							
1	7.825	7.823	0.002	241140012	50.0	68.2	
2	8.095	8.090	0.005	36230312	50.0	60.8	
						RPD = 11.55	
39 Endosulfan sulfate							
1	8.105	8.102	0.003	530224441	50.0	67.4	
2	7.784	7.778	0.006	74292029	50.0	54.9	
						RPD = 20.30	
40 Endrin ketone							
1	8.396	8.394	0.002	513146954	50.0	62.1	
2	8.337	8.331	0.006	76298814	50.0	51.3	
						RPD = 19.05	
$ 41 DCB Decachlorobiphenyl							
1	9.409	9.407	0.002	119036250	20.0	23.0	
2	9.605	9.600	0.005	19445010	20.0	19.3	
						RPD = 17.91	

Reagents:

8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

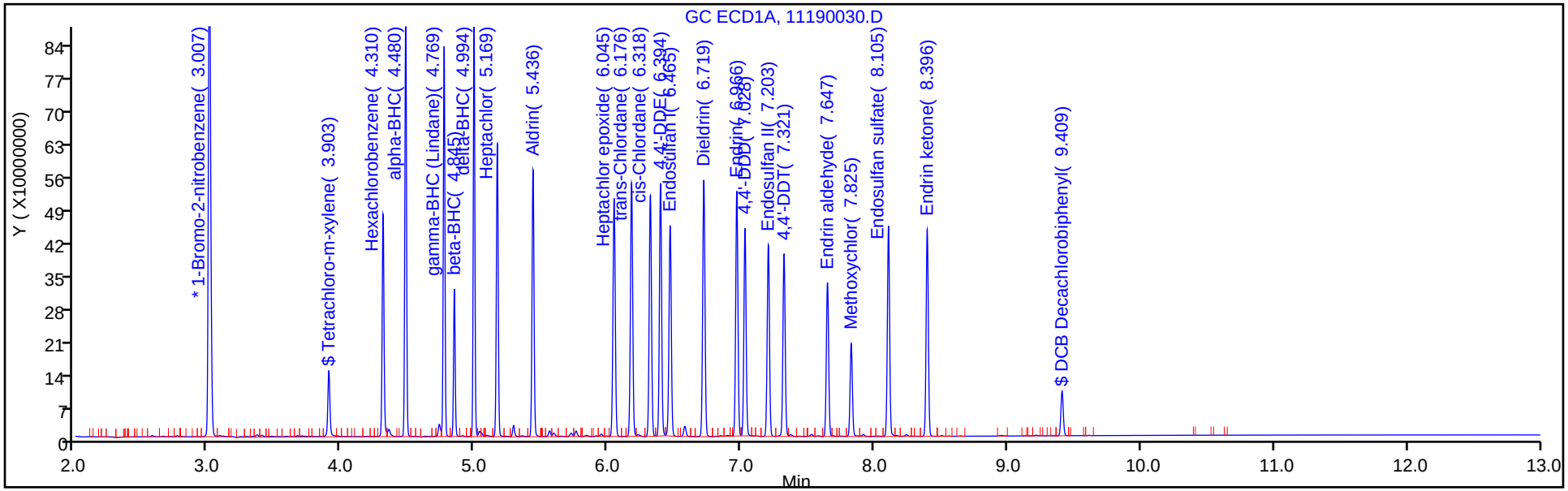
Report Date: 30-Nov-2018 13:02:27 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

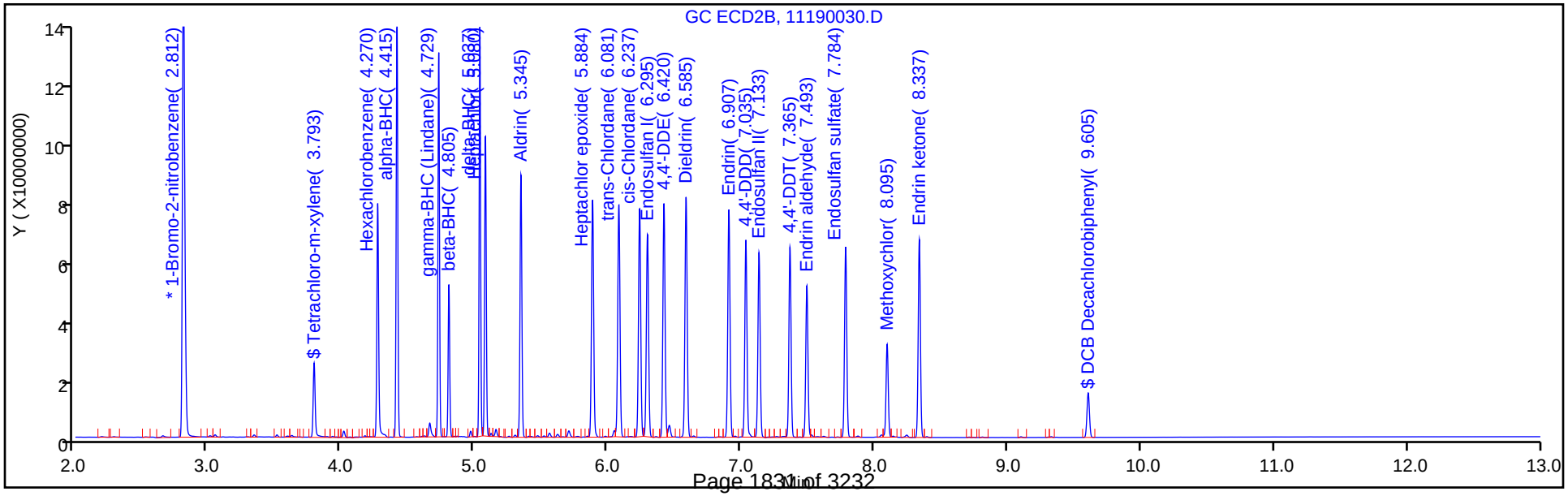
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190030.D

Injection Date:	19-Nov-2018 20:59:40	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	LCSD 280-435616/3-A			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190030.D				
Lims ID:	LCSD 280-435616/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	19-Nov-2018 20:59:40	ALS Bottle#:	24	Worklist Smp#:	30
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCSD 280-435616/				
Misc. Info.:	280-0076345-030				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	30-Nov-2018 13:01:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: bacat		Date:	20-Nov-2018 08:55:27		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	16.4	81.77
$ 41 DCB Decachlorobiphenyl	20.0	23.0	115.21

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	16.0	79.99
$ 41 DCB Decachlorobiphenyl	20.0	19.3	96.28

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-435616/3-A

Matrix: Water | Lab File ID: 11190030.D

Analysis Method: 8081B | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 1000(mL) | Date Analyzed: 11/19/2018 20:59

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438138 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.541		0.050	0.020	0.0077
72-55-9	4,4'-DDE	0.517		0.050	0.020	0.0075
50-29-3	4,4'-DDT	0.596		0.050	0.050	0.015
309-00-2	Aldrin	0.458		0.050	0.020	0.0059
319-84-6	alpha-BHC	0.524		0.050	0.020	0.0053
5103-71-9	alpha-Chlordane	0.533		0.050	0.020	0.0053
319-85-7	beta-BHC	0.492		0.050	0.020	0.0087
319-86-8	delta-BHC	0.526		0.050	0.020	0.0058
60-57-1	Dieldrin	0.547		0.050	0.020	0.0063
959-98-8	Endosulfan I	0.506		0.050	0.020	0.0058
33213-65-9	Endosulfan II	0.488		0.050	0.020	0.0070
1031-07-8	Endosulfan sulfate	0.549		0.050	0.020	0.0057
72-20-8	Endrin	0.580		0.050	0.020	0.0079
7421-93-4	Endrin aldehyde	0.497		0.050	0.020	0.0088
53494-70-5	Endrin ketone	0.513		0.050	0.020	0.0070
58-89-9	gamma-BHC (Lindane)	0.530		0.050	0.020	0.0069
5103-74-2	gamma-Chlordane	0.524		0.050	0.020	0.0091
76-44-8	Heptachlor	0.506		0.050	0.020	0.0077
1024-57-3	Heptachlor epoxide	0.544		0.050	0.020	0.0075
72-43-5	Methoxychlor	0.608		0.050	0.050	0.013

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	96		34-122
877-09-8	Tetrachloro-m-xylene	80		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190030.D
Lims ID: LCSD 280-435616/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 19-Nov-2018 20:59:40 ALS Bottle#: 24 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-435616/
Misc. Info.: 280-0076345-030
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:01:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 08:55:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.007	3.002	0.005	1356833685	150.0	150.0	
2	2.812	2.805	0.007	203602779	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.903	3.899	0.004	160440601	20.0	16.4	
2	3.793	3.786	0.007	27193535	20.0	16.0	
						RPD = 2.20	
5 Hexachlorobenzene							
1	4.310	4.306	0.004	459541550	50.0	44.1	
2	4.270	4.265	0.005	74868376	50.0	42.8	
						RPD = 3.03	
8 alpha-BHC							
1	4.480	4.477	0.003	815856325	50.0	54.0	
2	4.415	4.410	0.005	118257483	50.0	52.4	
						RPD = 2.93	
9 gamma-BHC (Lindane)							
1	4.769	4.766	0.003	720925257	50.0	55.9	
2	4.729	4.724	0.005	104034248	50.0	53.0	
						RPD = 5.26	
10 beta-BHC							
1	4.845	4.842	0.003	267023446	50.0	54.0	
2	4.805	4.801	0.004	41235705	50.0	49.2	
						RPD = 9.43	
12 delta-BHC							
1	4.994	4.991	0.003	742052562	50.0	56.5	
2	5.037	5.033	0.004	104575923	50.0	52.6	
						RPD = 7.19	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.169	5.165	0.004	608947180	50.0	53.3	
2	5.080	5.075	0.005	85847194	50.0	50.6	
						RPD = 5.10	
16 Aldrin							
1	5.436	5.433	0.003	593229655	50.0	48.7	
2	5.345	5.341	0.004	83795892	50.0	45.8	
						RPD = 6.01	
21 Heptachlor epoxide							
1	6.045	6.041	0.004	610546841	50.0	58.9	
2	5.884	5.877	0.007	90272407	50.0	54.4	
						RPD = 8.07	
22 trans-Chlordane							
1	6.176	6.172	0.004	640599286	50.0	57.5	
2	6.081	6.076	0.005	91443408	50.0	52.4	
						RPD = 9.20	
23 cis-Chlordane							
1	6.318	6.314	0.004	613342617	50.0	57.6	
2	6.237	6.231	0.006	87948896	50.0	53.3	
						RPD = 7.67	
24 4,4'-DDE							
1	6.394	6.391	0.003	618854882	50.0	55.4	
2	6.420	6.415	0.005	88699504	50.0	51.7	
						RPD = 6.84	
25 Endosulfan I							
1	6.465	6.462	0.003	539948539	50.0	55.2	
2	6.295	6.290	0.005	79281160	50.0	50.6	
						RPD = 8.68	
27 Dieldrin							
1	6.719	6.716	0.003	656949448	50.0	60.3	
2	6.585	6.580	0.005	94477514	50.0	54.7	
						RPD = 9.74	
30 Endrin							
1	6.966	6.963	0.003	608197786	50.0	64.2	
2	6.907	6.901	0.006	88468672	50.0	58.0	
						RPD = 10.14	
32 4,4'-DDD							
1	7.028	7.025	0.003	513403558	50.0	59.2	
2	7.035	7.029	0.006	75450757	50.0	54.1	
						RPD = 9.08	
34 Endosulfan II							
1	7.203	7.199	0.004	486896475	50.0	54.8	
2	7.133	7.127	0.006	72138023	50.0	48.8	
						RPD = 11.67	
35 4,4'-DDT							
1	7.321	7.319	0.002	465048891	50.0	59.8	
2	7.365	7.360	0.005	72262376	50.0	59.6	
						RPD = 0.35	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
36 Endrin aldehyde							
1	7.647	7.645	0.002	396812041	50.0	58.4	
2	7.493	7.486	0.007	58879544	50.0	49.7	
						RPD = 16.09	
37 Methoxychlor							
1	7.825	7.823	0.002	241140012	50.0	68.2	
2	8.095	8.090	0.005	36230312	50.0	60.8	
						RPD = 11.55	
39 Endosulfan sulfate							
1	8.105	8.102	0.003	530224441	50.0	67.4	
2	7.784	7.778	0.006	74292029	50.0	54.9	
						RPD = 20.30	
40 Endrin ketone							
1	8.396	8.394	0.002	513146954	50.0	62.1	
2	8.337	8.331	0.006	76298814	50.0	51.3	
						RPD = 19.05	
$ 41 DCB Decachlorobiphenyl							
1	9.409	9.407	0.002	119036250	20.0	23.0	
2	9.605	9.600	0.005	19445010	20.0	19.3	
						RPD = 17.91	

Reagents:

8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

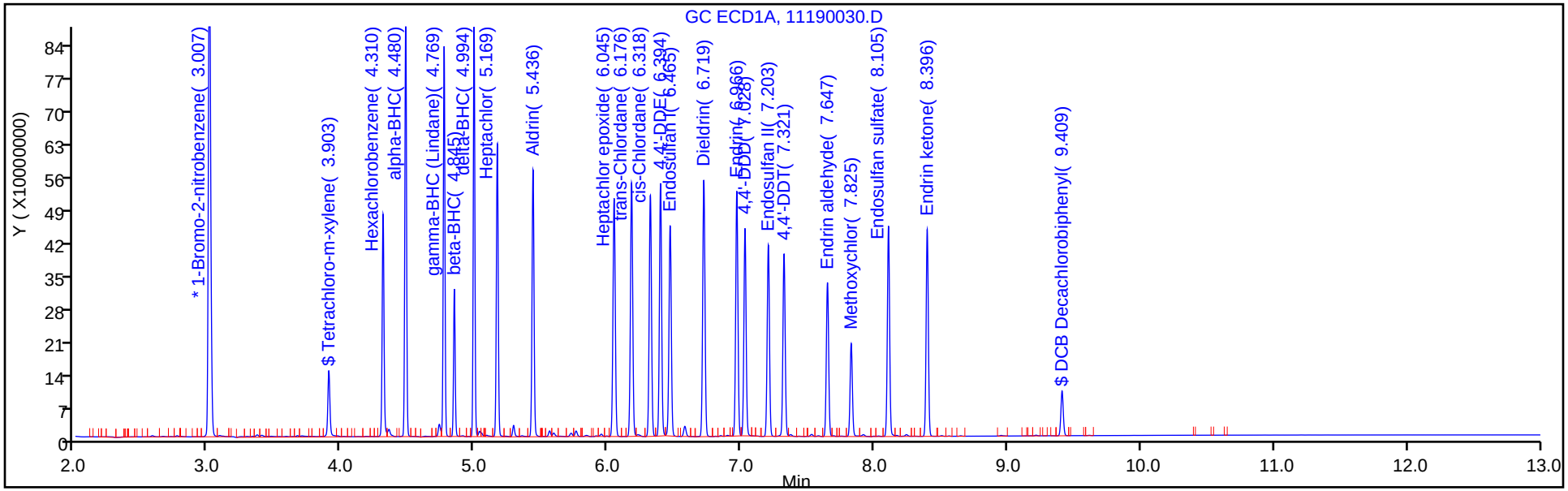
Report Date: 30-Nov-2018 13:02:28 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

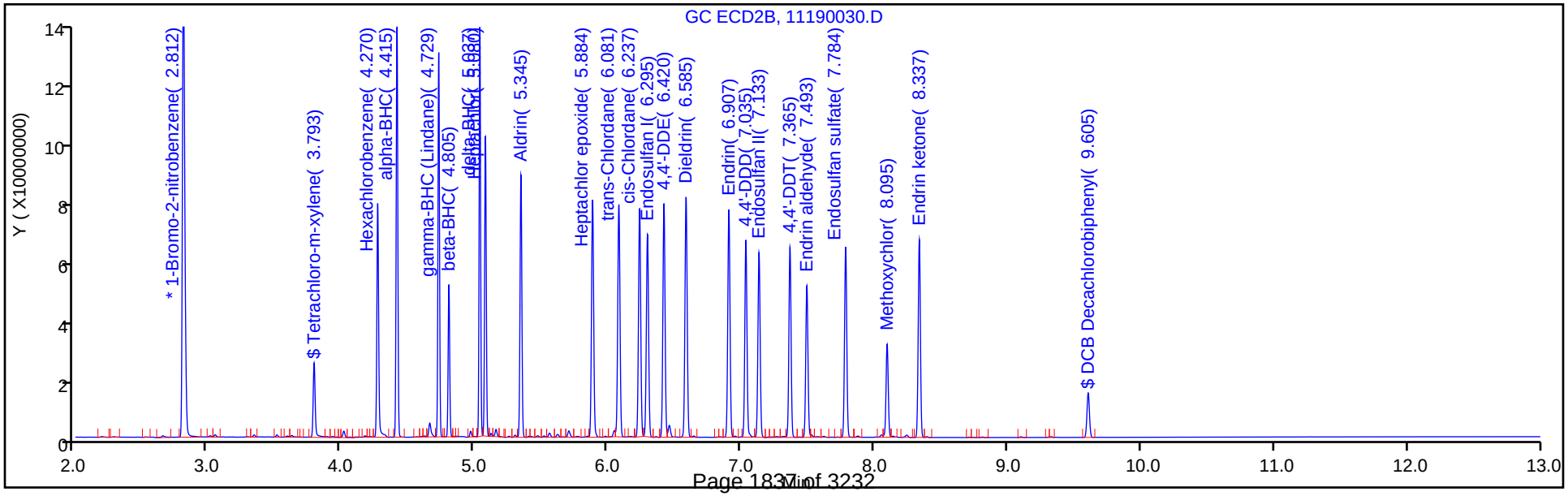
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190030.D

Injection Date:	19-Nov-2018 20:59:40	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	LCSD 280-435616/3-A			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190030.D				
Lims ID:	LCSD 280-435616/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	19-Nov-2018 20:59:40	ALS Bottle#:	24	Worklist Smp#:	30
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCSD 280-435616/				
Misc. Info.:	280-0076345-030				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	30-Nov-2018 13:01:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: bacat		Date:	20-Nov-2018 08:55:27		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	16.4	81.77
$ 41 DCB Decachlorobiphenyl	20.0	23.0	115.21

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	16.0	79.99
$ 41 DCB Decachlorobiphenyl	20.0	19.3	96.28

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-435616/7-A

Matrix: Water | Lab File ID: 11190032.D

Analysis Method: 8081B | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 1000(mL) | Date Analyzed: 11/19/2018 21:34

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP1 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438138 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
8001-35-2	Toxaphene	1.83	J	2.0	0.80	0.37

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	98		34-122
877-09-8	Tetrachloro-m-xylene	77		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190032.D
Lims ID: LCSD 280-435616/7-A
Client ID:
Sample Type: LCSD
Inject. Date: 19-Nov-2018 21:34:33 ALS Bottle#: 26 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-435616/
Misc. Info.: 280-0076345-032
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:01:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 08:56:08

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.007	3.002	0.005	1465469392	150.0	150.0	
2	2.811	2.805	0.006	216247497	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.903	3.899	0.004	163742573	20.0	15.5	
2	3.793	3.786	0.007	27593738	20.0	15.3	
						RPD = 1.42	
28 Toxaphene							M
1	6.202	6.210	-0.008	3232157	200.0	81.9	M
1	6.818	6.815	0.003	16170674	200.0	138.3	M
1	7.484	7.488	-0.004	19860262	200.0	166.2	M
1	7.855	7.847	0.008	13485594	200.0	244.1	M
1	8.173	8.164	0.009	14598861	200.0	282.5	M
		Average of Peak Amounts =				182.6	
2	5.729	5.725	0.004	1159217	200.0	126.1	M
2	7.082	7.077	0.005	4914068	200.0	154.8	M
2	7.222	7.218	0.004	13095217	200.0	160.0	M
2	7.725	7.732	-0.007	7429309	200.0	321.7	M
2	8.032	8.026	0.006	9543768	200.0	209.0	M
		Average of Peak Amounts =				194.3	
						RPD = 6.21	
$ 41 DCB Decachlorobiphenyl							
1	9.408	9.407	0.001	109054707	20.0	19.5	
2	9.605	9.600	0.005	17703967	20.0	16.4	
						RPD = 17.61	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

8081_IS_00008	Amount Added:	75.00	Units: uL	Run Reagent

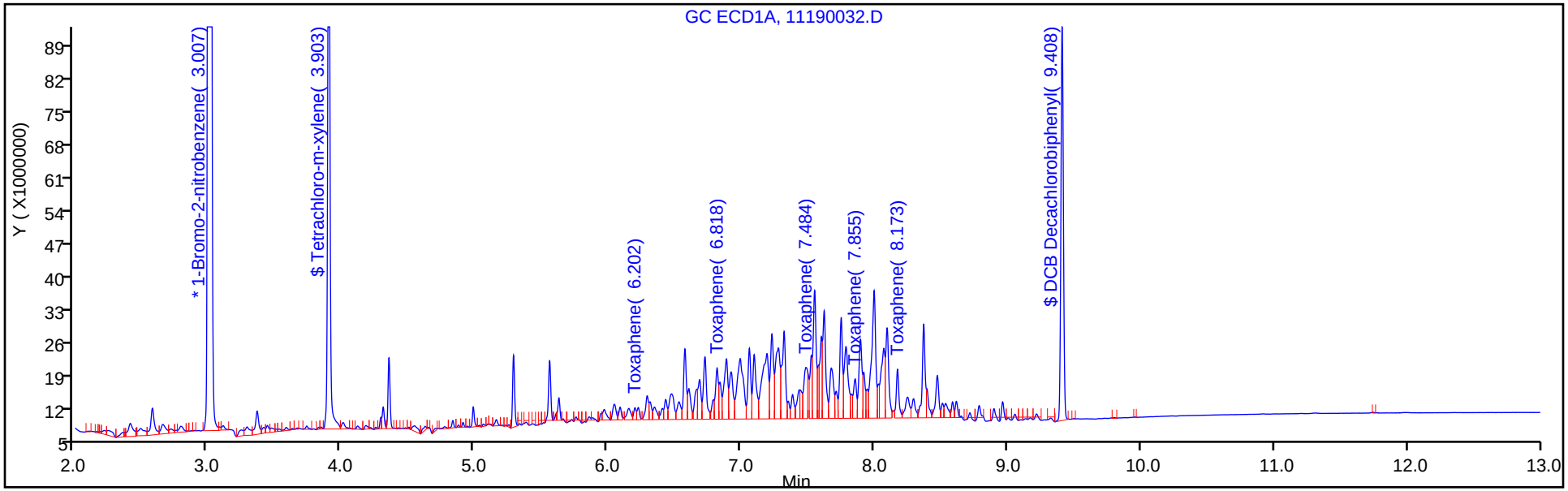
Report Date: 30-Nov-2018 13:02:39 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

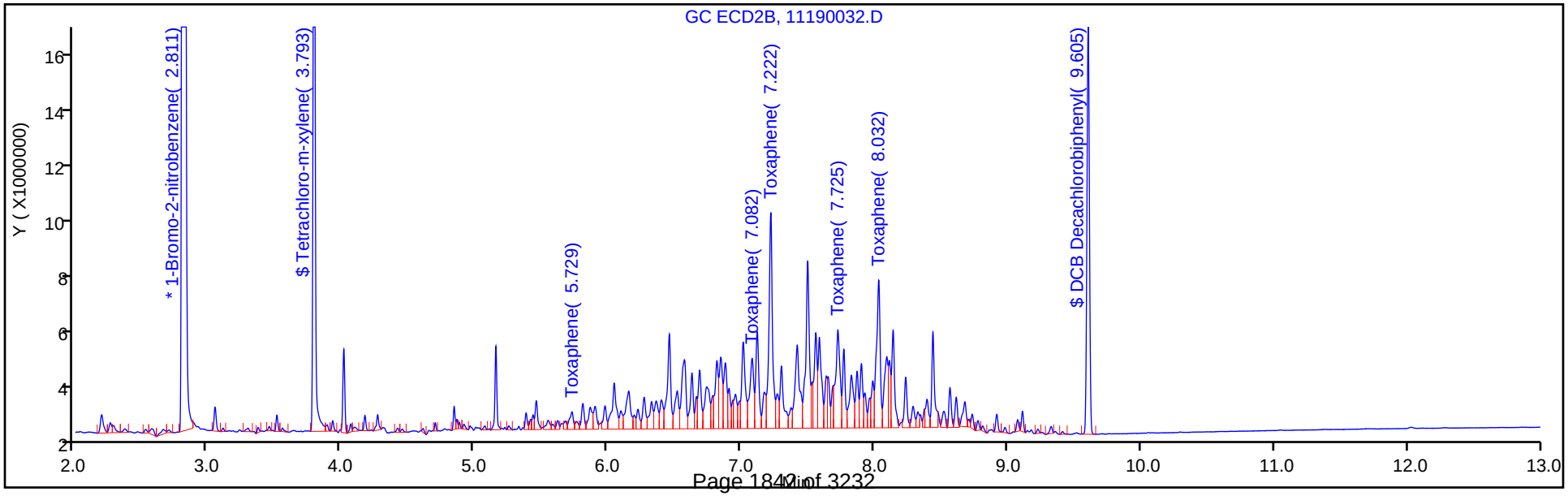
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190032.D

Injection Date:	19-Nov-2018 21:34:33	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	LCSD 280-435616/7-A			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190032.D				
Lims ID:	LCSD 280-435616/7-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	19-Nov-2018 21:34:33	ALS Bottle#:	26	Worklist Smp#:	32
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCSD 280-435616/				
Misc. Info.:	280-0076345-032				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	30-Nov-2018 13:01:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: bacat		Date:	20-Nov-2018 08:56:08		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.5	77.37
$ 41 DCB Decachlorobiphenyl	20.0	19.5	97.61

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.3	76.28
$ 41 DCB Decachlorobiphenyl	20.0	16.4	81.81

Report Date: 30-Nov-2018 13:02:39 Chrom Revision: 2.3 21-Nov-2018 13:56:44

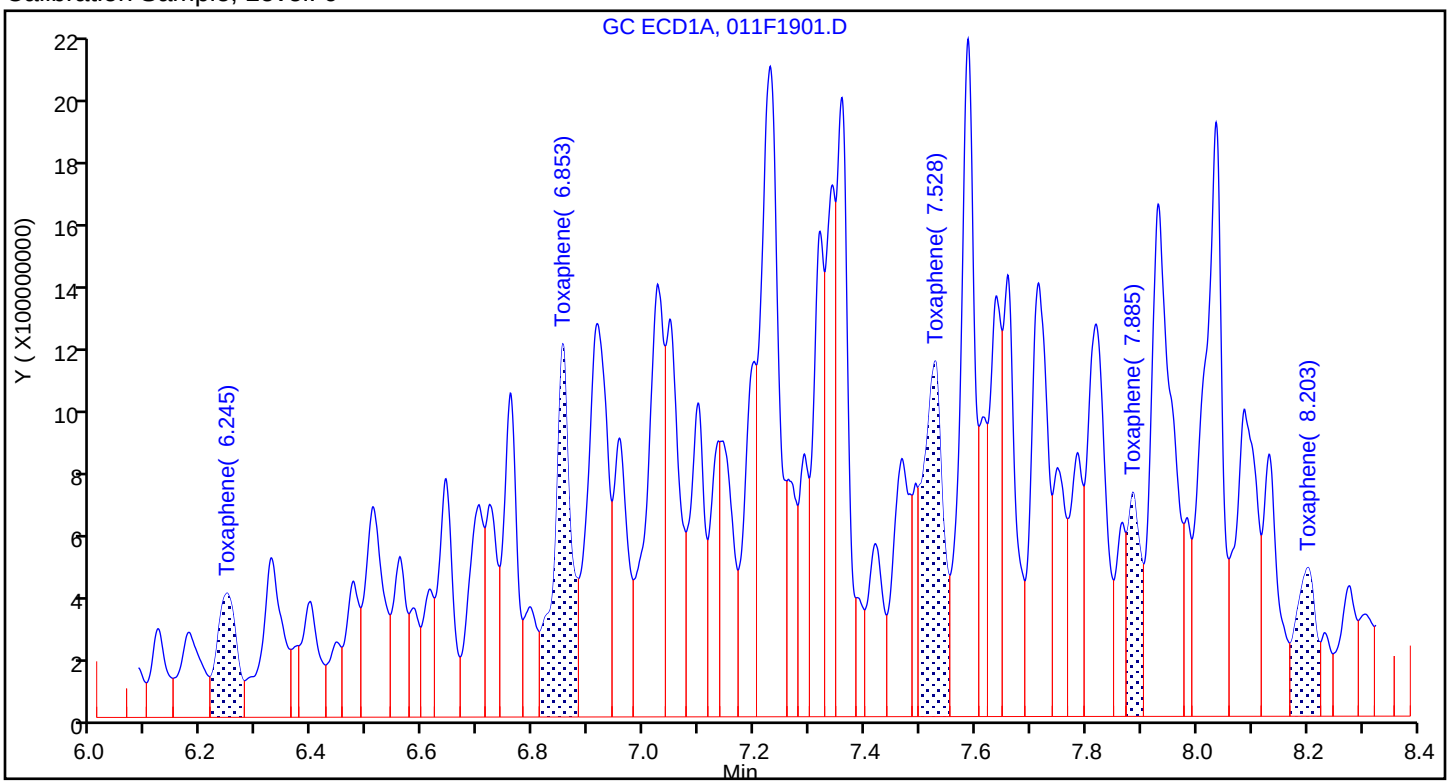
TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190032.D

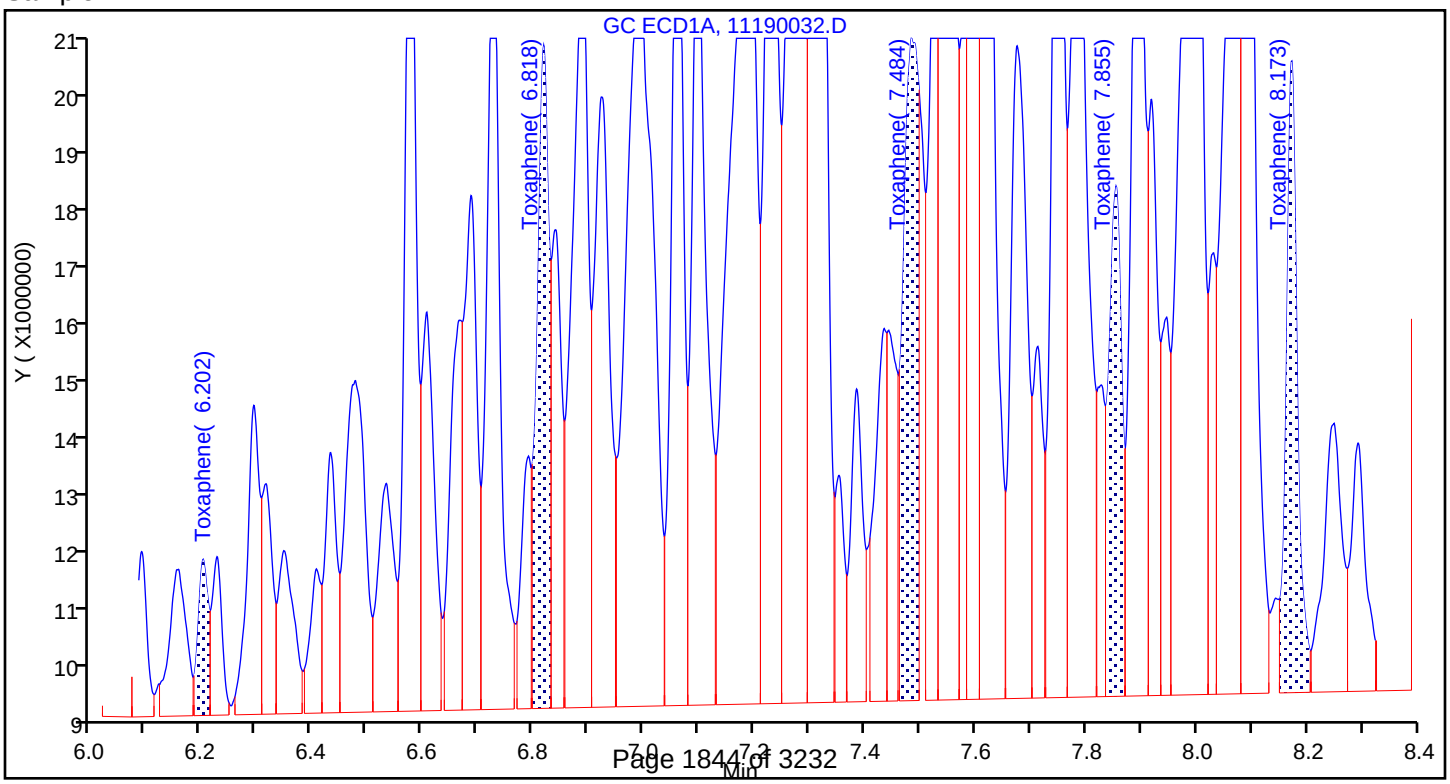
Injection Date:	19-Nov-2018 21:34:33	Instrument ID:	SGC_P2
Lims ID:	LCSD 280-435616/7-A		
Client ID:			
Operator ID:	TEM	ALS Bottle#:	26 Worklist Smp#: 32
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS
Column:	CLP1 (0.32 mm)	Detector	GC ECD1A

28 Toxaphene, CAS: 8001-35-2

Calibration Sample, Level: 6



Sample



Report Date: 30-Nov-2018 13:02:39 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190032.D

Injection Date: 19-Nov-2018 21:34:33 Instrument ID: SGC_P2

Lims ID: LCSD 280-435616/7-A

Client ID:

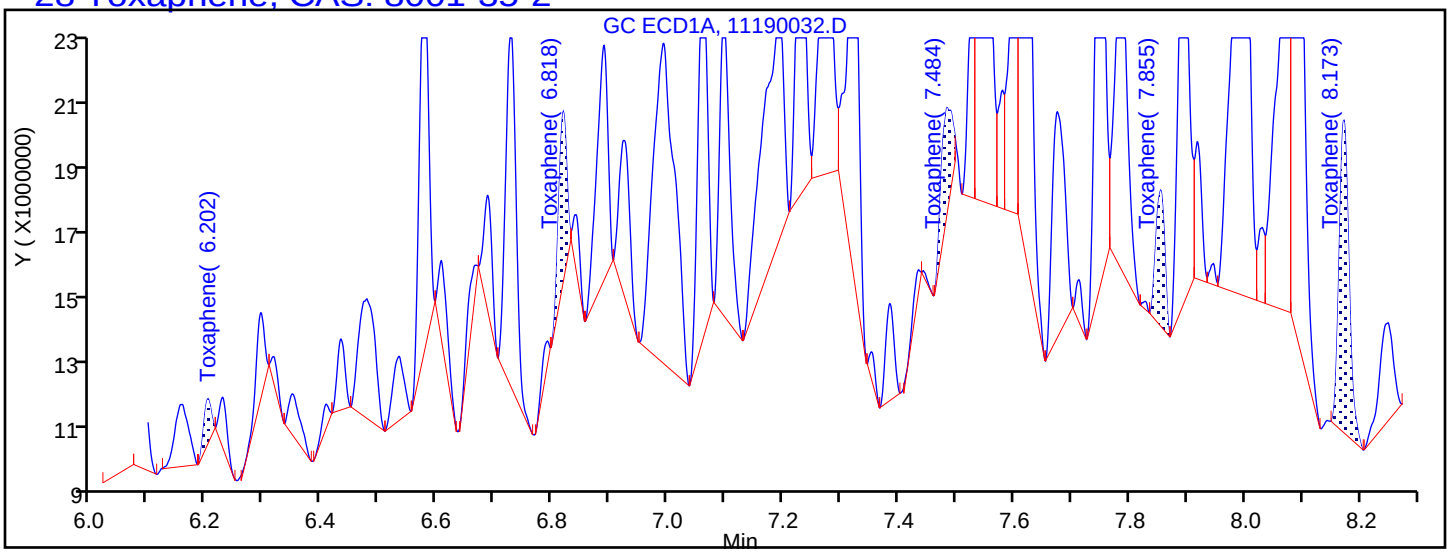
Operator ID: TEM ALS Bottle#: 26 Worklist Smp#: 32

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

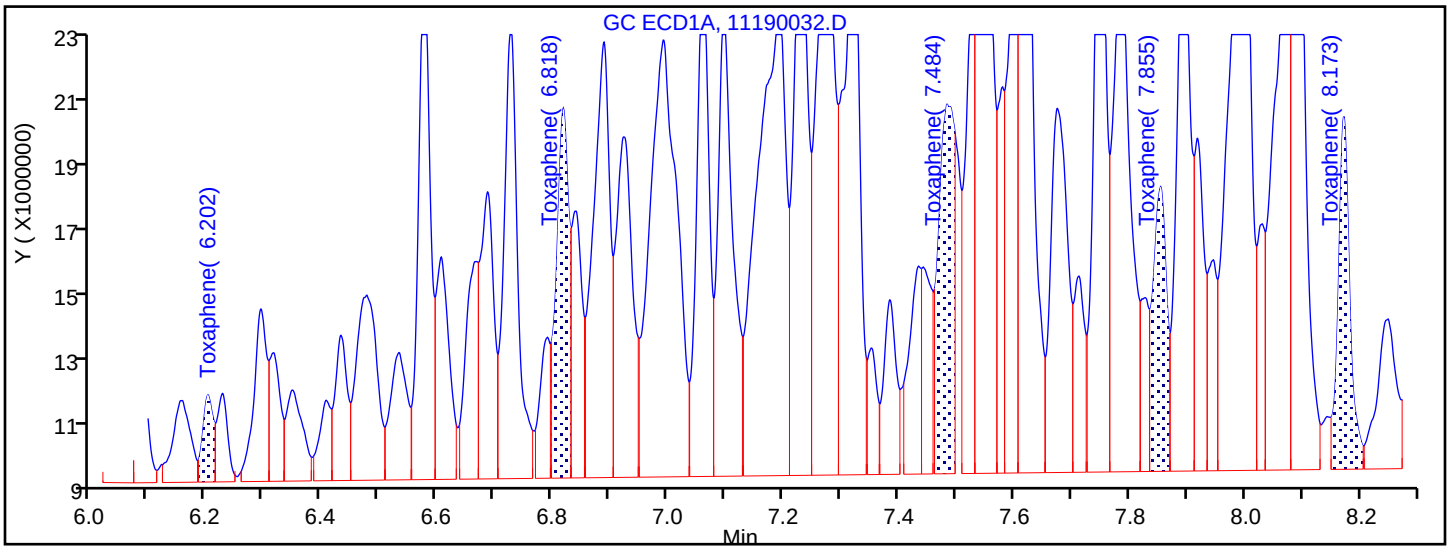
Column: CLP1 (0.32 mm) Detector GC ECD1A

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

6.202	Response = 1185414
6.818	Response = 4834576
7.484	Response = 4171284
7.855	Response = 4235582
8.173	Response = 10908988



Manual Integration Results

6.202	Response = 3232157	M
6.818	Response = 16170674	M
7.484	Response = 19860262	M
7.855	Response = 13485594	M
8.173	Response = 14598861	M

Reviewer: bacat, 30-Nov-2018 12:51:38

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-435616/7-A

Matrix: Water | Lab File ID: 11190032.D

Analysis Method: 8081B | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 1000(mL) | Date Analyzed: 11/19/2018 21:34

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438138 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
8001-35-2	Toxaphene	1.94	J	2.0	0.80	0.37

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	82		34-122
877-09-8	Tetrachloro-m-xylene	76		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190032.D
Lims ID: LCSD 280-435616/7-A
Client ID:
Sample Type: LCSD
Inject. Date: 19-Nov-2018 21:34:33 ALS Bottle#: 26 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-435616/
Misc. Info.: 280-0076345-032
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 30-Nov-2018 13:01:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: bacat Date: 20-Nov-2018 08:56:08

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.007	3.002	0.005	1465469392	150.0	150.0	
2	2.811	2.805	0.006	216247497	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.903	3.899	0.004	163742573	20.0	15.5	
2	3.793	3.786	0.007	27593738	20.0	15.3	
						RPD = 1.42	
28 Toxaphene							M
1	6.202	6.210	-0.008	3232157	200.0	81.9	M
1	6.818	6.815	0.003	16170674	200.0	138.3	M
1	7.484	7.488	-0.004	19860262	200.0	166.2	M
1	7.855	7.847	0.008	13485594	200.0	244.1	M
1	8.173	8.164	0.009	14598861	200.0	282.5	M
		Average of Peak Amounts =				182.6	
2	5.729	5.725	0.004	1159217	200.0	126.1	M
2	7.082	7.077	0.005	4914068	200.0	154.8	M
2	7.222	7.218	0.004	13095217	200.0	160.0	M
2	7.725	7.732	-0.007	7429309	200.0	321.7	M
2	8.032	8.026	0.006	9543768	200.0	209.0	M
		Average of Peak Amounts =				194.3	
						RPD = 6.21	
$ 41 DCB Decachlorobiphenyl							
1	9.408	9.407	0.001	109054707	20.0	19.5	
2	9.605	9.600	0.005	17703967	20.0	16.4	
						RPD = 17.61	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

8081_IS_00008	Amount Added:	75.00	Units: uL	Run Reagent

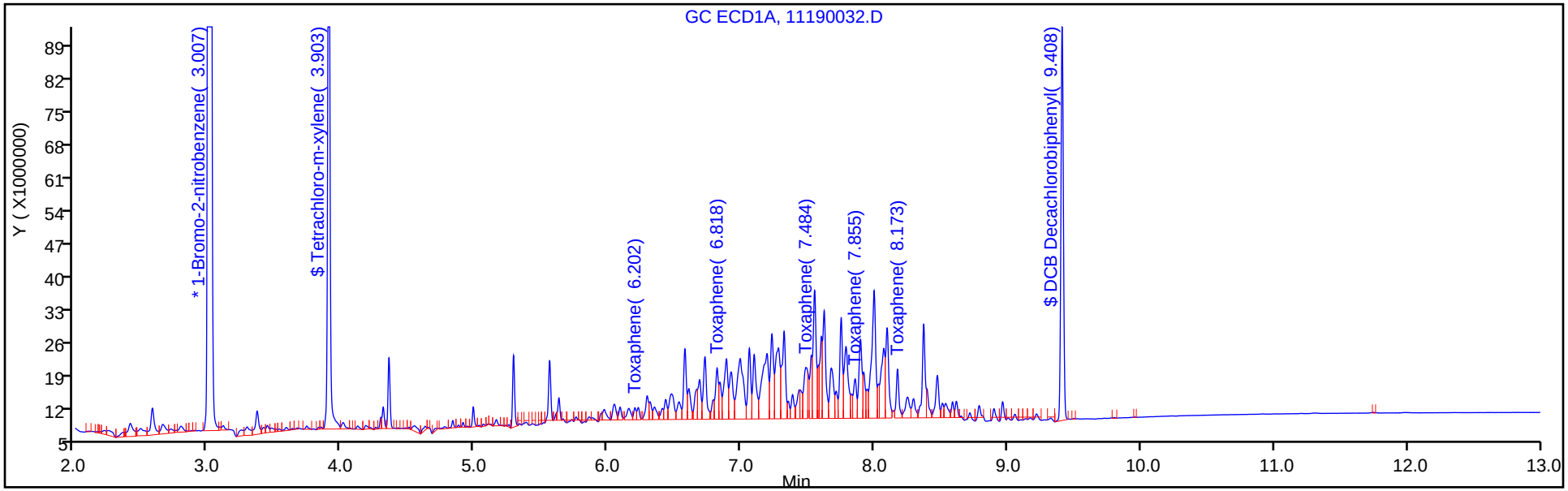
Report Date: 30-Nov-2018 13:02:40 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

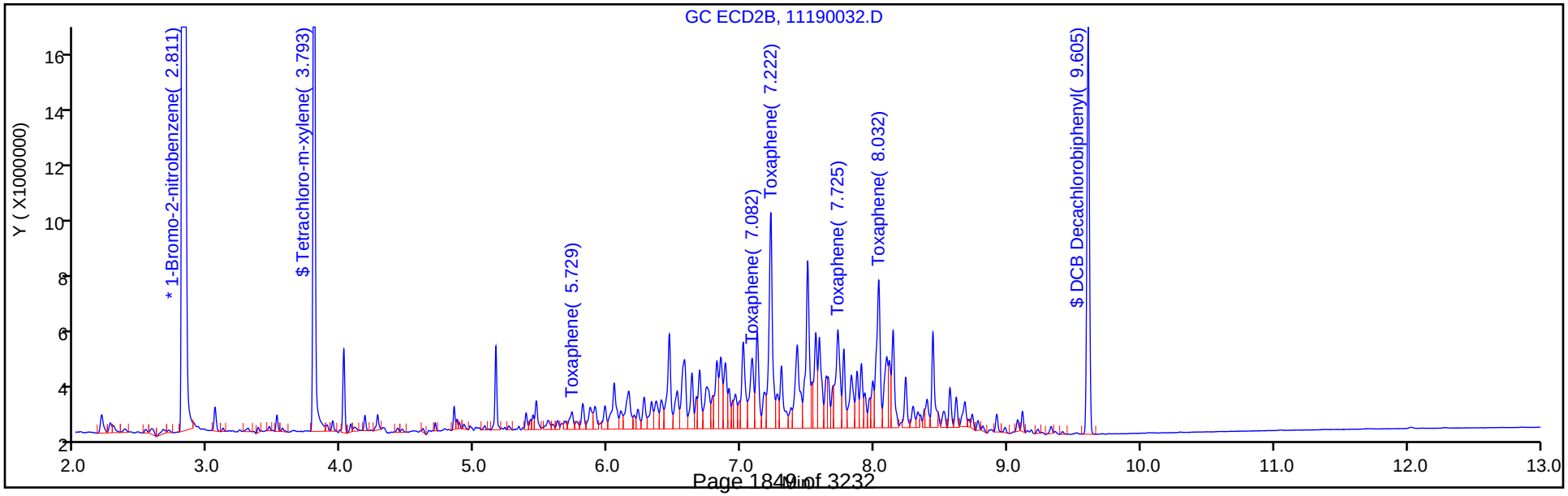
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190032.D

Injection Date:	19-Nov-2018 21:34:33	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	LCSD 280-435616/7-A			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190032.D				
Lims ID:	LCSD 280-435616/7-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	19-Nov-2018 21:34:33	ALS Bottle#:	26	Worklist Smp#:	32
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCSD 280-435616/				
Misc. Info.:	280-0076345-032				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	30-Nov-2018 13:01:00	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: bacat		Date:	20-Nov-2018 08:56:08		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.5	77.37
$ 41 DCB Decachlorobiphenyl	20.0	19.5	97.61

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.3	76.28
$ 41 DCB Decachlorobiphenyl	20.0	16.4	81.81

Report Date: 30-Nov-2018 13:02:40 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190032.D

Injection Date: 19-Nov-2018 21:34:33 Instrument ID: SGC_P2

Lims ID: LCSD 280-435616/7-A

Client ID:

Operator ID: TEM ALS Bottle#: 26 Worklist Smp#: 32

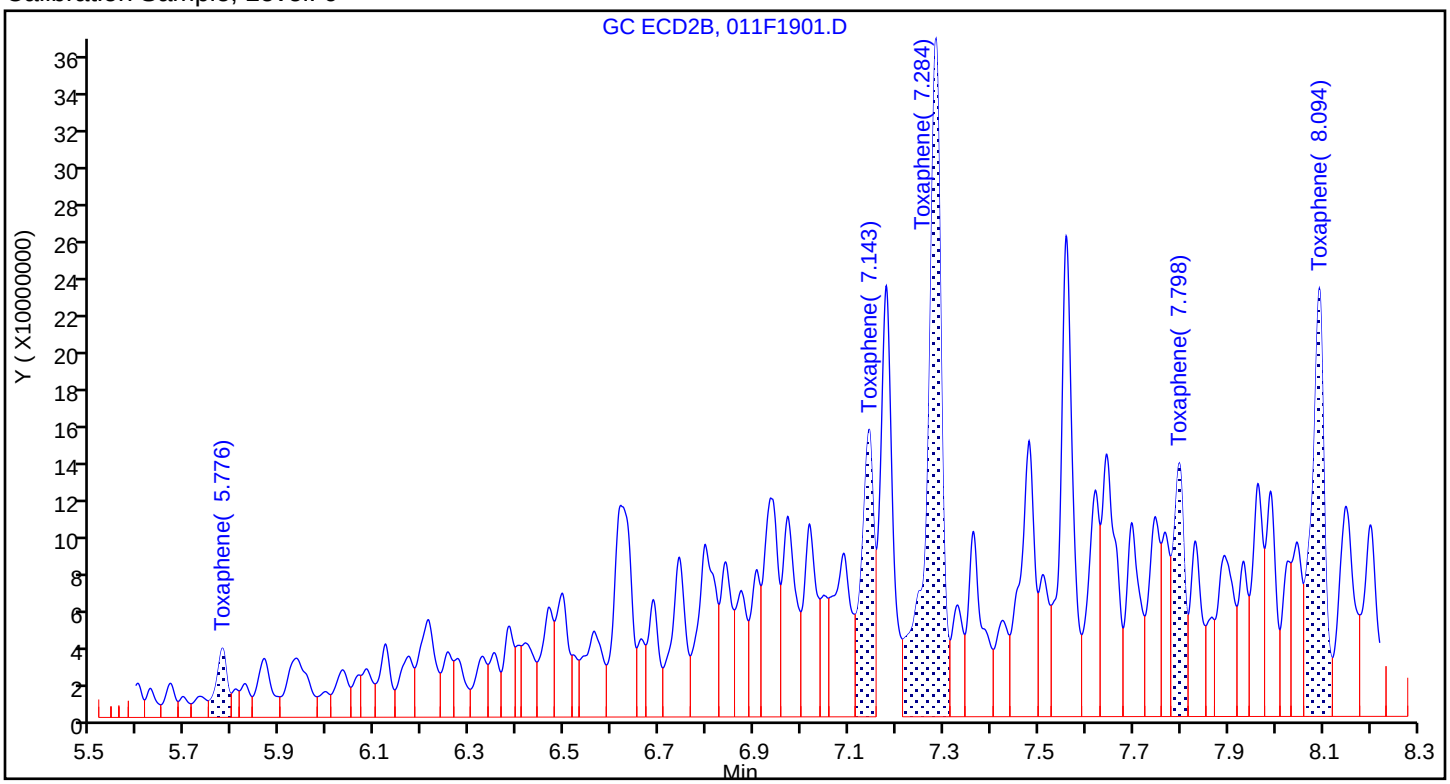
Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

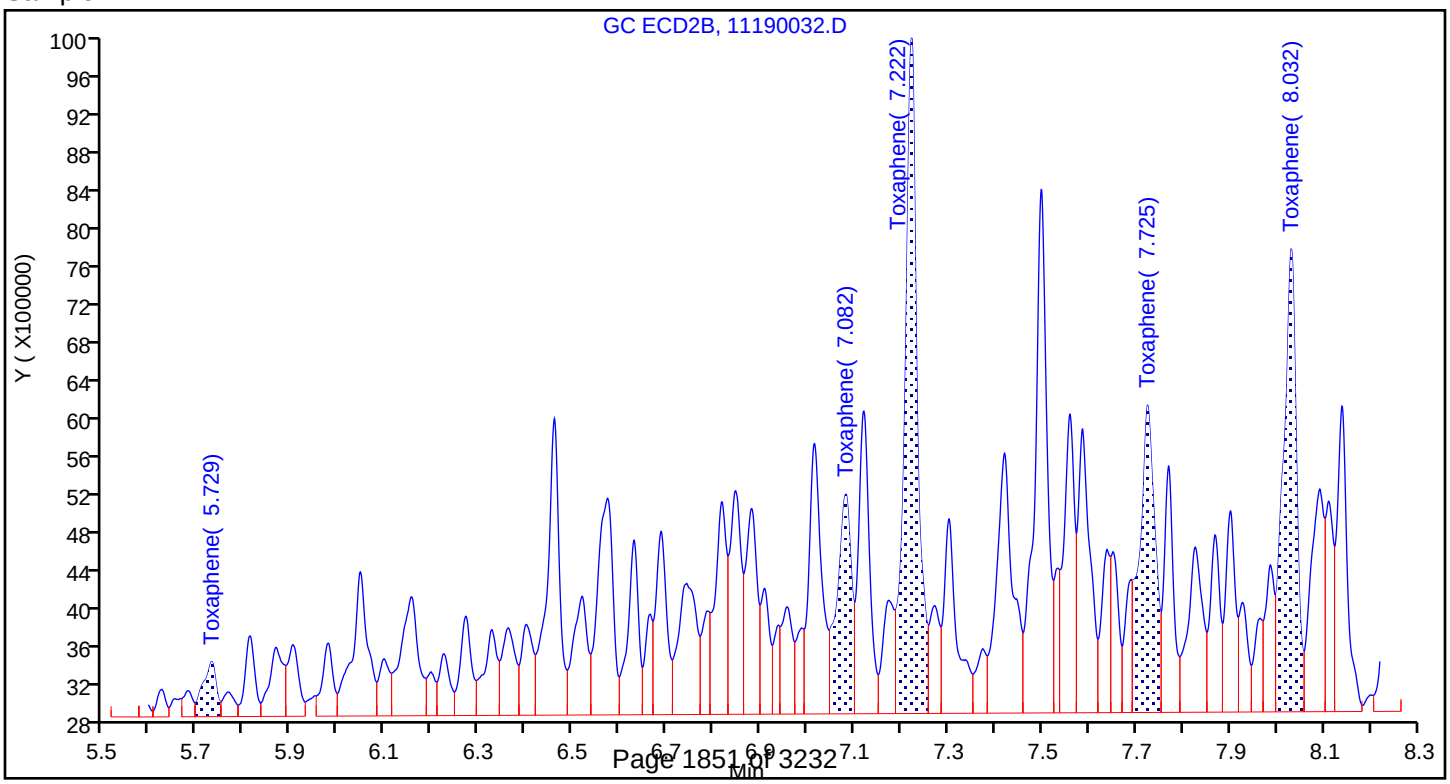
Column: CLP2 (0.32 mm) Detector GC ECD2B

28 Toxaphene, CAS: 8001-35-2

Calibration Sample, Level: 6



Sample



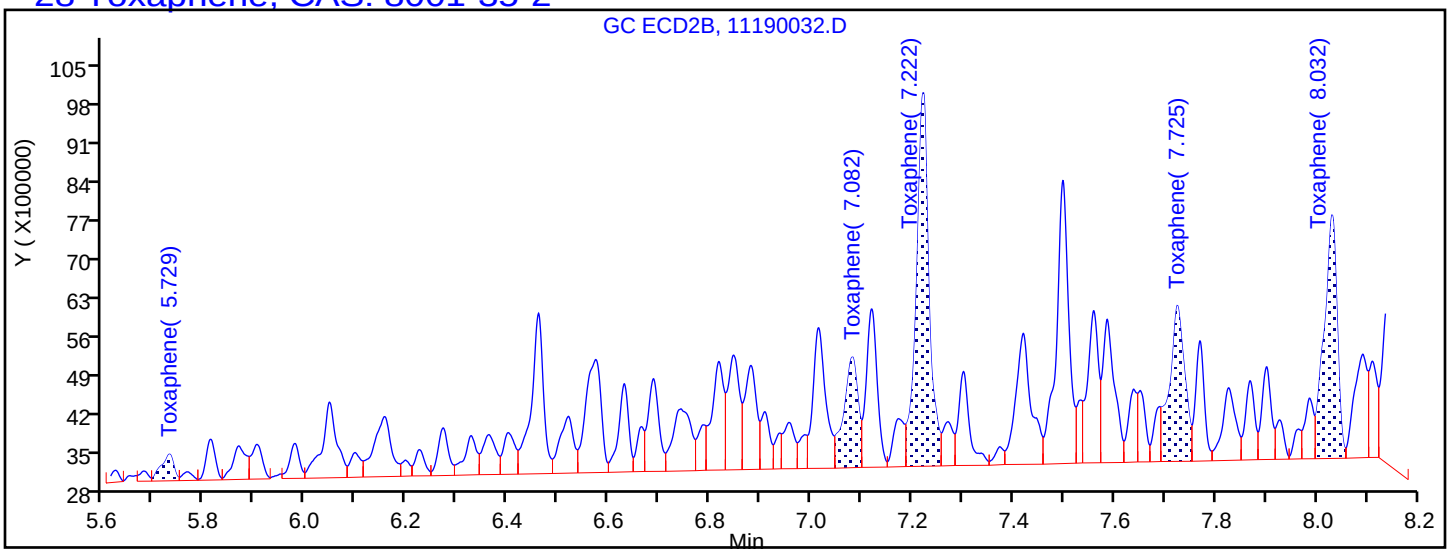
Report Date: 30-Nov-2018 13:02:40 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181119-76345.b\11190032.D

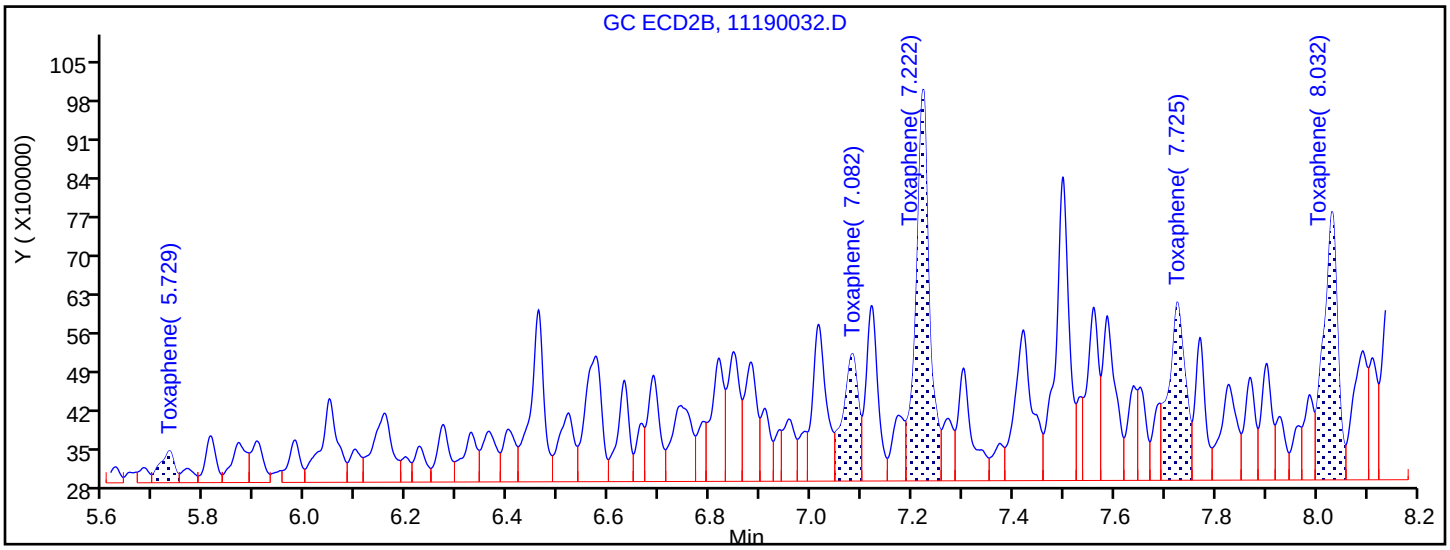
Injection Date:	19-Nov-2018 21:34:33	Instrument ID:	SGC_P2		
Lims ID:	LCSD 280-435616/7-A				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	26	Worklist Smp#:	32
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.729	Response = 846560
7.082	Response = 3948892
7.222	Response = 11724606
7.725	Response = 5937460
8.032	Response = 7903434



Manual Integration Results

5.729	Response = 1159217	M
7.082	Response = 4914068	M
7.222	Response = 13095217	M
7.725	Response = 7429309	M
8.032	Response = 9543768	M

Reviewer: bacat, 30-Nov-2018 12:51:42

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

PESTICIDES ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_P2 Start Date: 10/13/2018 13:16

Analysis Batch Number: 433303 End Date: 10/14/2018 04:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 280-433303/6		10/13/2018 13:16	1		CLP1 0.32(mm)
PEM 280-433303/6		10/13/2018 13:16	1		CLP2 0.32(mm)
STD7 280-433303/9 IC		10/13/2018 14:08	1		CLP1 0.32(mm)
STD7 280-433303/9 IC		10/13/2018 14:08	1		CLP2 0.32(mm)
STD6 280-433303/10 IC		10/13/2018 14:26	1		CLP1 0.32(mm)
STD6 280-433303/10 IC		10/13/2018 14:26	1		CLP2 0.32(mm)
STD5 280-433303/11 IC		10/13/2018 14:43	1		CLP1 0.32(mm)
STD5 280-433303/11 IC		10/13/2018 14:43	1		CLP2 0.32(mm)
STD4 280-433303/12 IC		10/13/2018 15:01	1		CLP1 0.32(mm)
STD4 280-433303/12 IC		10/13/2018 15:01	1		CLP2 0.32(mm)
STD3 280-433303/13 IC		10/13/2018 15:18	1		CLP1 0.32(mm)
STD3 280-433303/13 IC		10/13/2018 15:18	1		CLP2 0.32(mm)
STD2 280-433303/14 IC		10/13/2018 15:35	1		CLP1 0.32(mm)
STD2 280-433303/14 IC		10/13/2018 15:35	1		CLP2 0.32(mm)
STD1 280-433303/15 IC		10/13/2018 15:53	1		CLP1 0.32(mm)
STD1 280-433303/15 IC		10/13/2018 15:53	1		CLP2 0.32(mm)
STD6 280-433303/16 IC		10/13/2018 16:10	1	011F1901.D	CLP1 0.32(mm)
STD6 280-433303/16 IC		10/13/2018 16:10	1	011F1901.D	CLP2 0.32(mm)
STD5 280-433303/17 IC		10/13/2018 16:28	1	012F2001.D	CLP1 0.32(mm)
STD5 280-433303/17 IC		10/13/2018 16:28	1	012F2001.D	CLP2 0.32(mm)
STD4 280-433303/18 IC		10/13/2018 16:45	1	013F2101.D	CLP1 0.32(mm)
STD4 280-433303/18 IC		10/13/2018 16:45	1	013F2101.D	CLP2 0.32(mm)
STD3 280-433303/19 IC		10/13/2018 17:03	1	014F2201.D	CLP1 0.32(mm)
STD3 280-433303/19 IC		10/13/2018 17:03	1	014F2201.D	CLP2 0.32(mm)
STD2 280-433303/20 IC		10/13/2018 17:20	1	015F2301.D	CLP1 0.32(mm)
STD2 280-433303/20 IC		10/13/2018 17:20	1	015F2301.D	CLP2 0.32(mm)
STD1 280-433303/21 IC		10/13/2018 17:37	1	016F2401.D	CLP1 0.32(mm)
STD1 280-433303/21 IC		10/13/2018 17:37	1	016F2401.D	CLP2 0.32(mm)
STD5 280-433303/22 IC		10/13/2018 17:55	1		CLP1 0.32(mm)
STD5 280-433303/22 IC		10/13/2018 17:55	1		CLP2 0.32(mm)
STD4 280-433303/23 IC		10/13/2018 18:12	1		CLP1 0.32(mm)
STD4 280-433303/23 IC		10/13/2018 18:12	1		CLP2 0.32(mm)
STD3 280-433303/24 IC		10/13/2018 18:30	1		CLP1 0.32(mm)

PESTICIDES ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_P2 Start Date: 10/13/2018 13:16

Analysis Batch Number: 433303 End Date: 10/14/2018 04:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD3 280-433303/24 IC		10/13/2018 18:30	1		CLP2 0.32(mm)
STD2 280-433303/25 IC		10/13/2018 18:47	1		CLP1 0.32(mm)
STD2 280-433303/25 IC		10/13/2018 18:47	1		CLP2 0.32(mm)
STD1 280-433303/26 IC		10/13/2018 19:05	1		CLP1 0.32(mm)
STD1 280-433303/26 IC		10/13/2018 19:05	1		CLP2 0.32(mm)
STD6 280-433303/27 IC		10/13/2018 19:22	1	022F3001.D	CLP1 0.32(mm)
STD6 280-433303/27 IC		10/13/2018 19:22	1	022F3001.D	CLP2 0.32(mm)
STD5 280-433303/28 IC		10/13/2018 19:39	1	023F3101.D	CLP1 0.32(mm)
STD5 280-433303/28 IC		10/13/2018 19:39	1	023F3101.D	CLP2 0.32(mm)
STD4 280-433303/29 ICIS		10/13/2018 19:57	1	024F3201.D	CLP1 0.32(mm)
STD4 280-433303/29 ICIS		10/13/2018 19:57	1	024F3201.D	CLP2 0.32(mm)
STD3 280-433303/30 IC		10/13/2018 20:14	1	025F3301.D	CLP1 0.32(mm)
STD3 280-433303/30 IC		10/13/2018 20:14	1	025F3301.D	CLP2 0.32(mm)
STD2 280-433303/31 IC		10/13/2018 20:32	1	026F3401.D	CLP1 0.32(mm)
STD2 280-433303/31 IC		10/13/2018 20:32	1	026F3401.D	CLP2 0.32(mm)
STD1 280-433303/32 IC		10/13/2018 20:49	1	027F3501.D	CLP1 0.32(mm)
STD1 280-433303/32 IC		10/13/2018 20:49	1	027F3501.D	CLP2 0.32(mm)
ICV 280-433303/33		10/13/2018 21:07	1	028F3601.D	CLP1 0.32(mm)
ICV 280-433303/33		10/13/2018 21:07	1	028F3601.D	CLP2 0.32(mm)
ICV 280-433303/34		10/13/2018 21:24	1	029F3701.D	CLP1 0.32(mm)
ICV 280-433303/34		10/13/2018 21:24	1	029F3701.D	CLP2 0.32(mm)
ICV 280-433303/35		10/13/2018 21:41	1	030F3801.D	CLP1 0.32(mm)
ICV 280-433303/35		10/13/2018 21:41	1	030F3801.D	CLP2 0.32(mm)
ICV 280-433303/36		10/13/2018 21:59	1	031F3901.D	CLP1 0.32(mm)
ICV 280-433303/36		10/13/2018 21:59	1	031F3901.D	CLP2 0.32(mm)
PEM 280-433303/37		10/13/2018 22:16	1		CLP1 0.32(mm)
PEM 280-433303/37		10/13/2018 22:16	1		CLP2 0.32(mm)
ZZZZZ		10/13/2018 22:34	1		CLP1 0.32(mm)
ZZZZZ		10/13/2018 22:34	1		CLP2 0.32(mm)
ZZZZZ		10/13/2018 22:51	1		CLP1 0.32(mm)
ZZZZZ		10/13/2018 22:51	1		CLP2 0.32(mm)
ZZZZZ		10/13/2018 23:08	1		CLP1 0.32(mm)
ZZZZZ		10/13/2018 23:08	1		CLP2 0.32(mm)
ZZZZZ		10/13/2018 23:26	1		CLP1 0.32(mm)
ZZZZZ		10/13/2018 23:26	1		CLP2 0.32(mm)
ZZZZZ		10/13/2018 23:43	1		CLP1 0.32(mm)
ZZZZZ		10/13/2018 23:43	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 00:00	1		CLP1 0.32(mm)

PESTICIDES ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_P2 Start Date: 10/13/2018 13:16

Analysis Batch Number: 433303 End Date: 10/14/2018 04:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/14/2018 00:00	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 00:18	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 00:18	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 00:35	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 00:35	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 00:53	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 00:53	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 01:10	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 01:10	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 01:27	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 01:27	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 01:45	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 01:45	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 02:02	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 02:02	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 02:19	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 02:19	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 02:37	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 02:37	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 02:54	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 02:54	1		CLP2 0.32(mm)
CCV 280-433303/54		10/14/2018 03:11	1		CLP1 0.32(mm)
CCV 280-433303/54		10/14/2018 03:11	1		CLP2 0.32(mm)
CCV 280-433303/55		10/14/2018 03:29	1		CLP1 0.32(mm)
CCV 280-433303/55		10/14/2018 03:29	1		CLP2 0.32(mm)
CCV 280-433303/56		10/14/2018 03:46	1		CLP1 0.32(mm)
CCV 280-433303/56		10/14/2018 03:46	1		CLP2 0.32(mm)
CCV 280-433303/57		10/14/2018 04:03	1		CLP1 0.32(mm)
CCV 280-433303/57		10/14/2018 04:03	1		CLP2 0.32(mm)

PESTICIDES ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_P2 Start Date: 11/19/2018 14:17

Analysis Batch Number: 438138 End Date: 11/20/2018 01:39

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 280-438138/7		11/19/2018 14:17	1	11190007.D	CLP1 0.32(mm)
PEM 280-438138/7		11/19/2018 14:17	1	11190007.D	CLP2 0.32(mm)
CCV 280-438138/10		11/19/2018 15:09	1		CLP1 0.32(mm)
CCV 280-438138/10		11/19/2018 15:09	1		CLP2 0.32(mm)
CCV 280-438138/11		11/19/2018 15:27	1	11190011.D	CLP1 0.32(mm)
CCV 280-438138/11		11/19/2018 15:27	1	11190011.D	CLP2 0.32(mm)
CCV 280-438138/12		11/19/2018 15:44	1		CLP1 0.32(mm)
CCV 280-438138/12		11/19/2018 15:44	1		CLP2 0.32(mm)
CCVIS 280-438138/13		11/19/2018 16:02	1	11190013.D	CLP1 0.32(mm)
CCVIS 280-438138/13		11/19/2018 16:02	1	11190013.D	CLP2 0.32(mm)
ZZZZZ		11/19/2018 16:19	1		CLP1 0.32(mm)
ZZZZZ		11/19/2018 16:19	1		CLP2 0.32(mm)
ZZZZZ		11/19/2018 16:37	1		CLP1 0.32(mm)
ZZZZZ		11/19/2018 16:37	1		CLP2 0.32(mm)
ZZZZZ		11/19/2018 16:54	1		CLP1 0.32(mm)
ZZZZZ		11/19/2018 16:54	1		CLP2 0.32(mm)
ZZZZZ		11/19/2018 17:12	1		CLP1 0.32(mm)
ZZZZZ		11/19/2018 17:12	1		CLP2 0.32(mm)
ZZZZZ		11/19/2018 17:29	1		CLP1 0.32(mm)
ZZZZZ		11/19/2018 17:29	1		CLP2 0.32(mm)
ZZZZZ		11/19/2018 17:47	1		CLP1 0.32(mm)
ZZZZZ		11/19/2018 17:47	1		CLP2 0.32(mm)
ZZZZZ		11/19/2018 18:04	1		CLP1 0.32(mm)
ZZZZZ		11/19/2018 18:04	1		CLP2 0.32(mm)
ZZZZZ		11/19/2018 18:22	1		CLP1 0.32(mm)
ZZZZZ		11/19/2018 18:22	1		CLP2 0.32(mm)
ZZZZZ		11/19/2018 18:39	1		CLP1 0.32(mm)
ZZZZZ		11/19/2018 18:39	1		CLP2 0.32(mm)
ZZZZZ		11/19/2018 18:57	1		CLP1 0.32(mm)
ZZZZZ		11/19/2018 18:57	1		CLP2 0.32(mm)
ZZZZZ		11/19/2018 19:14	1		CLP1 0.32(mm)
ZZZZZ		11/19/2018 19:14	1		CLP2 0.32(mm)
ZZZZZ		11/19/2018 19:32	1		CLP1 0.32(mm)
ZZZZZ		11/19/2018 19:32	1		CLP2 0.32(mm)
ZZZZZ		11/19/2018 19:49	1		CLP1 0.32(mm)
ZZZZZ		11/19/2018 19:49	1		CLP2 0.32(mm)
ZZZZZ		11/19/2018 20:07	1		CLP1 0.32(mm)
ZZZZZ		11/19/2018 20:07	1		CLP2 0.32(mm)
MB 280-435616/1-A		11/19/2018 20:24	1	11190028.D	CLP1 0.32(mm)
MB 280-435616/1-A		11/19/2018 20:24	1	11190028.D	CLP2 0.32(mm)
LCS 280-435616/2-A		11/19/2018 20:42	1	11190029.D	CLP1 0.32(mm)
LCS 280-435616/2-A		11/19/2018 20:42	1	11190029.D	CLP2 0.32(mm)
LCSD 280-435616/3-A		11/19/2018 20:59	1	11190030.D	CLP1 0.32(mm)
LCSD 280-435616/3-A		11/19/2018 20:59	1	11190030.D	CLP2 0.32(mm)
LCS 280-435616/6-A		11/19/2018 21:17	1	11190031.D	CLP1 0.32(mm)

PESTICIDES ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_P2 Start Date: 11/19/2018 14:17

Analysis Batch Number: 438138 End Date: 11/20/2018 01:39

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
LCS 280-435616/6-A		11/19/2018 21:17	1	11190031.D	CLP2 0.32(mm)
LCSD 280-435616/7-A		11/19/2018 21:34	1	11190032.D	CLP1 0.32(mm)
LCSD 280-435616/7-A		11/19/2018 21:34	1	11190032.D	CLP2 0.32(mm)
CCV 280-438138/34		11/19/2018 21:52	1		CLP1 0.32(mm)
CCV 280-438138/34		11/19/2018 21:52	1		CLP2 0.32(mm)
CCV 280-438138/35		11/19/2018 22:09	1	11190035.D	CLP1 0.32(mm)
CCV 280-438138/35		11/19/2018 22:09	1	11190035.D	CLP2 0.32(mm)
CCV 280-438138/36		11/19/2018 22:27	1		CLP1 0.32(mm)
CCV 280-438138/36		11/19/2018 22:27	1		CLP2 0.32(mm)
CCV 280-438138/37		11/19/2018 22:44	1	11190037.D	CLP1 0.32(mm)
CCV 280-438138/37		11/19/2018 22:44	1	11190037.D	CLP2 0.32(mm)
ZZZZZ		11/20/2018 00:12	1		CLP1 0.32(mm)
ZZZZZ		11/20/2018 00:12	1		CLP2 0.32(mm)
ZZZZZ		11/20/2018 00:29	1		CLP1 0.32(mm)
ZZZZZ		11/20/2018 00:29	1		CLP2 0.32(mm)
ZZZZZ		11/20/2018 00:46	1		CLP1 0.32(mm)
ZZZZZ		11/20/2018 00:46	1		CLP2 0.32(mm)
ZZZZZ		11/20/2018 01:04	1		CLP1 0.32(mm)
ZZZZZ		11/20/2018 01:04	1		CLP2 0.32(mm)
ZZZZZ		11/20/2018 01:21	1		CLP1 0.32(mm)
ZZZZZ		11/20/2018 01:21	1		CLP2 0.32(mm)
ZZZZZ		11/20/2018 01:39	1		CLP1 0.32(mm)
ZZZZZ		11/20/2018 01:39	1		CLP2 0.32(mm)

PESTICIDES ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_P2 Start Date: 12/03/2018 13:29

Analysis Batch Number: 439676 End Date: 12/03/2018 21:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 280-439676/7		12/03/2018 13:29	1	12030007.D	CLP1 0.32(mm)
PEM 280-439676/7		12/03/2018 13:29	1	12030007.D	CLP2 0.32(mm)
CCV 280-439676/10		12/03/2018 14:22	1		CLP1 0.32(mm)
CCV 280-439676/10		12/03/2018 14:22	1		CLP2 0.32(mm)
CCV 280-439676/11		12/03/2018 14:39	1	12030011.D	CLP1 0.32(mm)
CCV 280-439676/11		12/03/2018 14:39	1	12030011.D	CLP2 0.32(mm)
CCV 280-439676/12		12/03/2018 14:57	1		CLP1 0.32(mm)
CCV 280-439676/12		12/03/2018 14:57	1		CLP2 0.32(mm)
CCVIS 280-439676/13		12/03/2018 15:15	1	12030013.D	CLP1 0.32(mm)
CCVIS 280-439676/13		12/03/2018 15:15	1	12030013.D	CLP2 0.32(mm)
280-116020-1		12/03/2018 15:32	1	12030014.D	CLP1 0.32(mm)
280-116020-1		12/03/2018 15:32	1	12030014.D	CLP2 0.32(mm)
280-116020-2		12/03/2018 15:49	1	12030015.D	CLP1 0.32(mm)
280-116020-2		12/03/2018 15:49	1	12030015.D	CLP2 0.32(mm)
280-116020-5		12/03/2018 16:07	1	12030016.D	CLP1 0.32(mm)
280-116020-5		12/03/2018 16:07	1	12030016.D	CLP2 0.32(mm)
280-116020-6		12/03/2018 16:25	1	12030017.D	CLP1 0.32(mm)
280-116020-6		12/03/2018 16:25	1	12030017.D	CLP2 0.32(mm)
280-116020-12		12/03/2018 16:42	1	12030018.D	CLP1 0.32(mm)
280-116020-12		12/03/2018 16:42	1	12030018.D	CLP2 0.32(mm)
ZZZZZ		12/03/2018 16:59	1		CLP1 0.32(mm)
ZZZZZ		12/03/2018 16:59	1		CLP2 0.32(mm)
ZZZZZ		12/03/2018 17:17	1		CLP1 0.32(mm)
ZZZZZ		12/03/2018 17:17	1		CLP2 0.32(mm)
ZZZZZ		12/03/2018 17:34	1		CLP1 0.32(mm)
ZZZZZ		12/03/2018 17:34	1		CLP2 0.32(mm)
ZZZZZ		12/03/2018 17:52	1		CLP1 0.32(mm)
ZZZZZ		12/03/2018 17:52	1		CLP2 0.32(mm)
ZZZZZ		12/03/2018 18:09	1		CLP1 0.32(mm)
ZZZZZ		12/03/2018 18:09	1		CLP2 0.32(mm)
CCV 280-439676/24		12/03/2018 18:27	1		CLP1 0.32(mm)
CCV 280-439676/24		12/03/2018 18:27	1		CLP2 0.32(mm)
CCV 280-439676/25		12/03/2018 18:44	1	12030025.D	CLP1 0.32(mm)
CCV 280-439676/25		12/03/2018 18:44	1	12030025.D	CLP2 0.32(mm)
CCV 280-439676/26		12/03/2018 19:02	1		CLP1 0.32(mm)
CCV 280-439676/26		12/03/2018 19:02	1		CLP2 0.32(mm)
CCV 280-439676/27		12/03/2018 19:19	1	12030027.D	CLP1 0.32(mm)
CCV 280-439676/27		12/03/2018 19:19	1	12030027.D	CLP2 0.32(mm)
ZZZZZ		12/03/2018 19:37	1		CLP1 0.32(mm)
ZZZZZ		12/03/2018 19:37	1		CLP2 0.32(mm)
ZZZZZ		12/03/2018 19:54	1		CLP1 0.32(mm)
ZZZZZ		12/03/2018 19:54	1		CLP2 0.32(mm)
ZZZZZ		12/03/2018 20:12	1		CLP1 0.32(mm)
ZZZZZ		12/03/2018 20:12	1		CLP2 0.32(mm)
CCV 280-439676/31		12/03/2018 20:29	1		CLP1 0.32(mm)

PESTICIDES ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_P2 Start Date: 12/03/2018 13:29

Analysis Batch Number: 439676 End Date: 12/03/2018 21:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-439676/31		12/03/2018 20:29	1		CLP2 0.32(mm)
CCV 280-439676/32		12/03/2018 20:47	1		CLP1 0.32(mm)
CCV 280-439676/32		12/03/2018 20:47	1		CLP2 0.32(mm)
CCV 280-439676/33		12/03/2018 21:04	1		CLP1 0.32(mm)
CCV 280-439676/33		12/03/2018 21:04	1		CLP2 0.32(mm)
CCV 280-439676/34		12/03/2018 21:22	1		CLP1 0.32(mm)
CCV 280-439676/34		12/03/2018 21:22	1		CLP2 0.32(mm)

PESTICIDES BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435616 Batch Start Date: 10/30/18 20:52 Batch Analyst: Exstrum, Adam J

Batch Method: 3510C Batch End Date: 11/06/18 13:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	8081 LCS 00448
MB 280-435616/1		3510C, 8081B				1000 mL	10 mL	7 SU	
LCS 280-435616/2		3510C, 8081B				1000 mL	10 mL	7 SU	1 mL
LCSD 280-435616/3		3510C, 8081B				1000 mL	10 mL	7 SU	1 mL
LCS 280-435616/6		3510C, 8081B				1000 mL	10 mL	7 SU	
LCSD 280-435616/7		3510C, 8081B				1000 mL	10 mL	7 SU	
280-116020-B-1	DET-003-181001-GW	3510C, 8081B	T	1474.2 g	498.2 g	976 mL	10 mL	7 SU	
280-116020-A-2	DET-003-181002-GW	3510C, 8081B	T	1511.7 g	498.5 g	1013.2 mL	10 mL	7 SU	
280-116020-A-5	LL1mw-083-181001-GW	3510C, 8081B	T	1468.3 g	499.4 g	968.9 mL	10 mL	5 SU	
280-116020-A-6	LL1mw-084-181001-GW	3510C, 8081B	T	1392.5 g	499.9 g	892.6 mL	10 mL	5 SU	
280-116020-A-12	DET-004-181001-GW	3510C, 8081B	T	1428.2 g	497.7 g	930.5 mL	10 mL	7 SU	

Lab Sample ID	Client Sample ID	Method Chain	Basis	8081/82 Surr 00105	8081Toxaphene 00031	AnalysisComment			
MB 280-435616/1		3510C, 8081B		1 mL					
LCS 280-435616/2		3510C, 8081B		1 mL		8081			
LCSD 280-435616/3		3510C, 8081B		1 mL		8081			
LCS 280-435616/6		3510C, 8081B		1 mL	1 mL	TOX			
LCSD 280-435616/7		3510C, 8081B		1 mL	1 mL	TOX			
280-116020-B-1	DET-003-181001-GW	3510C, 8081B	T	1 mL					
280-116020-A-2	DET-003-181002-GW	3510C, 8081B	T	1 mL					
280-116020-A-5	LL1mw-083-181001-GW	3510C, 8081B	T	1 mL					
280-116020-A-6	LL1mw-084-181001-GW	3510C, 8081B	T	1 mL					
280-116020-A-12	DET-004-181001-GW	3510C, 8081B	T	1 mL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435616 Batch Start Date: 10/30/18 20:52 Batch Analyst: Exstrum, Adam J

Batch Method: 3510C Batch End Date: 11/06/18 13:10

Batch Notes	
Balance ID	24750399
Batch Comment	DV-OP-0006/0007/BB8@10.00mL
Analyst ID - Concentration	MF/AAG
Concentration 1 Corrected Temperature	88/88 Degrees C
Equipment ID - Concentration 1	A/B
Exchange Solvent ID	Hexane_cycl_00053
Analyst ID - Extraction	AE
Method/Fraction	3510C/608/8081/8082
Na2SO4 ID	0000205461_00006
NaCl ID	181957
Pipette/Syringe/Dispenser ID	1n2s
Prep Solvent ID	MeCl2_Cycl_00410/411
Prep Solvent Volume Used	180 mL
Analyst ID - Spike Analyst	AE
Analyst ID - Spike Witness Analyst	Reviewer: DC
Sufficient Volume for Batch QC	No
Concentration 1 Uncorrected Temperature	89/87 Degrees C
Reagent Water ID	S. ELGA

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8082A_DOD5

Polychlorinated Biphenyls (PCBs) by Gas Chromatography

FORM II
PCBS SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): CLP2 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCX1	#	DCBP1	#
DET-003-181001-GW	280-116020-1	74		84	Q
DET-003-181002-GW	280-116020-2	84		85	Q
DET-004-181001-GW	280-116020-12	86		108	Q
	MB 280-435616/1-A	83		88	
	LCS 280-435616/4-A	78		90	
	LCSD 280-435616/5-A	82		93	

	QC LIMITS
TCX = Tetrachloro-m-xylene	25-120
DCBP = DCB Decachlorobiphenyl	30-136

Column to be used to flag recovery values

FORM II 8082A

FORM III
PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11231843.D

Lab ID: LCS 280-435616/4-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
PCB-1016	2.00	1.91	95	46-129	
PCB-1260	2.00	2.07	104	45-134	

Column to be used to flag recovery and RPD values

FORM III 8082A

FORM III
PCBS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11231844.D

Lab ID: LCSD 280-435616/5-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
PCB-1016	2.00	1.92	96	1	30	46-129	
PCB-1260	2.00	2.10	105	1	30	45-134	

Column to be used to flag recovery and RPD values

FORM III 8082A

FORM IV
PCBS METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: MB 280-435616/1-A

Matrix: Water Date Extracted: 10/30/2018 20:52

Lab File ID:(1) 11231842.D Lab File ID:(2) 11231842.D

Date Analyzed:(1) 11/24/2018 05:07 Date Analyzed:(2) 11/24/2018 05:07

Instrument ID:(1) SGC_J Instrument ID:(2) SGC_J

GC Column:(1) CLP2 ID: 0.32(mm) GC Column:(2) CLP1 ID: 0.32(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-435616/4-A	11/24/2018 05:28	11/24/2018 05:28
	LCSD 280-435616/5-A	11/24/2018 05:50	11/24/2018 05:50
DET-003-181001-GW	280-116020-1	11/24/2018 07:57	11/24/2018 07:57
DET-003-181002-GW	280-116020-2	11/24/2018 08:18	11/24/2018 08:18
DET-004-181001-GW	280-116020-12	11/24/2018 08:39	11/24/2018 08:39

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: STDL51660 280-438388/20 Date Analyzed: 11/21/2018 15:27

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm)

Lab File ID (Standard): 11211820.D Heated Purge: (Y/N) N

Calibration ID: 34386

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		29769998	1.97				
UPPER LIMIT		59539996	2.47				
LOWER LIMIT		14884999	1.47				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-438388/39		27962663	1.97				
ICV 280-438388/40		29773128	1.97				
ICV 280-438388/41		26927485	1.97				
ICV 280-438388/42		26954302	1.97				
ICV 280-438388/43		30567576	1.97				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: STDL51660 280-438388/20 Date Analyzed: 11/21/2018 15:27

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm)

Lab File ID (Standard): 11211820.D Heated Purge: (Y/N) N

Calibration ID: 34387

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		167274345	1.75				
UPPER LIMIT		334548690	2.25				
LOWER LIMIT		83637173	1.25				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-438388/39		158680424	1.75				
ICV 280-438388/40		167287659	1.75				
ICV 280-438388/41		153501296	1.75				
ICV 280-438388/42		152978208	1.75				
ICV 280-438388/43		172646811	1.75				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: CCVIS 280-438587/3 Date Analyzed: 11/23/2018 15:21

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm)

Lab File ID (Standard): 11231803.D Heated Purge: (Y/N) N

Calibration ID: 34394

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		33785987	1.97				
UPPER LIMIT		67571974	2.47				
LOWER LIMIT		16892994	1.47				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 280-438587/33		33647119	1.97				
MB 280-435616/1-A		34286325	1.97				
LCS 280-435616/4-A		33578295	1.97				
LCSD 280-435616/5-A		33506217	1.97				
CCV 280-438587/45		33492128	1.97				
280-116020-1	DET-003-181001-GW	35555929	1.97				
280-116020-2	DET-003-181002-GW	35185814	1.97				
280-116020-12	DET-004-181001-GW	30981585	1.97				
CCV 280-438587/54		32534198	1.97				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Sample No.: CCVIS 280-438587/3 Date Analyzed: 11/23/2018 15:21

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm)

Lab File ID (Standard): 11231803.D Heated Purge: (Y/N) N

Calibration ID: 34395

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		183019289	1.75				
UPPER LIMIT		366038578	2.25				
LOWER LIMIT		91509645	1.25				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 280-438587/33		181722393	1.75				
MB 280-435616/1-A		184006761	1.75				
LCS 280-435616/4-A		178530126	1.75				
LCSD 280-435616/5-A		180748777	1.75				
CCV 280-438587/45		178422474	1.75				
280-116020-1	DET-003-181001-GW	185685670	1.75				
280-116020-2	DET-003-181002-GW	185254247	1.75				
280-116020-12	DET-004-181001-GW	166605619	1.75				
CCV 280-438587/54		170486383	1.75				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 280-435616/4-A

Instrument ID (1): SGC_J Instrument ID (2): SGC_J

Date Analyzed (1): 11/24/2018 05:28 Date Analyzed (2): 11/24/2018 05:28

GC Column (1): CLP2 ID: 0.32(mm) GC Column (2): CLP1 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1016	1	1	3.27	3.03	3.53	2.04	1.91	3.8
		2	3.66	3.42	3.92	1.85		
		3	4.12	3.87	4.37	1.88		
		4	4.26	4.02	4.52	1.90		
		5	4.49	4.25	4.75	1.87		
	2	1	3.27	3.02	3.52	1.99	1.83	
		2	3.63	3.38	3.88	1.79		
		3	4.12	3.87	4.37	1.71		
		4	4.26	4.02	4.52	1.84		
		5	4.73	4.48	4.98	1.85		
PCB-1260	1	1	6.65	6.40	6.90	2.28	2.07	7.1
		2	7.11	6.87	7.37	2.48		
		3	7.64	7.40	7.90	1.86		
		4	8.01	7.76	8.26	1.87		
		5	8.51	8.27	8.77	1.89		
	2	1	6.25	6.00	6.50	2.11	1.93	
		2	6.99	6.75	7.25	2.26		
		3	7.49	7.24	7.74	1.75		
		4	7.93	7.68	8.18	1.67		
		5	8.32	8.08	8.58	1.87		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 280-435616/5-A

Instrument ID (1): SGC_J Instrument ID (2): SGC_J

Date Analyzed (1): 11/24/2018 05:50 Date Analyzed (2): 11/24/2018 05:50

GC Column (1): CLP2 ID: 0.32(mm) GC Column (2): CLP1 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1016	1	1	3.28	3.03	3.53	2.01	1.92	2.8
		2	3.66	3.42	3.92	1.82		
		3	4.12	3.87	4.37	1.90		
		4	4.26	4.02	4.52	1.92		
		5	4.50	4.25	4.75	1.95		
	2	1	3.27	3.02	3.52	2.03	1.87	
		2	3.63	3.38	3.88	1.84		
		3	4.12	3.87	4.37	1.74		
		4	4.26	4.02	4.52	1.86		
		5	4.73	4.48	4.98	1.88		
PCB-1260	1	1	6.65	6.40	6.90	2.29	2.10	6.7
		2	7.11	6.87	7.37	2.49		
		3	7.64	7.40	7.90	1.87		
		4	8.01	7.76	8.26	1.90		
		5	8.52	8.27	8.77	1.93		
	2	1	6.25	6.00	6.50	2.14	1.96	
		2	6.99	6.75	7.25	2.29		
		3	7.49	7.24	7.74	1.77		
		4	7.93	7.68	8.18	1.71		
		5	8.32	8.08	8.58	1.90		

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW | Lab Sample ID: 280-116020-1

Matrix: Water | Lab File ID: 11231850.D

Analysis Method: 8082A | Date Collected: 10/24/2018 10:05

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 976(mL) | Date Analyzed: 11/24/2018 07:57

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438587 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	0.41	U M	1.0	0.41	0.13
11104-28-2	PCB-1221	0.26	U M	1.0	0.26	0.22
11141-16-5	PCB-1232	0.61	U M	1.0	0.61	0.17
53469-21-9	PCB-1242	0.31	U M	1.0	0.31	0.11
12672-29-6	PCB-1248	0.31	U Q M	1.0	0.31	0.094
11097-69-1	PCB-1254	0.26	U M	1.0	0.26	0.12
11096-82-5	PCB-1260	0.41	U M	1.0	0.41	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	74		25-120
2051-24-3	DCB Decachlorobiphenyl	84	Q	30-136

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231850.D
Lims ID: 280-116020-B-1-B
Client ID: DET-003-181001-GW
Sample Type: Client
Inject. Date: 24-Nov-2018 07:57:16 ALS Bottle#: 50 Worklist Smp#: 50
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-B-1-B
Misc. Info.: 280-0076484-050
Operator ID: ALS Instrument ID: SGC_J

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 26-Nov-2018 13:48:36 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: patadiab Date: 24-Nov-2018 12:26:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene						
1	1.970	1.968	0.002	35555929	1000.0	
2	1.751	1.749	0.002	185685670	1000.0	
					RPD = 0.00	
$ 14 Tetrachloro-m-xylene						
1	2.880	2.882	-0.002	11664988	12.6	
2	2.777	2.779	-0.002	35753096	14.7	
					RPD = 15.98	
3 PCB-1221						U
1		3.085			ND	
1		3.232				
1		3.269				
2		3.092				
2		3.222				
2		3.276				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
7	PCB-1232					U
1		3.088			ND	
1		3.271				
1		4.118				
1		4.264				
1		4.731				
2		3.275				
2		3.665				
2		4.121				
2		4.265				
2		4.928				
1	PCB-1016					U
1		3.272			ND	
1		3.632				
1		4.118				
1		4.265				
1		4.732				
2		3.275				
2		3.665				
2		4.119				
2		4.265				
2		4.495				
4	PCB-1248					U
1		3.629			ND	
1		4.115				
1		4.729				
1		5.505				
1		6.005				
2		4.119				
2		4.499				
2		4.789				
2		4.929				
2		6.102				
10	PCB-1242					U
1		3.631			ND	
1		4.117				
1		4.264				
1		5.237				
1		5.261				
2		3.664				
2		4.121				
2		4.264				
2		4.788				
2		4.928				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
9 PCB-1254						U
1		5.182			ND	
1		5.509				
1		5.849				
1		6.622				
1		6.995				
2		5.529				
2		5.952				
2		6.402				
2		6.649				
2		7.119				
5 PCB-1262						U
1		6.248			ND	
1		7.154				
1		7.488				
1		7.931				
1		8.321				
2		6.648				
2		7.248				
2		7.645				
2		8.011				
2		8.515				
12 PCB-1260						U
1		6.252			ND	
1		6.995				
1		7.492				
1		7.932				
1		8.325				
2		6.648				
2		7.115				
2		7.645				
2		8.012				
2		8.515				
13 PCB-1268						U
1		8.381			ND	
1		8.434				
1		8.707				
1		9.224				
1		9.637				
2		8.511				
2		8.574				
2		8.928				
2		9.358				
2		9.821				
$ 15 DCB Decachlorobiphenyl						
1	9.914	9.915	-0.001	11454585	15.7	
2	10.184	10.185	-0.001	46777976	16.9	
					RPD = 7.07	
S 8 Polychlorinated biphenyls, Total						
1		0.000			ND	
2		0.000				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
2 PCB-5460						
1		0.000			ND	
1		12.739				
1		0.000				
1		13.802				
1		14.259				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
6 PCB-5432						
1		7.063			ND	
1		7.693				
1		8.203				
1		9.029				
1		9.459				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
11 PCB-5442						
1		9.459			ND	
1		9.923				
1		10.079				
1		10.289				
1		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

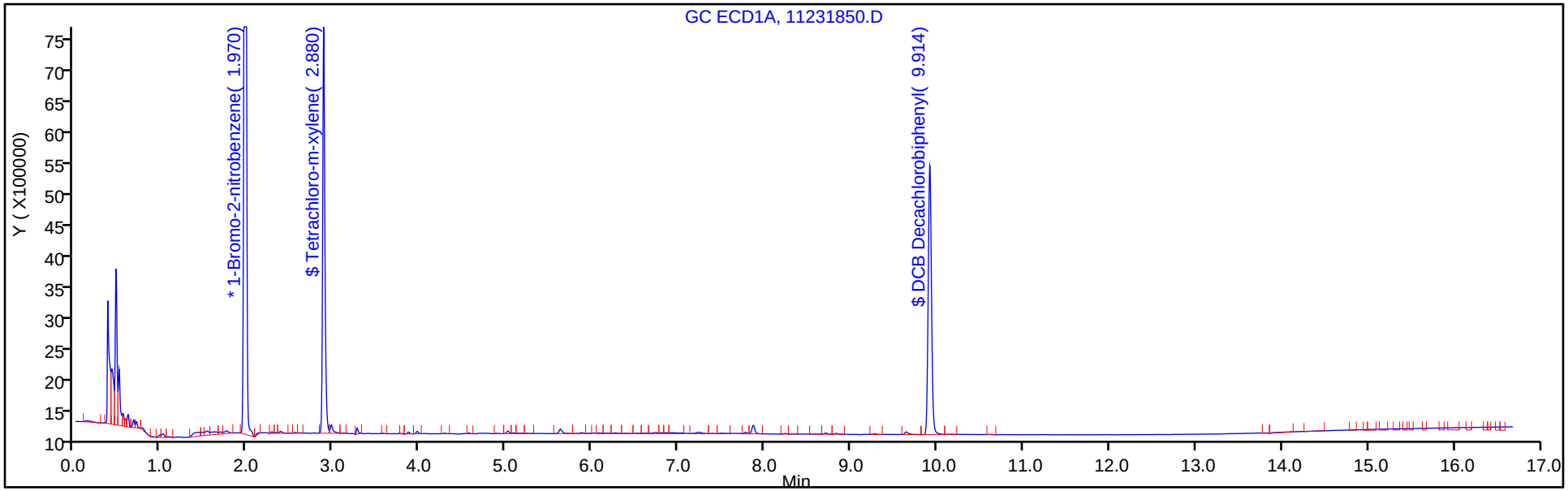
Report Date: 26-Nov-2018 13:48:43 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

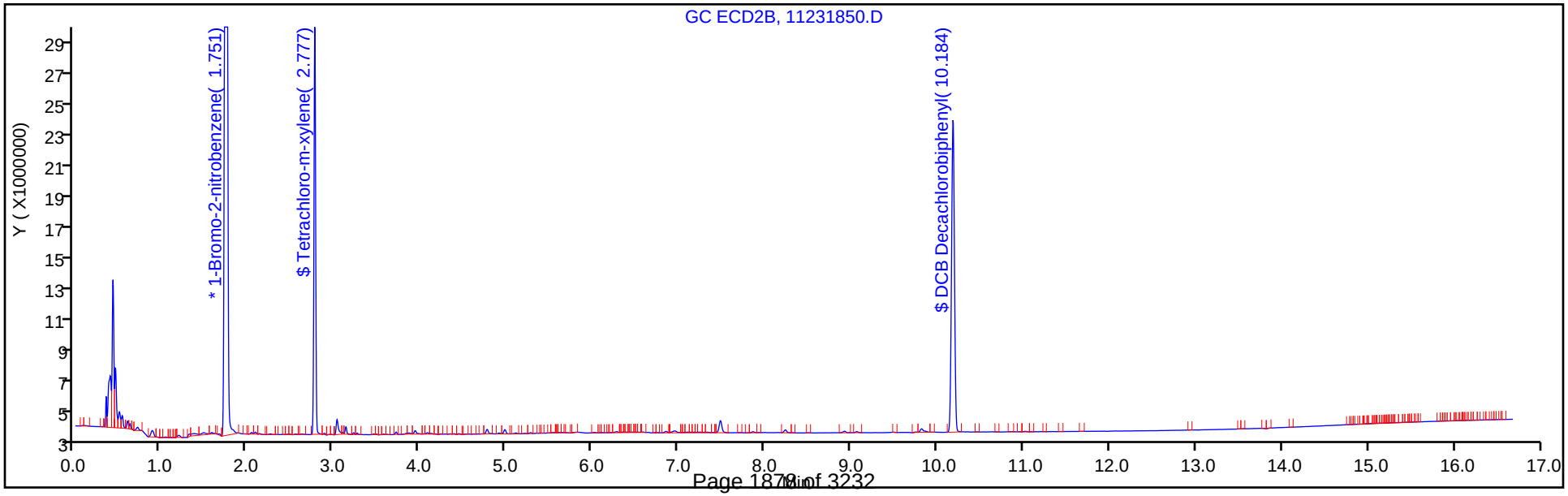
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231850.D

Injection Date:	24-Nov-2018 07:57:16	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	280-116020-B-1-B	Lab Sample ID:	280-116020-1	Worklist Smp#:	50
Client ID:	DET-003-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	50
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231850.D				
Lims ID:	280-116020-B-1-B				
Client ID:	DET-003-181001-GW				
Sample Type:	Client				
Inject. Date:	24-Nov-2018 07:57:16	ALS Bottle#:	50	Worklist Smp#:	50
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-B-1-B				
Misc. Info.:	280-0076484-050				
Operator ID:	ALS	Instrument ID:	SGC_J		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	26-Nov-2018 13:48:36	Calib Date:	21-Nov-2018 21:48:29		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0305				
First Level Reviewer: patadiab		Date:	24-Nov-2018 12:26:23		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	12.6	62.78
$ 15 DCB Decachlorobiphenyl	20.0	15.7	78.59

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	14.7	73.69
$ 15 DCB Decachlorobiphenyl	20.0	16.9	84.36

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181002-GW | Lab Sample ID: 280-116020-2

Matrix: Water | Lab File ID: 11231851.D

Analysis Method: 8082A | Date Collected: 10/24/2018 10:05

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 1013.2(mL) | Date Analyzed: 11/24/2018 08:18

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438587 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	0.39	U M	0.99	0.39	0.12
11104-28-2	PCB-1221	0.25	U M	0.99	0.25	0.21
11141-16-5	PCB-1232	0.59	U M	0.99	0.59	0.16
53469-21-9	PCB-1242	0.30	U M	0.99	0.30	0.10
12672-29-6	PCB-1248	0.30	U Q M	0.99	0.30	0.090
11097-69-1	PCB-1254	0.25	U M	0.99	0.25	0.11
11096-82-5	PCB-1260	0.39	U M	0.99	0.39	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	84		25-120
2051-24-3	DCB Decachlorobiphenyl	85	Q	30-136

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231851.D
Lims ID: 280-116020-A-2-A
Client ID: DET-003-181002-GW
Sample Type: Client
Inject. Date: 24-Nov-2018 08:18:30 ALS Bottle#: 51 Worklist Smp#: 51
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-2-A
Misc. Info.: 280-0076484-051
Operator ID: ALS Instrument ID: SGC_J

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 26-Nov-2018 13:48:36 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: patadiab Date: 24-Nov-2018 12:26:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene						
1	1.971	1.968	0.003	35185814	1000.0	
2	1.751	1.749	0.002	185254247	1000.0	
					RPD = 0.00	
$ 14 Tetrachloro-m-xylene						
1	2.881	2.882	-0.001	13459934	14.6	
2	2.778	2.779	-0.001	40505155	16.8	
					RPD = 13.97	
3 PCB-1221						U
1		3.085			ND	
1		3.232				
1		3.269				
2		3.092				
2		3.222				
2		3.276				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
7	PCB-1232					U
1		3.088			ND	
1		3.271				
1		4.118				
1		4.264				
1		4.731				
2		3.275				
2		3.665				
2		4.121				
2		4.265				
2		4.928				
1	PCB-1016					U
1		3.272			ND	
1		3.632				
1		4.118				
1		4.265				
1		4.732				
2		3.275				
2		3.665				
2		4.119				
2		4.265				
2		4.495				
4	PCB-1248					U
1		3.629			ND	
1		4.115				
1		4.729				
1		5.505				
1		6.005				
2		4.119				
2		4.499				
2		4.789				
2		4.929				
2		6.102				
10	PCB-1242					U
1		3.631			ND	
1		4.117				
1		4.264				
1		5.237				
1		5.261				
2		3.664				
2		4.121				
2		4.264				
2		4.788				
2		4.928				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
9 PCB-1254						U
1		5.182			ND	
1		5.509				
1		5.849				
1		6.622				
1		6.995				
2		5.529				
2		5.952				
2		6.402				
2		6.649				
2		7.119				
5 PCB-1262						U
1		6.248			ND	
1		7.154				
1		7.488				
1		7.931				
1		8.321				
2		6.648				
2		7.248				
2		7.645				
2		8.011				
2		8.515				
12 PCB-1260						U
1		6.252			ND	
1		6.995				
1		7.492				
1		7.932				
1		8.325				
2		6.648				
2		7.115				
2		7.645				
2		8.012				
2		8.515				
13 PCB-1268						U
1		8.381			ND	
1		8.434				
1		8.707				
1		9.224				
1		9.637				
2		8.511				
2		8.574				
2		8.928				
2		9.358				
2		9.821				
$ 15 DCB Decachlorobiphenyl						
1	9.915	9.915	0.000	11544432	16.0	
2	10.185	10.185	0.000	47103321	17.0	
					RPD = 6.14	
S 8 Polychlorinated biphenyls, Total						
1		0.000			ND	
2		0.000				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
2 PCB-5460						
1		0.000			ND	
1		12.739				
1		0.000				
1		13.802				
1		14.259				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
6 PCB-5432						
1		7.063			ND	
1		7.693				
1		8.203				
1		9.029				
1		9.459				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
11 PCB-5442						
1		9.459			ND	
1		9.923				
1		10.079				
1		10.289				
1		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

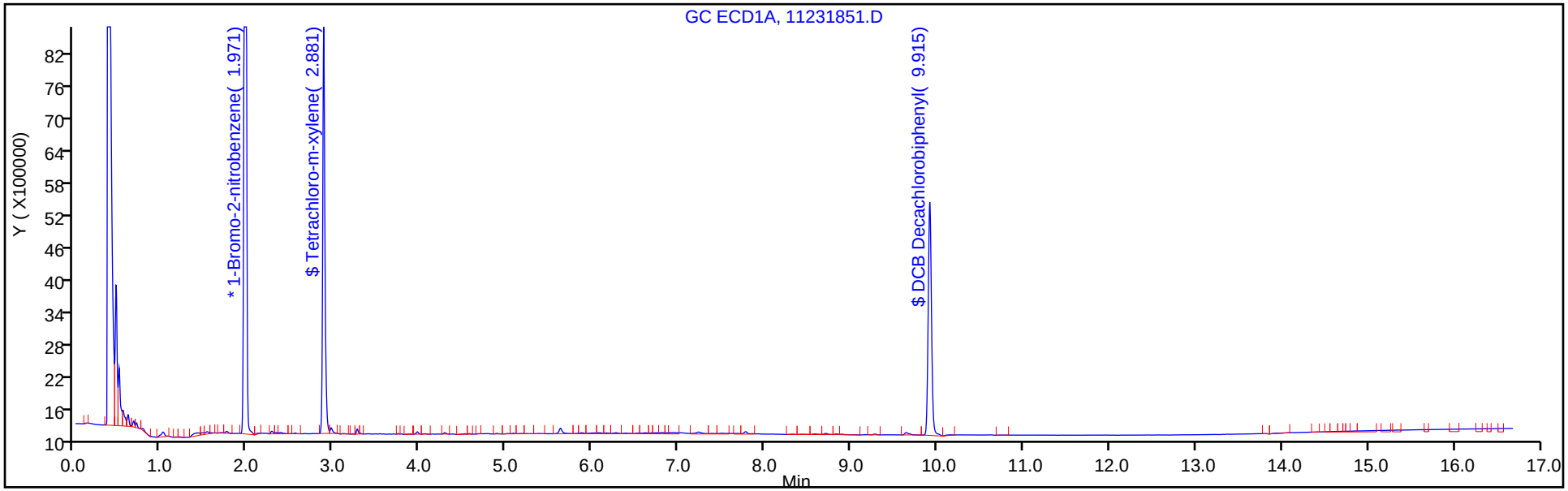
Report Date: 26-Nov-2018 13:48:45 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

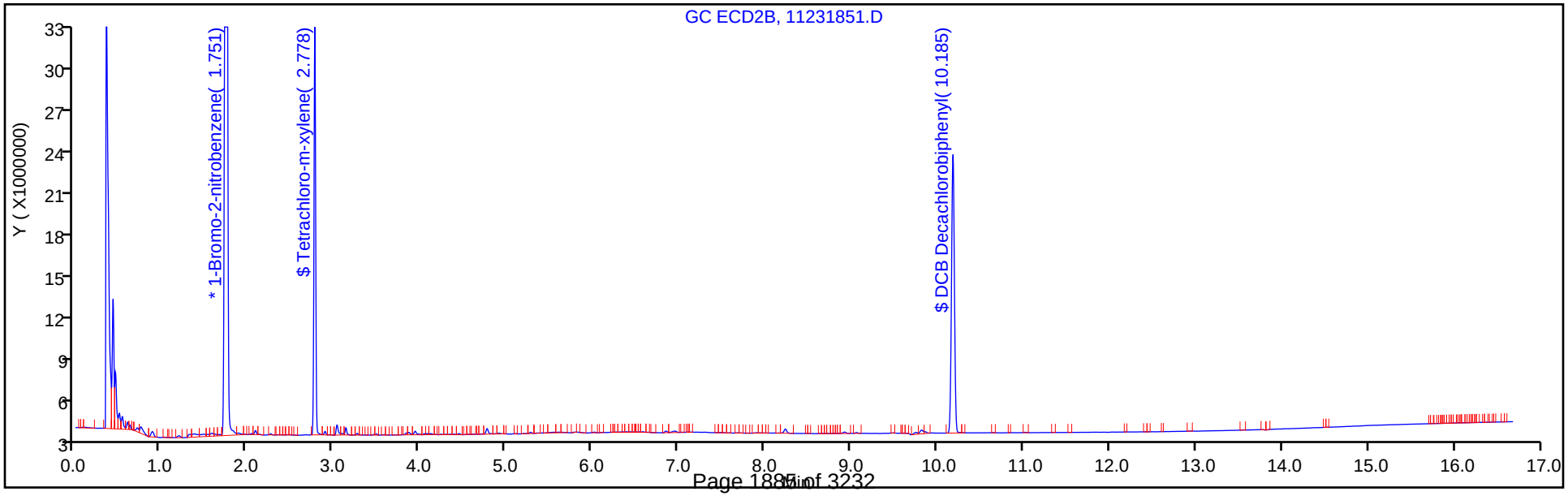
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231851.D

Injection Date:	24-Nov-2018 08:18:30	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	280-116020-A-2-A	Lab Sample ID:	280-116020-2	Worklist Smp#:	51
Client ID:	DET-003-181002-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	51
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231851.D				
Lims ID:	280-116020-A-2-A				
Client ID:	DET-003-181002-GW				
Sample Type:	Client				
Inject. Date:	24-Nov-2018 08:18:30	ALS Bottle#:	51	Worklist Smp#:	51
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-A-2-A				
Misc. Info.:	280-0076484-051				
Operator ID:	ALS	Instrument ID:	SGC_J		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	26-Nov-2018 13:48:36	Calib Date:	21-Nov-2018 21:48:29		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0305				
First Level Reviewer: patadiab		Date:	24-Nov-2018 12:26:38		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	14.6	73.11
$ 15 DCB Decachlorobiphenyl	20.0	16.0	80.10

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	16.8	84.08
$ 15 DCB Decachlorobiphenyl	20.0	17.0	85.17

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-004-181001-GW | Lab Sample ID: 280-116020-12

Matrix: Water | Lab File ID: 11231852.D

Analysis Method: 8082A | Date Collected: 10/24/2018 11:20

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 930.5(mL) | Date Analyzed: 11/24/2018 08:39

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438587 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	0.43	U M	1.1	0.43	0.13
11104-28-2	PCB-1221	0.27	U M	1.1	0.27	0.23
11141-16-5	PCB-1232	0.64	U M	1.1	0.64	0.18
53469-21-9	PCB-1242	0.32	U M	1.1	0.32	0.11
12672-29-6	PCB-1248	0.32	U Q M	1.1	0.32	0.098
11097-69-1	PCB-1254	0.27	U M	1.1	0.27	0.12
11096-82-5	PCB-1260	0.43	U M	1.1	0.43	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	86		25-120
2051-24-3	DCB Decachlorobiphenyl	108	Q	30-136

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231852.D
Lims ID: 280-116020-A-12-A
Client ID: DET-004-181001-GW
Sample Type: Client
Inject. Date: 24-Nov-2018 08:39:42 ALS Bottle#: 52 Worklist Smp#: 52
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-12-
Misc. Info.: 280-0076484-052
Operator ID: ALS Instrument ID: SGC_J

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 26-Nov-2018 13:48:36 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: patadiab Date: 24-Nov-2018 12:26:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene						
1	1.968	1.968	0.000	30981585	1000.0	
2	1.745	1.749	-0.004	166605619	1000.0	
					RPD = 0.00	
$ 14 Tetrachloro-m-xylene						
1	2.882	2.882	0.000	12079866	14.9	
2	2.779	2.779	0.000	37322103	17.2	
					RPD = 14.58	
3 PCB-1221						U
1		3.085			ND	
1		3.232				
1		3.269				
2		3.092				
2		3.222				
2		3.276				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
7	PCB-1232					U
1		3.088			ND	
1		3.271				
1		4.118				
1		4.264				
1		4.731				
2		3.275				
2		3.665				
2		4.121				
2		4.265				
2		4.928				
1	PCB-1016					U
1		3.272			ND	
1		3.632				
1		4.118				
1		4.265				
1		4.732				
2		3.275				
2		3.665				
2		4.119				
2		4.265				
2		4.495				
4	PCB-1248					U
1		3.629			ND	
1		4.115				
1		4.729				
1		5.505				
1		6.005				
2		4.119				
2		4.499				
2		4.789				
2		4.929				
2		6.102				
10	PCB-1242					U
1		3.631			ND	
1		4.117				
1		4.264				
1		5.237				
1		5.261				
2		3.664				
2		4.121				
2		4.264				
2		4.788				
2		4.928				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
9 PCB-1254						U
1		5.182			ND	
1		5.509				
1		5.849				
1		6.622				
1		6.995				
2		5.529				
2		5.952				
2		6.402				
2		6.649				
2		7.119				
5 PCB-1262						U
1		6.248			ND	
1		7.154				
1		7.488				
1		7.931				
1		8.321				
2		6.648				
2		7.248				
2		7.645				
2		8.011				
2		8.515				
12 PCB-1260						U
1		6.252			ND	
1		6.995				
1		7.492				
1		7.932				
1		8.325				
2		6.648				
2		7.115				
2		7.645				
2		8.012				
2		8.515				
13 PCB-1268						U
1		8.381			ND	
1		8.434				
1		8.707				
1		9.224				
1		9.637				
2		8.511				
2		8.574				
2		8.928				
2		9.358				
2		9.821				
$ 15 DCB Decachlorobiphenyl						
1	9.915	9.915	0.000	12986431	20.6	
2	10.185	10.185	0.000	53097917	21.5	
					RPD = 4.29	
S 8 Polychlorinated biphenyls, Total						
1		0.000			ND	
2		0.000				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
2 PCB-5460						
1		0.000			ND	
1		12.739				
1		0.000				
1		13.802				
1		14.259				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
6 PCB-5432						
1		7.063			ND	
1		7.693				
1		8.203				
1		9.029				
1		9.459				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
11 PCB-5442						
1		9.459			ND	
1		9.923				
1		10.079				
1		10.289				
1		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

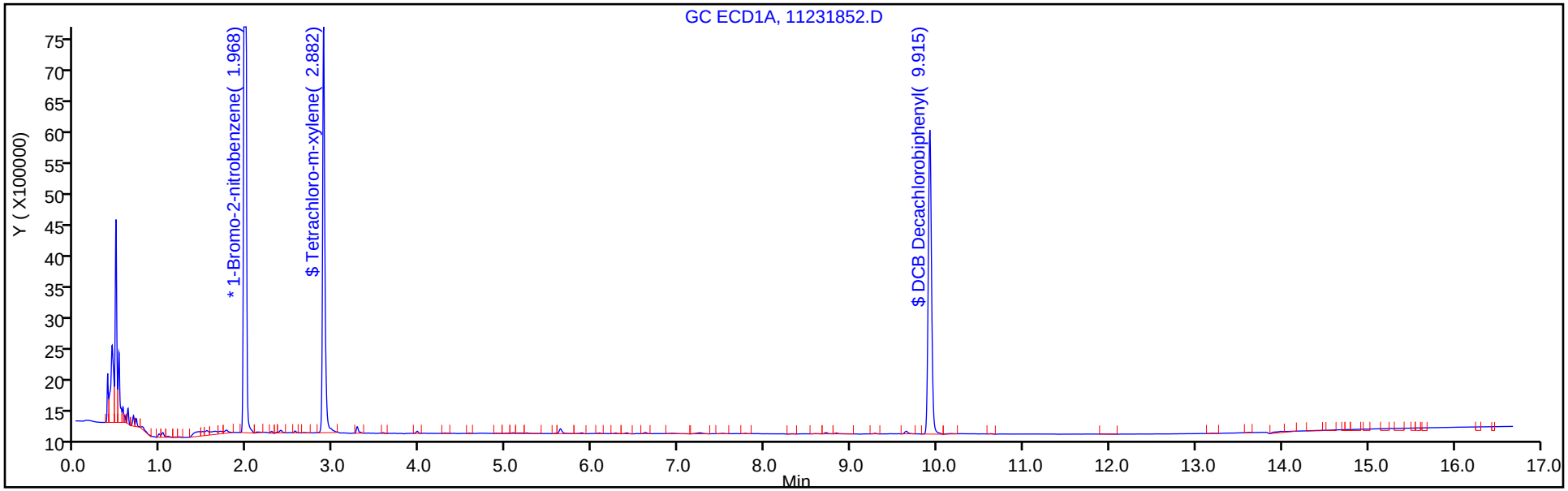
Report Date: 26-Nov-2018 13:48:46 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

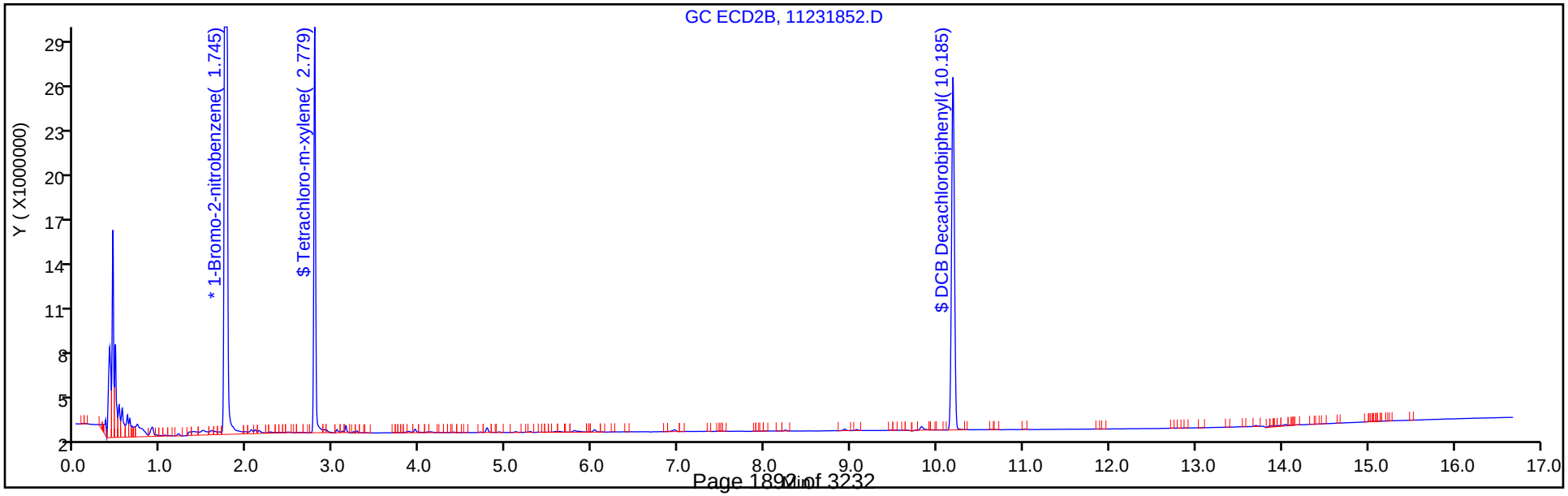
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231852.D

Injection Date:	24-Nov-2018 08:39:42	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	280-116020-A-12-A	Lab Sample ID:	280-116020-12	Worklist Smp#:	52
Client ID:	DET-004-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	52
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231852.D				
Lims ID:	280-116020-A-12-A				
Client ID:	DET-004-181001-GW				
Sample Type:	Client				
Inject. Date:	24-Nov-2018 08:39:42	ALS Bottle#:	52	Worklist Smp#:	52
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-A-12-				
Misc. Info.:	280-0076484-052				
Operator ID:	ALS	Instrument ID:	SGC_J		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	26-Nov-2018 13:48:36	Calib Date:	21-Nov-2018 21:48:29		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0305				
First Level Reviewer: patadiab		Date:	24-Nov-2018 12:26:57		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	14.9	74.50
$ 15 DCB Decachlorobiphenyl	20.0	20.6	103.14

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	17.2	86.22
$ 15 DCB Decachlorobiphenyl	20.0	21.5	107.66

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 09:48 Calibration End Date: 11/21/2018 11:55 Calibration ID: 34378

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11248 280-438388/10	11211810.D
Level 2	STDL21248 280-438388/9	11211809.D
Level 3	STDL31248 280-438388/8	11211808.D
Level 4	STDL41248 280-438388/7	11211807.D
Level 5	STDL51248 280-438388/6	11211806.D
Level 6	STDL61248 280-438388/5	11211805.D
Level 7	STDL71248 280-438388/4	11211804.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1248 Peak 1	0.7122 0.4127	0.6118 0.4011	0.5704	0.4630	0.4556	Lin1	9.8720	0.4076							0.9960		0.9900
PCB-1248 Peak 2	1.0403 0.8770	0.9550 0.9026	1.0280	0.8779	0.9242	Lin1	4.6019	0.8921							0.9990		0.9900
PCB-1248 Peak 3	1.2895 0.9992	1.1836 1.0099	1.2299	1.0238	1.0668	Lin1	9.5371	1.0079							0.9980		0.9900
PCB-1248 Peak 4	0.8968 0.6951	0.8199 0.7107	0.8337	0.7223	0.7530	Lin1	6.0934	0.7077							0.9990		0.9900
PCB-1248 Peak 5	0.5801 0.4479	0.5241 0.4719	0.5587	0.4626	0.4874	Lin1	3.7614	0.4626							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 09:48 Calibration End Date: 11/21/2018 11:55 Calibration ID: 34378

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11248 280-438388/10	11211810.D
Level 2	STDL21248 280-438388/9	11211809.D
Level 3	STDL31248 280-438388/8	11211808.D
Level 4	STDL41248 280-438388/7	11211807.D
Level 5	STDL51248 280-438388/6	11211806.D
Level 6	STDL61248 280-438388/5	11211805.D
Level 7	STDL71248 280-438388/4	11211804.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1248 Peak 1	BNB	Lin1	499158 9442915	908243 11858019	1647978	3572971	6545537	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 2	BNB	Lin1	729109 20068466	1417622 26688023	2970012	6774612	13279339	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 3	BNB	Lin1	903744 22864792	1757060 29858711	3553415	7900982	15327875	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 4	BNB	Lin1	628528 15905035	1217158 21012955	2408573	5573784	10818763	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 5	BNB	Lin1	406565 10248925	778039 13952293	1614155	3570034	7003033	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211804.D
Lims ID: STDL71248
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Nov-2018 09:48:04 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL71248
Misc. Info.: 280-0076428-004
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:01:49 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 21-Nov-2018 11:00:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.971	1.967	0.004	29567346	1000.0	1000.0	
2	1.748	1.744	0.004	169218357	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.631	3.629	0.002	11858019	1000.0	959.6	
1	4.114	4.115	-0.001	26688023	1000.0	1006.7	
1	4.731	4.729	0.002	29858711	1000.0	992.4	
1	5.504	5.505	-0.001	21012955	1000.0	995.6	
1	6.004	6.005	-0.001	13952293	1000.0	1012.0	
		Average of Peak Amounts =				993.3	
2	4.121	4.119	0.002	83375893	1000.0	957.5	
2	4.498	4.499	-0.001	49673627	1000.0	973.7	
2	4.791	4.789	0.002	68034804	1000.0	970.6	
2	4.927	4.929	-0.002	74524210	1000.0	959.9	
2	6.101	6.102	-0.001	51421671	1000.0	963.6	
		Average of Peak Amounts =				965.0	
						RPD = 2.88	
S 8 Polychlorinated biphenyls, Total							
1						993.3	
2						965.0	
						RPD = 2.88	

Reagents:

AR_1248_L7_00017	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

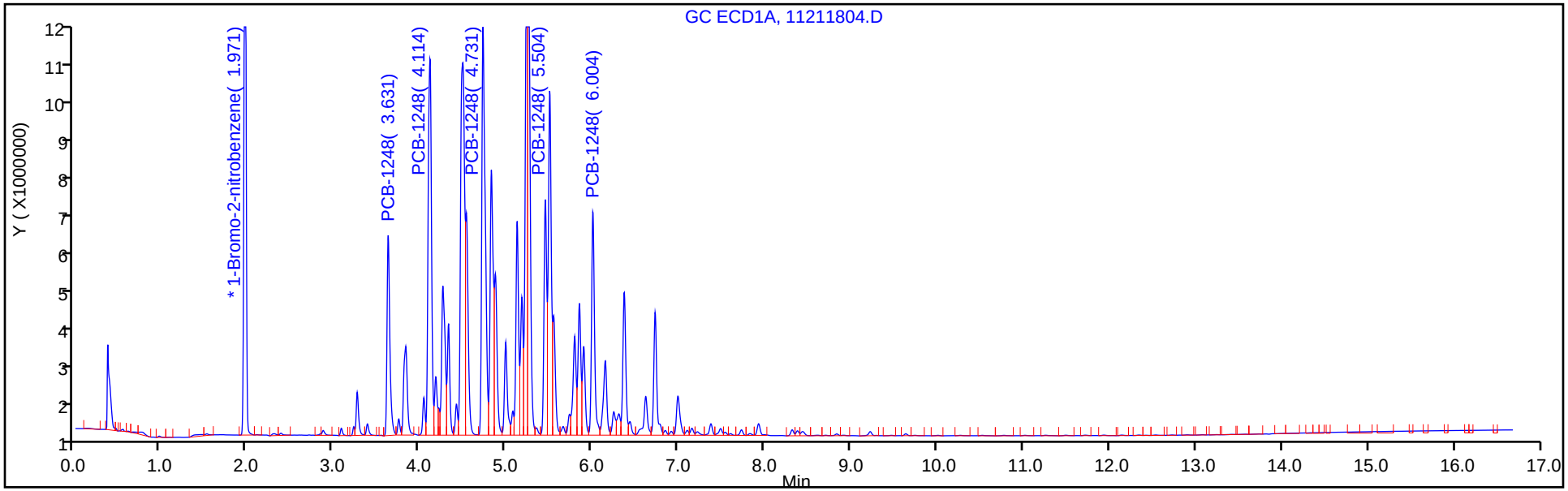
Report Date: 23-Nov-2018 11:01:49 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

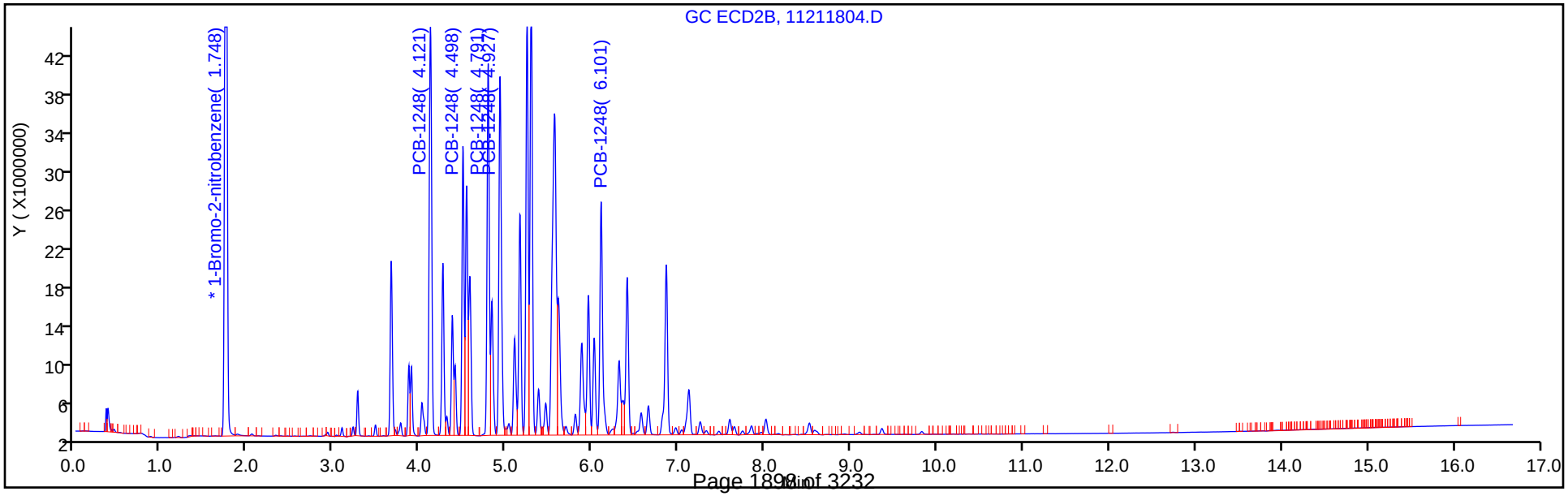
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211804.D

Injection Date:	21-Nov-2018 09:48:04	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL71248			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211805.D
Lims ID: STDL61248
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Nov-2018 10:09:17 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL61248
Misc. Info.: 280-0076428-005
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:01:51 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 21-Nov-2018 11:05:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.971	1.967	0.004	30510716	1000.0	1000.0	
2	1.748	1.744	0.004	173614890	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							M
1	3.631	3.629	0.002	9442915	750.0	735.0	
1	4.115	4.115	0.000	20068466	750.0	732.2	
1	4.731	4.729	0.002	22864792	750.0	734.0	
1	5.505	5.505	0.000	15905035	750.0	728.0	M
1	6.005	6.005	0.000	10248925	750.0	718.0	
		Average of Peak Amounts =				729.5	
2	4.118	4.119	-0.001	66929326	750.0	745.5	
2	4.498	4.499	-0.001	38624976	750.0	733.4	
2	4.791	4.789	0.002	53290956	750.0	736.2	
2	4.928	4.929	-0.001	59463126	750.0	742.7	
2	6.101	6.102	-0.001	40520608	750.0	736.4	
		Average of Peak Amounts =				738.8	
						RPD = 1.28	
S 8 Polychlorinated biphenyls, Total							
1						729.5	
2						738.8	
						RPD = 1.28	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1248_L6_00019	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

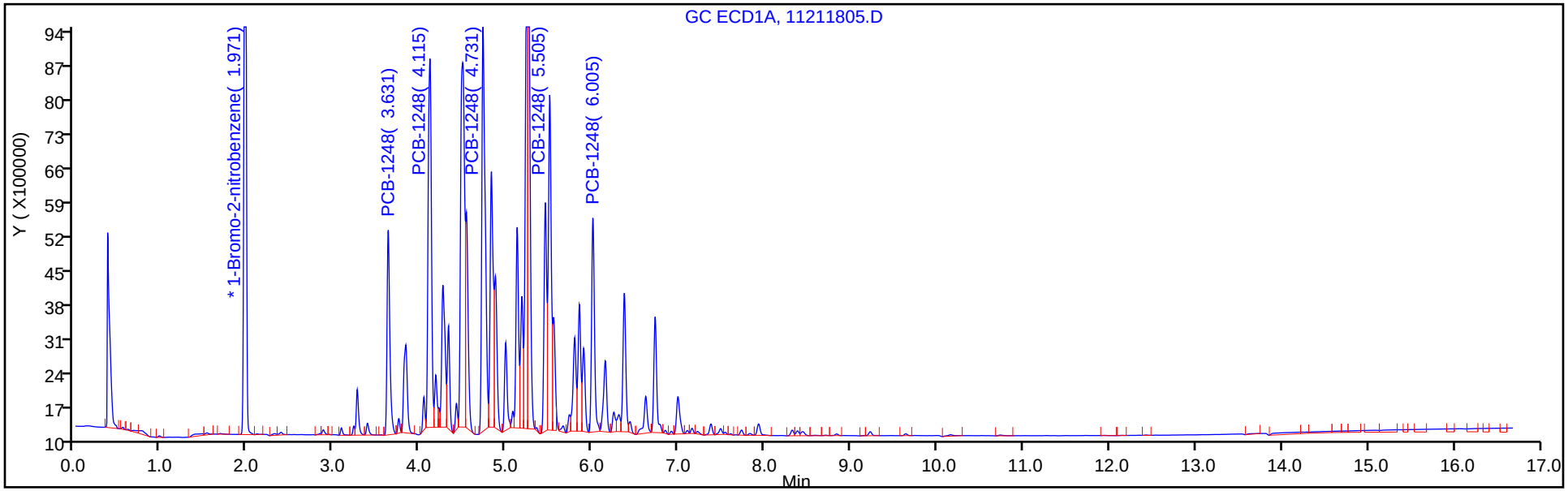
Report Date: 23-Nov-2018 11:01:52 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

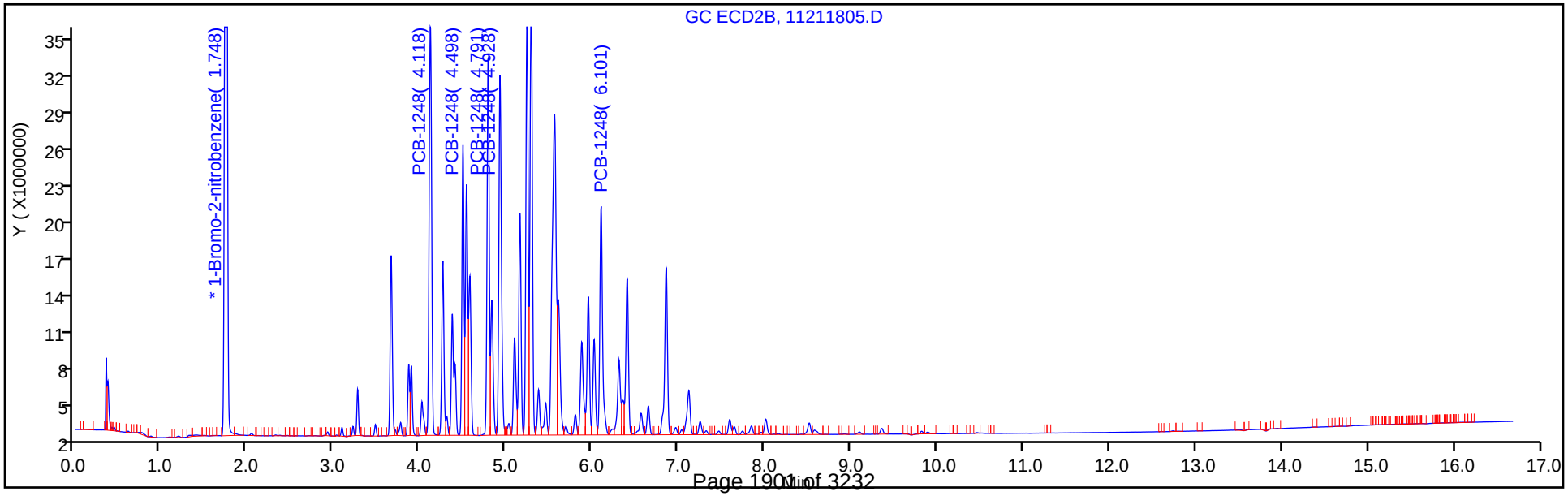
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211805.D

Injection Date:	21-Nov-2018 10:09:17	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL61248			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 23-Nov-2018 11:01:52 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211805.D

Injection Date: 21-Nov-2018 10:09:17 Instrument ID: SGC_J

Lims ID: STDL61248

Client ID:

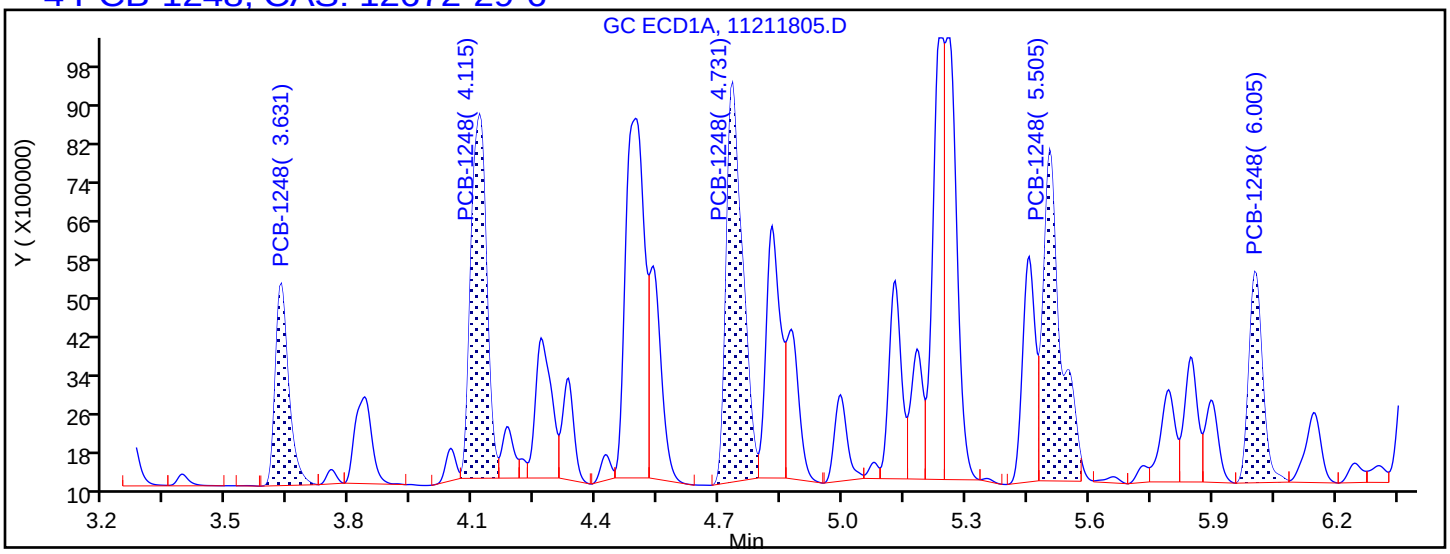
Operator ID: ALS ALS Bottle#: 5 Worklist Smp#: 5

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

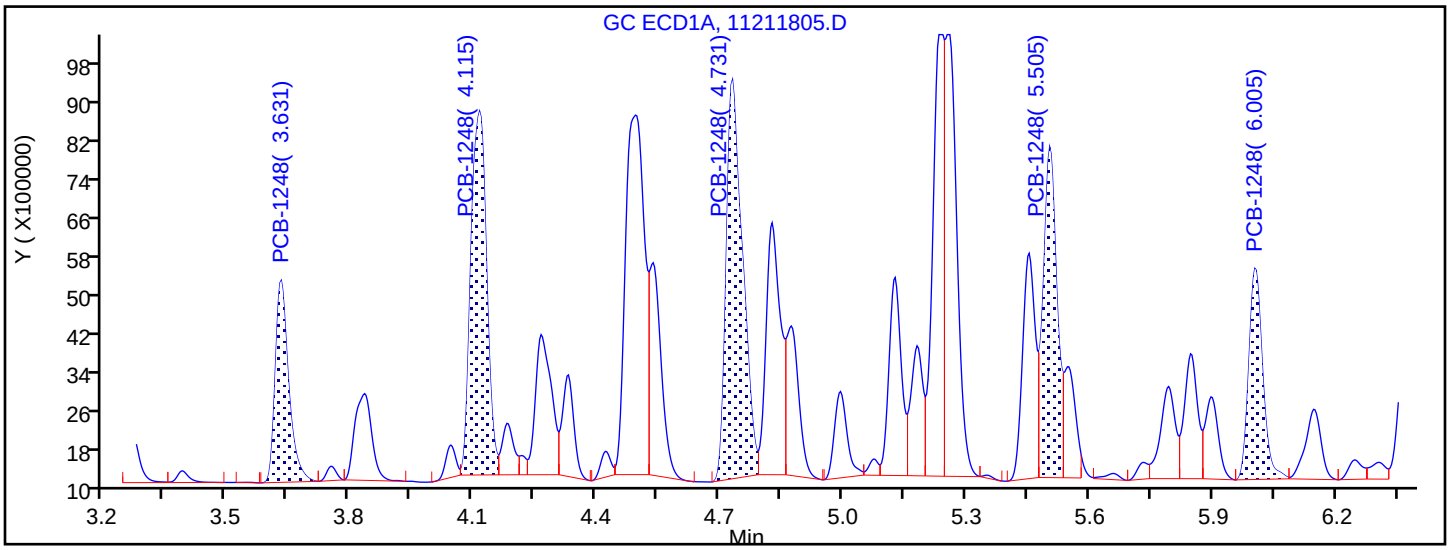
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

4 PCB-1248, CAS: 12672-29-6



Processing Integration Results

3.631	Response = 9442915
4.115	Response = 20068466
4.731	Response = 22864792
5.505	Response = 20328921
6.005	Response = 10248925



Manual Integration Results

3.631	Response = 9442915	
4.115	Response = 20068466	
4.731	Response = 22864792	
5.505	Response = 15905035	M
6.005	Response = 10248925	

Reviewer: patadiab, 21-Nov-2018 11:04:58

Audit Action: Split an Integrated Peak Audit Reason: Shouldering

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211806.D
Lims ID: STDL51248
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Nov-2018 10:30:25 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL51248
Misc. Info.: 280-0076428-006
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:01:53 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 21-Nov-2018 11:00:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	28736785	1000.0	1000.0	
2	1.745	1.745	0.000	164020581	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							M
1	3.629	3.629	0.000	6545537	500.0	534.6	
1	4.115	4.115	0.000	13279339	500.0	512.9	
1	4.729	4.729	0.000	15327875	500.0	519.7	
1	5.505	5.505	0.000	10818763	500.0	523.3	M
1	6.005	6.005	0.000	7003033	500.0	518.7	
		Average of Peak Amounts =				521.8	
2	4.119	4.119	0.000	45483505	500.0	531.6	
2	4.499	4.499	0.000	26585884	500.0	529.3	
2	4.789	4.789	0.000	36645923	500.0	530.3	
2	4.929	4.929	0.000	40664465	500.0	532.9	
2	6.102	6.102	0.000	28205008	500.0	538.4	
		Average of Peak Amounts =				532.5	
						RPD = 2.02	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

AR_1248_L5_00021 Amount Added: 1.00 Units: mL
BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

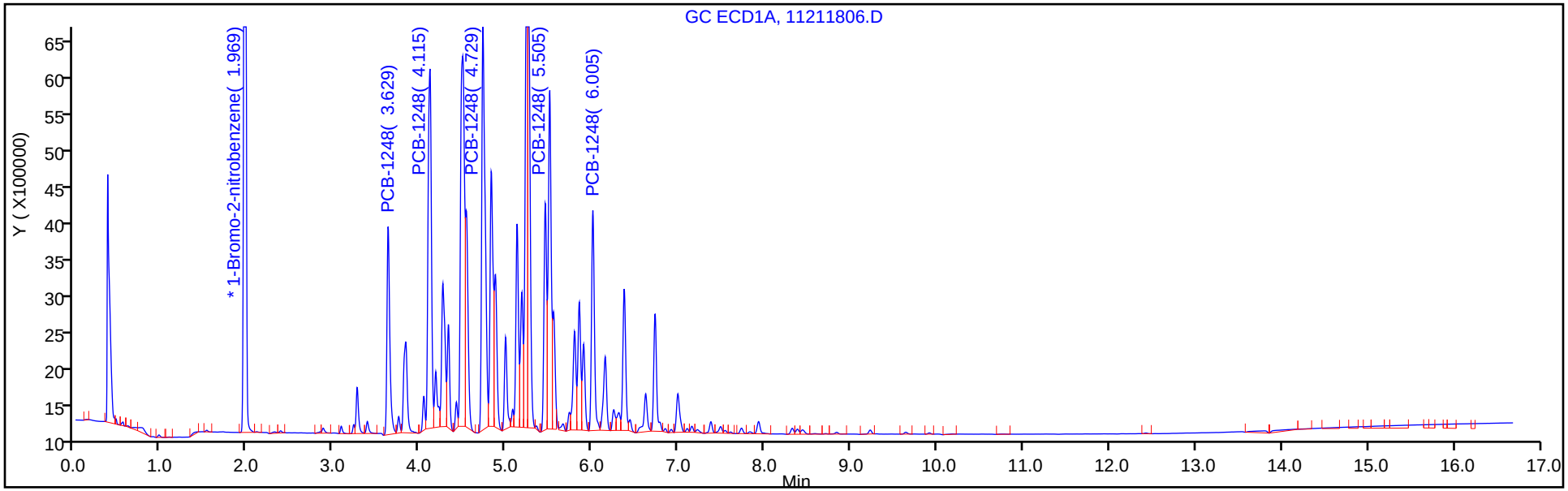
Report Date: 23-Nov-2018 11:01:54 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

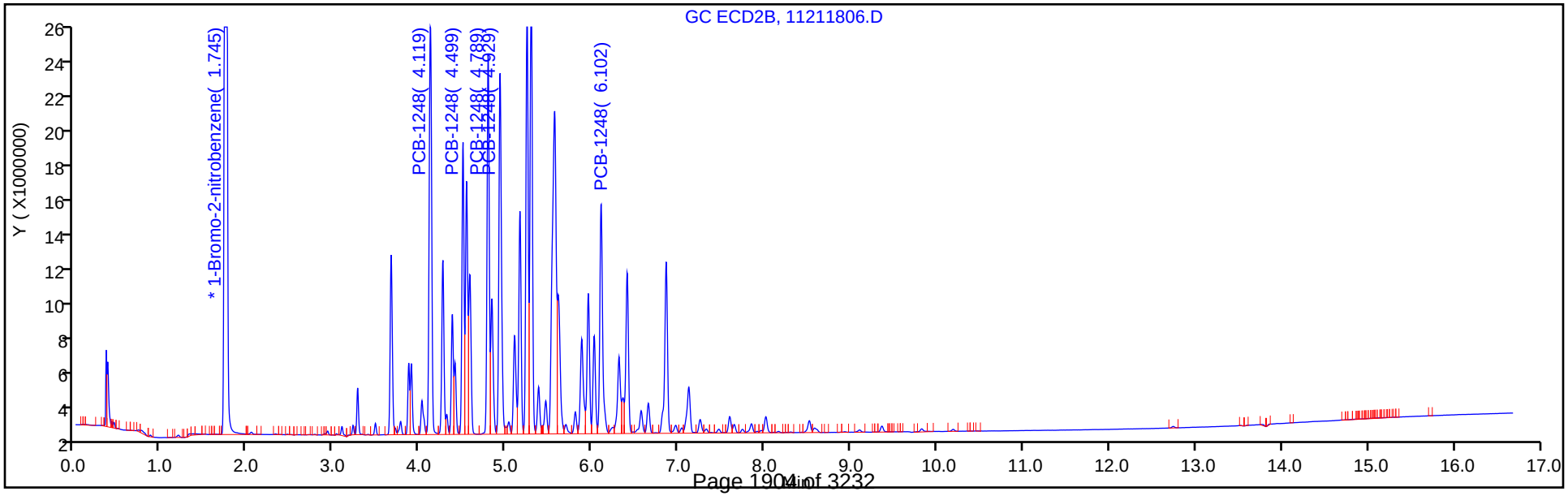
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211806.D

Injection Date:	21-Nov-2018 10:30:25	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL51248			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 23-Nov-2018 11:01:54 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211806.D

Injection Date: 21-Nov-2018 10:30:25 Instrument ID: SGC_J

Lims ID: STDL51248

Client ID:

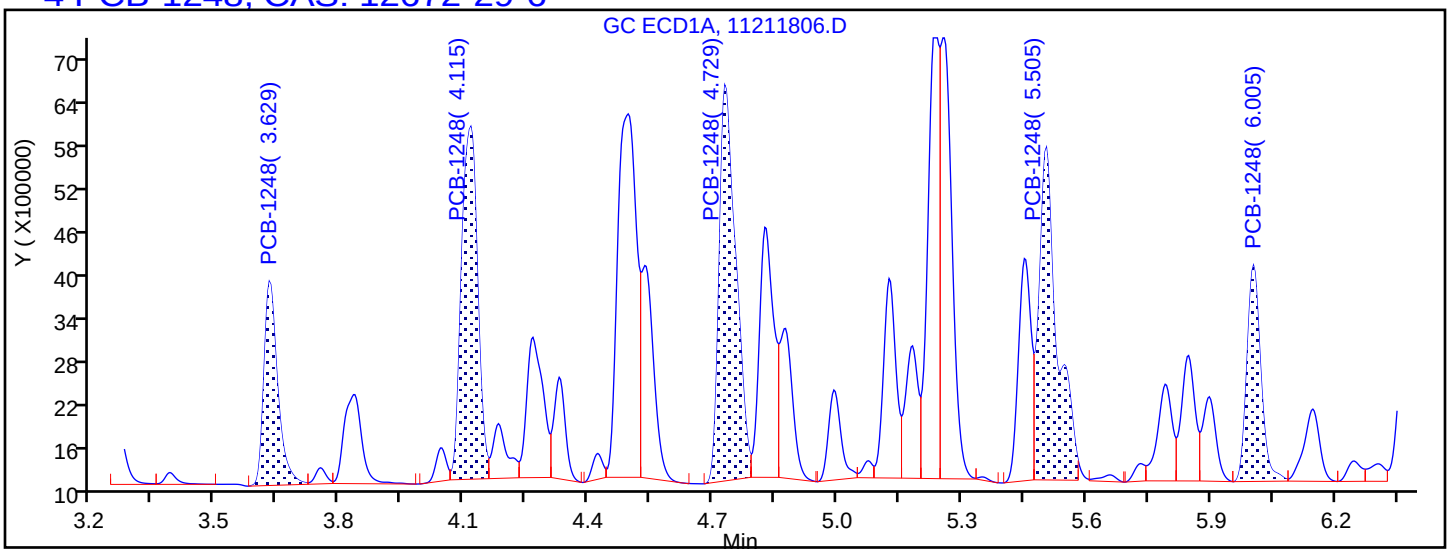
Operator ID: ALS ALS Bottle#: 6 Worklist Smp#: 6

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

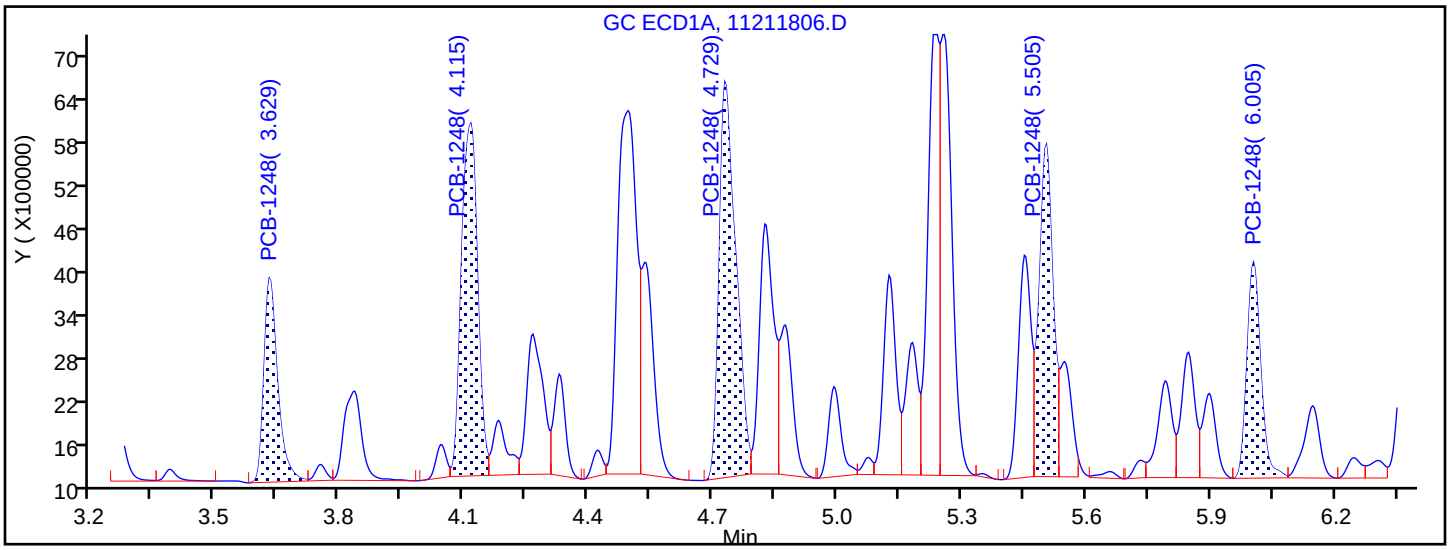
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

4 PCB-1248, CAS: 12672-29-6



Processing Integration Results

3.629	Response = 6545537
4.115	Response = 13279339
4.729	Response = 15327875
5.505	Response = 14072476
6.005	Response = 7003033



Manual Integration Results

3.629	Response = 6545537	
4.115	Response = 13279339	
4.729	Response = 15327875	
5.505	Response = 10818763	M
6.005	Response = 7003033	

Reviewer: mooret, 21-Nov-2018 15:16:01

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211807.D
Lims ID: STDL41248
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Nov-2018 10:51:35 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL41248
Misc. Info.: 280-0076428-007
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:01:55 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:16:19

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.969	-0.001	30868128	1000.0	1000.0	
2	1.748	1.745	0.003	175701150	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.631	3.629	0.002	3572971	250.0	259.7	
1	4.114	4.115	-0.001	6774612	250.0	240.9	
1	4.731	4.729	0.002	7900982	250.0	244.5	
1	5.504	5.505	-0.001	5573784	250.0	246.5	
1	6.004	6.005	-0.001	3570034	250.0	241.9	
		Average of Peak Amounts =				246.7	
2	4.121	4.119	0.002	24413334	250.0	258.1	
2	4.498	4.499	-0.001	14232505	250.0	255.2	
2	4.791	4.789	0.002	19636547	250.0	255.1	
2	4.928	4.929	-0.001	21701862	250.0	256.9	
2	6.101	6.102	-0.001	14716689	250.0	254.0	
		Average of Peak Amounts =				255.9	
						RPD = 3.64	
S 8 Polychlorinated biphenyls, Total							
1						246.7	
2						255.9	
						RPD = 3.64	

Reagents:

AR_1248_L4_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

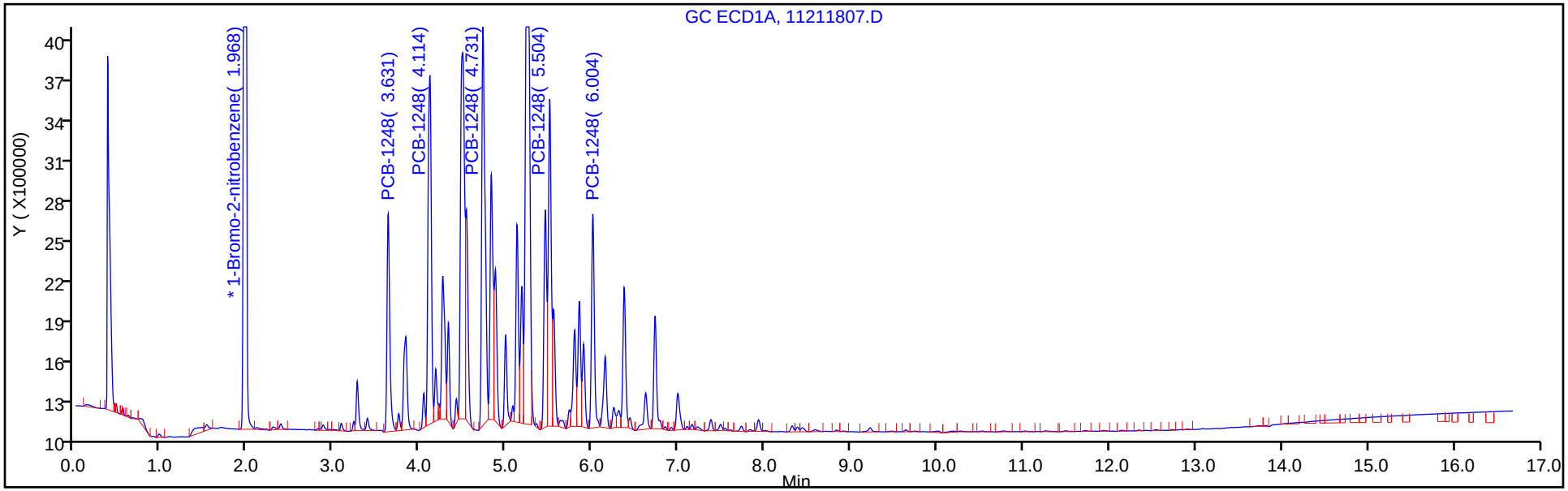
Report Date: 23-Nov-2018 11:01:56 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

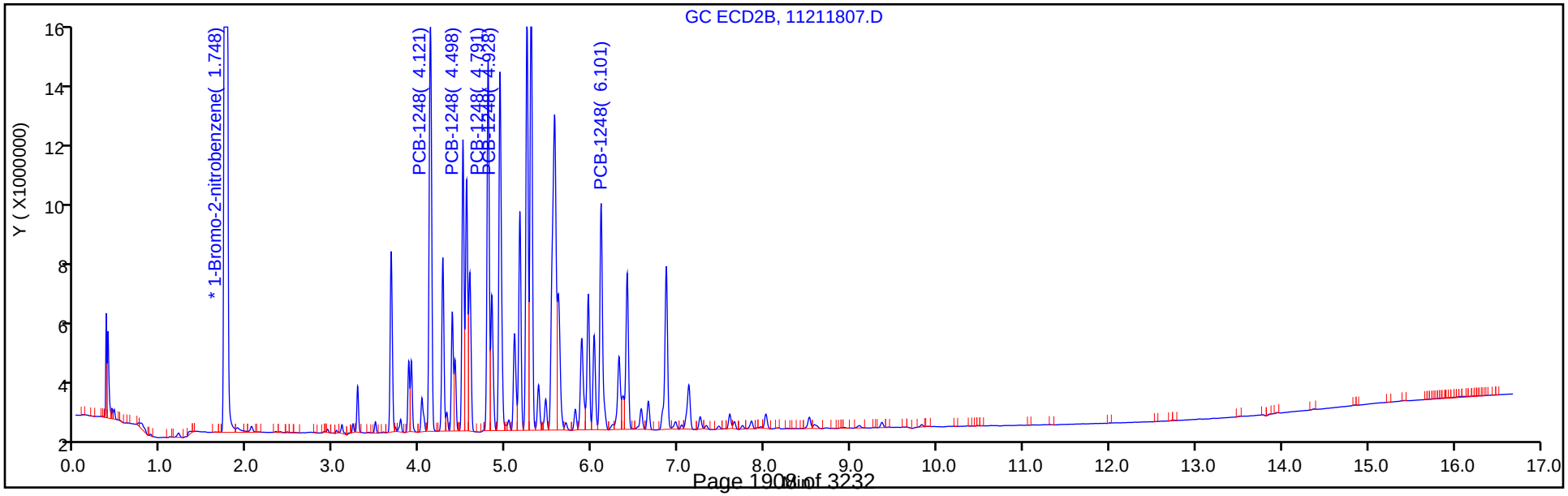
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211807.D

Injection Date:	21-Nov-2018 10:51:35	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL41248			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211808.D
Lims ID: STDL31248
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Nov-2018 11:12:45 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL31248
Misc. Info.: 280-0076428-008
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:01:58 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 21-Nov-2018 11:41:03

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.969	0.001	28891546	1000.0	1000.0	
2	1.746	1.745	0.001	164562398	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.630	3.629	0.001	1647978	100.0	115.7	
1	4.113	4.115	-0.002	2970012	100.0	110.1	
1	4.730	4.729	0.001	3553415	100.0	112.6	
1	5.506	5.505	0.001	2408573	100.0	109.2	
1	6.006	6.005	0.001	1614155	100.0	112.6	
		Average of Peak Amounts =				112.0	
2	4.120	4.119	0.001	10526463	100.0	109.8	
2	4.500	4.499	0.001	6322335	100.0	111.3	
2	4.790	4.789	0.001	8735777	100.0	110.4	
2	4.930	4.929	0.001	9459919	100.0	110.4	
2	6.103	6.102	0.001	6426439	100.0	109.9	
		Average of Peak Amounts =				110.4	
						RPD = 1.50	
S 8 Polychlorinated biphenyls, Total							
1						112.0	
2						110.4	
						RPD = 1.50	

Reagents:

AR_1248_L3_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

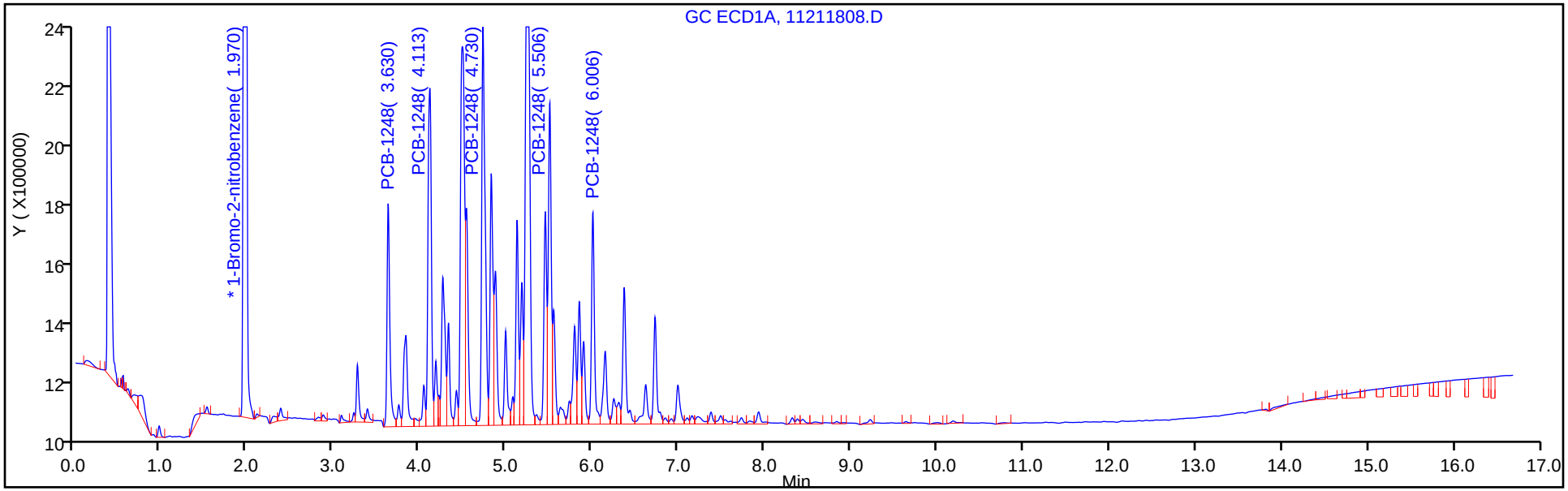
Report Date: 23-Nov-2018 11:01:58 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

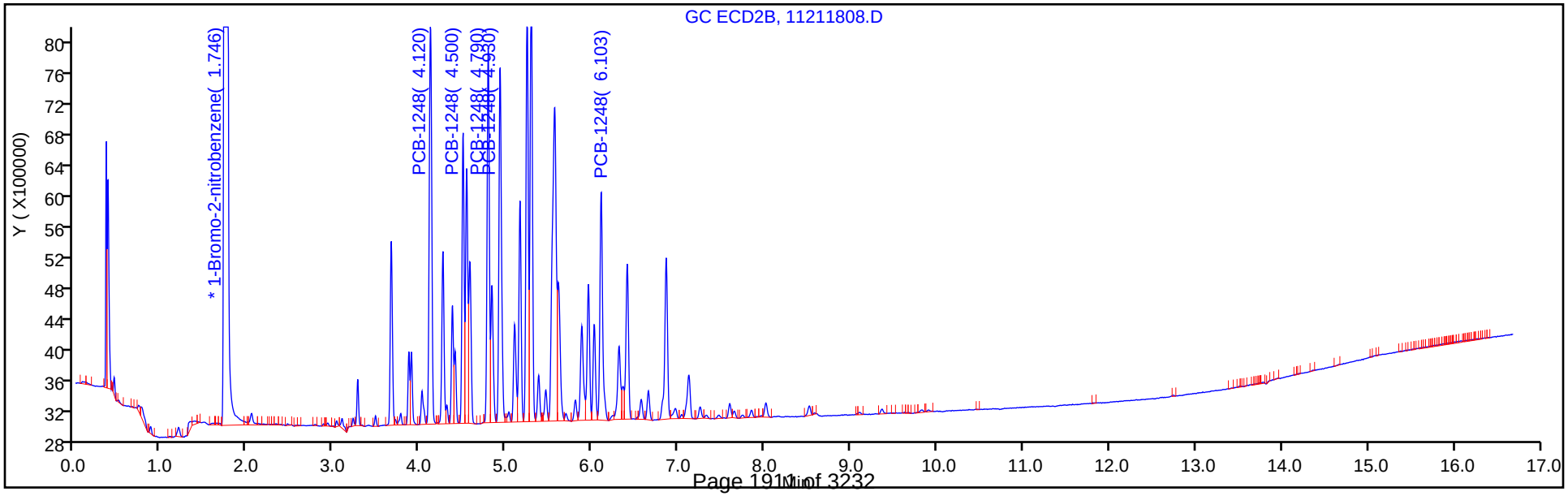
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211808.D

Injection Date:	21-Nov-2018 11:12:45	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL31248			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211809.D
Lims ID: STDL21248
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Nov-2018 11:33:58 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL21248
Misc. Info.: 280-0076428-009
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:01:59 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 21-Nov-2018 11:58:44

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.969	-0.001	29689350	1000.0	1000.0	
2	1.748	1.745	0.003	167941963	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.631	3.629	0.002	908243	50.0	50.8	
1	4.111	4.115	-0.004	1417622	50.0	48.4	
1	4.728	4.729	-0.001	1757060	50.0	49.3	
1	5.505	5.505	0.000	1217158	50.0	49.3	
1	6.005	6.005	0.000	778039	50.0	48.5	
		Average of Peak Amounts =				49.3	
2	4.121	4.119	0.002	5857367	50.0	52.3	
2	4.498	4.499	-0.001	3480448	50.0	51.5	
2	4.791	4.789	0.002	4913700	50.0	51.7	
2	4.928	4.929	-0.001	5227558	50.0	51.9	
2	6.101	6.102	-0.001	3543306	50.0	52.0	
		Average of Peak Amounts =				51.9	
						RPD = 5.21	
S 8 Polychlorinated biphenyls, Total							
1						49.3	
2						51.9	
						RPD = 5.21	

Reagents:

AR_1248_L2_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

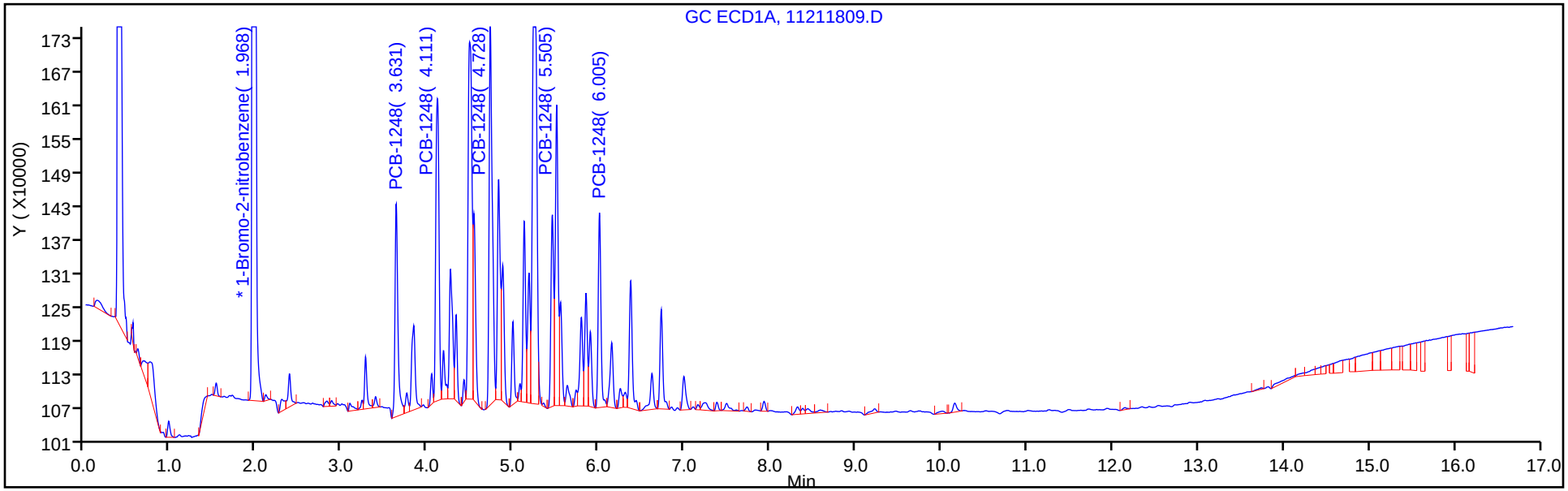
Report Date: 23-Nov-2018 11:02:00 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

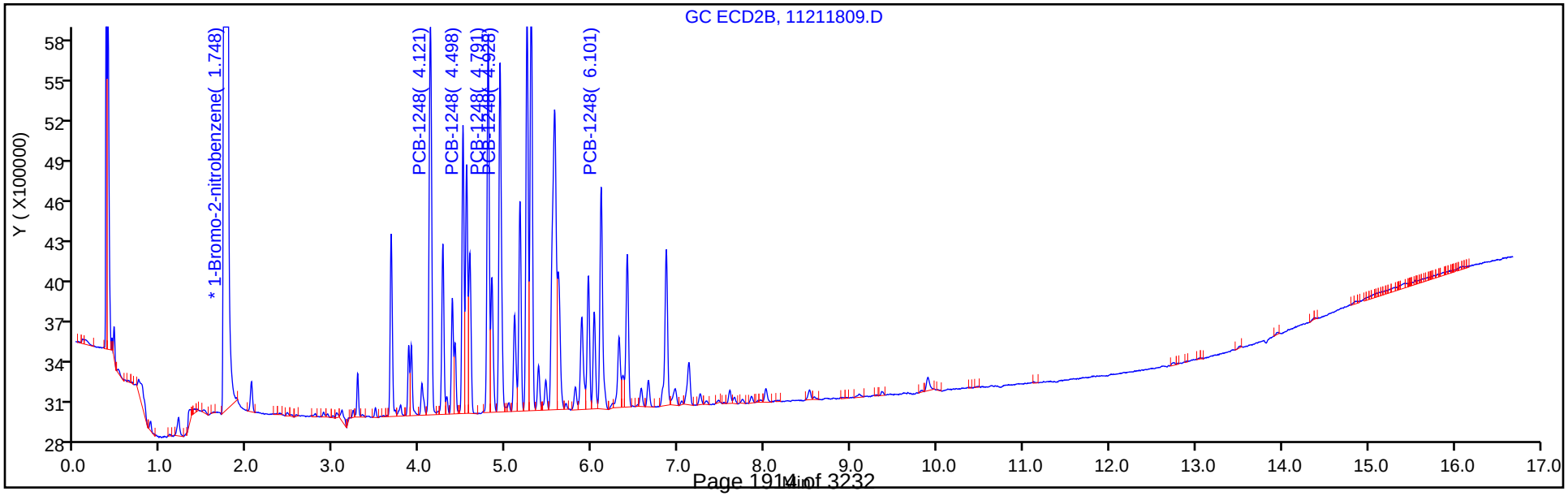
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211809.D

Injection Date:	21-Nov-2018 11:33:58	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL21248			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211810.D
Lims ID: STDL11248
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Nov-2018 11:55:11 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL11248
Misc. Info.: 280-0076428-010
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:02 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 21-Nov-2018 12:21:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.967	1.969	-0.002	28034459	1000.0	1000.0	
2	1.747	1.745	0.002	159672391	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.630	3.629	0.001	499158	25.0	19.5	
1	4.113	4.115	-0.002	729109	25.0	24.0	
1	4.730	4.729	0.001	903744	25.0	22.5	
1	5.503	5.505	-0.002	628528	25.0	23.1	
1	6.003	6.005	-0.002	406565	25.0	23.2	
		Average of Peak Amounts =				22.5	
2	4.120	4.119	0.001	2976466	25.0	20.2	
2	4.497	4.499	-0.002	1854776	25.0	20.7	
2	4.790	4.789	0.001	2664448	25.0	20.7	
2	4.927	4.929	-0.002	2696182	25.0	20.3	
2	6.100	6.102	-0.002	1808002	25.0	20.5	
		Average of Peak Amounts =				20.5	
						RPD = 9.11	
S 8 Polychlorinated biphenyls, Total							
1						22.5	
2						20.5	
						RPD = 9.11	

Reagents:

AR_1248_L1_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

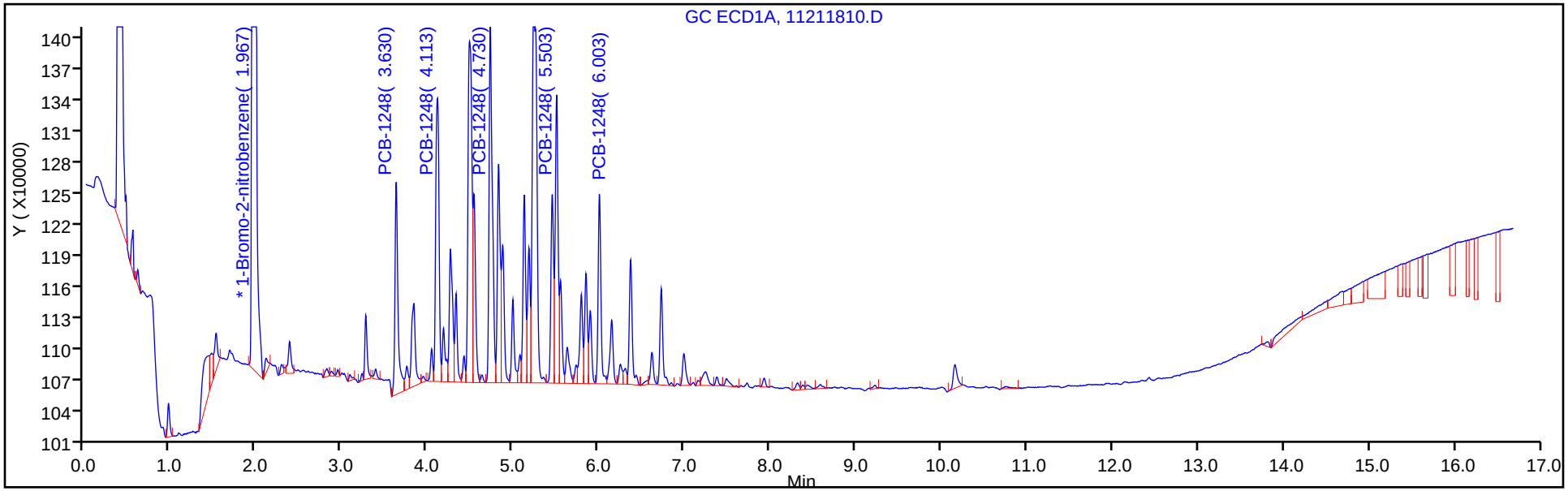
Report Date: 23-Nov-2018 11:02:03 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

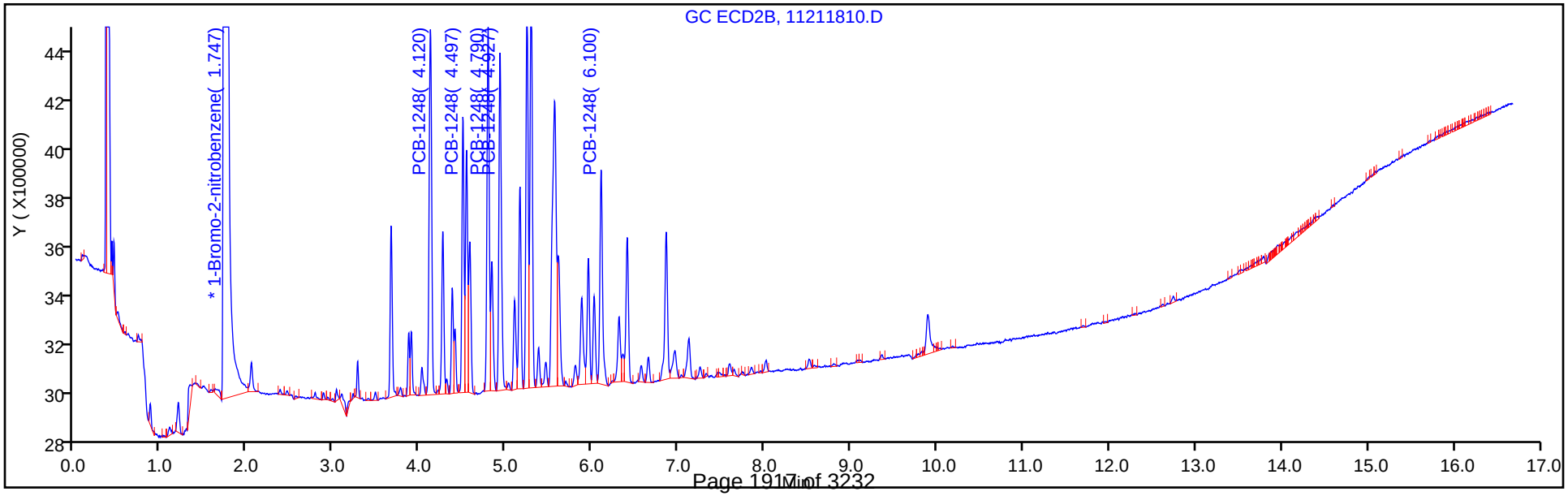
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211810.D

Injection Date:	21-Nov-2018 11:55:11	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL11248			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 09:48 Calibration End Date: 11/21/2018 11:55 Calibration ID: 34379

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11248 280-438388/10	11211810.D
Level 2	STDL21248 280-438388/9	11211809.D
Level 3	STDL31248 280-438388/8	11211808.D
Level 4	STDL41248 280-438388/7	11211807.D
Level 5	STDL51248 280-438388/6	11211806.D
Level 6	STDL61248 280-438388/5	11211805.D
Level 7	STDL71248 280-438388/4	11211804.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1248 Peak 1	0.7456 0.5140	0.6975 0.4927	0.6397	0.5558	0.5546	Lin1	8.4168	0.5058							0.9970		0.9900
PCB-1248 Peak 2	0.4646 0.2966	0.4145 0.2935	0.3842	0.3240	0.3242	Lin1	5.4995	0.2958							0.9980		0.9900
PCB-1248 Peak 3	0.6675 0.4093	0.5852 0.4021	0.5308	0.4470	0.4468	Lin1	8.2830	0.4057							0.9980		0.9900
PCB-1248 Peak 4	0.6754 0.4567	0.6225 0.4404	0.5749	0.4941	0.4958	Lin1	7.7151	0.4508							0.9970		0.9900
PCB-1248 Peak 5	0.4529 0.3112	0.4220 0.3039	0.3905	0.3350	0.3439	Lin1	4.9536	0.3102							0.9970		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 09:48 Calibration End Date: 11/21/2018 11:55 Calibration ID: 34379

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11248 280-438388/10	11211810.D
Level 2	STDL21248 280-438388/9	11211809.D
Level 3	STDL31248 280-438388/8	11211808.D
Level 4	STDL41248 280-438388/7	11211807.D
Level 5	STDL51248 280-438388/6	11211806.D
Level 6	STDL61248 280-438388/5	11211805.D
Level 7	STDL71248 280-438388/4	11211804.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1248 Peak 1	BNB	Lin1	2976466 66929326	5857367 83375893	10526463	24413334	45483505	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 2	BNB	Lin1	1854776 38624976	3480448 49673627	6322335	14232505	26585884	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 3	BNB	Lin1	2664448 53290956	4913700 68034804	8735777	19636547	36645923	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 4	BNB	Lin1	2696182 59463126	5227558 74524210	9459919	21701862	40664465	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 5	BNB	Lin1	1808002 40520608	3543306 51421671	6426439	14716689	28205008	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211804.D
Lims ID: STDL71248
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Nov-2018 09:48:04 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL71248
Misc. Info.: 280-0076428-004
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:01:49 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 21-Nov-2018 11:00:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.971	1.967	0.004	29567346	1000.0	1000.0	
2	1.748	1.744	0.004	169218357	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.631	3.629	0.002	11858019	1000.0	959.6	
1	4.114	4.115	-0.001	26688023	1000.0	1006.7	
1	4.731	4.729	0.002	29858711	1000.0	992.4	
1	5.504	5.505	-0.001	21012955	1000.0	995.6	
1	6.004	6.005	-0.001	13952293	1000.0	1012.0	
		Average of Peak Amounts =				993.3	
2	4.121	4.119	0.002	83375893	1000.0	957.5	
2	4.498	4.499	-0.001	49673627	1000.0	973.7	
2	4.791	4.789	0.002	68034804	1000.0	970.6	
2	4.927	4.929	-0.002	74524210	1000.0	959.9	
2	6.101	6.102	-0.001	51421671	1000.0	963.6	
		Average of Peak Amounts =				965.0	
						RPD = 2.88	
S 8 Polychlorinated biphenyls, Total							
1						993.3	
2						965.0	
						RPD = 2.88	

Reagents:

AR_1248_L7_00017	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

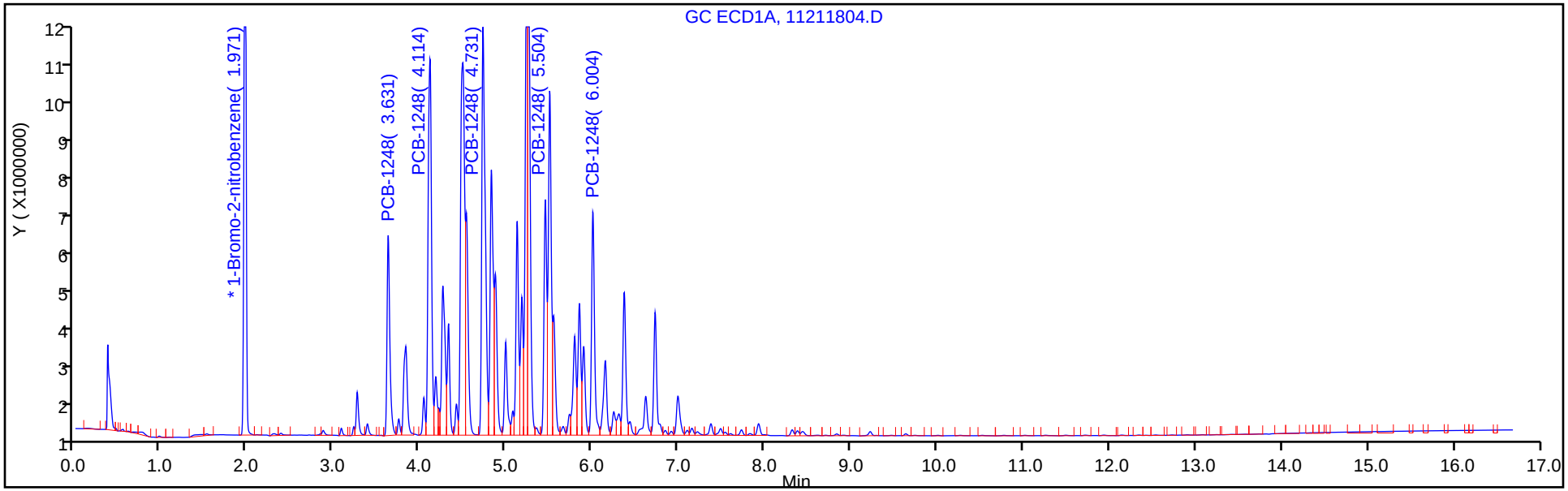
Report Date: 23-Nov-2018 11:01:50 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

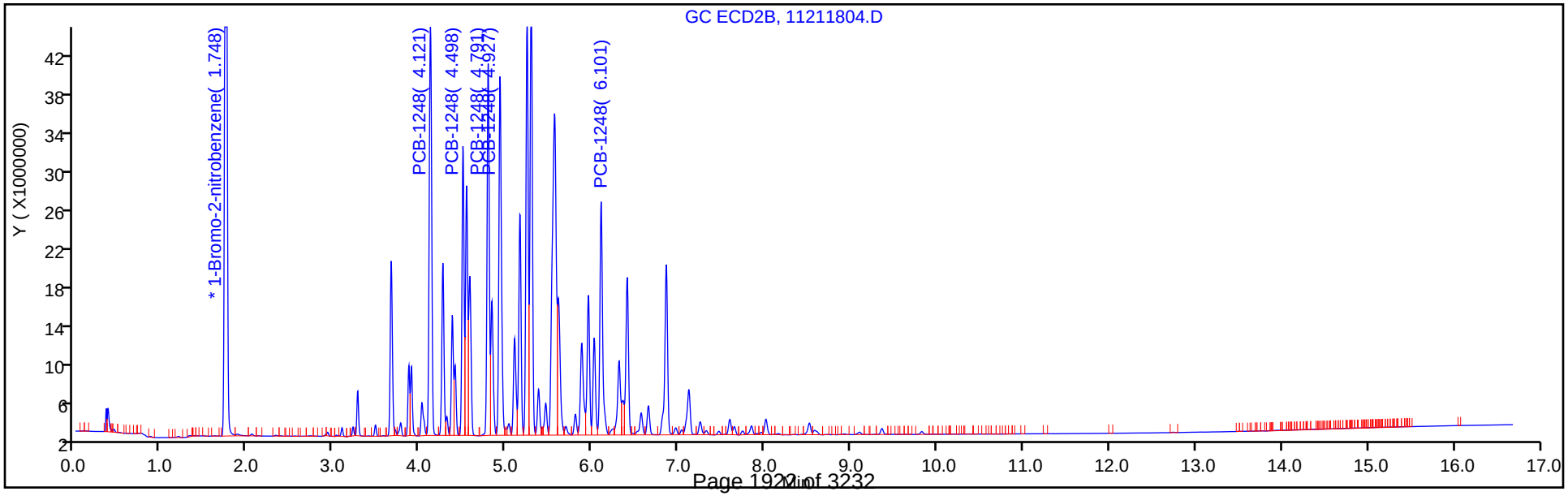
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211804.D

Injection Date:	21-Nov-2018 09:48:04	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL71248			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211805.D
Lims ID: STDL61248
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Nov-2018 10:09:17 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL61248
Misc. Info.: 280-0076428-005
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:01:51 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 21-Nov-2018 11:05:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.971	1.967	0.004	30510716	1000.0	1000.0	
2	1.748	1.744	0.004	173614890	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							M
1	3.631	3.629	0.002	9442915	750.0	735.0	
1	4.115	4.115	0.000	20068466	750.0	732.2	
1	4.731	4.729	0.002	22864792	750.0	734.0	
1	5.505	5.505	0.000	15905035	750.0	728.0	M
1	6.005	6.005	0.000	10248925	750.0	718.0	
		Average of Peak Amounts =				729.5	
2	4.118	4.119	-0.001	66929326	750.0	745.5	
2	4.498	4.499	-0.001	38624976	750.0	733.4	
2	4.791	4.789	0.002	53290956	750.0	736.2	
2	4.928	4.929	-0.001	59463126	750.0	742.7	
2	6.101	6.102	-0.001	40520608	750.0	736.4	
		Average of Peak Amounts =				738.8	
						RPD = 1.28	
S 8 Polychlorinated biphenyls, Total							
1						729.5	
2						738.8	
						RPD = 1.28	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1248_L6_00019	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

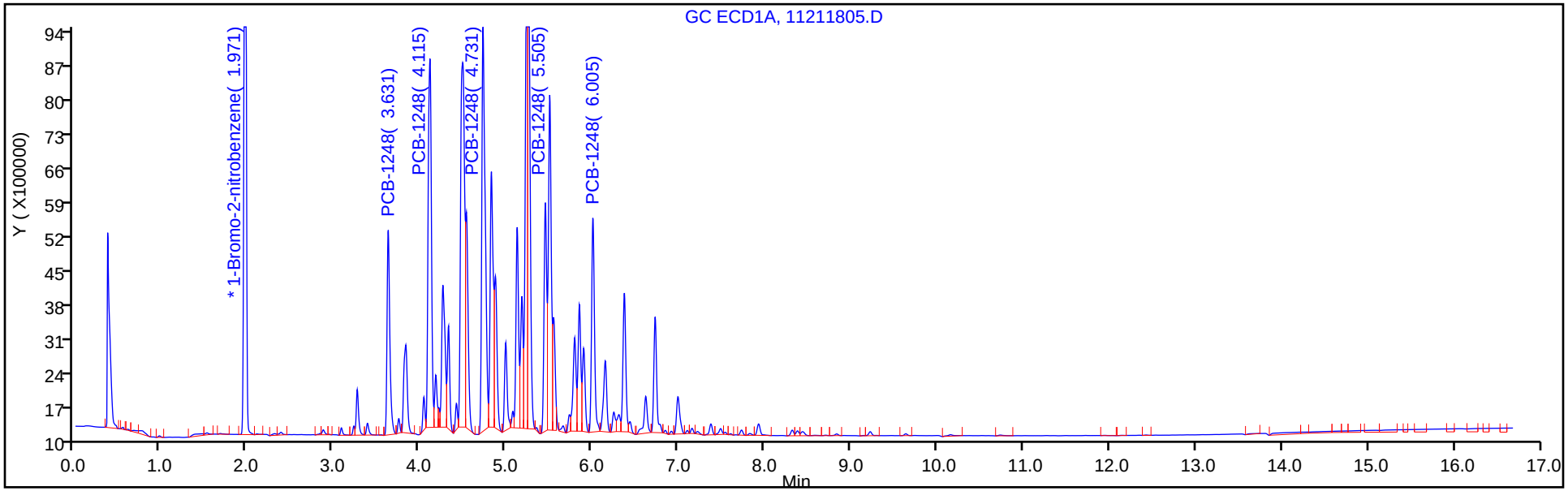
Report Date: 23-Nov-2018 11:01:52 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

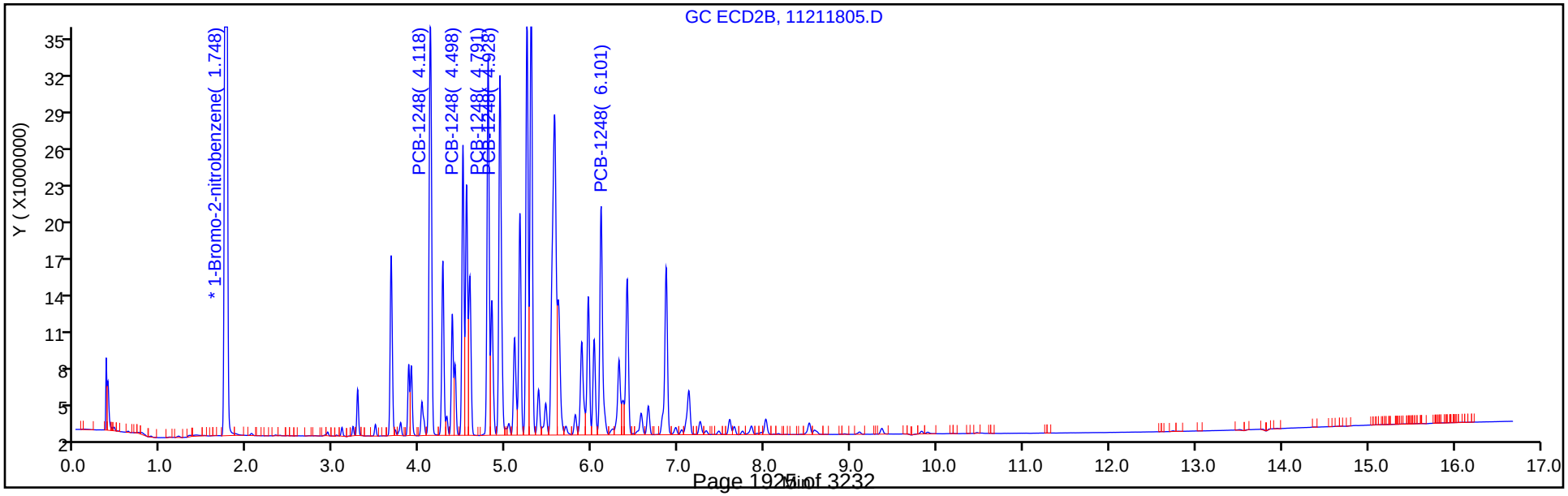
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211805.D

Injection Date:	21-Nov-2018 10:09:17	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL61248			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211806.D
Lims ID: STDL51248
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Nov-2018 10:30:25 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL51248
Misc. Info.: 280-0076428-006
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:01:53 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 21-Nov-2018 11:00:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	28736785	1000.0	1000.0	
2	1.745	1.745	0.000	164020581	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							M
1	3.629	3.629	0.000	6545537	500.0	534.6	
1	4.115	4.115	0.000	13279339	500.0	512.9	
1	4.729	4.729	0.000	15327875	500.0	519.7	
1	5.505	5.505	0.000	10818763	500.0	523.3	M
1	6.005	6.005	0.000	7003033	500.0	518.7	
		Average of Peak Amounts =				521.8	
2	4.119	4.119	0.000	45483505	500.0	531.6	
2	4.499	4.499	0.000	26585884	500.0	529.3	
2	4.789	4.789	0.000	36645923	500.0	530.3	
2	4.929	4.929	0.000	40664465	500.0	532.9	
2	6.102	6.102	0.000	28205008	500.0	538.4	
		Average of Peak Amounts =				532.5	
						RPD = 2.02	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

AR_1248_L5_00021 Amount Added: 1.00 Units: mL
BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

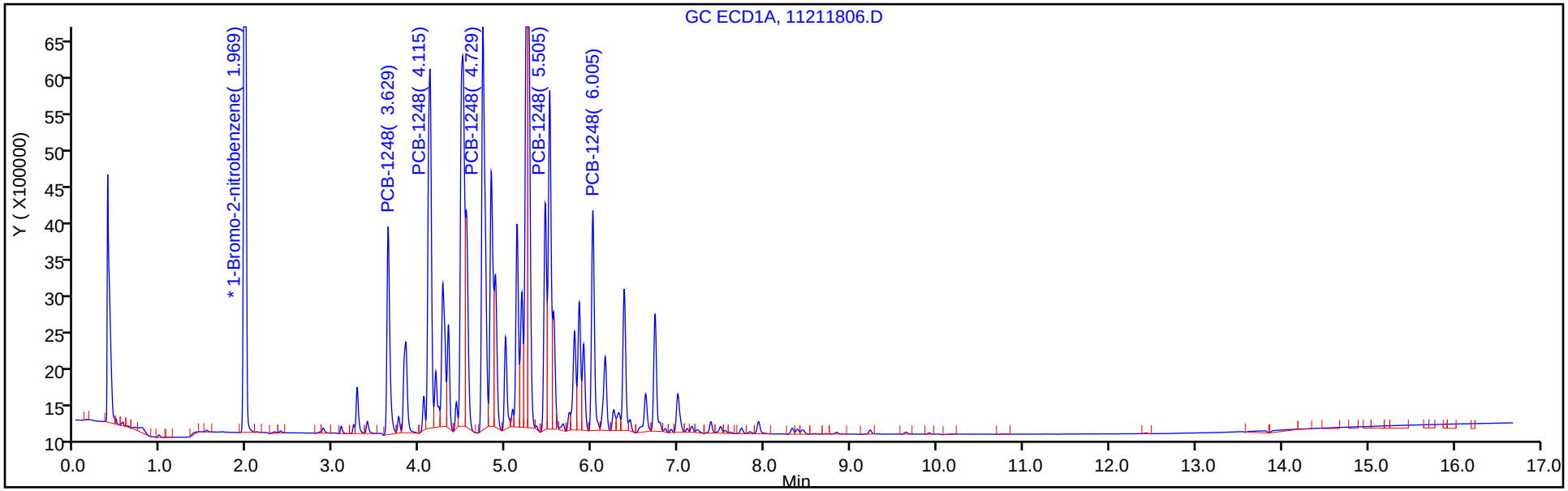
Report Date: 23-Nov-2018 11:01:54 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

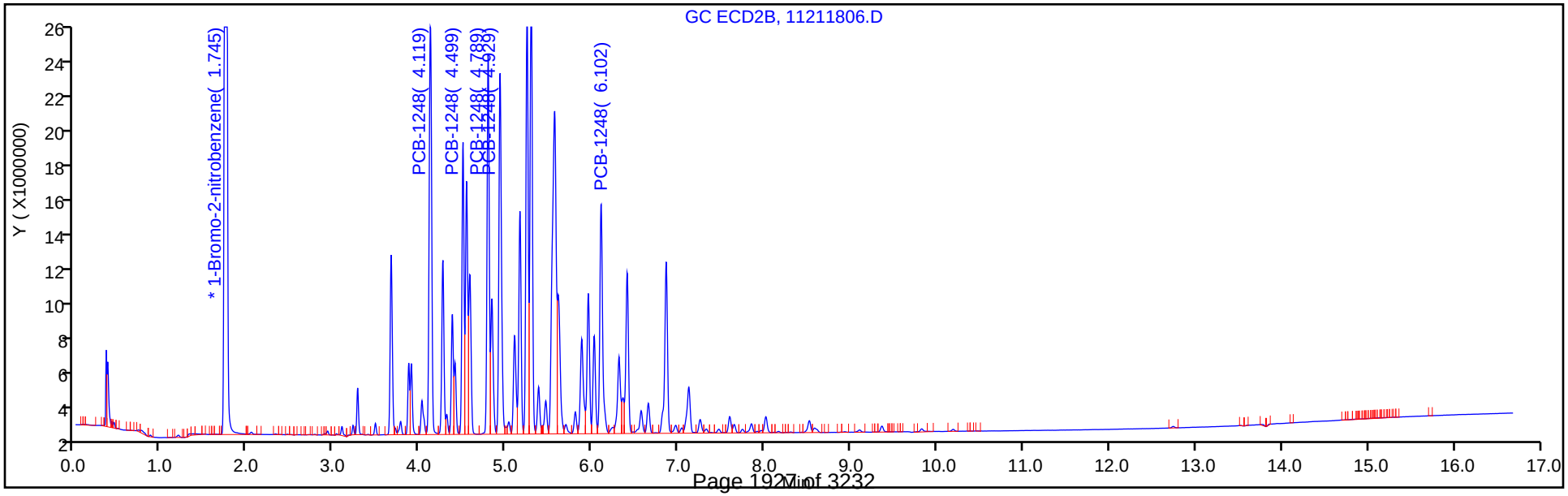
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211806.D

Injection Date:	21-Nov-2018 10:30:25	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL51248			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211807.D
Lims ID: STDL41248
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Nov-2018 10:51:35 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL41248
Misc. Info.: 280-0076428-007
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:01:55 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:16:19

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.969	-0.001	30868128	1000.0	1000.0	
2	1.748	1.745	0.003	175701150	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.631	3.629	0.002	3572971	250.0	259.7	
1	4.114	4.115	-0.001	6774612	250.0	240.9	
1	4.731	4.729	0.002	7900982	250.0	244.5	
1	5.504	5.505	-0.001	5573784	250.0	246.5	
1	6.004	6.005	-0.001	3570034	250.0	241.9	
		Average of Peak Amounts =				246.7	
2	4.121	4.119	0.002	24413334	250.0	258.1	
2	4.498	4.499	-0.001	14232505	250.0	255.2	
2	4.791	4.789	0.002	19636547	250.0	255.1	
2	4.928	4.929	-0.001	21701862	250.0	256.9	
2	6.101	6.102	-0.001	14716689	250.0	254.0	
		Average of Peak Amounts =				255.9	
						RPD = 3.64	
S 8 Polychlorinated biphenyls, Total							
1						246.7	
2						255.9	
						RPD = 3.64	

Reagents:

AR_1248_L4_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

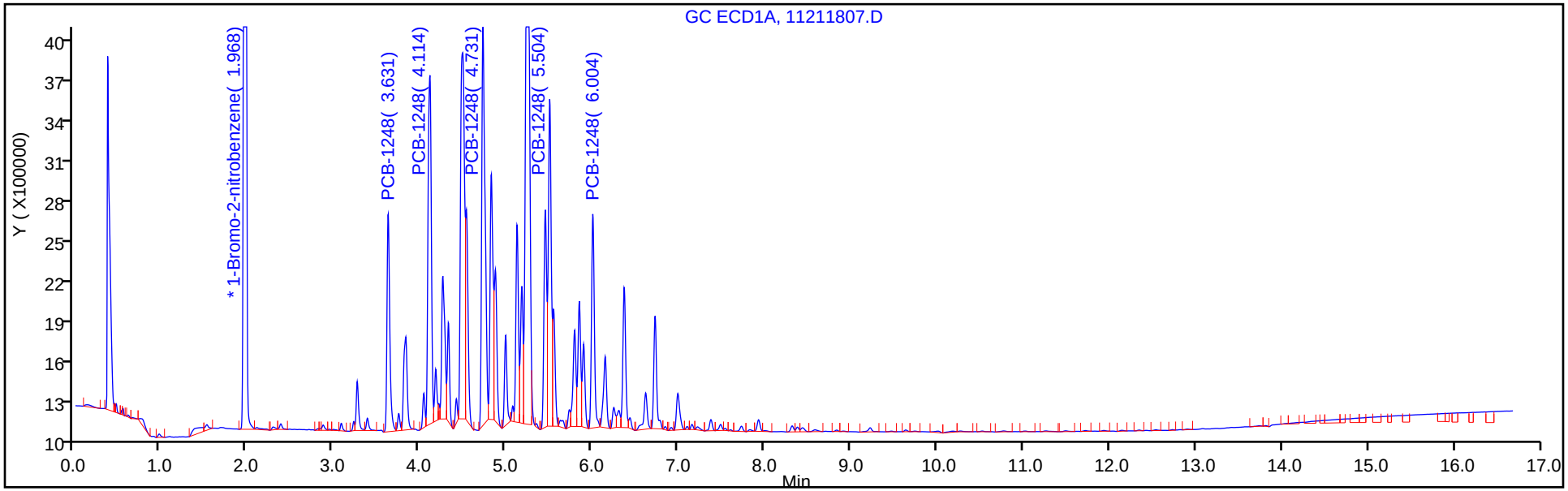
Report Date: 23-Nov-2018 11:01:56 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

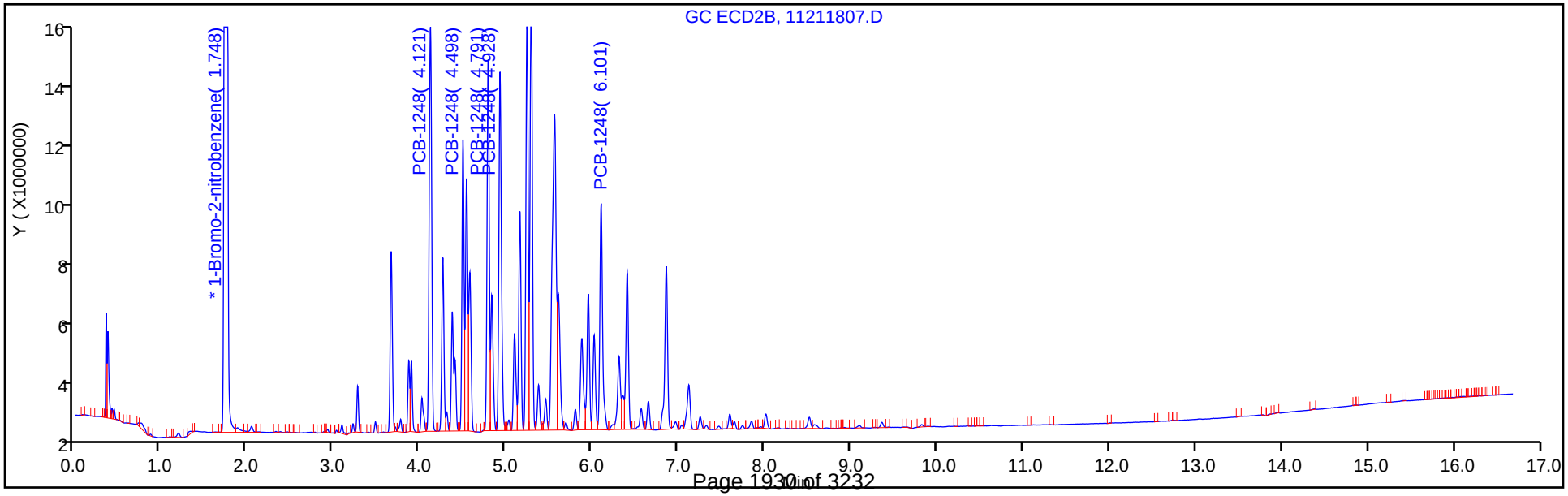
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211807.D

Injection Date:	21-Nov-2018 10:51:35	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL41248			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211808.D
Lims ID: STDL31248
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Nov-2018 11:12:45 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL31248
Misc. Info.: 280-0076428-008
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:01:58 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 21-Nov-2018 11:41:03

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.969	0.001	28891546	1000.0	1000.0	
2	1.746	1.745	0.001	164562398	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.630	3.629	0.001	1647978	100.0	115.7	
1	4.113	4.115	-0.002	2970012	100.0	110.1	
1	4.730	4.729	0.001	3553415	100.0	112.6	
1	5.506	5.505	0.001	2408573	100.0	109.2	
1	6.006	6.005	0.001	1614155	100.0	112.6	
		Average of Peak Amounts =				112.0	
2	4.120	4.119	0.001	10526463	100.0	109.8	
2	4.500	4.499	0.001	6322335	100.0	111.3	
2	4.790	4.789	0.001	8735777	100.0	110.4	
2	4.930	4.929	0.001	9459919	100.0	110.4	
2	6.103	6.102	0.001	6426439	100.0	109.9	
		Average of Peak Amounts =				110.4	
						RPD = 1.50	
S 8 Polychlorinated biphenyls, Total							
1						112.0	
2						110.4	
						RPD = 1.50	

Reagents:

AR_1248_L3_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

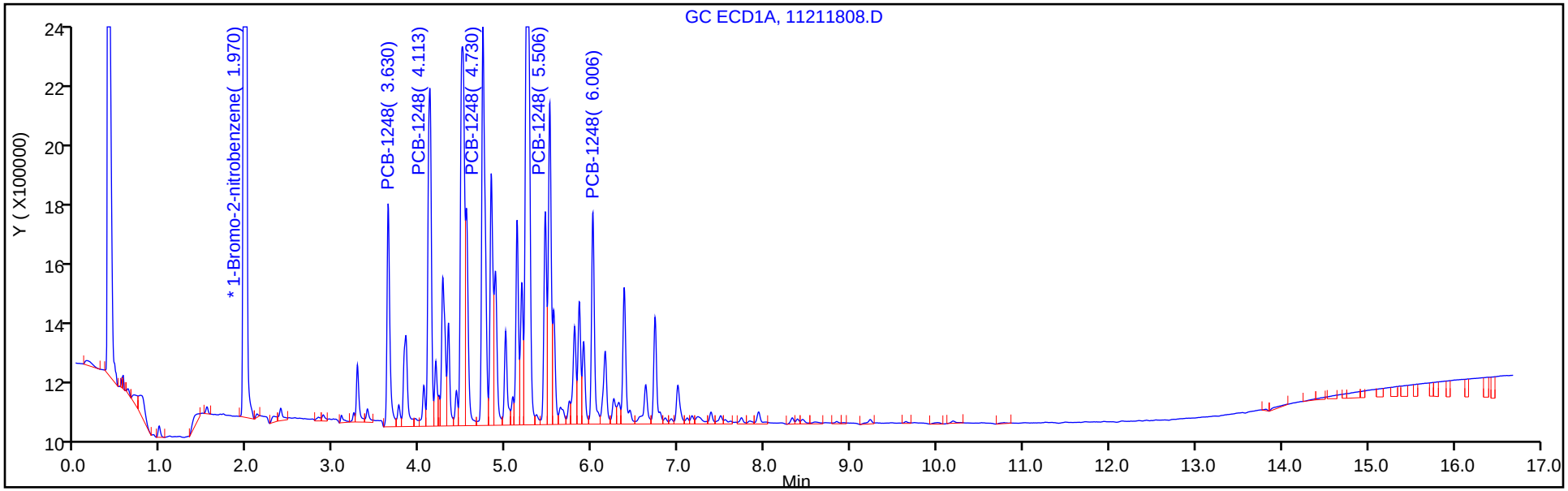
Report Date: 23-Nov-2018 11:01:58 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

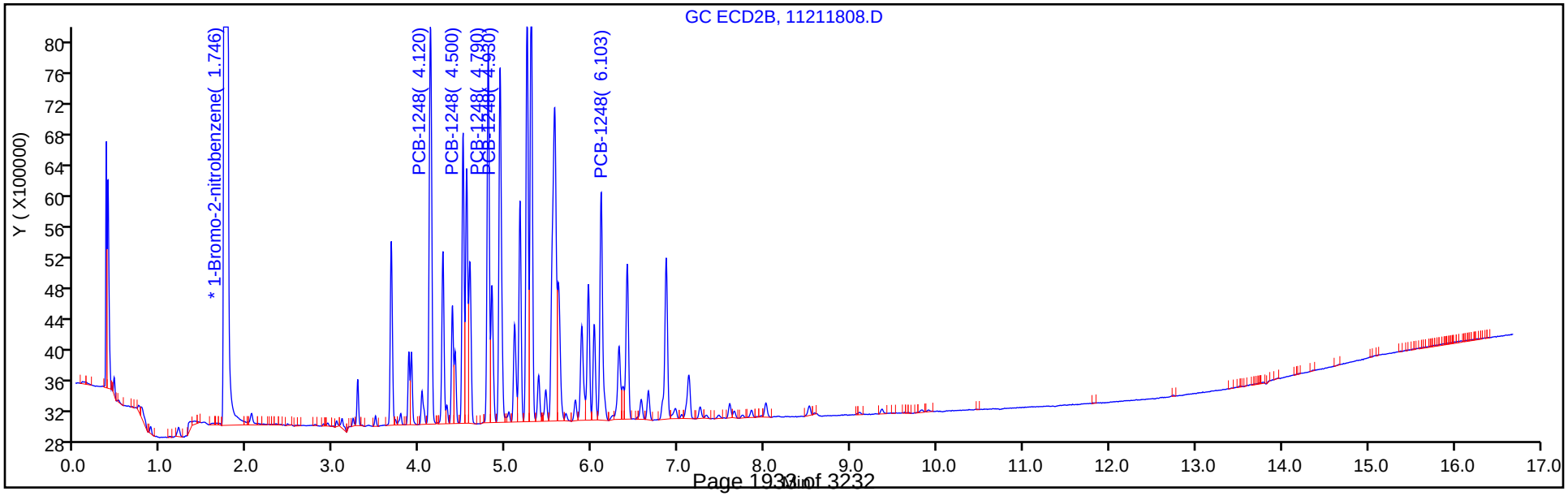
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211808.D

Injection Date:	21-Nov-2018 11:12:45	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL31248			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211809.D
Lims ID: STDL21248
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Nov-2018 11:33:58 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL21248
Misc. Info.: 280-0076428-009
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:01:59 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 21-Nov-2018 11:58:44

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.969	-0.001	29689350	1000.0	1000.0	
2	1.748	1.745	0.003	167941963	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.631	3.629	0.002	908243	50.0	50.8	
1	4.111	4.115	-0.004	1417622	50.0	48.4	
1	4.728	4.729	-0.001	1757060	50.0	49.3	
1	5.505	5.505	0.000	1217158	50.0	49.3	
1	6.005	6.005	0.000	778039	50.0	48.5	
		Average of Peak Amounts =				49.3	
2	4.121	4.119	0.002	5857367	50.0	52.3	
2	4.498	4.499	-0.001	3480448	50.0	51.5	
2	4.791	4.789	0.002	4913700	50.0	51.7	
2	4.928	4.929	-0.001	5227558	50.0	51.9	
2	6.101	6.102	-0.001	3543306	50.0	52.0	
		Average of Peak Amounts =				51.9	
						RPD = 5.21	
S 8 Polychlorinated biphenyls, Total							
1						49.3	
2						51.9	
						RPD = 5.21	

Reagents:

AR_1248_L2_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

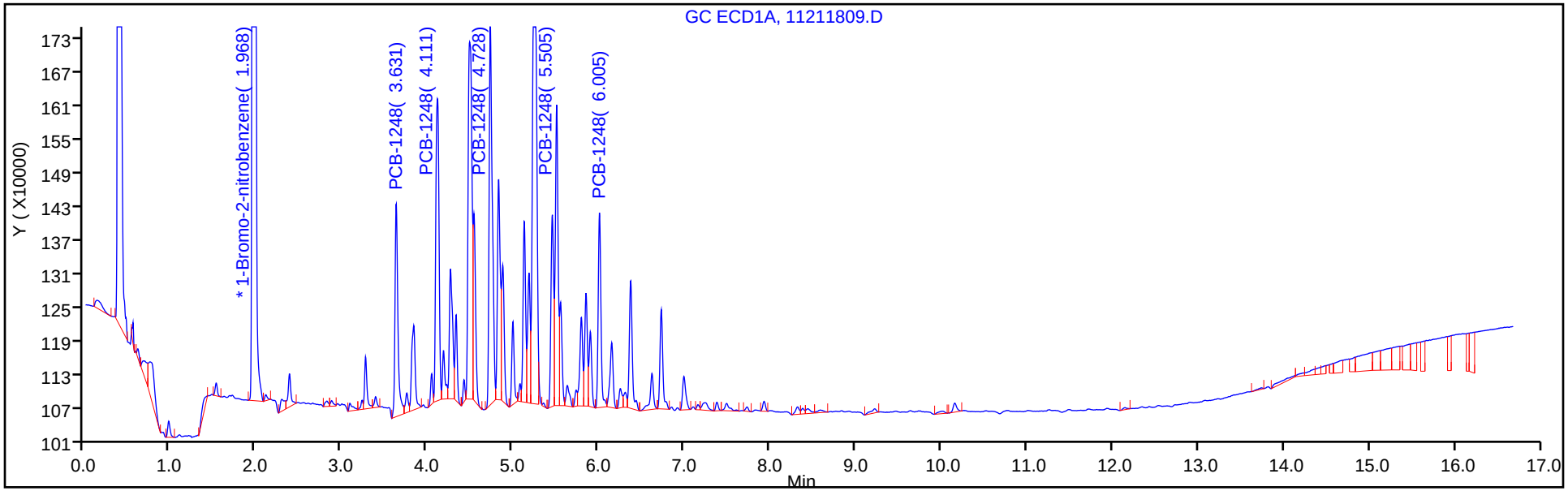
Report Date: 23-Nov-2018 11:02:00 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

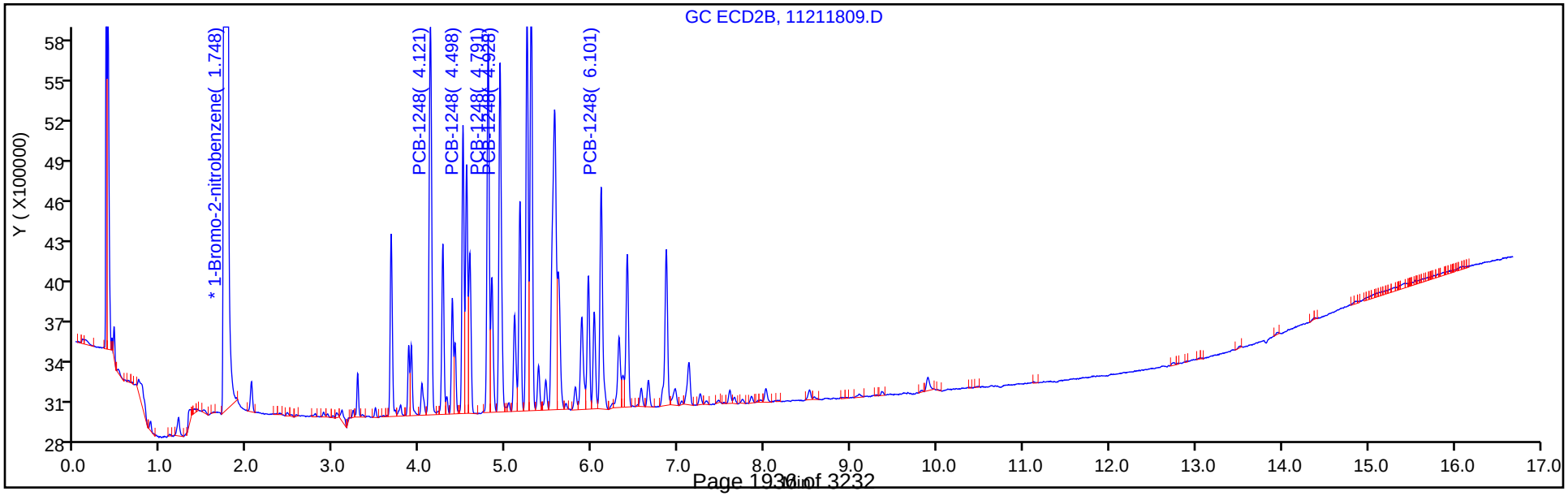
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211809.D

Injection Date:	21-Nov-2018 11:33:58	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL21248			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211810.D
Lims ID: STDL11248
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Nov-2018 11:55:11 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL11248
Misc. Info.: 280-0076428-010
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:02 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 21-Nov-2018 12:21:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.967	1.969	-0.002	28034459	1000.0	1000.0	
2	1.747	1.745	0.002	159672391	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.630	3.629	0.001	499158	25.0	19.5	
1	4.113	4.115	-0.002	729109	25.0	24.0	
1	4.730	4.729	0.001	903744	25.0	22.5	
1	5.503	5.505	-0.002	628528	25.0	23.1	
1	6.003	6.005	-0.002	406565	25.0	23.2	
		Average of Peak Amounts =				22.5	
2	4.120	4.119	0.001	2976466	25.0	20.2	
2	4.497	4.499	-0.002	1854776	25.0	20.7	
2	4.790	4.789	0.001	2664448	25.0	20.7	
2	4.927	4.929	-0.002	2696182	25.0	20.3	
2	6.100	6.102	-0.002	1808002	25.0	20.5	
		Average of Peak Amounts =				20.5	
						RPD = 9.11	
S 8 Polychlorinated biphenyls, Total							
1						22.5	
2						20.5	
						RPD = 9.11	

Reagents:

AR_1248_L1_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

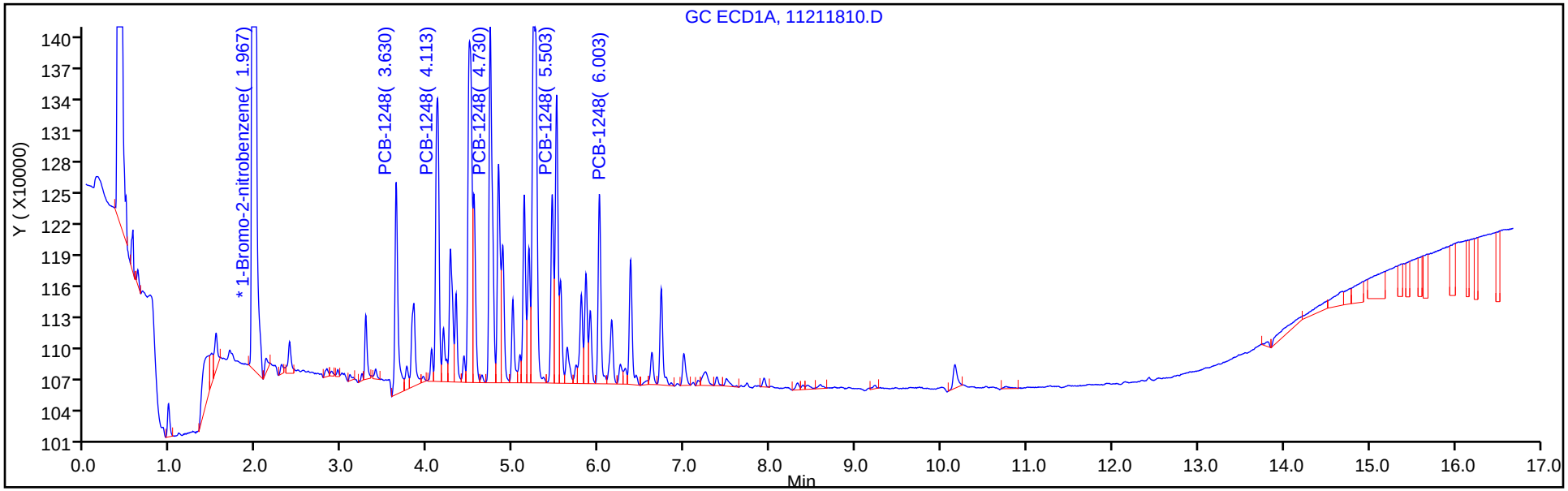
Report Date: 23-Nov-2018 11:02:03 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

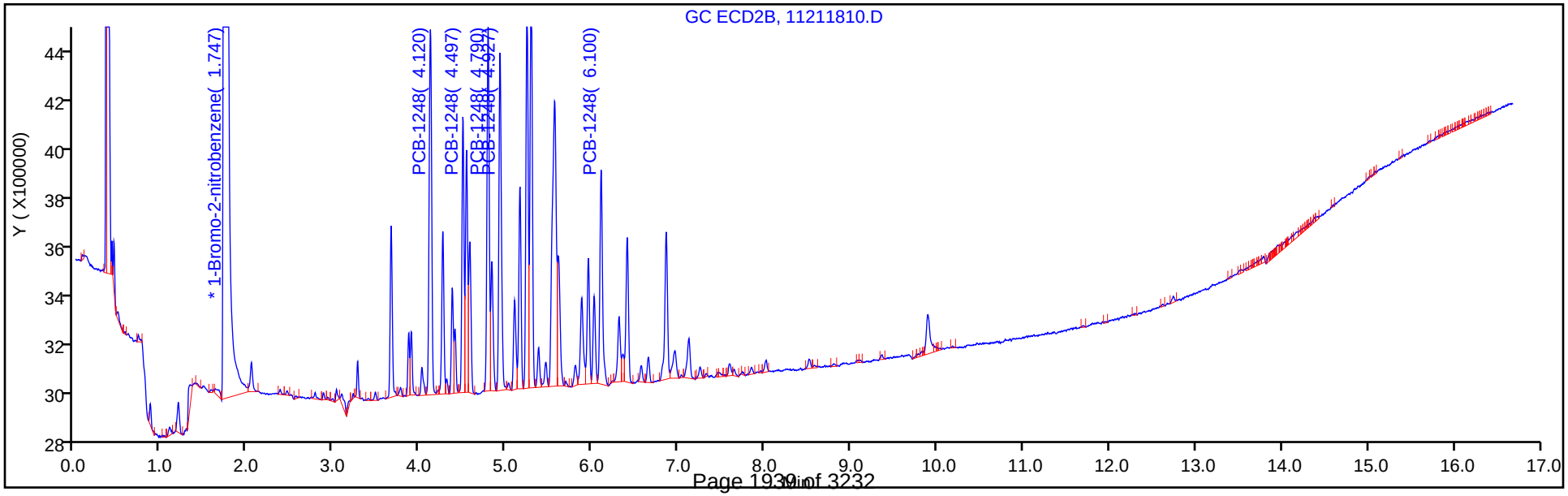
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211810.D

Injection Date:	21-Nov-2018 11:55:11	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL11248			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 12:16 Calibration End Date: 11/21/2018 14:23 Calibration ID: 34382

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL12154 280-438388/17	11211817.D
Level 2	STDL22154 280-438388/16	11211816.D
Level 3	STDL32154 280-438388/15	11211815.D
Level 4	STDL42154 280-438388/14	11211814.D
Level 5	STDL52154 280-438388/13	11211813.D
Level 6	STDL62154 280-438388/12	11211812.D
Level 7	STDL72154 280-438388/11	11211811.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1221 Peak 1	0.3324 0.2543	0.3063 0.2408	0.2831	0.2742	0.2560	Lin1	2.7935	0.2469							0.9990		0.9900
PCB-1221 Peak 2	0.2001 0.1490	0.1916 0.1317	0.1804	0.1697	0.1512	Lin1	2.3729	0.1411							0.9920		0.9900
PCB-1221 Peak 3	0.7629 0.6346	0.7594 0.5938	0.7881	0.6927	0.6412	Lin1	7.0937	0.6167							0.9960		0.9900
PCB-1254 Peak 1	1.0411 0.7678	1.0771 0.7457	0.9481	0.8237	0.7656	Lin1	11.881	0.7483							0.9980		0.9900
PCB-1254 Peak 2	1.3591 1.1371	1.4854 1.0678	1.3447	1.2147	1.1311	Lin1	13.399	1.0986							0.9970		0.9900
PCB-1254 Peak 3	0.9424 0.8572	1.0002 0.8194	0.9434	0.8812	0.8159	Lin1	5.8262	0.8290							0.9990		0.9900
PCB-1254 Peak 4	1.2545 1.0368	1.3517 0.9872	1.2209	1.1047	1.0311	Lin1	11.971	1.0070							0.9980		0.9900
PCB-1254 Peak 5	1.5798 1.4286	1.7199 1.3750	1.5764	1.4700	1.4137	Lin1	10.152	1.3955							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 12:16 Calibration End Date: 11/21/2018 14:23 Calibration ID: 34382

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL12154 280-438388/17	11211817.D
Level 2	STDL22154 280-438388/16	11211816.D
Level 3	STDL32154 280-438388/15	11211815.D
Level 4	STDL42154 280-438388/14	11211814.D
Level 5	STDL52154 280-438388/13	11211813.D
Level 6	STDL62154 280-438388/12	11211812.D
Level 7	STDL72154 280-438388/11	11211811.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1221 Peak 1	BNB	Lin1	258968 5979075	422934 7654096	794996	2063928	3897553	25.0 750	50.0 1000	100	250	500
PCB-1221 Peak 2	BNB	Lin1	155902 3504422	264535 4185310	506503	1277667	2302370	25.0 750	50.0 1000	100	250	500
PCB-1221 Peak 3	BNB	Lin1	594265 14922887	1048520 18870386	2212927	5214449	9761452	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 1	BNB	Lin1	810954 18053312	1487053 23698129	2662071	6200718	11654391	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 2	BNB	Lin1	1058665 26738366	2050858 33934042	3775608	9144535	17219418	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 3	BNB	Lin1	734067 20156036	1380932 26040802	2648846	6634099	12420039	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 4	BNB	Lin1	977183 24380329	1866154 31371863	3428029	8316205	15696475	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 5	BNB	Lin1	1230625 33590891	2374593 43698000	4426432	11066699	21521176	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211811.D
Lims ID: STDL72154
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Nov-2018 12:16:22 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL72154
Misc. Info.: 280-0076428-011
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:04 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:10:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.969	-0.001	31780064	1000.0	1000.0	
2	1.748	1.745	0.003	176632693	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.088	3.085	0.003	7654096	1000.0	964.1	
1	3.231	3.232	-0.001	4185310	1000.0	916.3	
1	3.271	3.269	0.002	18870386	1000.0	951.3	
		Average of Peak Amounts =				943.9	
2	3.094	3.092	0.002	23025045	1000.0	950.4	
2	3.221	3.222	-0.001	15205275	1000.0	956.1	
2	3.278	3.276	0.002	52969181	1000.0	950.9	
		Average of Peak Amounts =				952.5	
						RPD = 0.90	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.181	5.182	-0.001	23698129	1000.0	980.6	
1	5.508	5.509	-0.001	33934042	1000.0	959.7	
1	5.848	5.849	-0.001	26040802	1000.0	981.4	
1	6.621	6.622	-0.001	31371863	1000.0	968.4	
1	6.994	6.995	-0.001	43698000	1000.0	978.1	
		Average of Peak Amounts =				973.6	
2	5.531	5.529	0.002	96750392	1000.0	950.5	
2	5.951	5.952	-0.001	75935033	1000.0	949.3	
2	6.404	6.402	0.002	102458024	1000.0	940.6	
2	6.648	6.649	-0.001	61272987	1000.0	948.5	
2	7.118	7.119	-0.001	150030344	1000.0	953.5	
		Average of Peak Amounts =				948.5	
						RPD = 2.62	
S 8 Polychlorinated biphenyls, Total							
1						1917.5	
2						1901.0	
						RPD = 0.87	

Reagents:

AR_2154_L7_00020	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

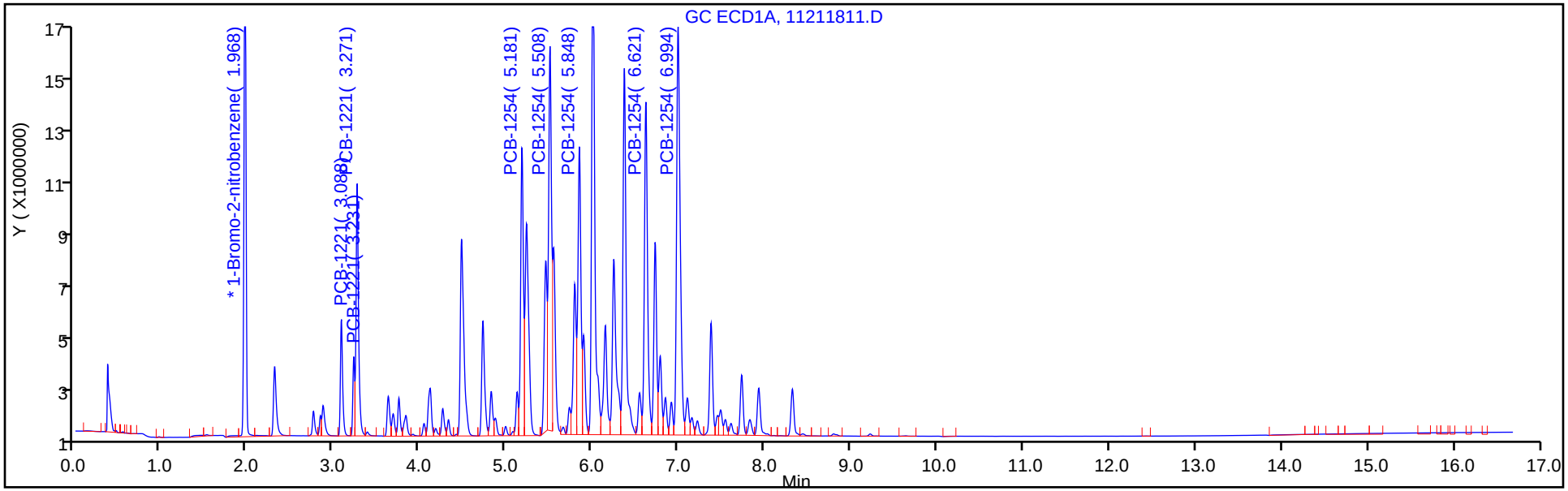
Report Date: 23-Nov-2018 11:02:05 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

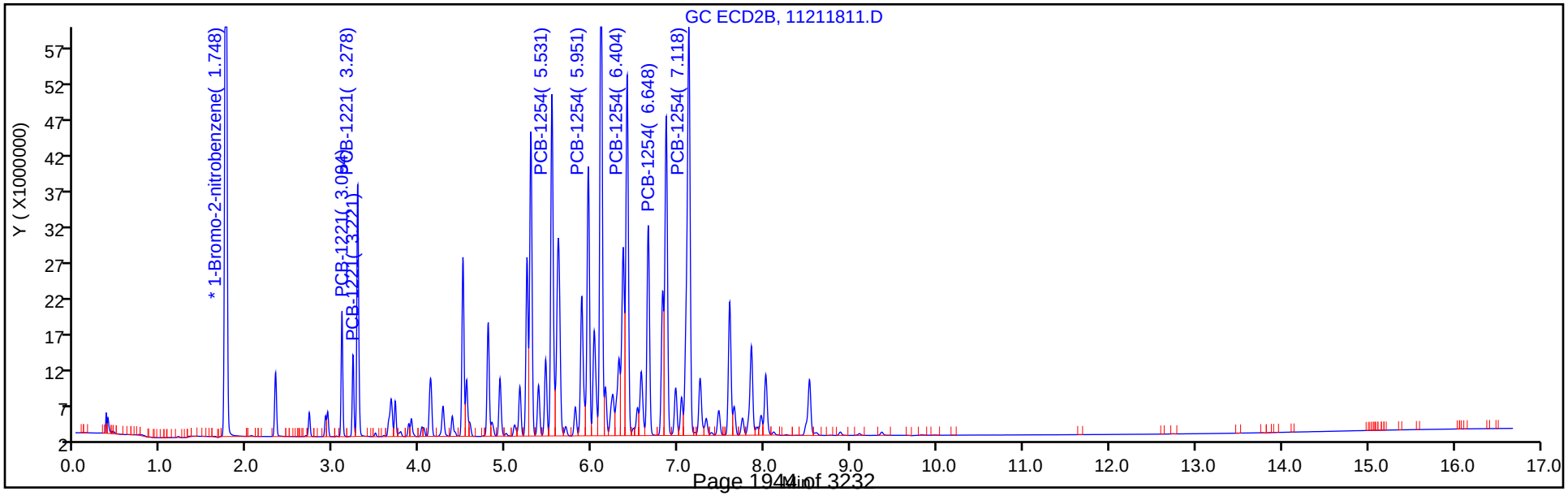
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211811.D

Injection Date:	21-Nov-2018 12:16:22	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL72154			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211812.D
Lims ID: STDL62154
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Nov-2018 12:37:32 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL62154
Misc. Info.: 280-0076428-012
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:06 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:10:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.969	0.001	31351854	1000.0	1000.0	
2	1.746	1.745	0.001	175195598	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.086	3.085	0.001	5979075	750.0	761.1	
1	3.230	3.232	-0.002	3504422	750.0	775.2	
1	3.270	3.269	0.001	14922887	750.0	760.3	
		Average of Peak Amounts =				765.5	
2	3.093	3.092	0.001	18439769	750.0	763.3	
2	3.223	3.222	0.001	12375313	750.0	782.0	
2	3.276	3.276	0.000	42701683	750.0	769.7	
		Average of Peak Amounts =				771.7	
						RPD = 0.80	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.183	5.182	0.001	18053312	750.0	753.6	
1	5.506	5.509	-0.003	26738366	750.0	764.1	
1	5.850	5.849	0.001	20156036	750.0	768.4	
1	6.620	6.622	-0.002	24380329	750.0	760.3	
1	6.993	6.995	-0.002	33590891	750.0	760.5	
		Average of Peak Amounts =				761.4	
2	5.530	5.529	0.001	76003812	750.0	748.9	
2	5.953	5.952	0.001	60170755	750.0	755.0	
2	6.403	6.402	0.001	82164284	750.0	757.0	
2	6.650	6.649	0.001	48574994	750.0	754.4	
2	7.120	7.119	0.001	117808494	750.0	751.3	
		Average of Peak Amounts =				753.3	
						RPD = 1.07	
S 8 Polychlorinated biphenyls, Total							
1						1526.9	
2						1525.0	
						RPD = 0.12	

Reagents:

AR_2154_L6_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

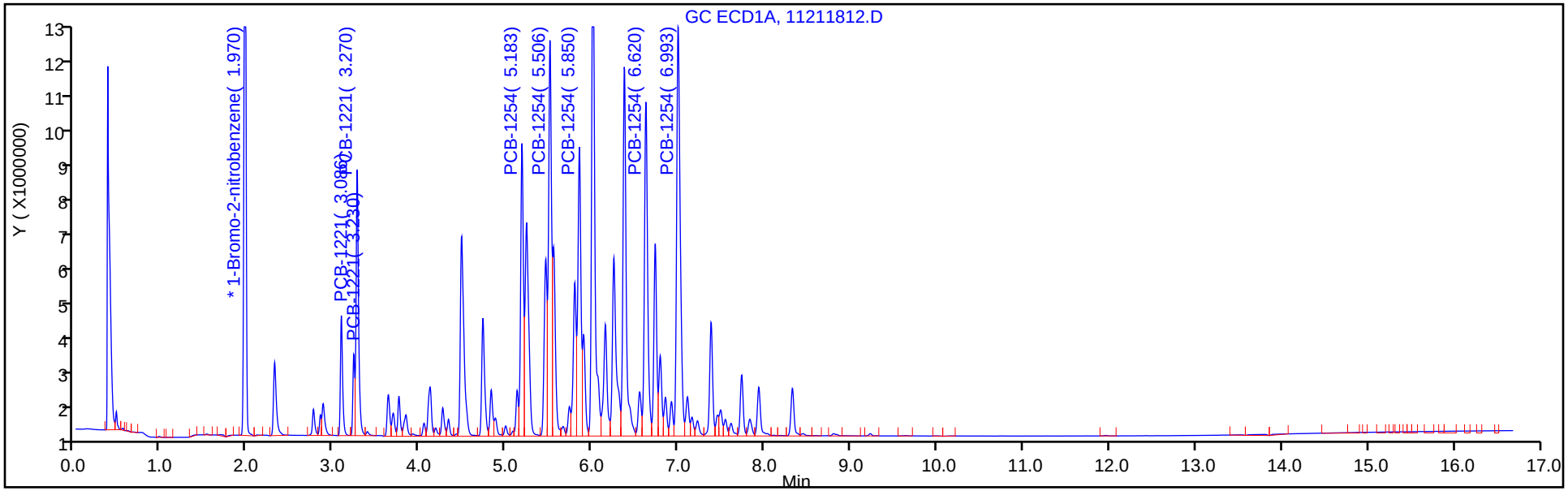
Report Date: 23-Nov-2018 11:02:07 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

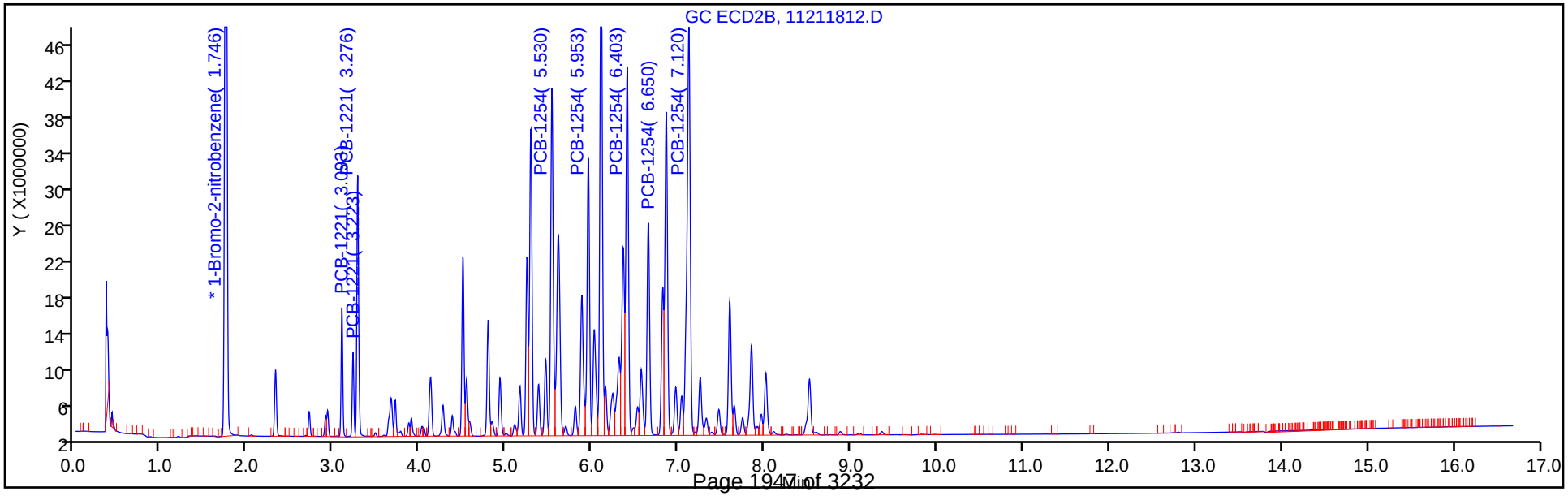
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211812.D

Injection Date:	21-Nov-2018 12:37:32	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL62154			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211813.D
Lims ID: STDL52154
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Nov-2018 12:58:43 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL52154
Misc. Info.: 280-0076428-013
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:10 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:09:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	30445909	1000.0	1000.0	
2	1.749	1.749	0.000	171268741	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.085	3.085	0.000	3897553	500.0	507.1	
1	3.232	3.232	0.000	2302370	500.0	519.0	
1	3.269	3.269	0.000	9761452	500.0	508.4	
		Average of Peak Amounts =				511.5	
2	3.092	3.092	0.000	12215805	500.0	510.5	
2	3.222	3.222	0.000	7689765	500.0	492.0	
2	3.276	3.276	0.000	27611810	500.0	503.2	
		Average of Peak Amounts =				501.9	
						RPD = 1.89	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							M
1	5.182	5.182	0.000	11654391	500.0	495.7	
1	5.509	5.509	0.000	17219418	500.0	502.6	M
1	5.849	5.849	0.000	12420039	500.0	485.0	
1	6.622	6.622	0.000	15696475	500.0	500.1	
1	6.995	6.995	0.000	21521176	500.0	499.3	
		Average of Peak Amounts =				496.5	
2	5.529	5.529	0.000	51845638	500.0	516.9	
2	5.952	5.952	0.000	40591711	500.0	515.7	
2	6.402	6.402	0.000	55787230	500.0	520.3	
2	6.649	6.649	0.000	32678665	500.0	513.5	
2	7.119	7.119	0.000	79736218	500.0	514.8	
		Average of Peak Amounts =				516.3	
						RPD = 3.89	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_2154_L5_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

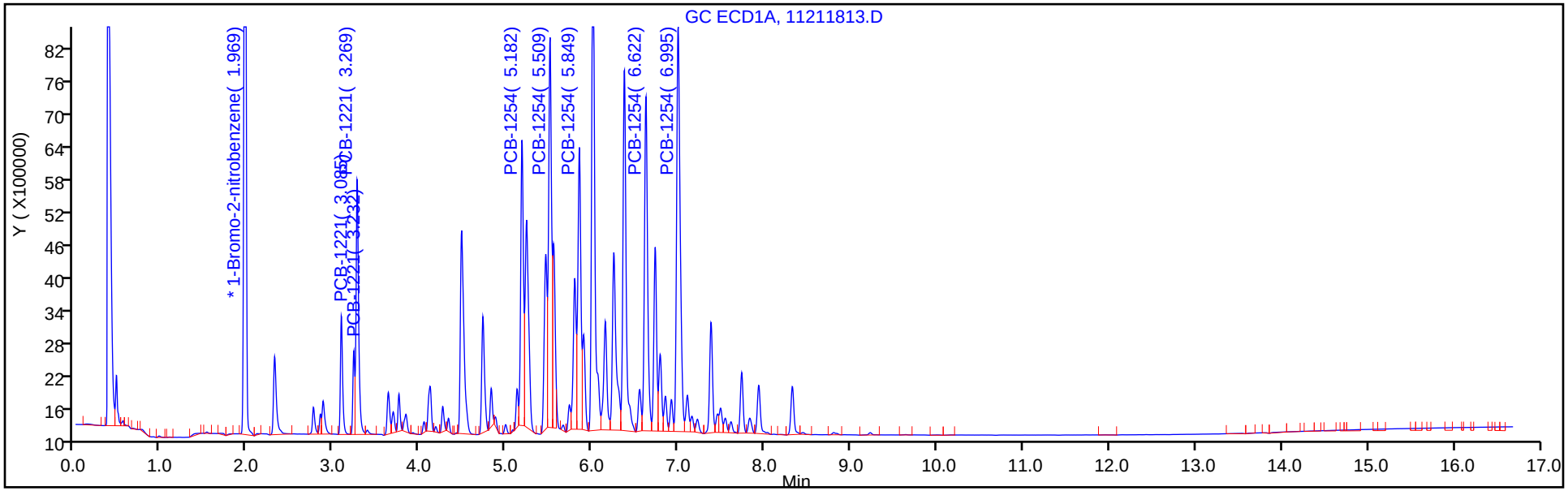
Report Date: 23-Nov-2018 11:02:10 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

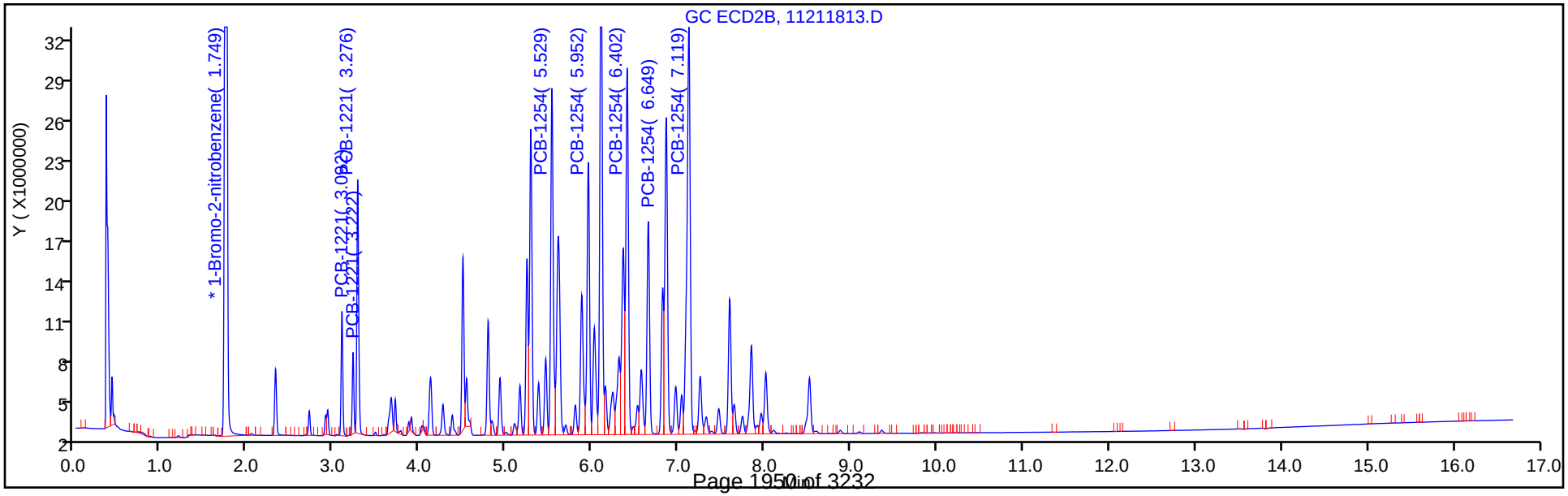
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211813.D

Injection Date:	21-Nov-2018 12:58:43	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL52154			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 23-Nov-2018 11:02:10 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211813.D

Injection Date: 21-Nov-2018 12:58:43 Instrument ID: SGC_J

Lims ID: STDL52154

Client ID:

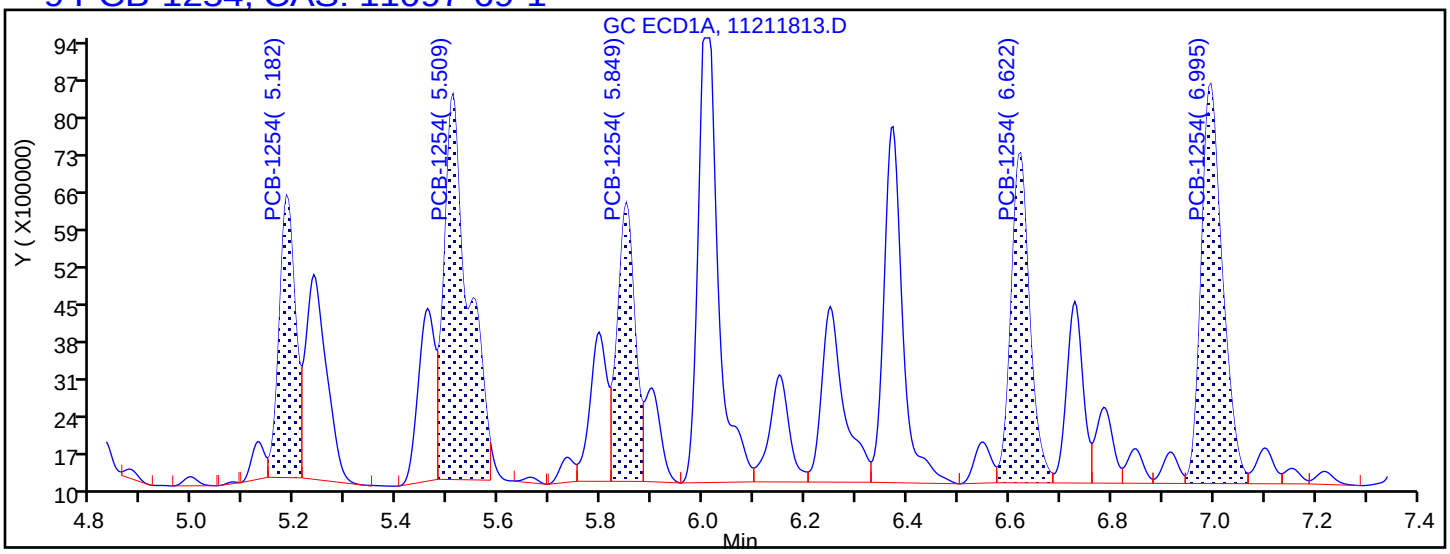
Operator ID: ALS ALS Bottle#: 13 Worklist Smp#: 13

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

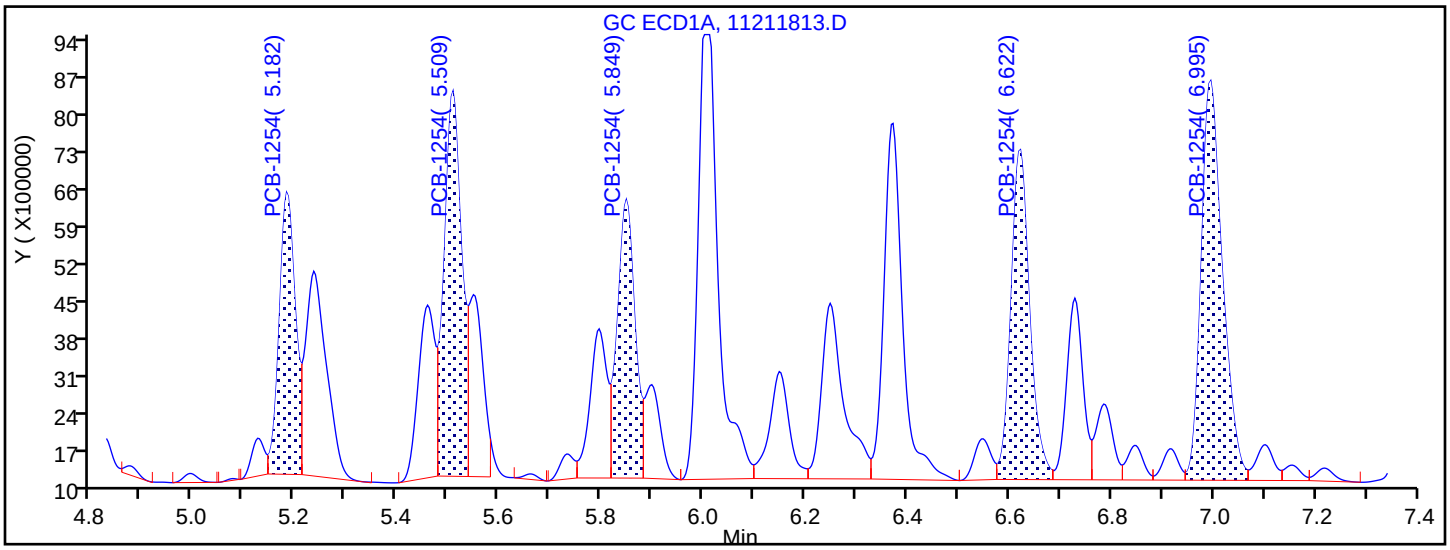
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

9 PCB-1254, CAS: 11097-69-1



Processing Integration Results

5.182	Response = 11654391
5.509	Response = 23607478
5.849	Response = 12420039
6.622	Response = 15696475
6.995	Response = 21521176



Manual Integration Results

5.182	Response = 11654391	
5.509	Response = 17219418	M
5.849	Response = 12420039	
6.622	Response = 15696475	
6.995	Response = 21521176	

Reviewer: mooret, 21-Nov-2018 15:10:54

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211814.D
Lims ID: STDL42154
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Nov-2018 13:19:55 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL42154
Misc. Info.: 280-0076428-014
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:12 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:09:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.969	0.001	30112720	1000.0	1000.0	
2	1.747	1.749	-0.002	169613542	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.086	3.085	0.001	2063928	250.0	266.3	
1	3.230	3.232	-0.002	1277667	250.0	283.8	
1	3.270	3.269	0.001	5214449	250.0	269.3	
		Average of Peak Amounts =				273.1	
2	3.093	3.092	0.001	6662383	250.0	271.7	
2	3.223	3.222	0.001	4151876	250.0	261.9	
2	3.277	3.276	0.001	14954730	250.0	267.4	
		Average of Peak Amounts =				267.0	
						RPD = 2.27	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							M
1	5.183	5.182	0.001	6200718	250.0	259.3	
1	5.506	5.509	-0.003	9144535	250.0	264.2	M
1	5.846	5.849	-0.003	6634099	250.0	258.7	
1	6.620	6.622	-0.002	8316205	250.0	262.4	
1	6.993	6.995	-0.002	11066699	250.0	256.1	
		Average of Peak Amounts =				260.1	
2	5.530	5.529	0.001	27978613	250.0	273.1	
2	5.953	5.952	0.001	21681477	250.0	270.3	
2	6.403	6.402	0.001	29833754	250.0	272.7	
2	6.650	6.649	0.001	17685692	250.0	272.4	
2	7.120	7.119	0.001	42598206	250.0	269.8	
		Average of Peak Amounts =				271.7	
						RPD = 4.33	
S 8 Polychlorinated biphenyls, Total							
1						533.3	
2						538.7	
						RPD = 1.01	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_2154_L4_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

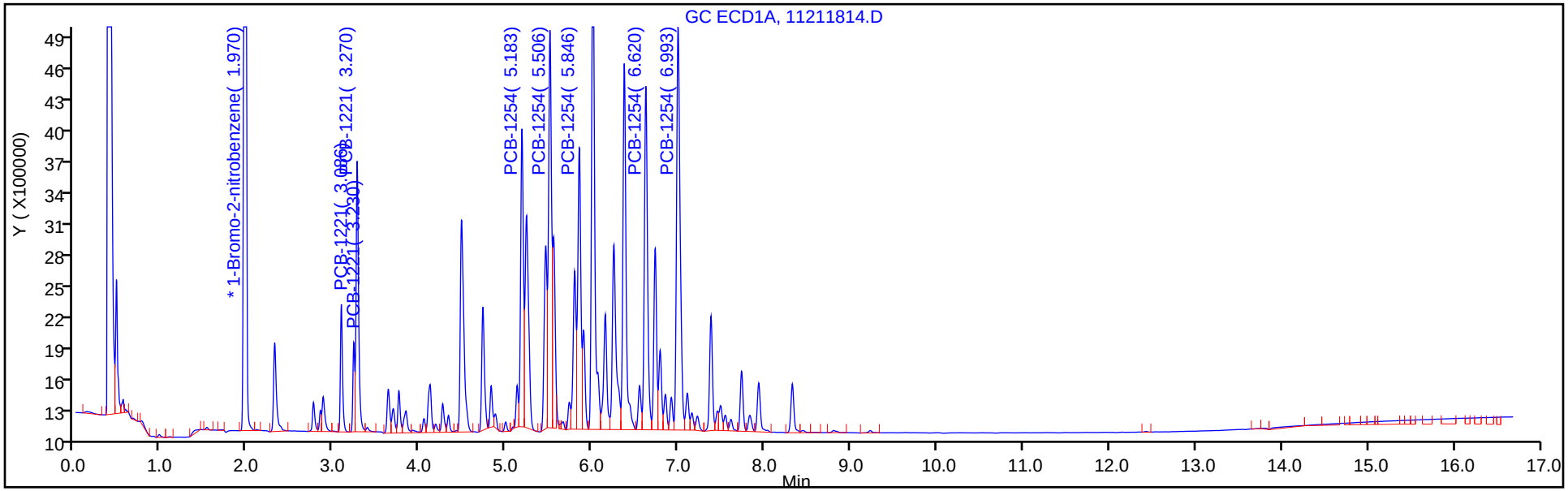
Report Date: 23-Nov-2018 11:02:13 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

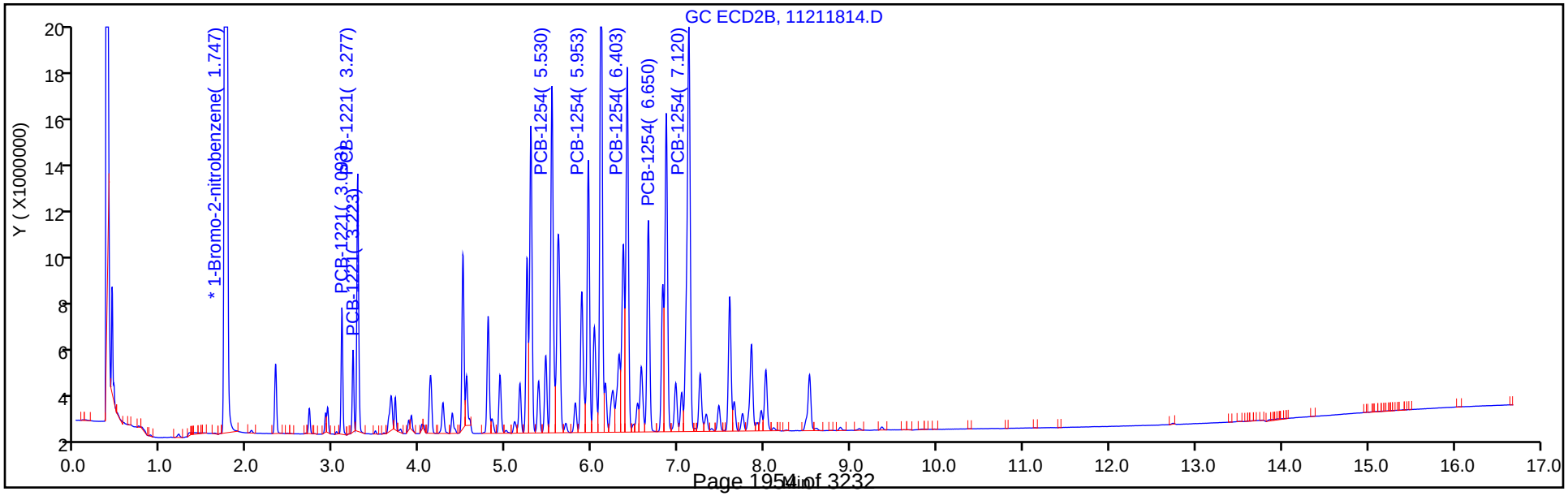
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211814.D

Injection Date:	21-Nov-2018 13:19:55	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL42154			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 23-Nov-2018 11:02:13 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211814.D

Injection Date: 21-Nov-2018 13:19:55 Instrument ID: SGC_J

Lims ID: STDL42154

Client ID:

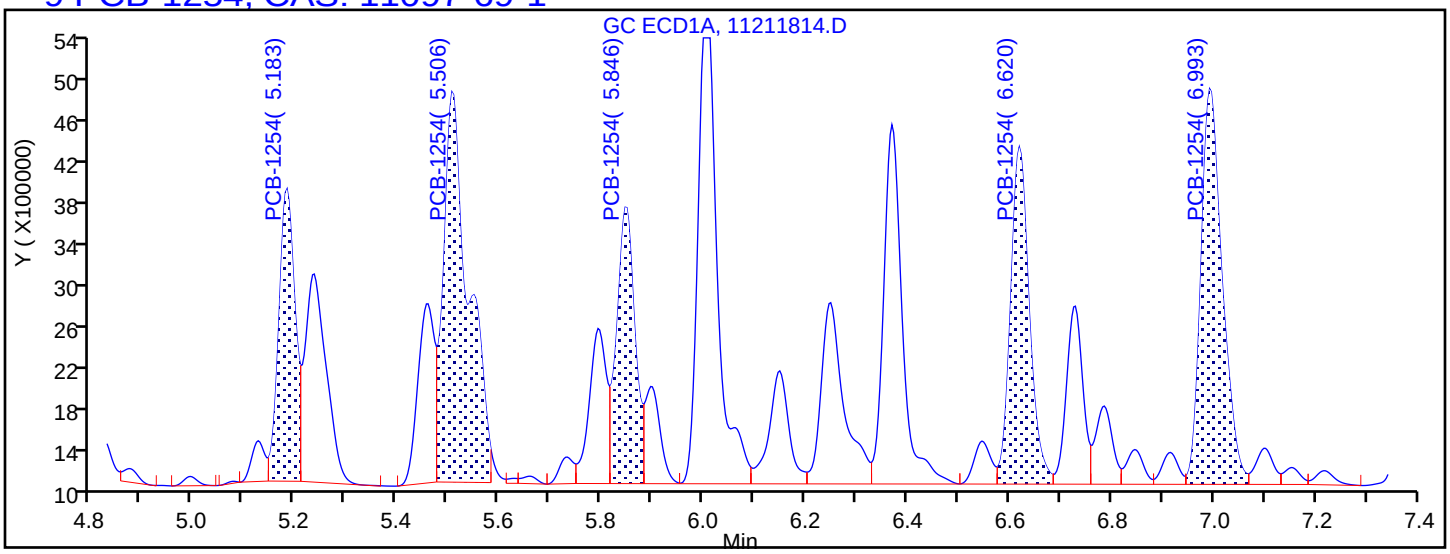
Operator ID: ALS ALS Bottle#: 14 Worklist Smp#: 14

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

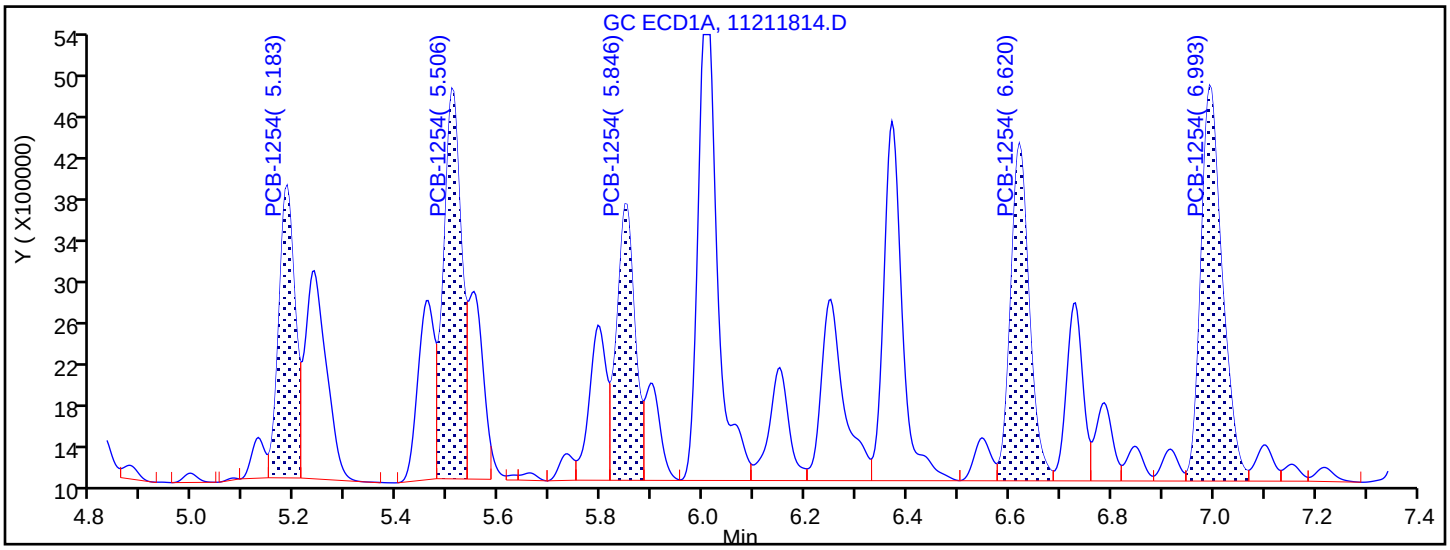
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

9 PCB-1254, CAS: 11097-69-1



Processing Integration Results

5.183	Response = 6200718
5.506	Response = 12802421
5.846	Response = 6634099
6.620	Response = 8316205
6.993	Response = 11066699



Manual Integration Results

5.183	Response = 6200718	
5.506	Response = 9144535	M
5.846	Response = 6634099	
6.620	Response = 8316205	
6.993	Response = 11066699	

Reviewer: mooret, 21-Nov-2018 15:11:16

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211815.D
Lims ID: STDL32154
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Nov-2018 13:41:08 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL32154
Misc. Info.: 280-0076428-015
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:15 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:11:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	28078685	1000.0	1000.0	
2	1.746	1.749	-0.003	159417859	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.086	3.085	0.001	794996	100.0	103.4	
1	3.229	3.232	-0.003	506503	100.0	111.0	
1	3.269	3.269	0.000	2212927	100.0	116.3	
		Average of Peak Amounts =				110.2	
2	3.093	3.092	0.001	2763923	100.0	108.2	
2	3.223	3.222	0.001	1748923	100.0	109.7	
2	3.276	3.276	0.000	6335939	100.0	111.0	
		Average of Peak Amounts =				109.6	
						RPD = 0.52	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							M
1	5.183	5.182	0.001	2662071	100.0	110.8	
1	5.506	5.509	-0.003	3775608	100.0	110.2	M
1	5.849	5.849	0.000	2648846	100.0	106.8	
1	6.619	6.622	-0.003	3428029	100.0	109.3	
1	6.993	6.995	-0.002	4426432	100.0	105.7	
		Average of Peak Amounts =				108.6	
2	5.529	5.529	0.000	11951653	100.0	113.9	
2	5.953	5.952	0.001	9184571	100.0	112.5	
2	6.403	6.402	0.001	12571284	100.0	112.4	
2	6.649	6.649	0.000	7560827	100.0	113.9	
2	7.119	7.119	0.000	18178594	100.0	113.0	
		Average of Peak Amounts =				113.1	
						RPD = 4.13	
S 8 Polychlorinated biphenyls, Total							
1						218.8	
2						222.8	
						RPD = 1.82	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_2154_L3_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

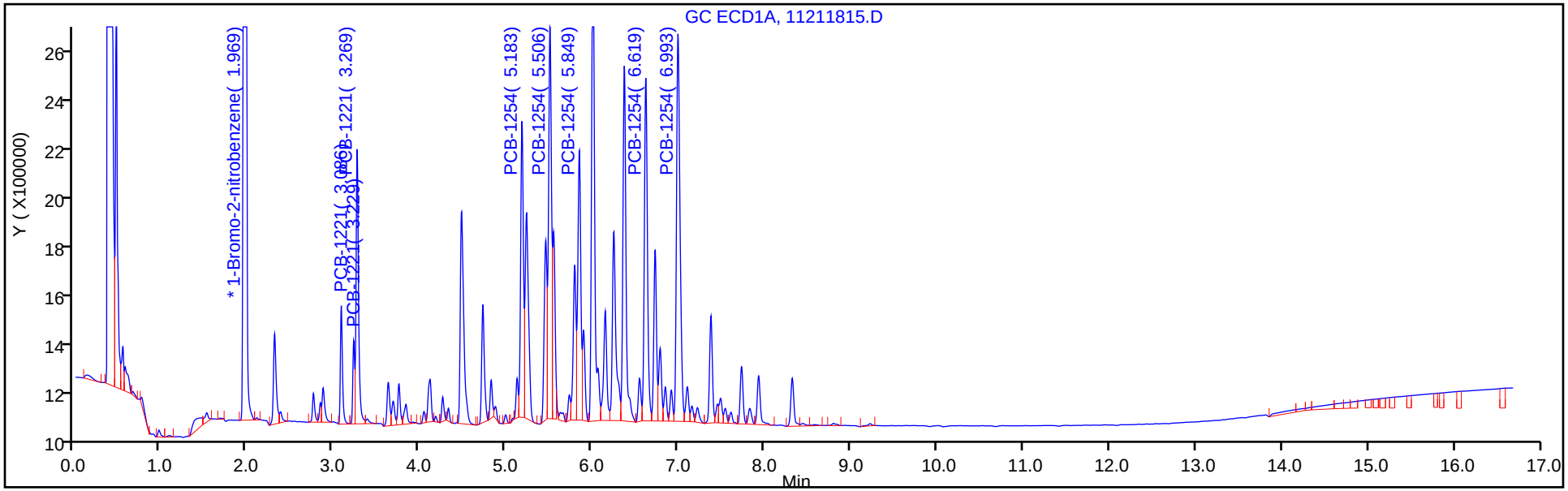
Report Date: 23-Nov-2018 11:02:16 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

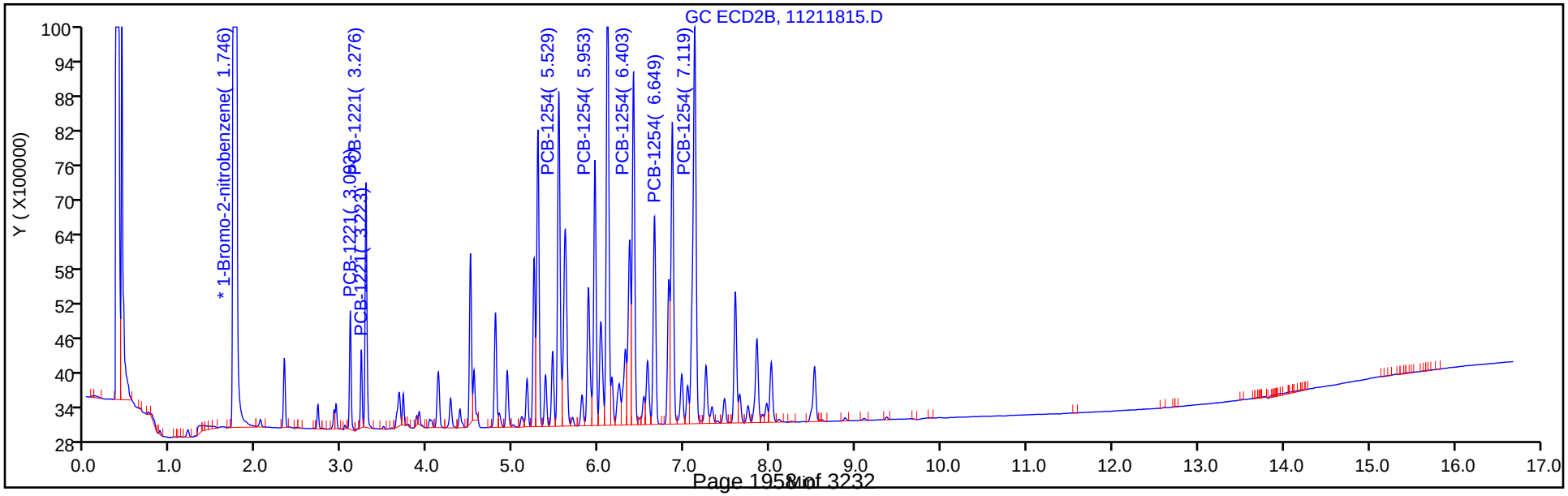
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211815.D

Injection Date:	21-Nov-2018 13:41:08	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL32154			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 23-Nov-2018 11:02:16 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211815.D

Injection Date: 21-Nov-2018 13:41:08 Instrument ID: SGC_J

Lims ID: STDL32154

Client ID:

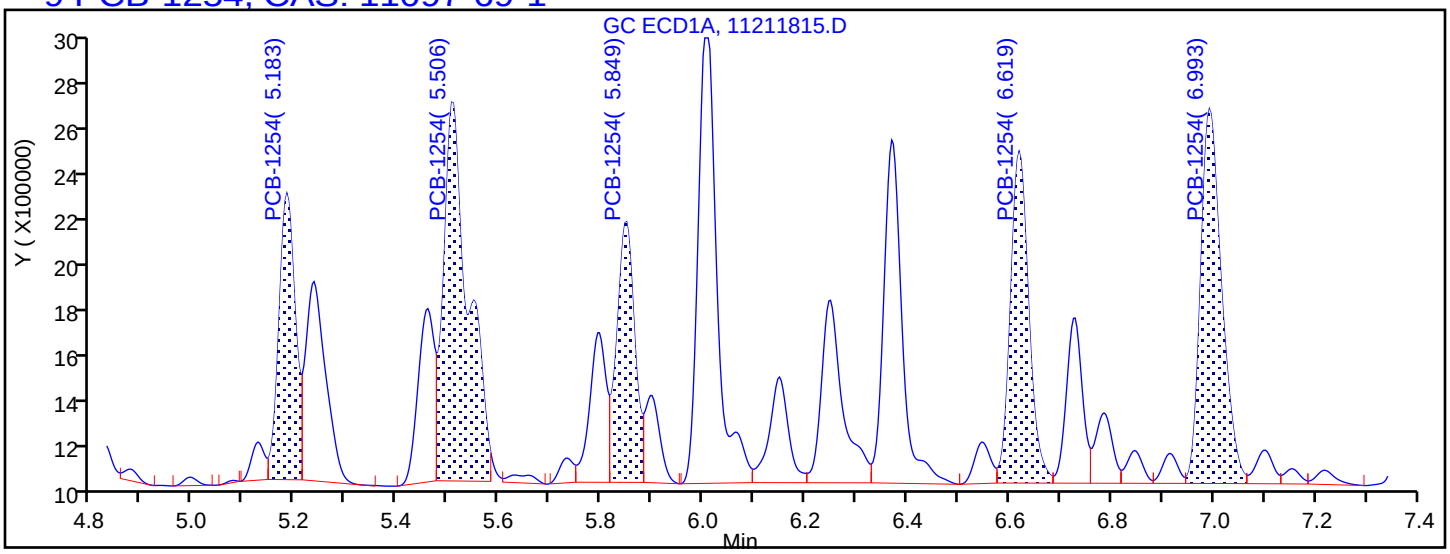
Operator ID: ALS ALS Bottle#: 15 Worklist Smp#: 15

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

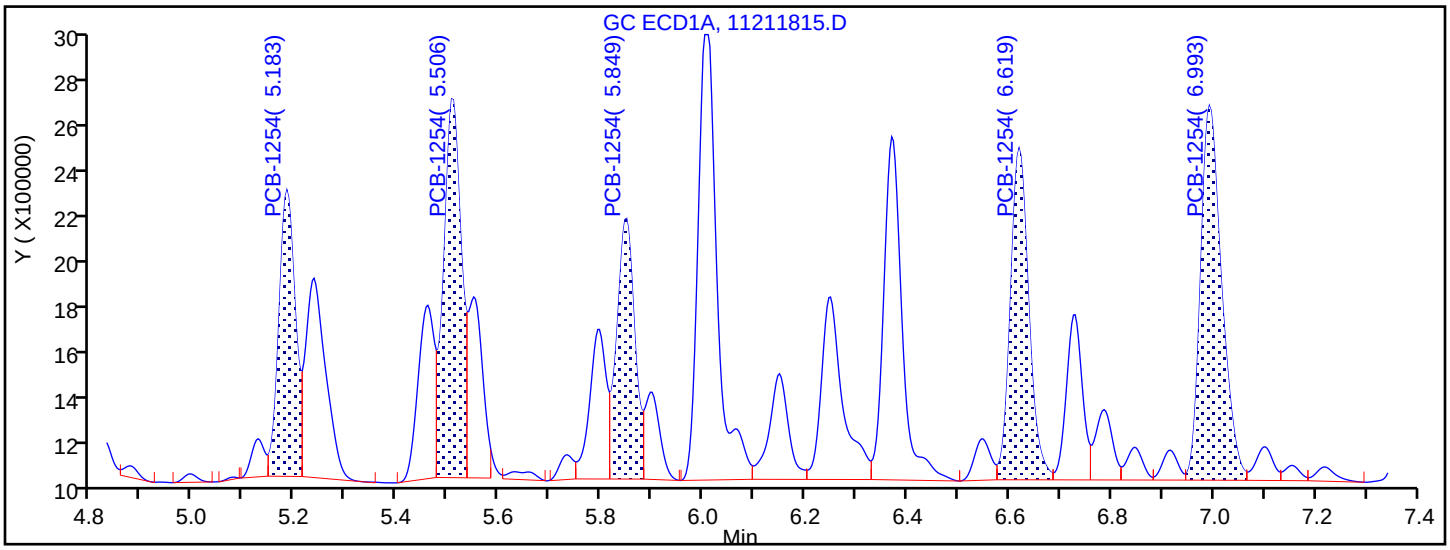
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

9 PCB-1254, CAS: 11097-69-1



Processing Integration Results

5.183	Response = 2662071
5.506	Response = 5259178
5.849	Response = 2648846
6.619	Response = 3428029
6.993	Response = 4426432



Manual Integration Results

5.183	Response = 2662071	
5.506	Response = 3775608	M
5.849	Response = 2648846	
6.619	Response = 3428029	
6.993	Response = 4426432	

Reviewer: mooret, 21-Nov-2018 15:11:33

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211816.D
Lims ID: STDL22154
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Nov-2018 14:02:19 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL22154
Misc. Info.: 280-0076428-016
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:18 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:11:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	27612767	1000.0	1000.0	
2	1.746	1.749	-0.003	155958976	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.086	3.085	0.001	422934	50.0	50.7	
1	3.229	3.232	-0.003	264535	50.0	51.1	
1	3.269	3.269	0.000	1048520	50.0	50.1	
		Average of Peak Amounts =				50.6	
2	3.093	3.092	0.001	1479927	50.0	49.7	
2	3.223	3.222	0.001	922521	50.0	52.8	
2	3.276	3.276	0.000	3428605	50.0	53.7	
		Average of Peak Amounts =				52.0	
						RPD = 2.79	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.183	5.182	0.001	1487053	50.0	56.1	
1	5.506	5.509	-0.003	2050858	50.0	55.4	
1	5.846	5.849	-0.003	1380932	50.0	53.3	
1	6.619	6.622	-0.003	1866154	50.0	55.2	
1	6.993	6.995	-0.002	2374593	50.0	54.4	
		Average of Peak Amounts =				54.9	
2	5.530	5.529	0.001	6401352	50.0	53.9	
2	5.953	5.952	0.001	4927585	50.0	54.0	
2	6.403	6.402	0.001	6824249	50.0	54.3	
2	6.646	6.649	-0.003	4105287	50.0	55.1	
2	7.120	7.119	0.001	9840352	50.0	54.8	
		Average of Peak Amounts =				54.4	
						RPD = 0.81	
S 8 Polychlorinated biphenyls, Total							
1						105.5	
2						106.5	
						RPD = 0.93	

Reagents:

AR_2154_L2_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

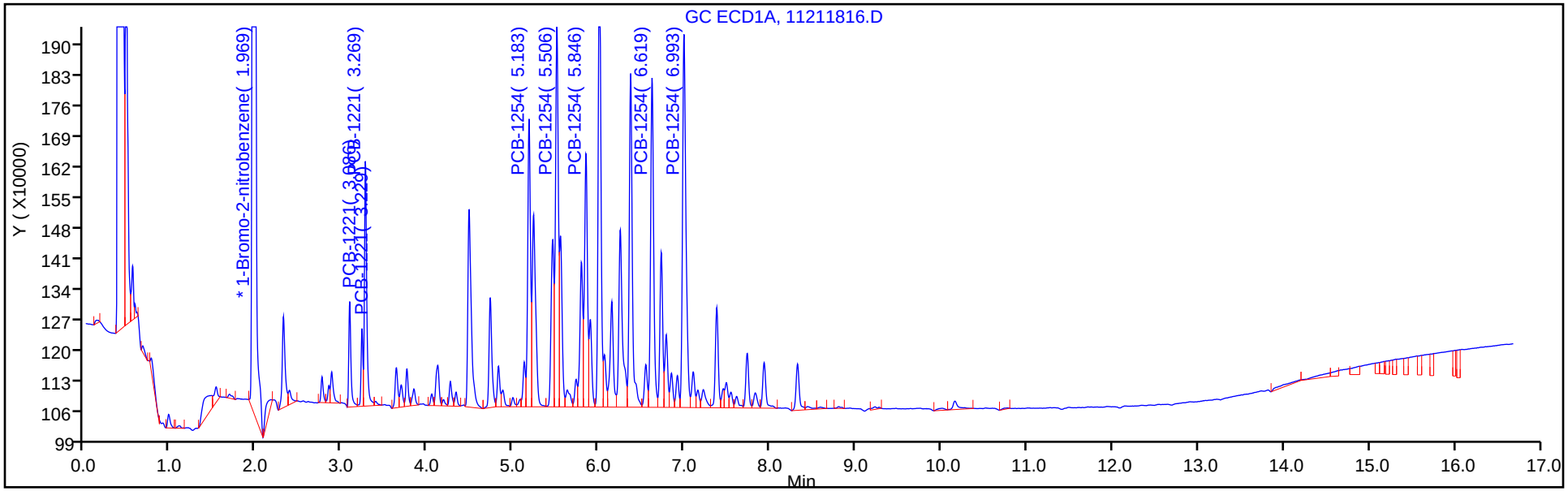
Report Date: 23-Nov-2018 11:02:18 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

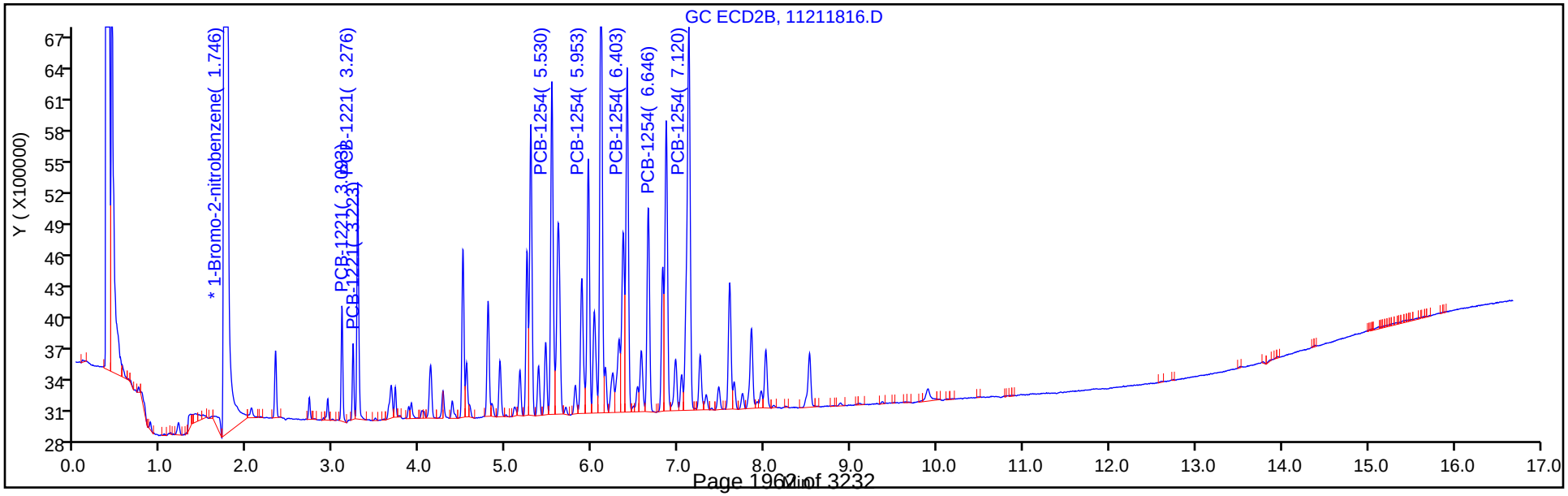
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211816.D

Injection Date:	21-Nov-2018 14:02:19	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL22154			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211817.D
Lims ID: STDL12154
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Nov-2018 14:23:32 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL12154
Misc. Info.: 280-0076428-017
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:20 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:12:37

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	31158892	1000.0	1000.0	
2	1.749	1.749	0.000	174644682	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.085	3.085	0.000	258968	25.0	22.3	
1	3.229	3.232	-0.003	155902	25.0	18.6	
1	3.272	3.269	0.003	594265	25.0	19.4	
		Average of Peak Amounts =				20.1	
2	3.092	3.092	0.000	990606	25.0	21.2	
2	3.222	3.222	0.000	531473	25.0	20.4	
2	3.276	3.276	0.000	1966030	25.0	19.1	
		Average of Peak Amounts =				20.2	
						RPD = 0.49	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							M
1	5.182	5.182	0.000	810954	25.0	18.9	
1	5.509	5.509	0.000	1058665	25.0	18.7	M
1	5.849	5.849	0.000	734067	25.0	21.4	
1	6.619	6.622	-0.003	977183	25.0	19.3	
1	6.992	6.995	-0.003	1230625	25.0	21.0	
		Average of Peak Amounts =				19.9	
2	5.529	5.529	0.000	3601131	25.0	17.7	
2	5.952	5.952	0.000	2735694	25.0	18.2	
2	6.402	6.402	0.000	3769252	25.0	17.7	
2	6.649	6.649	0.000	2218210	25.0	17.2	
2	7.119	7.119	0.000	5349050	25.0	17.7	
		Average of Peak Amounts =				17.7	
						RPD = 11.52	
S 8 Polychlorinated biphenyls, Total							
1						40.0	
2						37.9	
						RPD = 5.30	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_2154_L1_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

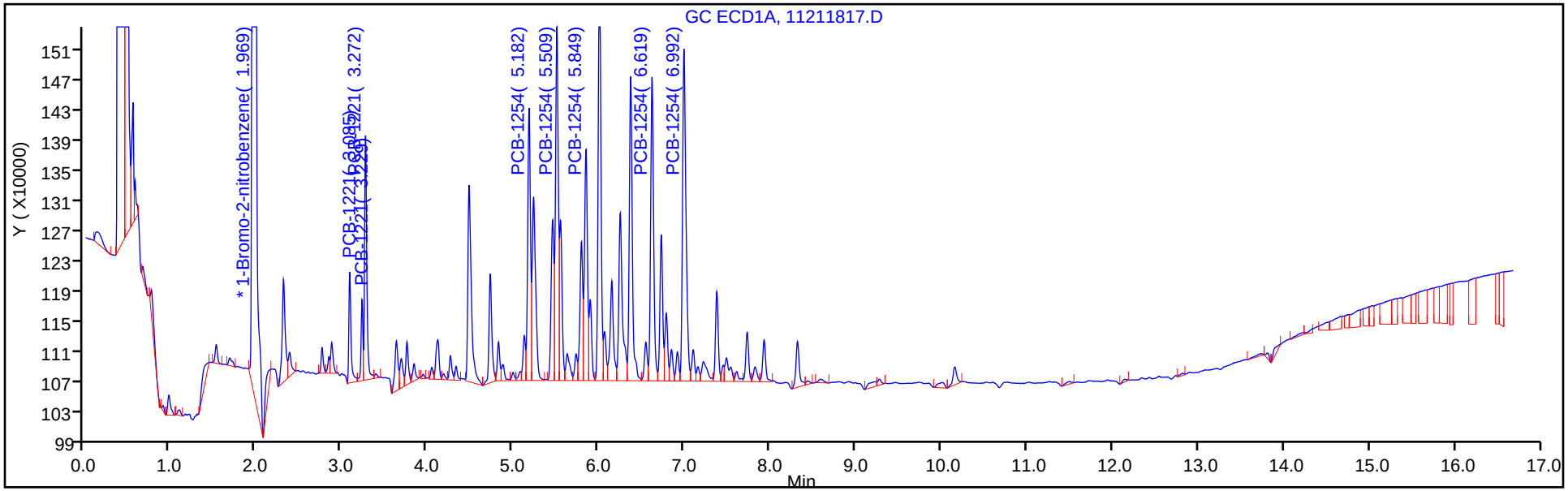
Report Date: 23-Nov-2018 11:02:20 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

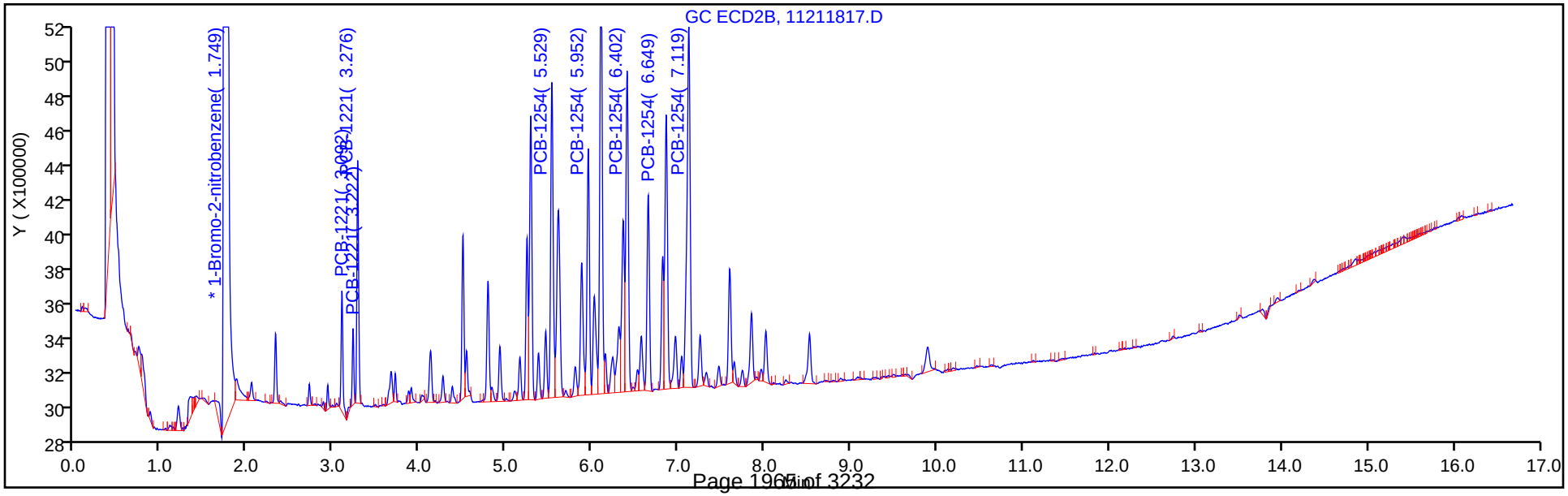
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211817.D

Injection Date:	21-Nov-2018 14:23:32	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL12154			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



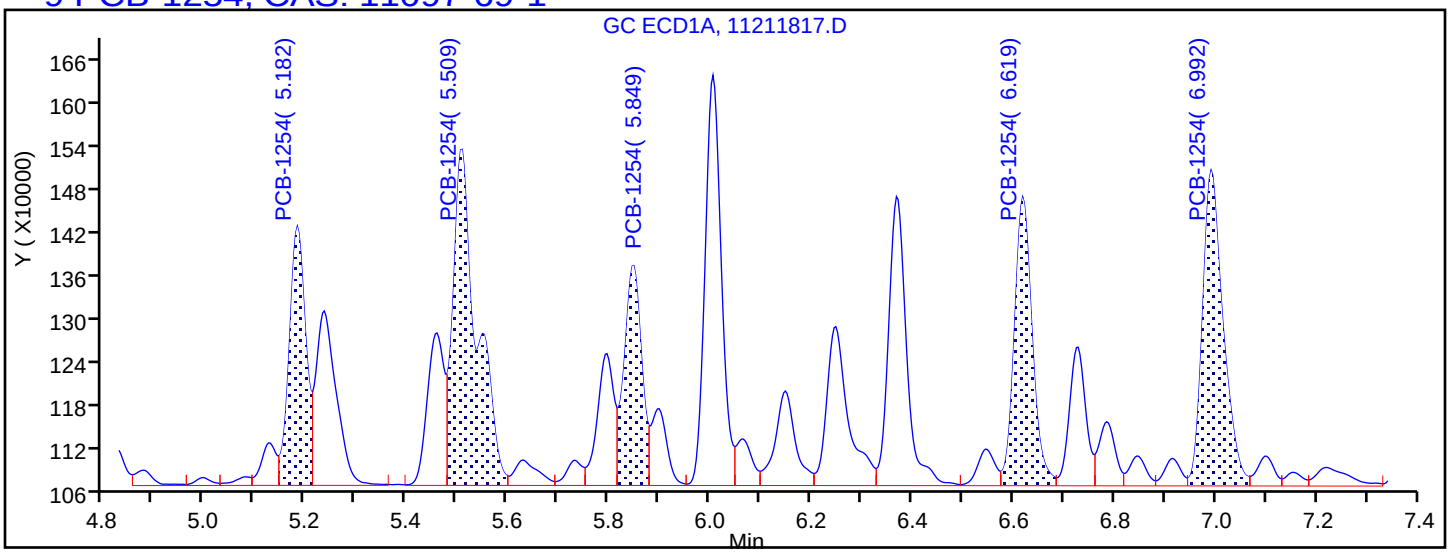
Report Date: 23-Nov-2018 11:02:20 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211817.D

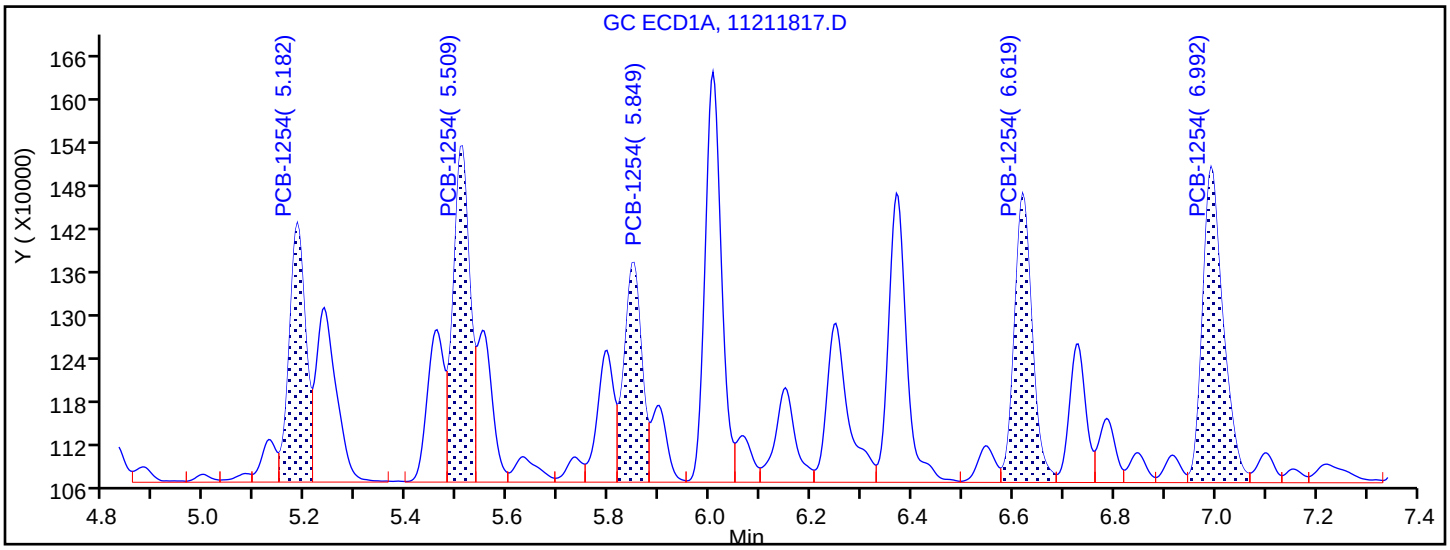
Injection Date:	21-Nov-2018 14:23:32	Instrument ID:	SGC_J		
Lims ID:	STDL12154				
Client ID:					
Operator ID:	ALS	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		
Column:	CLP1 Pesticides Column 1 (0.32 mm)	Detector	GC ECD1A		

9 PCB-1254, CAS: 11097-69-1



Processing Integration Results

5.182	Response = 810954
5.509	Response = 1501336
5.849	Response = 734067
6.619	Response = 977183
6.992	Response = 1230625



Manual Integration Results

5.182	Response = 810954	
5.509	Response = 1058665	M
5.849	Response = 734067	
6.619	Response = 977183	
6.992	Response = 1230625	

Reviewer: mooret, 21-Nov-2018 15:12:00

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 12:16 Calibration End Date: 11/21/2018 14:23 Calibration ID: 34383

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL12154 280-438388/17	11211817.D
Level 2	STDL22154 280-438388/16	11211816.D
Level 3	STDL32154 280-438388/15	11211815.D
Level 4	STDL42154 280-438388/14	11211814.D
Level 5	STDL52154 280-438388/13	11211813.D
Level 6	STDL62154 280-438388/12	11211812.D
Level 7	STDL72154 280-438388/11	11211811.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1221 Peak 1	0.2269 0.1403	0.1898 0.1304	0.1734	0.1571	0.1427	Lin1	2.8240	0.1342							0.9970		0.9900
PCB-1221 Peak 2	0.1217 0.0942	0.1183 0.0861	0.1097	0.0979	0.0898	Lin1	1.2314	0.0888							0.9970		0.9900
PCB-1221 Peak 3	0.4503 0.3250	0.4397 0.2999	0.3974	0.3527	0.3224	Lin1	5.3527	0.3097							0.9970		0.9900
PCB-1254 Peak 1	0.8248 0.5784	0.8209 0.5477	0.7497	0.6598	0.6054	Lin1	10.612	0.5651							0.9950		0.9900
PCB-1254 Peak 2	0.6266 0.4579	0.6319 0.4299	0.5761	0.5113	0.4740	Lin1	7.5798	0.4449							0.9960		0.9900
PCB-1254 Peak 3	0.8633 0.6253	0.8751 0.5801	0.7886	0.7036	0.6515	Lin1	10.868	0.6052							0.9950		0.9900
PCB-1254 Peak 4	0.5081 0.3697	0.5265 0.3469	0.4743	0.4171	0.3816	Lin1	6.5376	0.3588							0.9950		0.9900
PCB-1254 Peak 5	1.2251 0.8966	1.2619 0.8494	1.1403	1.0046	0.9311	Lin1	15.121	0.8749							0.9960		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 12:16 Calibration End Date: 11/21/2018 14:23 Calibration ID: 34383

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL12154 280-438388/17	11211817.D
Level 2	STDL22154 280-438388/16	11211816.D
Level 3	STDL32154 280-438388/15	11211815.D
Level 4	STDL42154 280-438388/14	11211814.D
Level 5	STDL52154 280-438388/13	11211813.D
Level 6	STDL62154 280-438388/12	11211812.D
Level 7	STDL72154 280-438388/11	11211811.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1221 Peak 1	BNB	Lin1	990606 18439769	1479927 23025045	2763923	6662383	12215805	25.0 750	50.0 1000	100	250	500
PCB-1221 Peak 2	BNB	Lin1	531473 12375313	922521 15205275	1748923	4151876	7689765	25.0 750	50.0 1000	100	250	500
PCB-1221 Peak 3	BNB	Lin1	1966030 42701683	3428605 52969181	6335939	14954730	27611810	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 1	BNB	Lin1	3601131 76003812	6401352 96750392	11951653	27978613	51845638	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 2	BNB	Lin1	2735694 60170755	4927585 75935033	9184571	21681477	40591711	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 3	BNB	Lin1	3769252 82164284	6824249 102458024	12571284	29833754	55787230	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 4	BNB	Lin1	2218210 48574994	4105287 61272987	7560827	17685692	32678665	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 5	BNB	Lin1	5349050 117808494	9840352 150030344	18178594	42598206	79736218	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211811.D
Lims ID: STDL72154
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Nov-2018 12:16:22 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL72154
Misc. Info.: 280-0076428-011
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:04 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:10:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.969	-0.001	31780064	1000.0	1000.0	
2	1.748	1.745	0.003	176632693	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.088	3.085	0.003	7654096	1000.0	964.1	
1	3.231	3.232	-0.001	4185310	1000.0	916.3	
1	3.271	3.269	0.002	18870386	1000.0	951.3	
		Average of Peak Amounts =				943.9	
2	3.094	3.092	0.002	23025045	1000.0	950.4	
2	3.221	3.222	-0.001	15205275	1000.0	956.1	
2	3.278	3.276	0.002	52969181	1000.0	950.9	
		Average of Peak Amounts =				952.5	
						RPD = 0.90	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.181	5.182	-0.001	23698129	1000.0	980.6	
1	5.508	5.509	-0.001	33934042	1000.0	959.7	
1	5.848	5.849	-0.001	26040802	1000.0	981.4	
1	6.621	6.622	-0.001	31371863	1000.0	968.4	
1	6.994	6.995	-0.001	43698000	1000.0	978.1	
		Average of Peak Amounts =				973.6	
2	5.531	5.529	0.002	96750392	1000.0	950.5	
2	5.951	5.952	-0.001	75935033	1000.0	949.3	
2	6.404	6.402	0.002	102458024	1000.0	940.6	
2	6.648	6.649	-0.001	61272987	1000.0	948.5	
2	7.118	7.119	-0.001	150030344	1000.0	953.5	
		Average of Peak Amounts =				948.5	
						RPD = 2.62	
S 8 Polychlorinated biphenyls, Total							
1						1917.5	
2						1901.0	
						RPD = 0.87	

Reagents:

AR_2154_L7_00020	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

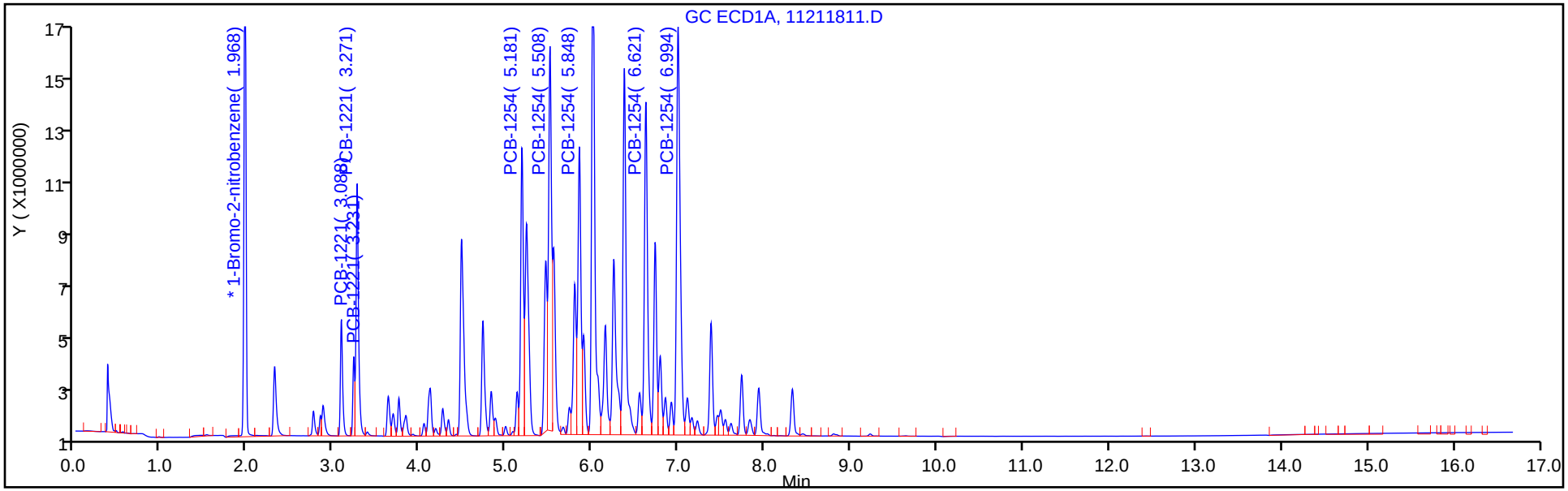
Report Date: 23-Nov-2018 11:02:05 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

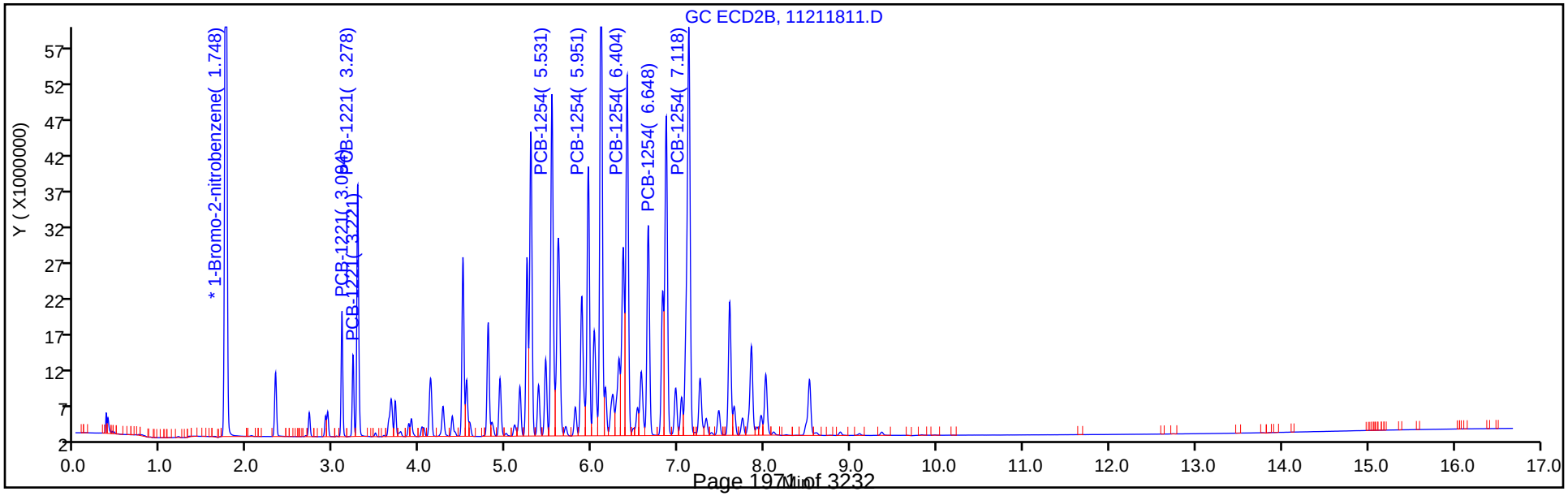
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211811.D

Injection Date:	21-Nov-2018 12:16:22	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL72154			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211812.D
Lims ID: STDL62154
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Nov-2018 12:37:32 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL62154
Misc. Info.: 280-0076428-012
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:06 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:10:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.969	0.001	31351854	1000.0	1000.0	
2	1.746	1.745	0.001	175195598	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.086	3.085	0.001	5979075	750.0	761.1	
1	3.230	3.232	-0.002	3504422	750.0	775.2	
1	3.270	3.269	0.001	14922887	750.0	760.3	
		Average of Peak Amounts =				765.5	
2	3.093	3.092	0.001	18439769	750.0	763.3	
2	3.223	3.222	0.001	12375313	750.0	782.0	
2	3.276	3.276	0.000	42701683	750.0	769.7	
		Average of Peak Amounts =				771.7	
						RPD = 0.80	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.183	5.182	0.001	18053312	750.0	753.6	
1	5.506	5.509	-0.003	26738366	750.0	764.1	
1	5.850	5.849	0.001	20156036	750.0	768.4	
1	6.620	6.622	-0.002	24380329	750.0	760.3	
1	6.993	6.995	-0.002	33590891	750.0	760.5	
		Average of Peak Amounts =				761.4	
2	5.530	5.529	0.001	76003812	750.0	748.9	
2	5.953	5.952	0.001	60170755	750.0	755.0	
2	6.403	6.402	0.001	82164284	750.0	757.0	
2	6.650	6.649	0.001	48574994	750.0	754.4	
2	7.120	7.119	0.001	117808494	750.0	751.3	
		Average of Peak Amounts =				753.3	
						RPD = 1.07	
S 8 Polychlorinated biphenyls, Total							
1						1526.9	
2						1525.0	
						RPD = 0.12	

Reagents:

AR_2154_L6_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

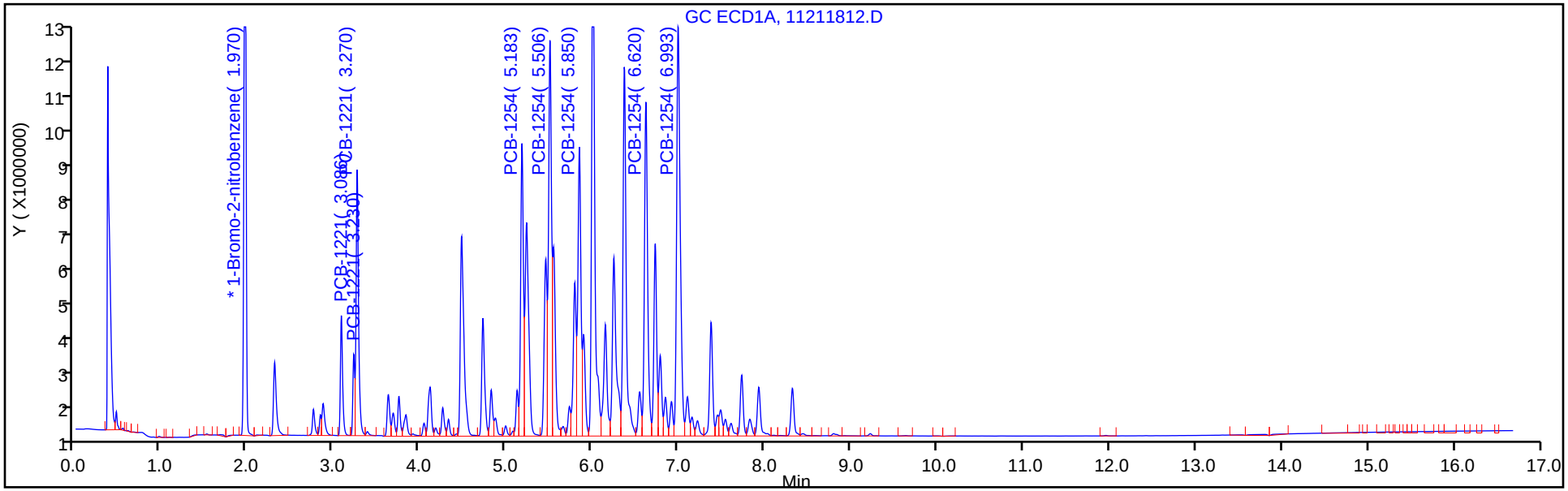
Report Date: 23-Nov-2018 11:02:07 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

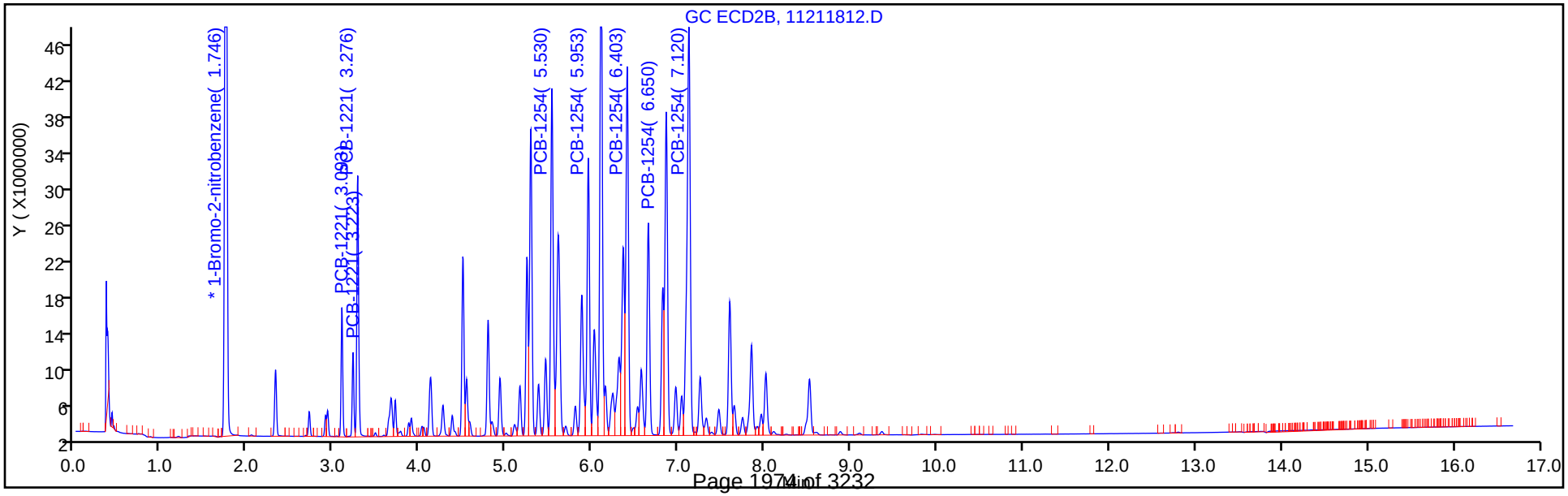
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211812.D

Injection Date:	21-Nov-2018 12:37:32	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL62154			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211813.D
Lims ID: STDL52154
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Nov-2018 12:58:43 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL52154
Misc. Info.: 280-0076428-013
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:10 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:09:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	30445909	1000.0	1000.0	
2	1.749	1.749	0.000	171268741	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.085	3.085	0.000	3897553	500.0	507.1	
1	3.232	3.232	0.000	2302370	500.0	519.0	
1	3.269	3.269	0.000	9761452	500.0	508.4	
		Average of Peak Amounts =				511.5	
2	3.092	3.092	0.000	12215805	500.0	510.5	
2	3.222	3.222	0.000	7689765	500.0	492.0	
2	3.276	3.276	0.000	27611810	500.0	503.2	
		Average of Peak Amounts =				501.9	
						RPD = 1.89	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							M
1	5.182	5.182	0.000	11654391	500.0	495.7	
1	5.509	5.509	0.000	17219418	500.0	502.6	M
1	5.849	5.849	0.000	12420039	500.0	485.0	
1	6.622	6.622	0.000	15696475	500.0	500.1	
1	6.995	6.995	0.000	21521176	500.0	499.3	
		Average of Peak Amounts =				496.5	
2	5.529	5.529	0.000	51845638	500.0	516.9	
2	5.952	5.952	0.000	40591711	500.0	515.7	
2	6.402	6.402	0.000	55787230	500.0	520.3	
2	6.649	6.649	0.000	32678665	500.0	513.5	
2	7.119	7.119	0.000	79736218	500.0	514.8	
		Average of Peak Amounts =				516.3	
						RPD = 3.89	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_2154_L5_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

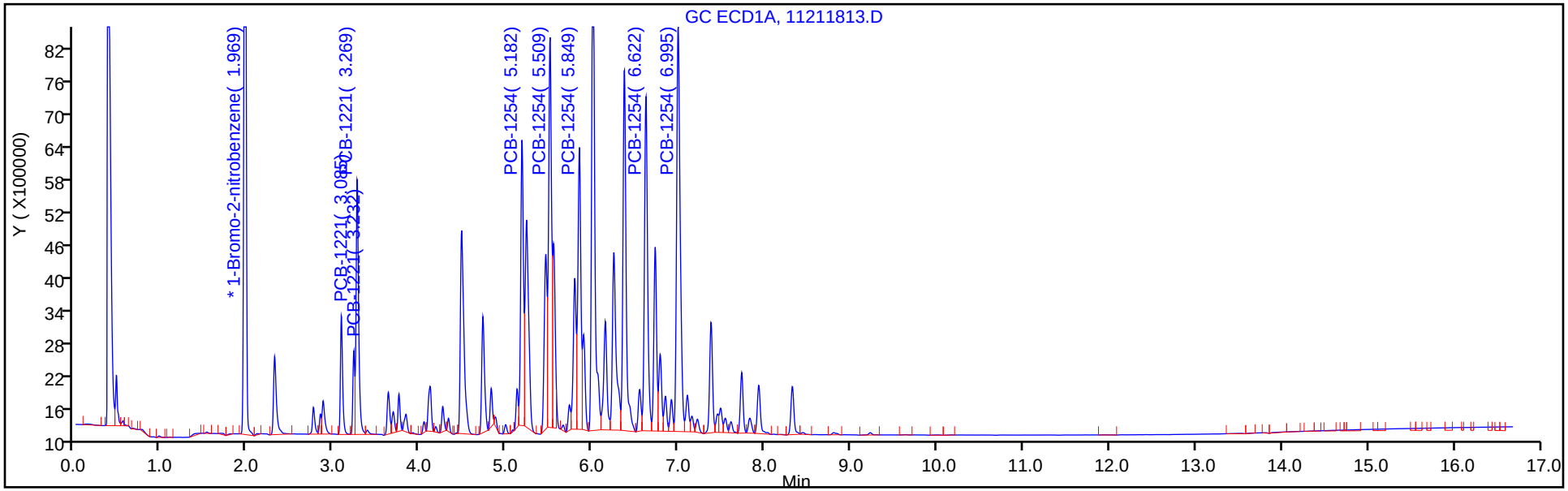
Report Date: 23-Nov-2018 11:02:11 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

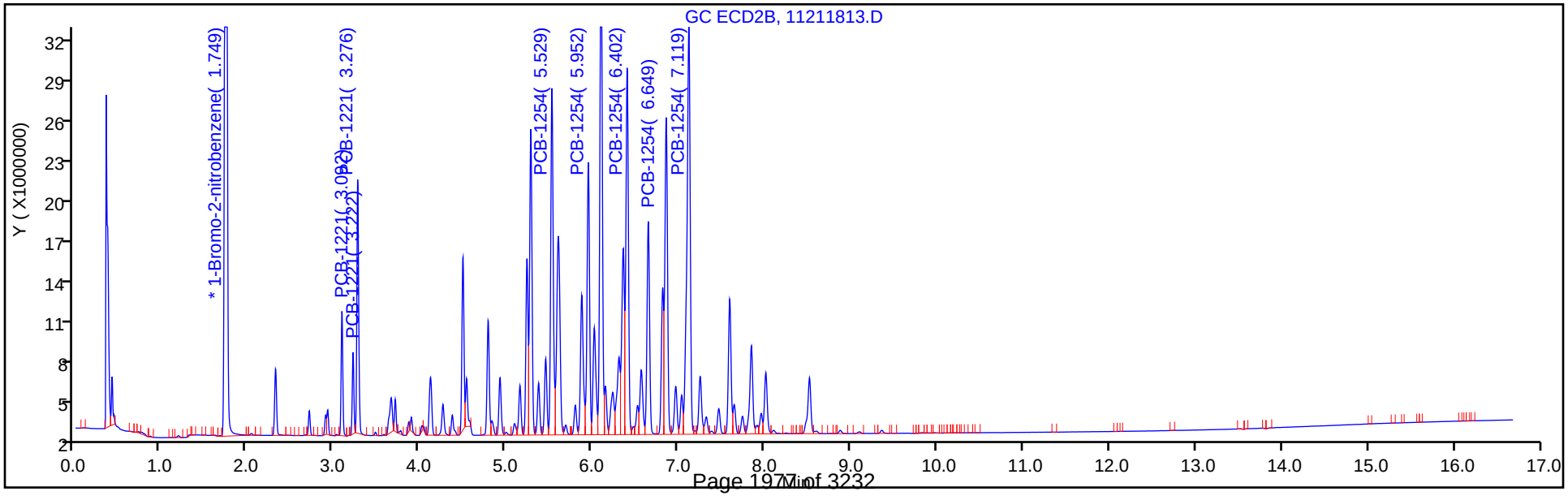
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211813.D

Injection Date:	21-Nov-2018 12:58:43	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL52154			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211814.D
Lims ID: STDL42154
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Nov-2018 13:19:55 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL42154
Misc. Info.: 280-0076428-014
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:12 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:09:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.969	0.001	30112720	1000.0	1000.0	
2	1.747	1.749	-0.002	169613542	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.086	3.085	0.001	2063928	250.0	266.3	
1	3.230	3.232	-0.002	1277667	250.0	283.8	
1	3.270	3.269	0.001	5214449	250.0	269.3	
		Average of Peak Amounts =				273.1	
2	3.093	3.092	0.001	6662383	250.0	271.7	
2	3.223	3.222	0.001	4151876	250.0	261.9	
2	3.277	3.276	0.001	14954730	250.0	267.4	
		Average of Peak Amounts =				267.0	
						RPD = 2.27	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							M
1	5.183	5.182	0.001	6200718	250.0	259.3	
1	5.506	5.509	-0.003	9144535	250.0	264.2	M
1	5.846	5.849	-0.003	6634099	250.0	258.7	
1	6.620	6.622	-0.002	8316205	250.0	262.4	
1	6.993	6.995	-0.002	11066699	250.0	256.1	
		Average of Peak Amounts =				260.1	
2	5.530	5.529	0.001	27978613	250.0	273.1	
2	5.953	5.952	0.001	21681477	250.0	270.3	
2	6.403	6.402	0.001	29833754	250.0	272.7	
2	6.650	6.649	0.001	17685692	250.0	272.4	
2	7.120	7.119	0.001	42598206	250.0	269.8	
		Average of Peak Amounts =				271.7	
						RPD = 4.33	
S 8 Polychlorinated biphenyls, Total							
1						533.3	
2						538.7	
						RPD = 1.01	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_2154_L4_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

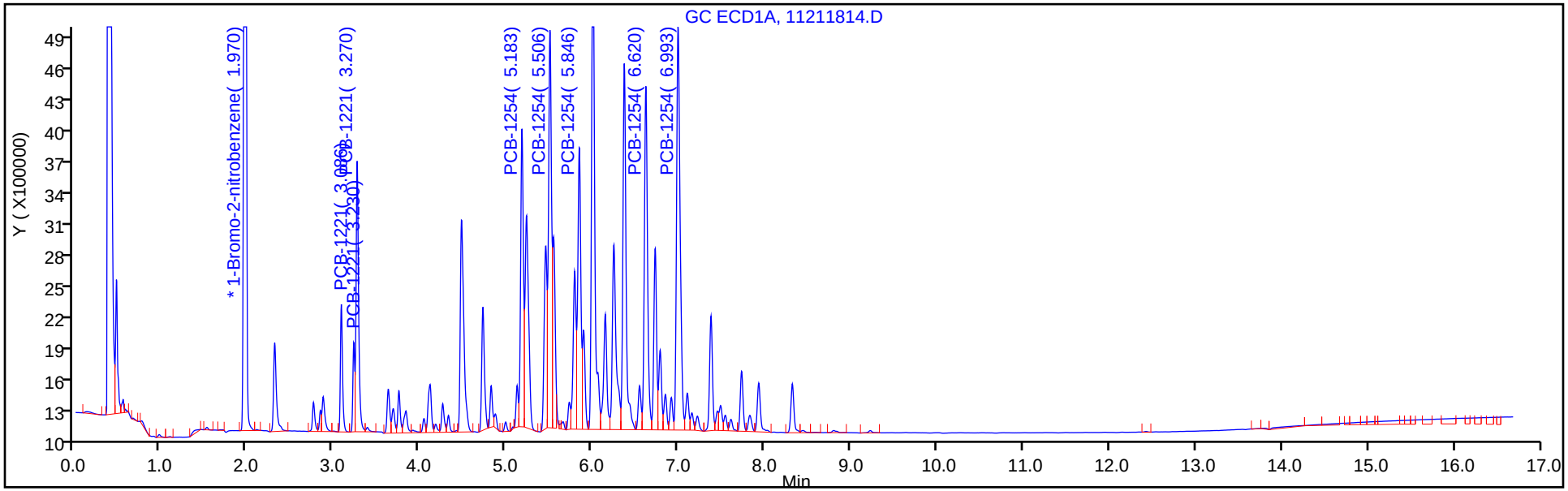
Report Date: 23-Nov-2018 11:02:13 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

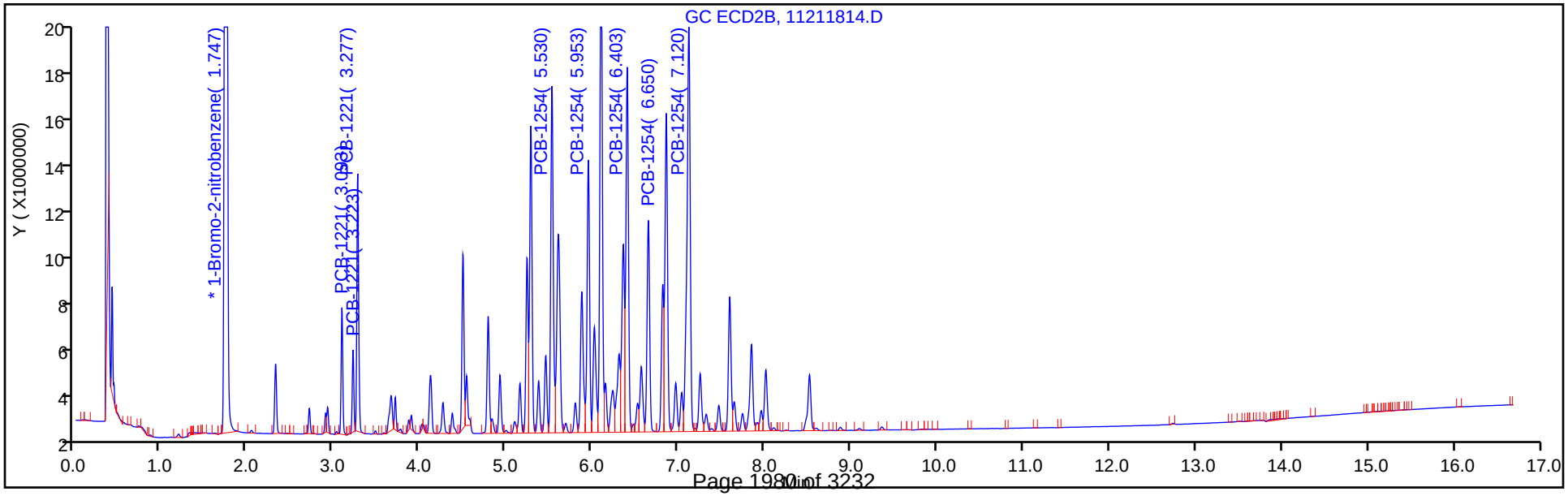
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211814.D

Injection Date:	21-Nov-2018 13:19:55	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL42154			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211815.D
Lims ID: STDL32154
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Nov-2018 13:41:08 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL32154
Misc. Info.: 280-0076428-015
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:15 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:11:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	28078685	1000.0	1000.0	
2	1.746	1.749	-0.003	159417859	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.086	3.085	0.001	794996	100.0	103.4	
1	3.229	3.232	-0.003	506503	100.0	111.0	
1	3.269	3.269	0.000	2212927	100.0	116.3	
		Average of Peak Amounts =				110.2	
2	3.093	3.092	0.001	2763923	100.0	108.2	
2	3.223	3.222	0.001	1748923	100.0	109.7	
2	3.276	3.276	0.000	6335939	100.0	111.0	
		Average of Peak Amounts =				109.6	
						RPD = 0.52	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							M
1	5.183	5.182	0.001	2662071	100.0	110.8	
1	5.506	5.509	-0.003	3775608	100.0	110.2	M
1	5.849	5.849	0.000	2648846	100.0	106.8	
1	6.619	6.622	-0.003	3428029	100.0	109.3	
1	6.993	6.995	-0.002	4426432	100.0	105.7	
		Average of Peak Amounts =				108.6	
2	5.529	5.529	0.000	11951653	100.0	113.9	
2	5.953	5.952	0.001	9184571	100.0	112.5	
2	6.403	6.402	0.001	12571284	100.0	112.4	
2	6.649	6.649	0.000	7560827	100.0	113.9	
2	7.119	7.119	0.000	18178594	100.0	113.0	
		Average of Peak Amounts =				113.1	
						RPD = 4.13	
S 8 Polychlorinated biphenyls, Total							
1						218.8	
2						222.8	
						RPD = 1.82	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_2154_L3_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

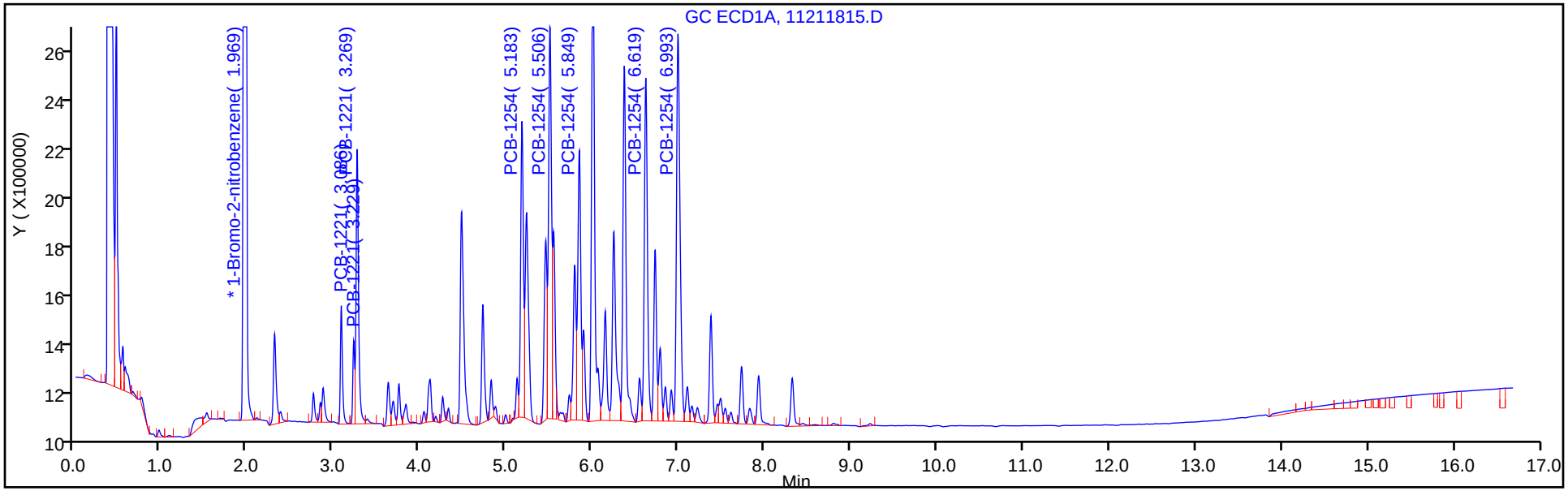
Report Date: 23-Nov-2018 11:02:16 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

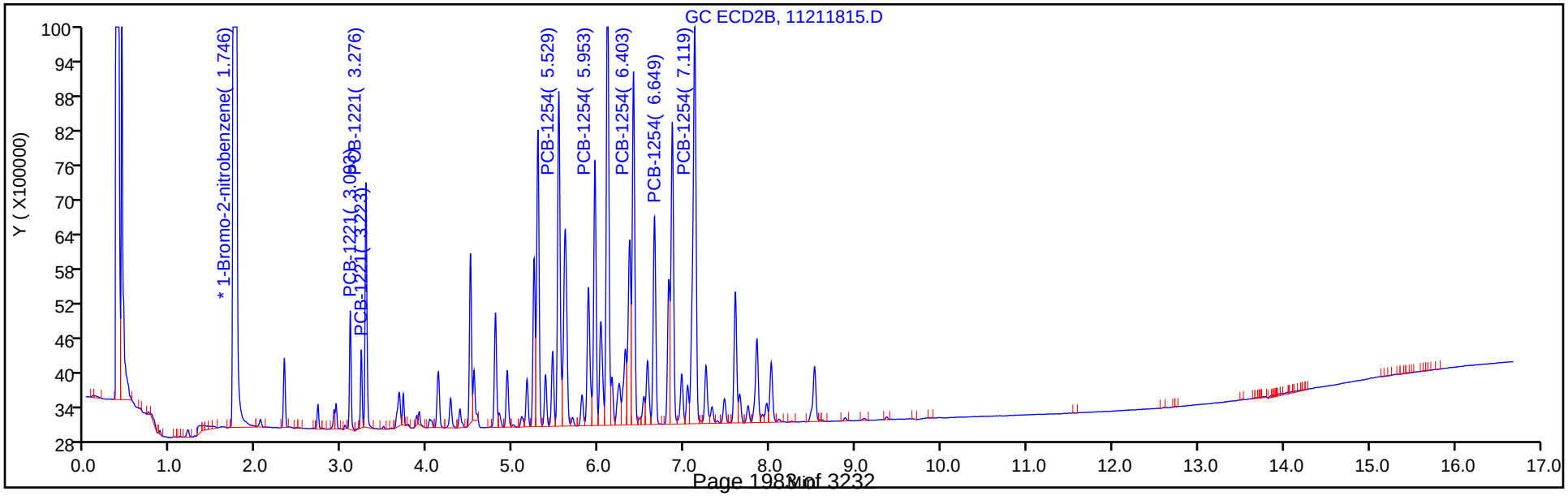
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211815.D

Injection Date:	21-Nov-2018 13:41:08	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL32154			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211816.D
Lims ID: STDL22154
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Nov-2018 14:02:19 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL22154
Misc. Info.: 280-0076428-016
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:18 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:11:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	27612767	1000.0	1000.0	
2	1.746	1.749	-0.003	155958976	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.086	3.085	0.001	422934	50.0	50.7	
1	3.229	3.232	-0.003	264535	50.0	51.1	
1	3.269	3.269	0.000	1048520	50.0	50.1	
		Average of Peak Amounts =				50.6	
2	3.093	3.092	0.001	1479927	50.0	49.7	
2	3.223	3.222	0.001	922521	50.0	52.8	
2	3.276	3.276	0.000	3428605	50.0	53.7	
		Average of Peak Amounts =				52.0	
						RPD = 2.79	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.183	5.182	0.001	1487053	50.0	56.1	
1	5.506	5.509	-0.003	2050858	50.0	55.4	
1	5.846	5.849	-0.003	1380932	50.0	53.3	
1	6.619	6.622	-0.003	1866154	50.0	55.2	
1	6.993	6.995	-0.002	2374593	50.0	54.4	
		Average of Peak Amounts =				54.9	
2	5.530	5.529	0.001	6401352	50.0	53.9	
2	5.953	5.952	0.001	4927585	50.0	54.0	
2	6.403	6.402	0.001	6824249	50.0	54.3	
2	6.646	6.649	-0.003	4105287	50.0	55.1	
2	7.120	7.119	0.001	9840352	50.0	54.8	
		Average of Peak Amounts =				54.4	
						RPD = 0.81	
S 8 Polychlorinated biphenyls, Total							
1						105.5	
2						106.5	
						RPD = 0.93	

Reagents:

AR_2154_L2_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

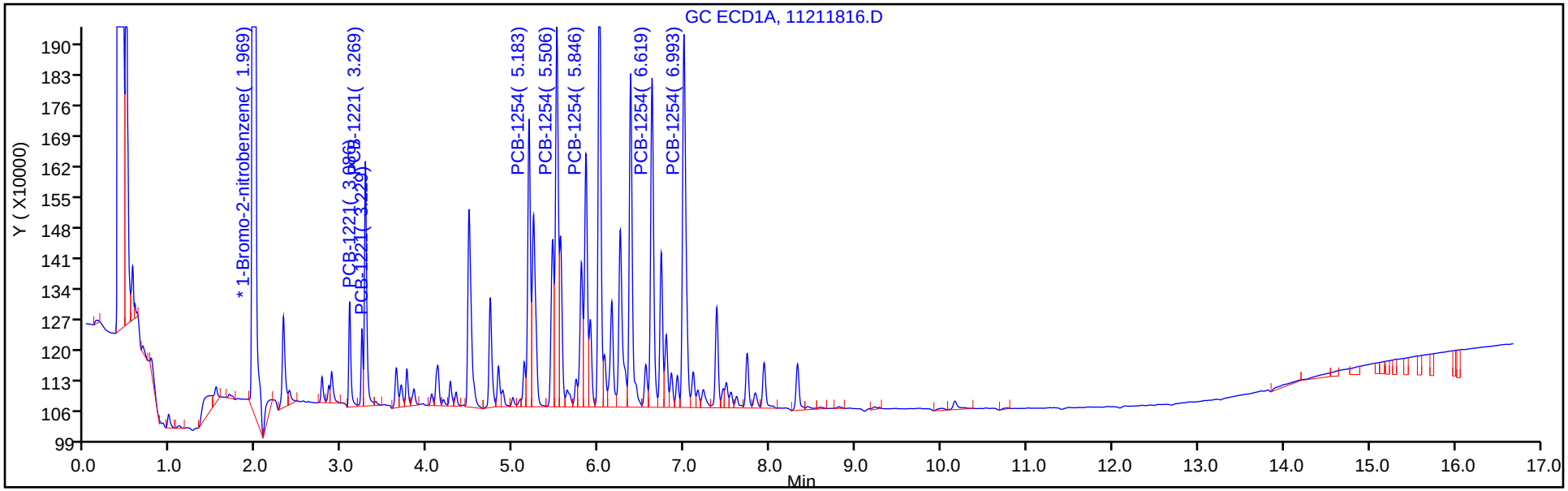
Report Date: 23-Nov-2018 11:02:18 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

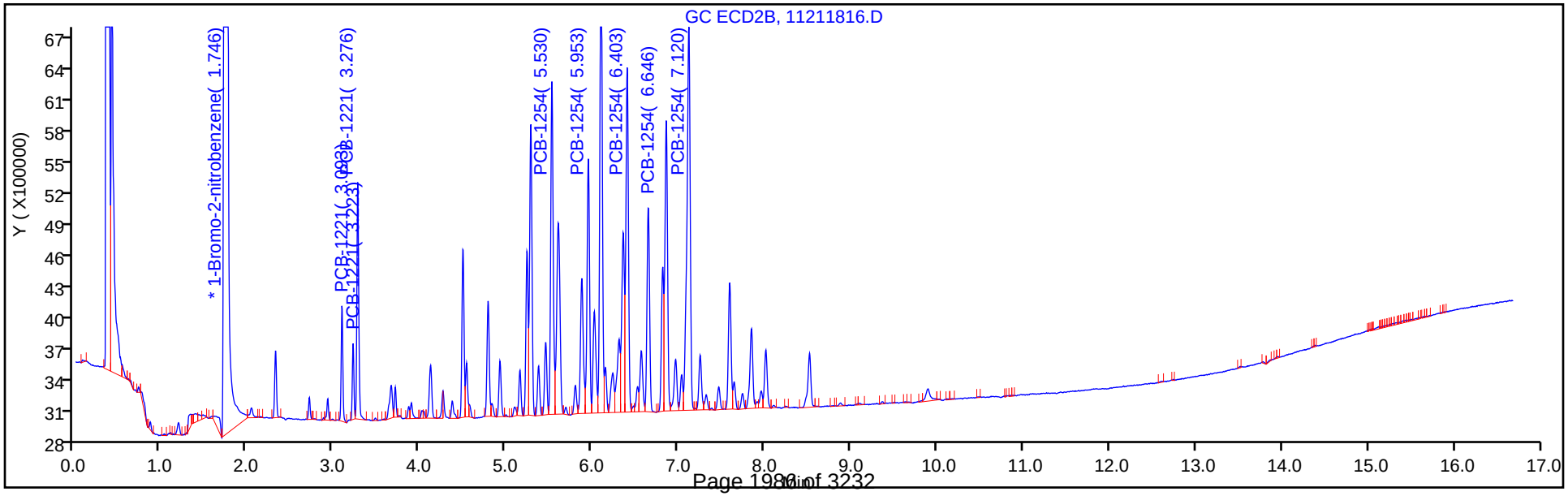
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211816.D

Injection Date:	21-Nov-2018 14:02:19	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL22154			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211817.D
Lims ID: STDL12154
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Nov-2018 14:23:32 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL12154
Misc. Info.: 280-0076428-017
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:20 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:12:37

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	31158892	1000.0	1000.0	
2	1.749	1.749	0.000	174644682	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.085	3.085	0.000	258968	25.0	22.3	
1	3.229	3.232	-0.003	155902	25.0	18.6	
1	3.272	3.269	0.003	594265	25.0	19.4	
		Average of Peak Amounts =				20.1	
2	3.092	3.092	0.000	990606	25.0	21.2	
2	3.222	3.222	0.000	531473	25.0	20.4	
2	3.276	3.276	0.000	1966030	25.0	19.1	
		Average of Peak Amounts =				20.2	
						RPD = 0.49	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							M
1	5.182	5.182	0.000	810954	25.0	18.9	
1	5.509	5.509	0.000	1058665	25.0	18.7	M
1	5.849	5.849	0.000	734067	25.0	21.4	
1	6.619	6.622	-0.003	977183	25.0	19.3	
1	6.992	6.995	-0.003	1230625	25.0	21.0	
		Average of Peak Amounts =				19.9	
2	5.529	5.529	0.000	3601131	25.0	17.7	
2	5.952	5.952	0.000	2735694	25.0	18.2	
2	6.402	6.402	0.000	3769252	25.0	17.7	
2	6.649	6.649	0.000	2218210	25.0	17.2	
2	7.119	7.119	0.000	5349050	25.0	17.7	
		Average of Peak Amounts =				17.7	
						RPD = 11.52	
S 8 Polychlorinated biphenyls, Total							
1						40.0	
2						37.9	
						RPD = 5.30	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_2154_L1_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

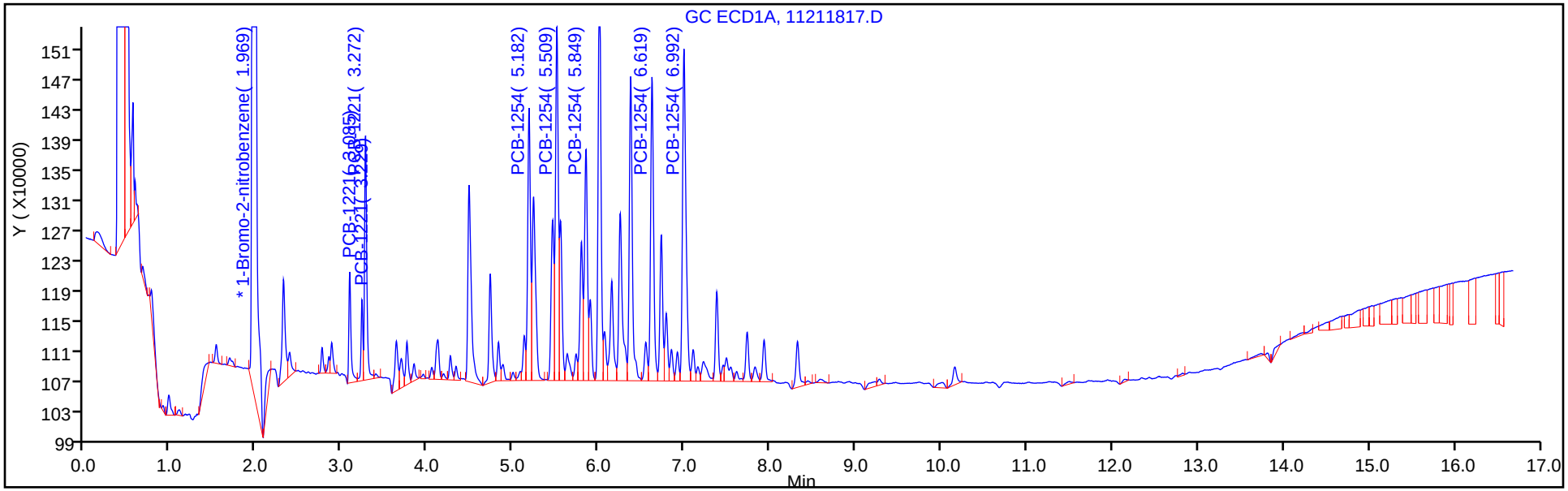
Report Date: 23-Nov-2018 11:02:21 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

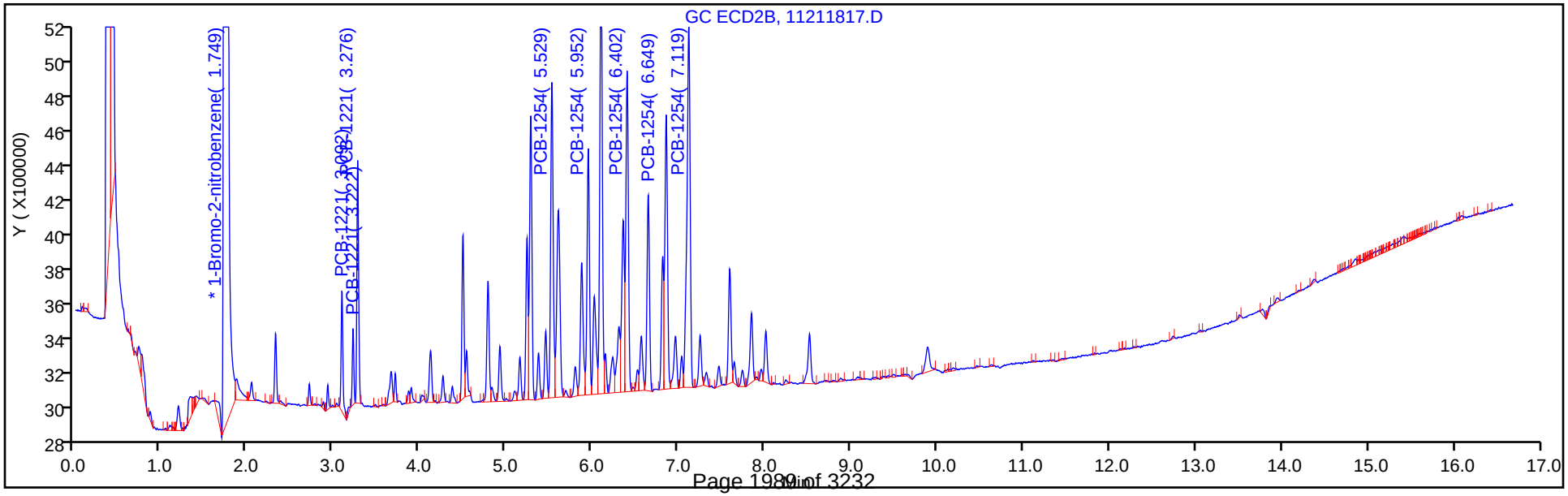
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211817.D

Injection Date:	21-Nov-2018 14:23:32	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL12154			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 14:44 Calibration End Date: 11/21/2018 16:51 Calibration ID: 34386

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11660 280-438388/24	11211824.D
Level 2	STDL21660 280-438388/23	11211823.D
Level 3	STDL31660 280-438388/22	11211822.D
Level 4	STDL41660 280-438388/21	11211821.D
Level 5	STDL51660 280-438388/20	11211820.D
Level 6	STDL61660 280-438388/19	11211819.D
Level 7	STDL71660 280-438388/18	11211818.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	0.5677 0.4346	0.5551 0.3962	0.5409	0.4852	0.4570	Lin1	6.3337	0.4201							0.9940		0.9900
PCB-1016 Peak 2	1.3072 0.9928	1.2929 0.9421	1.2319	1.1161	1.0742	Lin1	13.843	0.9818							0.9950		0.9900
PCB-1016 Peak 3	1.8906 1.8578	1.9617 1.8002	1.9602	1.8927	1.9482	Lin1	4.5623	1.8506							0.9990		0.9900
PCB-1016 Peak 4	0.8890 0.7766	0.9092 0.7383	0.9043	0.8365	0.8317	Lin1	6.3362	0.7699							0.9970		0.9900
PCB-1016 Peak 5	0.9487 0.8423	0.9583 0.8137	0.9580	0.8987	0.8701	Lin1	5.7144	0.8346							0.9980		0.9900
PCB-1260 Peak 1	1.3639 1.1412	1.3747 1.1236	1.3336	1.2270	1.2120	Lin1	9.8220	1.1438							0.9980		0.9900
PCB-1260 Peak 2	1.8759 1.7707	1.9174 1.7702	1.9079	1.8103	1.8575	Lin1	5.2462	1.7856							0.9990		0.9900
PCB-1260 Peak 3	1.1956 1.0408	1.1845 1.0428	1.2002	1.0955	1.1080	Lin1	6.3677	1.0526							0.9990		0.9900
PCB-1260 Peak 4	2.4858 2.3766	2.5292 2.3887	2.5314	2.4370	2.4961	Lin1	5.2228	2.4051							1.0000		0.9900
PCB-1260 Peak 5	1.1252 1.0822	1.1505 1.0911	1.1460	1.1027	1.1345	Lin1	2.0533	1.0959							1.0000		0.9900
Tetrachloro-m-xylene	24.166 26.317	25.085 26.191	25.541	25.685	26.715	Lin1	-3.160	26.379							1.0000		0.9900
DCB Decachlorobiphenyl	25.943 19.864	24.892 19.439	23.887	21.374	21.028	Lin1	11.557	19.760							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 14:44 Calibration End Date: 11/21/2018 16:51 Calibration ID: 34386

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11660 280-438388/24	11211824.D
Level 2	STDL21660 280-438388/23	11211823.D
Level 3	STDL31660 280-438388/22	11211822.D
Level 4	STDL41660 280-438388/21	11211821.D
Level 5	STDL51660 280-438388/20	11211820.D
Level 6	STDL61660 280-438388/19	11211819.D
Level 7	STDL71660 280-438388/18	11211818.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Lin1	469132 10292626	883638 12255500	1679350	3816191	6801886	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 2	BNB	Lin1	1080310 23509757	2058248 29138313	3824818	8778351	15989031	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 3	BNB	Lin1	1562445 43992946	3122897 55680903	6086050	14886212	28999155	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 4	BNB	Lin1	734649 18389026	1447486 22835416	2807752	6578902	12379838	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 5	BNB	Lin1	784034 19946184	1525625 25166398	2974460	7068443	12951678	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 1	BNB	Lin1	1127159 27023644	2188444 34751926	4140653	9650098	18040094	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 2	BNB	Lin1	1550296 41930903	3052493 54752979	5923763	14238155	27649105	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 3	BNB	Lin1	988085 24646608	1885624 32252970	3726238	8615850	16493165	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 4	BNB	Lin1	2054328 56278619	4026393 73881863	7859527	19166787	37154269	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 5	BNB	Lin1	929879 25627349	1831626 33747429	3558044	8672757	16886305	25.0 750	50.0 1000	100	250	500
Tetrachloro-m-xylene	BNB	Lin1	998558 31159991	1996738 40504428	3964953	10100542	19882681	1.25 37.5	2.50 50.0	5.00	12.5	25.0
DCB Decachlorobiphenyl	BNB	Lin1	1072007 23519401	1981347 30062336	3708204	8405396	15649907	1.25 37.5	2.50 50.0	5.00	12.5	25.0

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211818.D
Lims ID: STDL71660
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Nov-2018 14:44:45 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL71660
Misc. Info.: 280-0076428-018
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:22 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:26:02

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.969	0.001	30929643	1000.0	1000.0	
2	1.746	1.749	-0.003	172682643	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.880	2.879	0.001	40504428	50.0	49.8	
2	2.776	2.780	-0.004	105788700	50.0	48.2	
						RPD = 3.20	
1 PCB-1016							
1	3.270	3.269	0.001	12255500	1000.0	928.2	
1	3.633	3.633	0.000	29138313	1000.0	945.4	
1	4.116	4.116	0.000	55680903	1000.0	970.3	
1	4.263	4.263	0.000	22835416	1000.0	950.7	
1	4.730	4.729	0.001	25166398	1000.0	968.1	
		Average of Peak Amounts =				952.5	
2	3.276	3.276	0.000	35638141	1000.0	956.5	
2	3.666	3.666	0.000	73285982	1000.0	952.1	
2	4.123	4.123	0.000	163781976	1000.0	957.7	
2	4.266	4.266	0.000	69518646	1000.0	946.1	
2	4.496	4.496	0.000	37279827	1000.0	943.6	
		Average of Peak Amounts =				951.2	
						RPD = 0.14	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.250	6.249	0.001	34751926	1000.0	973.7	
1	6.993	6.993	0.000	54752979	1000.0	988.5	
1	7.490	7.489	0.001	32252970	1000.0	984.6	
1	7.930	7.929	0.001	73881863	1000.0	991.0	
1	8.320	8.319	0.001	33747429	1000.0	993.7	
		Average of Peak Amounts =				986.3	
2	6.650	6.646	0.004	121750112	1000.0	963.1	
2	7.116	7.116	0.000	181248886	1000.0	965.7	
2	7.646	7.646	0.000	109270203	1000.0	970.8	
2	8.013	8.013	0.000	244056914	1000.0	967.3	
2	8.516	8.516	0.000	187015797	1000.0	968.8	
		Average of Peak Amounts =				967.2	
						RPD = 1.96	
$ 15 DCB Decachlorobiphenyl							
1	9.913	9.913	0.000	30062336	50.0	48.6	
2	10.186	10.186	0.000	121182268	50.0	48.3	
						RPD = 0.69	
S 8 Polychlorinated biphenyls, Total							
1						1938.9	
2						1918.4	
						RPD = 1.06	

Reagents:

AR_1660_L7_00026	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

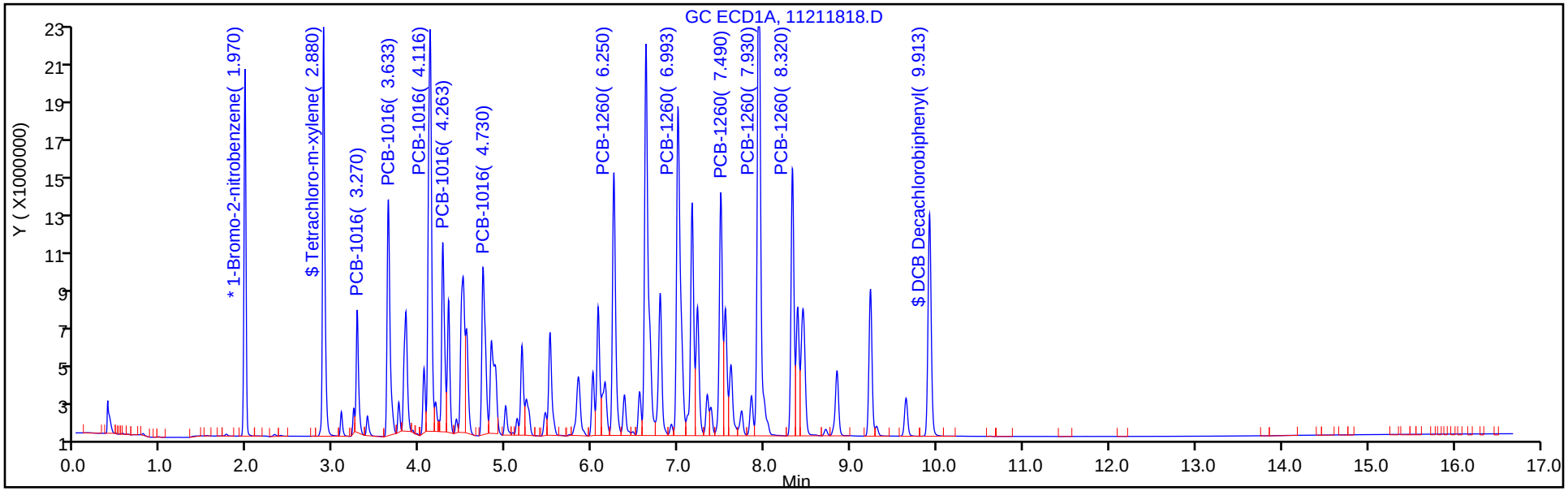
Report Date: 23-Nov-2018 11:02:23 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

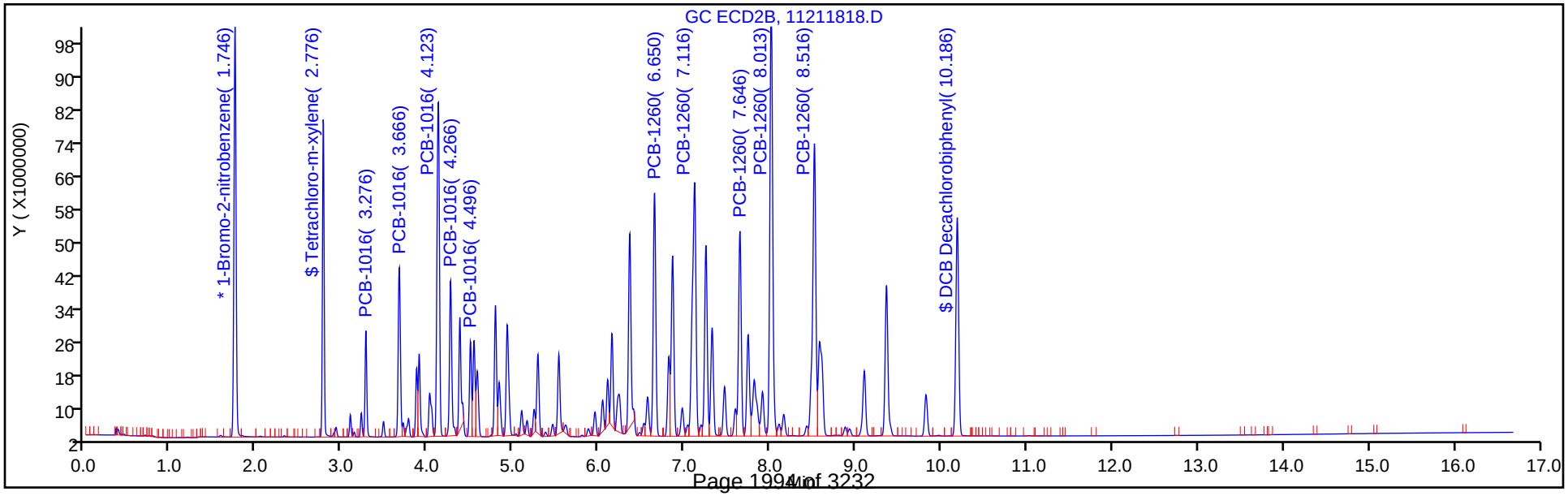
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211818.D

Injection Date:	21-Nov-2018 14:44:45	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL71660			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211819.D
Lims ID: STDL61660
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Nov-2018 15:05:56 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL61660
Misc. Info.: 280-0076428-019
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:25 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:02:20

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.969	-0.001	31573792	1000.0	1000.0	
2	1.749	1.749	0.000	174603036	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.882	2.879	0.003	31159991	37.5	37.5	
2	2.779	2.780	-0.001	83308843	37.5	37.4	
						RPD = 0.34	
1 PCB-1016							
1	3.272	3.269	0.003	10292626	750.0	760.9	
1	3.632	3.633	-0.001	23509757	750.0	744.3	
1	4.118	4.116	0.002	43992946	750.0	750.5	
1	4.265	4.263	0.002	18389026	750.0	748.3	
1	4.732	4.729	0.003	19946184	750.0	750.1	
		Average of Peak Amounts =				750.8	
2	3.275	3.276	-0.001	28324629	750.0	748.3	
2	3.665	3.666	-0.001	58050459	750.0	742.3	
2	4.122	4.123	-0.001	128903407	750.0	742.4	
2	4.265	4.266	-0.001	55437372	750.0	742.9	
2	4.499	4.496	0.003	30262522	750.0	754.2	
		Average of Peak Amounts =				746.0	
						RPD = 0.64	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.248	6.249	-0.001	27023644	750.0	739.7	
1	6.992	6.993	-0.001	41930903	750.0	740.8	
1	7.488	7.489	-0.001	24646608	750.0	735.5	
1	7.932	7.929	0.003	56278619	750.0	738.9	
1	8.322	8.319	0.003	25627349	750.0	738.8	
		Average of Peak Amounts =				738.7	
2	6.649	6.646	0.003	95127310	750.0	741.1	
2	7.115	7.116	-0.001	141113456	750.0	740.7	
2	7.645	7.646	-0.001	84305248	750.0	737.8	
2	8.012	8.013	-0.001	189441684	750.0	739.9	
2	8.515	8.516	-0.001	144616476	750.0	738.0	
		Average of Peak Amounts =				739.5	
						RPD = 0.10	
$ 15 DCB Decachlorobiphenyl							
1	9.912	9.913	-0.001	23519401	37.5	37.1	
2	10.185	10.186	-0.001	94115340	37.5	36.9	
						RPD = 0.55	
S 8 Polychlorinated biphenyls, Total							
1						1489.5	
2						1485.5	
						RPD = 0.27	

Reagents:

AR_1660_L6_00033	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

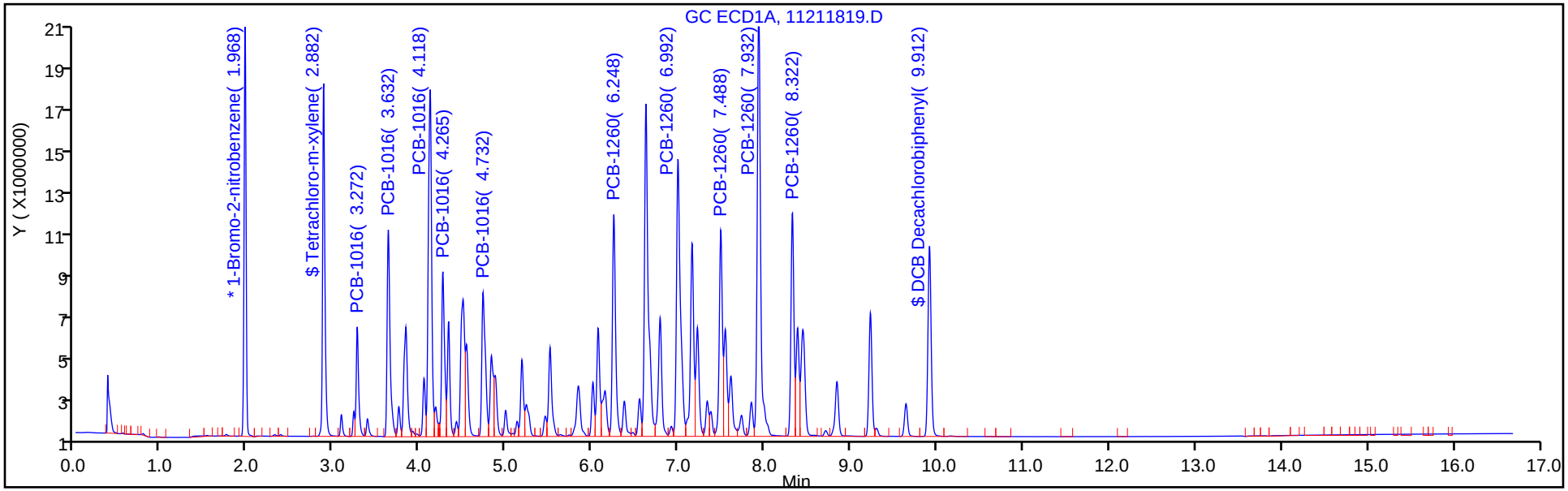
Report Date: 23-Nov-2018 11:02:25 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

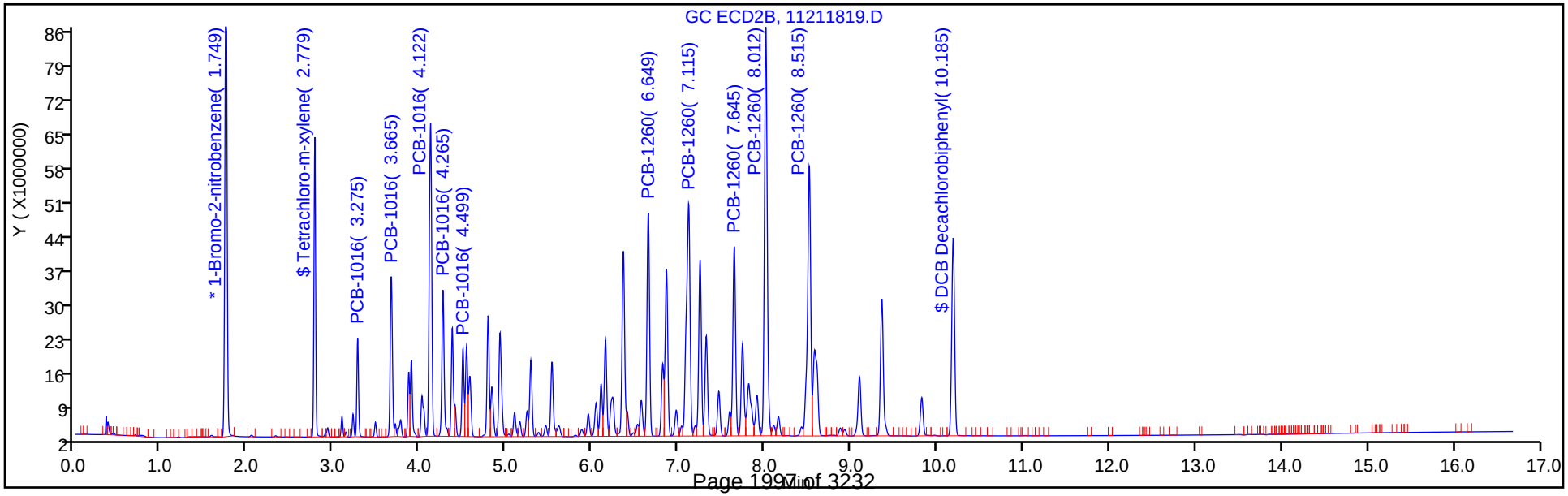
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211819.D

Injection Date:	21-Nov-2018 15:05:56	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL61660			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211820.D
Lims ID: STDL51660
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 21-Nov-2018 15:27:09 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL51660
Misc. Info.: 280-0076428-020
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:27 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 09:53:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	29769998	1000.0	1000.0	
2	1.746	1.746	0.000	167274345	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.879	2.879	0.000	19882681	25.0	25.4	
2	2.780	2.780	0.000	55710908	25.0	25.9	
						RPD = 1.91	
1 PCB-1016							M
1	3.269	3.269	0.000	6801886	500.0	528.8	
1	3.633	3.633	0.000	15989031	500.0	532.9	
1	4.116	4.116	0.000	28999155	500.0	523.9	
1	4.263	4.263	0.000	12379838	500.0	531.9	
1	4.729	4.729	0.000	12951678	500.0	514.4	
		Average of Peak Amounts =				526.4	
2	3.276	3.276	0.000	18899868	500.0	516.1	
2	3.666	3.666	0.000	40057019	500.0	530.0	M
2	4.123	4.123	0.000	88563385	500.0	528.5	M
2	4.266	4.266	0.000	38741347	500.0	537.6	M
2	4.496	4.496	0.000	20361835	500.0	524.5	M
		Average of Peak Amounts =				527.3	
						RPD = 0.18	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.249	6.249	0.000	18040094	500.0	521.2	
1	6.993	6.993	0.000	27649105	500.0	517.2	
1	7.489	7.489	0.000	16493165	500.0	520.3	
1	7.929	7.929	0.000	37154269	500.0	516.7	
1	8.319	8.319	0.000	16886305	500.0	515.7	
		Average of Peak Amounts =				518.2	
2	6.646	6.646	0.000	64958906	500.0	524.4	
2	7.116	7.116	0.000	96225163	500.0	523.6	
2	7.646	7.646	0.000	57482127	500.0	521.5	
2	8.013	8.013	0.000	129198578	500.0	523.3	
2	8.516	8.516	0.000	99208427	500.0	525.0	
		Average of Peak Amounts =				523.6	
						RPD = 1.02	
$ 15 DCB Decachlorobiphenyl							
1	9.913	9.913	0.000	15649907	25.0	26.0	
2	10.186	10.186	0.000	64572494	25.0	26.2	
						RPD = 0.81	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

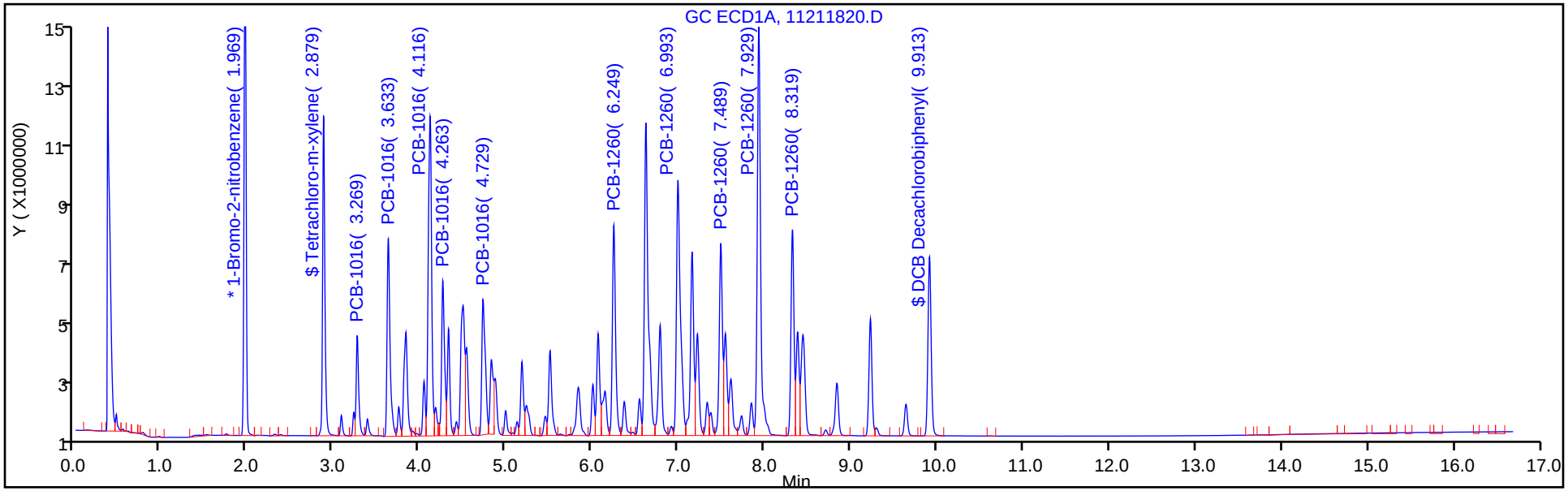
Report Date: 23-Nov-2018 11:02:28 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

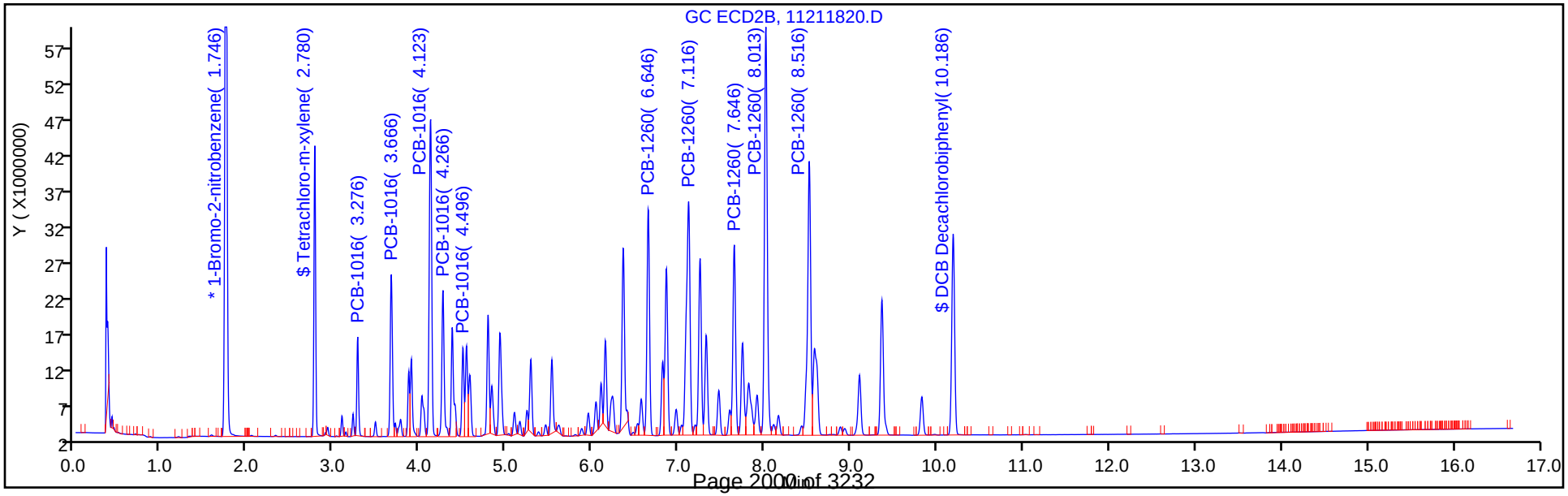
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211820.D

Injection Date:	21-Nov-2018 15:27:09	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL51660			Worklist Smp#:	20
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211821.D
Lims ID: STDL41660
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Nov-2018 15:48:22 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL41660
Misc. Info.: 280-0076428-021
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:30 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 09:53:59

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	31460203	1000.0	1000.0	
2	1.749	1.746	0.003	176509413	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.882	2.879	0.003	10100542	12.5	12.3	
2	2.779	2.780	-0.001	30523746	12.5	13.2	
						RPD = 6.95	
1 PCB-1016							
1	3.272	3.269	0.003	3816191	250.0	273.7	
1	3.632	3.633	-0.001	8778351	250.0	270.1	
1	4.119	4.116	0.003	14886212	250.0	253.2	
1	4.265	4.263	0.002	6578902	250.0	263.4	
1	4.732	4.729	0.003	7068443	250.0	262.4	
		Average of Peak Amounts =				264.6	
2	3.275	3.276	-0.001	10752270	250.0	270.6	
2	3.665	3.666	-0.001	22260570	250.0	271.3	
2	4.122	4.123	-0.001	48351201	250.0	266.7	
2	4.265	4.266	-0.001	21045310	250.0	269.2	
2	4.499	4.496	0.003	11353500	250.0	269.0	
		Average of Peak Amounts =				269.4	
						RPD = 1.80	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.249	6.249	0.000	9650098	250.0	259.6	
1	6.992	6.993	-0.001	14238155	250.0	250.5	
1	7.489	7.489	0.000	8615850	250.0	254.1	
1	7.932	7.929	0.003	19166787	250.0	251.1	
1	8.322	8.319	0.003	8672757	250.0	249.7	
		Average of Peak Amounts =				253.0	
2	6.649	6.646	0.003	35419484	250.0	264.3	
2	7.115	7.116	-0.001	52349958	250.0	263.8	
2	7.645	7.646	-0.001	31335455	250.0	263.4	
2	8.012	8.013	-0.001	70151512	250.0	263.6	
2	8.515	8.516	-0.001	53442743	250.0	262.1	
		Average of Peak Amounts =				263.4	
						RPD = 4.04	
$ 15 DCB Decachlorobiphenyl							
1	9.912	9.913	-0.001	8405396	12.5	12.9	
2	10.185	10.186	-0.001	35221995	12.5	13.2	
						RPD = 2.14	
S 8 Polychlorinated biphenyls, Total							
1						517.6	
2						532.8	
						RPD = 2.90	

Reagents:

AR_1660_L4_00068	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

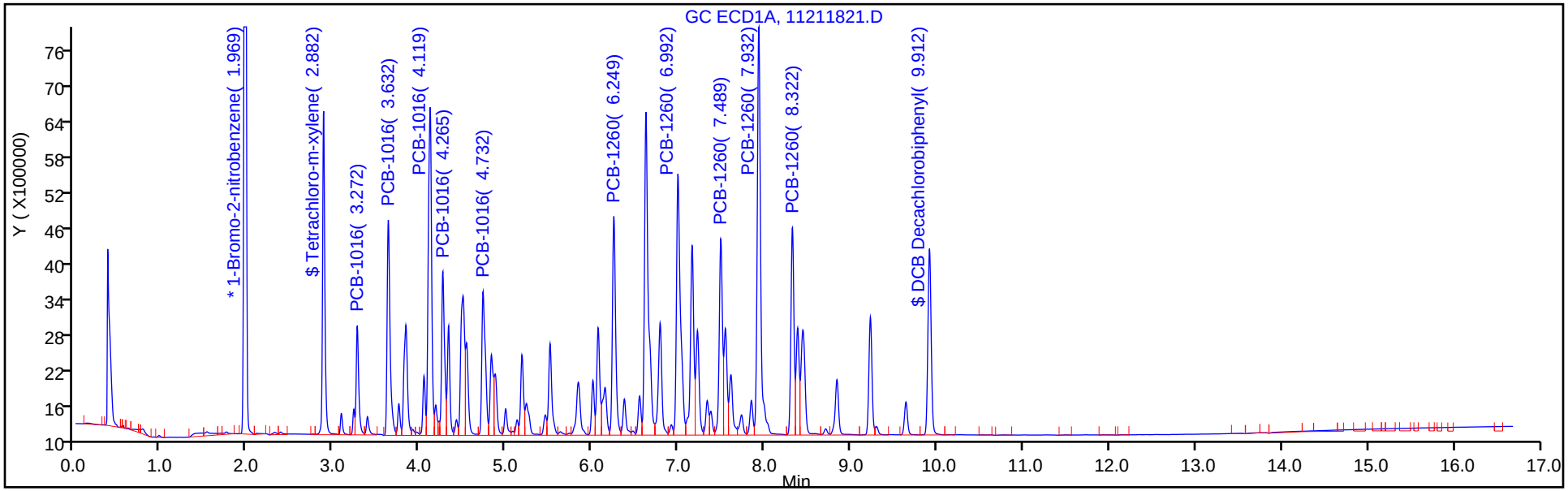
Report Date: 23-Nov-2018 11:02:31 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

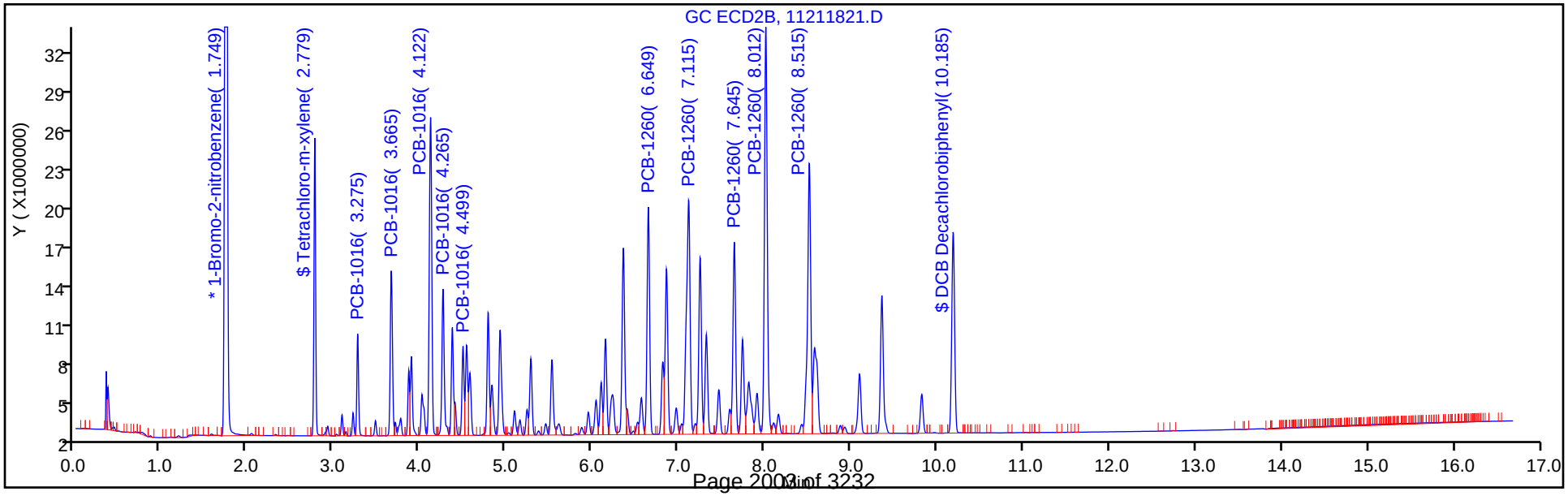
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211821.D

Injection Date:	21-Nov-2018 15:48:22	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL41660			Worklist Smp#:	21
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211822.D
Lims ID: STDL31660
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Nov-2018 16:09:34 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL31660
Misc. Info.: 280-0076428-022
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:33 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:05:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	31048095	1000.0	1000.0	
2	1.750	1.746	0.004	175133355	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.879	2.879	0.000	3964953	5.00	4.96	
2	2.780	2.780	0.000	13257502	5.00	5.43	
						RPD = 9.06	
1 PCB-1016							
1	3.269	3.269	0.000	1679350	100.0	113.7	
1	3.633	3.633	0.000	3824818	100.0	111.4	
1	4.116	4.116	0.000	6086050	100.0	103.5	
1	4.263	4.263	0.000	2807752	100.0	109.2	
1	4.729	4.729	0.000	2974460	100.0	107.9	
		Average of Peak Amounts =				109.1	
2	3.276	3.276	0.000	4799160	100.0	112.6	
2	3.666	3.666	0.000	9573999	100.0	108.2	
2	4.123	4.123	0.000	20834280	100.0	108.0	
2	4.266	4.266	0.000	9095859	100.0	108.4	
2	4.496	4.496	0.000	5107027	100.0	112.5	
		Average of Peak Amounts =				109.9	
						RPD = 0.73	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.249	6.249	0.000	4140653	100.0	108.0	
1	6.993	6.993	0.000	5923763	100.0	103.9	
1	7.489	7.489	0.000	3726238	100.0	108.0	
1	7.929	7.929	0.000	7859527	100.0	103.1	
1	8.319	8.319	0.000	3558044	100.0	102.7	
		Average of Peak Amounts =				105.1	
2	6.650	6.646	0.004	15611005	100.0	109.8	
2	7.116	7.116	0.000	22806129	100.0	108.8	
2	7.646	7.646	0.000	13672887	100.0	108.8	
2	8.013	8.013	0.000	30406302	100.0	108.5	
2	8.520	8.516	0.004	23327598	100.0	108.5	
		Average of Peak Amounts =				108.9	
						RPD = 3.50	
$ 15 DCB Decachlorobiphenyl							
1	9.913	9.913	0.000	3708204	5.00	5.46	
2	10.186	10.186	0.000	15646900	5.00	5.52	
						RPD = 1.19	
S 8 Polychlorinated biphenyls, Total							
1						214.3	
2						218.8	
						RPD = 2.10	

Reagents:

AR_1660_L3_00031	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

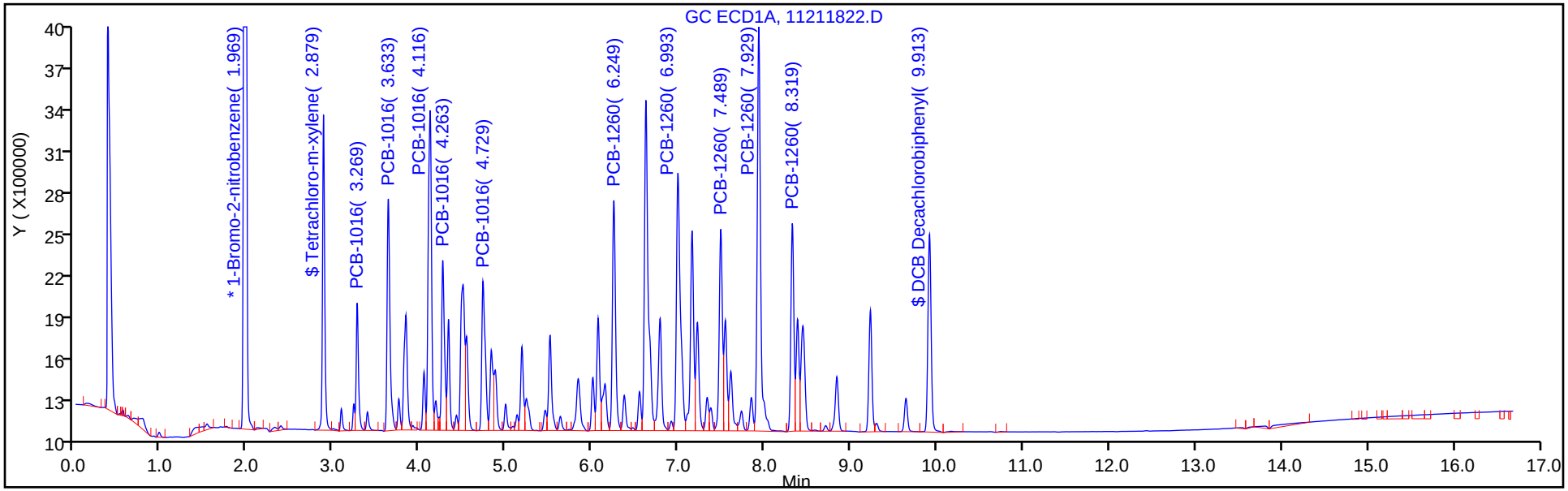
Report Date: 23-Nov-2018 11:02:34 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

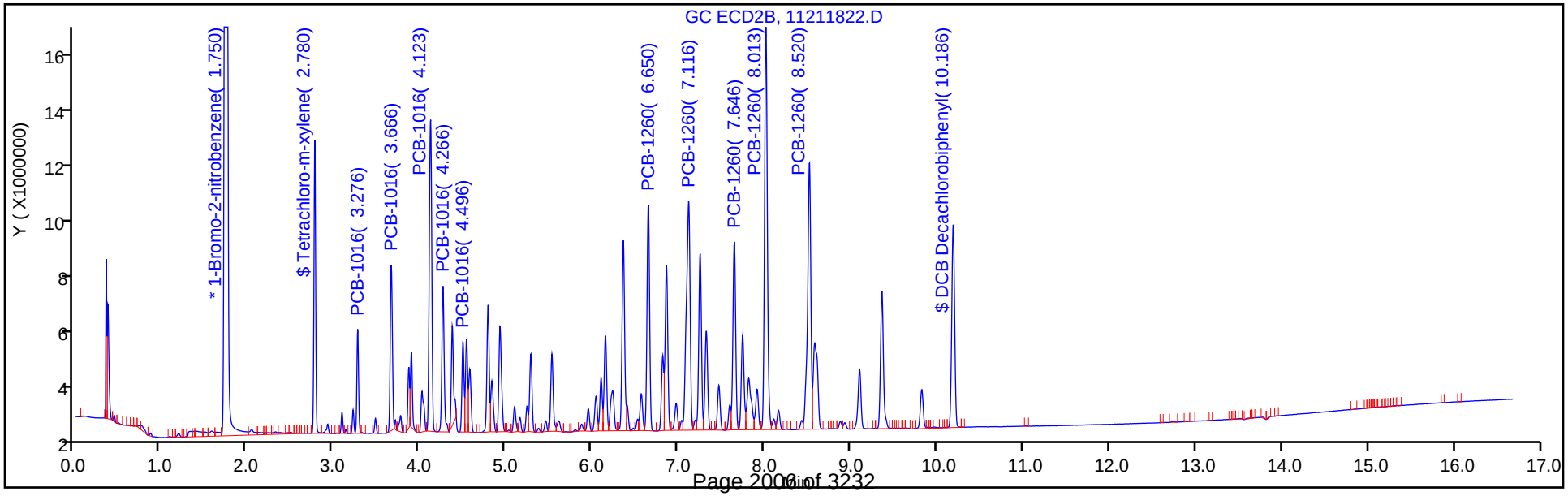
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211822.D

Injection Date:	21-Nov-2018 16:09:34	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL31660			Worklist Smp#:	22
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211823.D
Lims ID: STDL21660
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Nov-2018 16:30:45 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL21660
Misc. Info.: 280-0076428-023
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:36 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:06:02

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	31839217	1000.0	1000.0	
2	1.750	1.746	0.004	177179573	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.879	2.879	0.000	1996738	2.50	2.50	
2	2.780	2.780	0.000	7055763	2.50	2.57	
						RPD = 3.03	
1 PCB-1016							
1	3.269	3.269	0.000	883638	50.0	51.0	
1	3.629	3.633	-0.004	2058248	50.0	51.7	
1	4.116	4.116	0.000	3122897	50.0	50.5	
1	4.263	4.263	0.000	1447486	50.0	50.8	
1	4.729	4.729	0.000	1525625	50.0	50.6	
		Average of Peak Amounts =				50.9	
2	3.276	3.276	0.000	2565446	50.0	51.6	
2	3.666	3.666	0.000	5231349	50.0	50.8	
2	4.123	4.123	0.000	11249839	50.0	51.1	
2	4.266	4.266	0.000	4898205	50.0	50.4	
2	4.496	4.496	0.000	2765621	50.0	52.2	
		Average of Peak Amounts =				51.2	
						RPD = 0.60	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.249	6.249	0.000	2188444	50.0	51.5	
1	6.993	6.993	0.000	3052493	50.0	50.8	
1	7.489	7.489	0.000	1885624	50.0	50.2	
1	7.929	7.929	0.000	4026393	50.0	50.4	
1	8.319	8.319	0.000	1831626	50.0	50.6	
		Average of Peak Amounts =				50.7	
2	6.650	6.646	0.004	8418682	50.0	52.2	
2	7.116	7.116	0.000	12242650	50.0	51.8	
2	7.646	7.646	0.000	7400170	50.0	52.4	
2	8.013	8.013	0.000	16246619	50.0	51.8	
2	8.516	8.516	0.000	12553559	50.0	52.0	
		Average of Peak Amounts =				52.0	
						RPD = 2.58	
$ 15 DCB Decachlorobiphenyl							
1	9.909	9.913	-0.004	1981347	2.50	2.56	
2	10.183	10.186	-0.003	8427351	2.50	2.61	
						RPD = 1.72	
S 8 Polychlorinated biphenyls, Total							
1						101.6	
2						103.3	
						RPD = 1.59	

Reagents:

AR_1660_L2_00030	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

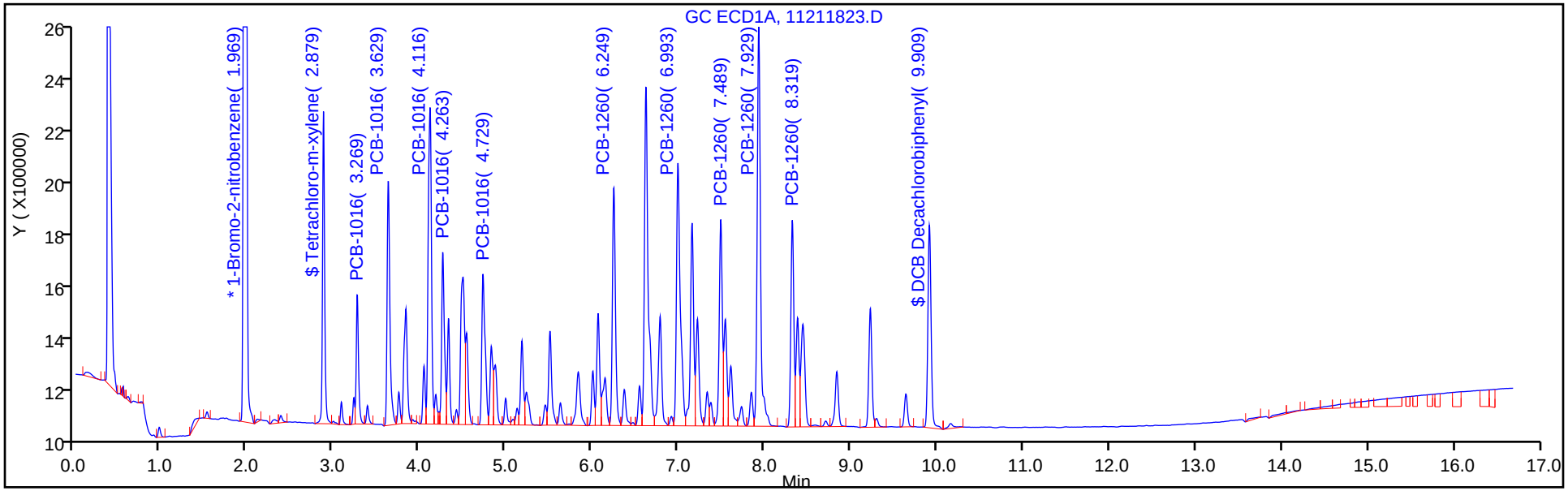
Report Date: 23-Nov-2018 11:02:37 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

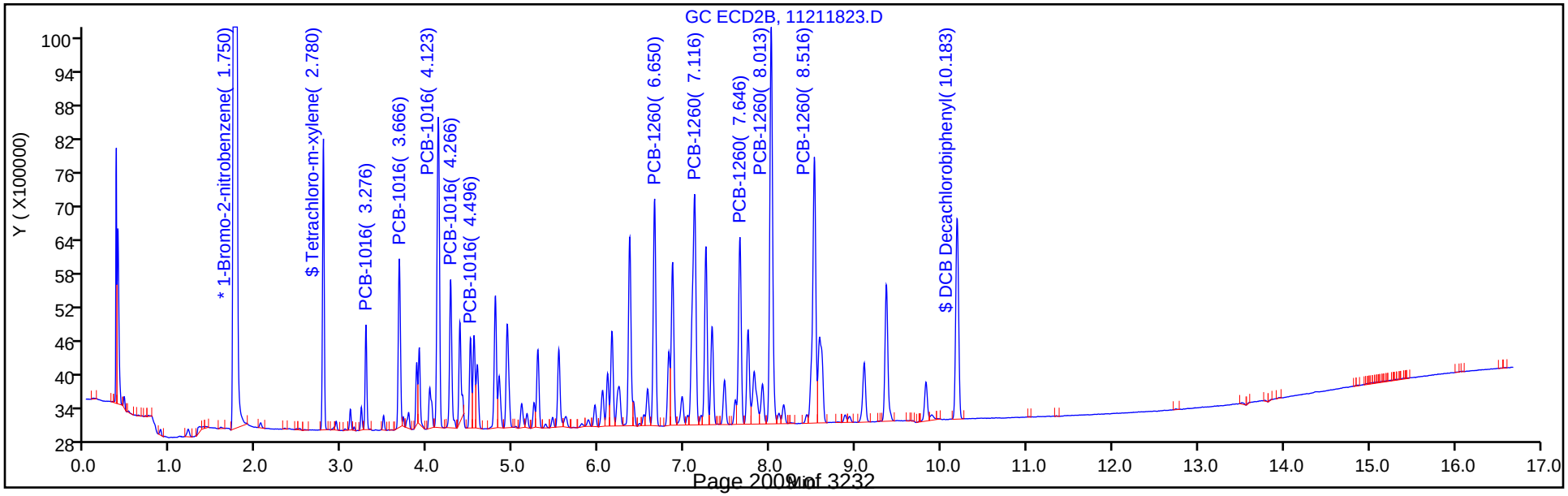
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211823.D

Injection Date:	21-Nov-2018 16:30:45	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL21660			Worklist Smp#:	23
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211824.D
Lims ID: STDL11660
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Nov-2018 16:51:56 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL11660
Misc. Info.: 280-0076428-024
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:40 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:06:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	33056810	1000.0	1000.0	
2	1.749	1.746	0.003	183948370	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.879	2.879	0.000	998558	1.25	1.26	
2	2.779	2.780	-0.001	3780517	1.25	1.04	
						RPD = 19.58	
1 PCB-1016							
1	3.272	3.269	0.003	469132	25.0	18.7	
1	3.632	3.633	-0.001	1080310	25.0	19.2	
1	4.116	4.116	0.000	1562445	25.0	23.1	
1	4.262	4.263	-0.001	734649	25.0	20.6	
1	4.729	4.729	0.000	784034	25.0	21.6	
		Average of Peak Amounts =				20.6	
2	3.276	3.276	0.000	1402102	25.0	19.3	
2	3.666	3.666	0.000	2975533	25.0	20.4	
2	4.122	4.123	-0.001	6206319	25.0	20.7	
2	4.266	4.266	0.000	2787481	25.0	20.5	
2	4.499	4.496	0.003	1494252	25.0	18.9	
		Average of Peak Amounts =				19.9	
						RPD = 3.38	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.249	6.249	0.000	1127159	25.0	21.2	
1	6.992	6.993	-0.001	1550296	25.0	23.3	
1	7.489	7.489	0.000	988085	25.0	22.3	
1	7.929	7.929	0.000	2054328	25.0	23.7	
1	8.319	8.319	0.000	929879	25.0	23.8	
		Average of Peak Amounts =				22.9	
2	6.649	6.646	0.003	4471690	25.0	20.0	
2	7.116	7.116	0.000	6532137	25.0	20.5	
2	7.646	7.646	0.000	3887676	25.0	20.3	
2	8.012	8.013	-0.001	8601587	25.0	20.6	
2	8.516	8.516	0.000	6657019	25.0	20.6	
		Average of Peak Amounts =				20.4	
						RPD = 11.35	
$ 15 DCB Decachlorobiphenyl							
1	9.909	9.913	-0.004	1072007	1.25	1.06	
2	10.186	10.186	0.000	4494073	1.25	0.99	
						RPD = 6.04	
S 8 Polychlorinated biphenyls, Total							
1						43.5	
2						40.4	
						RPD = 7.49	

Reagents:

AR_1660_L1_00031	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

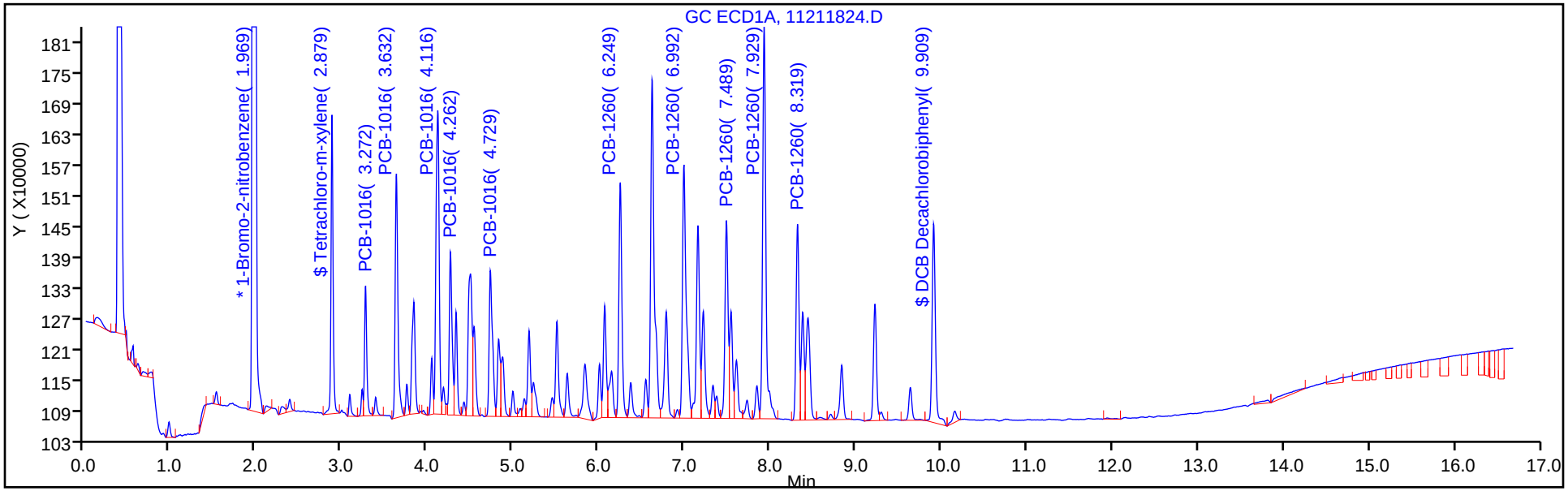
Report Date: 23-Nov-2018 11:02:41 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

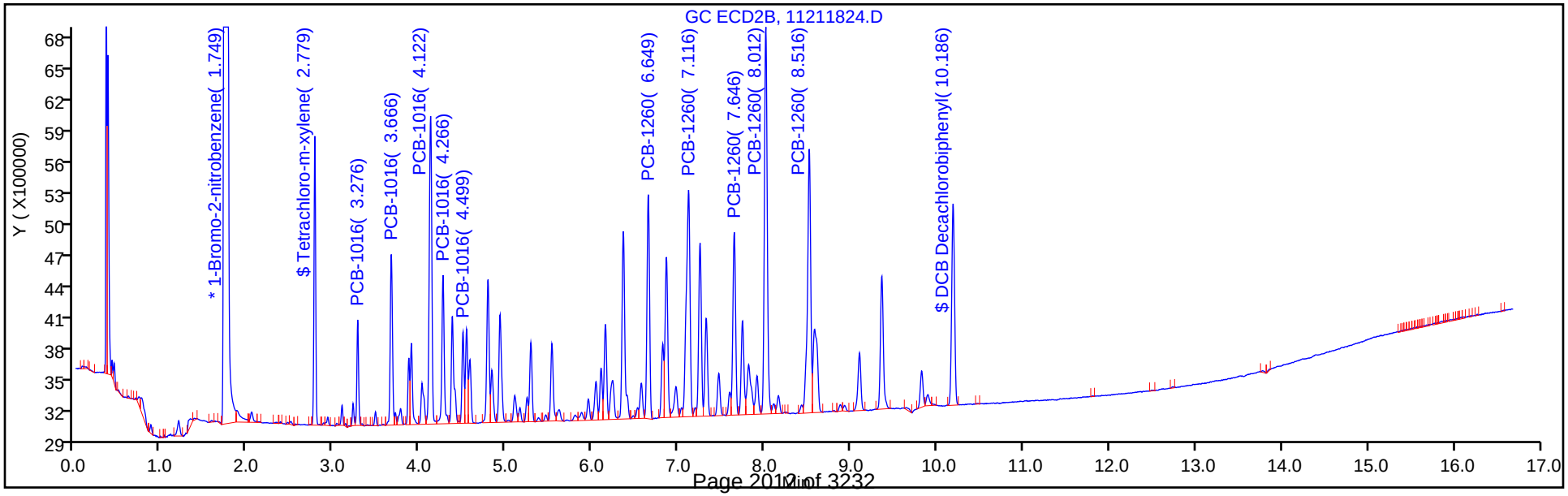
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211824.D

Injection Date:	21-Nov-2018 16:51:56	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL11660			Worklist Smp#:	24
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 14:44 Calibration End Date: 11/21/2018 16:51 Calibration ID: 34387

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11660 280-438388/24	11211824.D
Level 2	STDL21660 280-438388/23	11211823.D
Level 3	STDL31660 280-438388/22	11211822.D
Level 4	STDL41660 280-438388/21	11211821.D
Level 5	STDL51660 280-438388/20	11211820.D
Level 6	STDL61660 280-438388/19	11211819.D
Level 7	STDL71660 280-438388/18	11211818.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	0.3049 0.2163	0.2896 0.2064	0.2740	0.2437	0.2260	Lin1	3.5264	0.2121							0.9970		0.9900
PCB-1016 Peak 2	0.6470 0.4433	0.5905 0.4244	0.5467	0.5045	0.4789	Lin1	7.2549	0.4381							0.9960		0.9900
PCB-1016 Peak 3	1.3496 0.9844	1.2699 0.9485	1.1896	1.0957	1.0589	Lin1	13.573	0.9762							0.9970		0.9900
PCB-1016 Peak 4	0.6061 0.4233	0.5529 0.4026	0.5194	0.4769	0.4632	Lin1	6.5676	0.4186							0.9960		0.9900
PCB-1016 Peak 5	0.3249 0.2311	0.3122 0.2159	0.2916	0.2573	0.2435	Lin1	3.8771	0.2247							0.9960		0.9900
PCB-1260 Peak 1	0.9724 0.7264	0.9503 0.7051	0.8914	0.8027	0.7767	Lin1	9.8584	0.7218							0.9970		0.9900
PCB-1260 Peak 2	1.4204 1.0776	1.3819 1.0496	1.3022	1.1863	1.1505	Lin1	13.516	1.0728							0.9980		0.9900
PCB-1260 Peak 3	0.8454 0.6438	0.8353 0.6328	0.7807	0.7101	0.6873	Lin1	8.0530	0.6435							0.9980		0.9900
PCB-1260 Peak 4	1.8704 1.4466	1.8339 1.4133	1.7362	1.5898	1.5448	Lin1	16.988	1.4435							0.9980		0.9900
PCB-1260 Peak 5	1.4476 1.1043	1.4170 1.0830	1.3320	1.2111	1.1862	Lin1	13.444	1.1040							0.9980		0.9900
Tetrachloro-m-xylene	16.442 12.724	15.929 12.252	15.140	13.834	13.322	Lin1	7.5033	12.555							0.9980		0.9900
DCB Decachlorobiphenyl	19.545 14.374	19.026 14.035	17.869	15.964	15.441	Lin1	10.184	14.328							0.9970		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 14:44 Calibration End Date: 11/21/2018 16:51 Calibration ID: 34387

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11660 280-438388/24	11211824.D
Level 2	STDL21660 280-438388/23	11211823.D
Level 3	STDL31660 280-438388/22	11211822.D
Level 4	STDL41660 280-438388/21	11211821.D
Level 5	STDL51660 280-438388/20	11211820.D
Level 6	STDL61660 280-438388/19	11211819.D
Level 7	STDL71660 280-438388/18	11211818.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Lin1	1402102 28324629	2565446 35638141	4799160	10752270	18899868	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 2	BNB	Lin1	2975533 58050459	5231349 73285982	9573999	22260570	40057019	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 3	BNB	Lin1	6206319 128903407	11249839 163781976	20834280	48351201	88563385	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 4	BNB	Lin1	2787481 55437372	4898205 69518646	9095859	21045310	38741347	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 5	BNB	Lin1	1494252 30262522	2765621 37279827	5107027	11353500	20361835	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 1	BNB	Lin1	4471690 95127310	8418682 121750112	15611005	35419484	64958906	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 2	BNB	Lin1	6532137 141113456	12242650 181248886	22806129	52349958	96225163	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 3	BNB	Lin1	3887676 84305248	7400170 109270203	13672887	31335455	57482127	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 4	BNB	Lin1	8601587 189441684	16246619 244056914	30406302	70151512	129198578	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 5	BNB	Lin1	6657019 144616476	12553559 187015797	23327598	53442743	99208427	25.0 750	50.0 1000	100	250	500
Tetrachloro-m-xylene	BNB	Lin1	3780517 83308843	7055763 105788700	13257502	30523746	55710908	1.25 37.5	2.50 50.0	5.00	12.5	25.0
DCB Decachlorobiphenyl	BNB	Lin1	4494073 94115340	8427351 121182268	15646900	35221995	64572494	1.25 37.5	2.50 50.0	5.00	12.5	25.0

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211818.D
Lims ID: STDL71660
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Nov-2018 14:44:45 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL71660
Misc. Info.: 280-0076428-018
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:22 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: mooret Date: 21-Nov-2018 15:26:02

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.969	0.001	30929643	1000.0	1000.0	
2	1.746	1.749	-0.003	172682643	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.880	2.879	0.001	40504428	50.0	49.8	
2	2.776	2.780	-0.004	105788700	50.0	48.2	
						RPD = 3.20	
1 PCB-1016							
1	3.270	3.269	0.001	12255500	1000.0	928.2	
1	3.633	3.633	0.000	29138313	1000.0	945.4	
1	4.116	4.116	0.000	55680903	1000.0	970.3	
1	4.263	4.263	0.000	22835416	1000.0	950.7	
1	4.730	4.729	0.001	25166398	1000.0	968.1	
		Average of Peak Amounts =				952.5	
2	3.276	3.276	0.000	35638141	1000.0	956.5	
2	3.666	3.666	0.000	73285982	1000.0	952.1	
2	4.123	4.123	0.000	163781976	1000.0	957.7	
2	4.266	4.266	0.000	69518646	1000.0	946.1	
2	4.496	4.496	0.000	37279827	1000.0	943.6	
		Average of Peak Amounts =				951.2	
						RPD = 0.14	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.250	6.249	0.001	34751926	1000.0	973.7	
1	6.993	6.993	0.000	54752979	1000.0	988.5	
1	7.490	7.489	0.001	32252970	1000.0	984.6	
1	7.930	7.929	0.001	73881863	1000.0	991.0	
1	8.320	8.319	0.001	33747429	1000.0	993.7	
		Average of Peak Amounts =				986.3	
2	6.650	6.646	0.004	121750112	1000.0	963.1	
2	7.116	7.116	0.000	181248886	1000.0	965.7	
2	7.646	7.646	0.000	109270203	1000.0	970.8	
2	8.013	8.013	0.000	244056914	1000.0	967.3	
2	8.516	8.516	0.000	187015797	1000.0	968.8	
		Average of Peak Amounts =				967.2	
						RPD = 1.96	
$ 15 DCB Decachlorobiphenyl							
1	9.913	9.913	0.000	30062336	50.0	48.6	
2	10.186	10.186	0.000	121182268	50.0	48.3	
						RPD = 0.69	
S 8 Polychlorinated biphenyls, Total							
1						1938.9	
2						1918.4	
						RPD = 1.06	

Reagents:

AR_1660_L7_00026	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

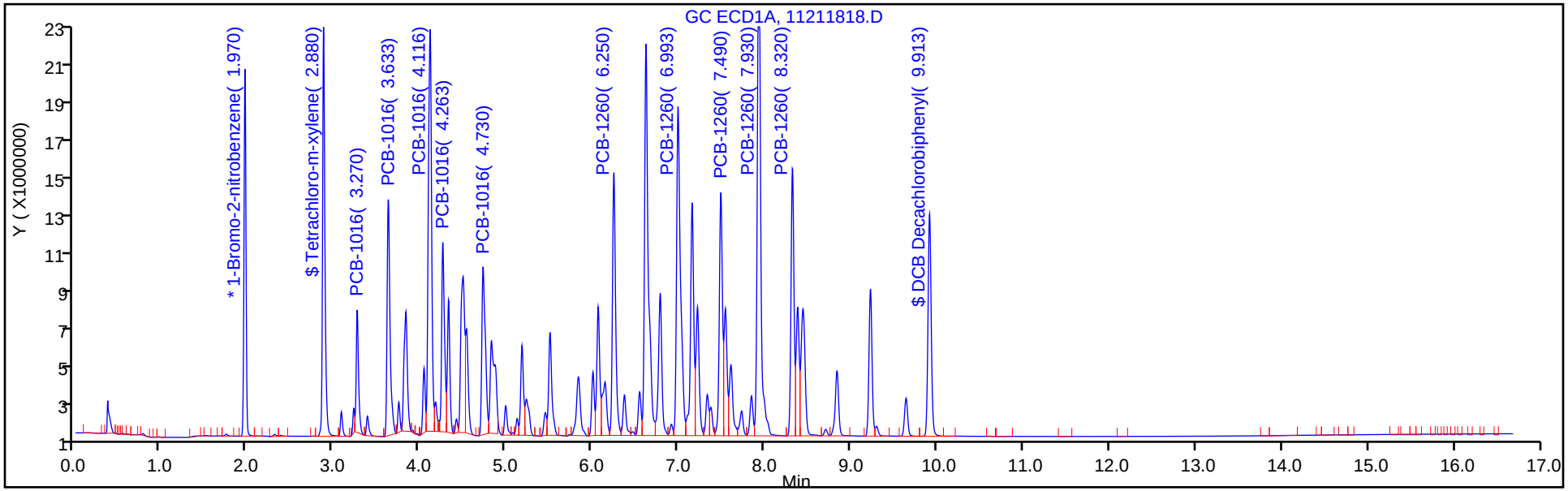
Report Date: 23-Nov-2018 11:02:23 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

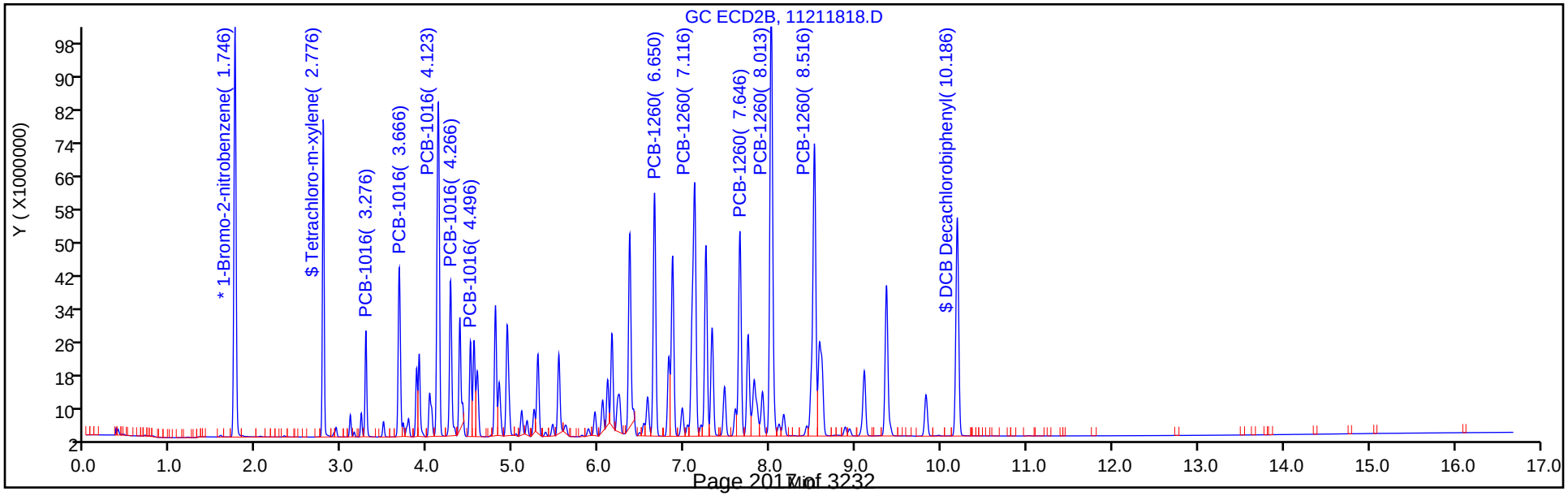
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211818.D

Injection Date:	21-Nov-2018 14:44:45	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL71660			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211819.D
Lims ID: STDL61660
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Nov-2018 15:05:56 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL61660
Misc. Info.: 280-0076428-019
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:25 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:02:20

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.969	-0.001	31573792	1000.0	1000.0	
2	1.749	1.749	0.000	174603036	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.882	2.879	0.003	31159991	37.5	37.5	
2	2.779	2.780	-0.001	83308843	37.5	37.4	
						RPD = 0.34	
1 PCB-1016							
1	3.272	3.269	0.003	10292626	750.0	760.9	
1	3.632	3.633	-0.001	23509757	750.0	744.3	
1	4.118	4.116	0.002	43992946	750.0	750.5	
1	4.265	4.263	0.002	18389026	750.0	748.3	
1	4.732	4.729	0.003	19946184	750.0	750.1	
		Average of Peak Amounts =				750.8	
2	3.275	3.276	-0.001	28324629	750.0	748.3	
2	3.665	3.666	-0.001	58050459	750.0	742.3	
2	4.122	4.123	-0.001	128903407	750.0	742.4	
2	4.265	4.266	-0.001	55437372	750.0	742.9	
2	4.499	4.496	0.003	30262522	750.0	754.2	
		Average of Peak Amounts =				746.0	
						RPD = 0.64	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.248	6.249	-0.001	27023644	750.0	739.7	
1	6.992	6.993	-0.001	41930903	750.0	740.8	
1	7.488	7.489	-0.001	24646608	750.0	735.5	
1	7.932	7.929	0.003	56278619	750.0	738.9	
1	8.322	8.319	0.003	25627349	750.0	738.8	
		Average of Peak Amounts =				738.7	
2	6.649	6.646	0.003	95127310	750.0	741.1	
2	7.115	7.116	-0.001	141113456	750.0	740.7	
2	7.645	7.646	-0.001	84305248	750.0	737.8	
2	8.012	8.013	-0.001	189441684	750.0	739.9	
2	8.515	8.516	-0.001	144616476	750.0	738.0	
		Average of Peak Amounts =				739.5	
						RPD = 0.10	
$ 15 DCB Decachlorobiphenyl							
1	9.912	9.913	-0.001	23519401	37.5	37.1	
2	10.185	10.186	-0.001	94115340	37.5	36.9	
						RPD = 0.55	
S 8 Polychlorinated biphenyls, Total							
1						1489.5	
2						1485.5	
						RPD = 0.27	

Reagents:

AR_1660_L6_00033	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

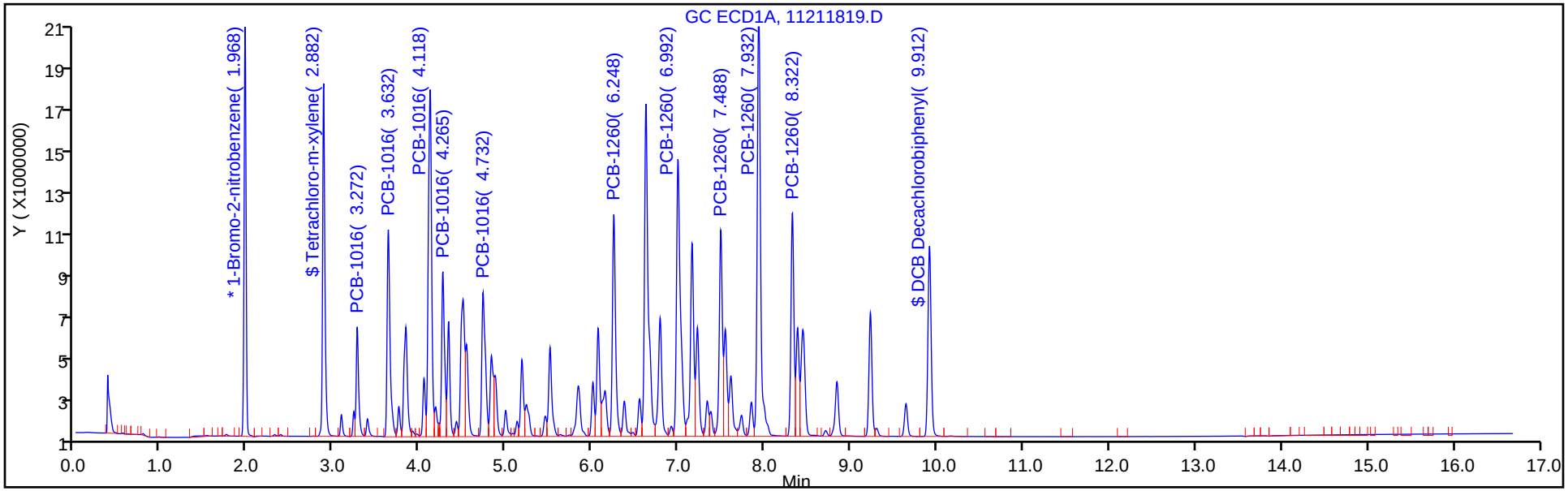
Report Date: 23-Nov-2018 11:02:26 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

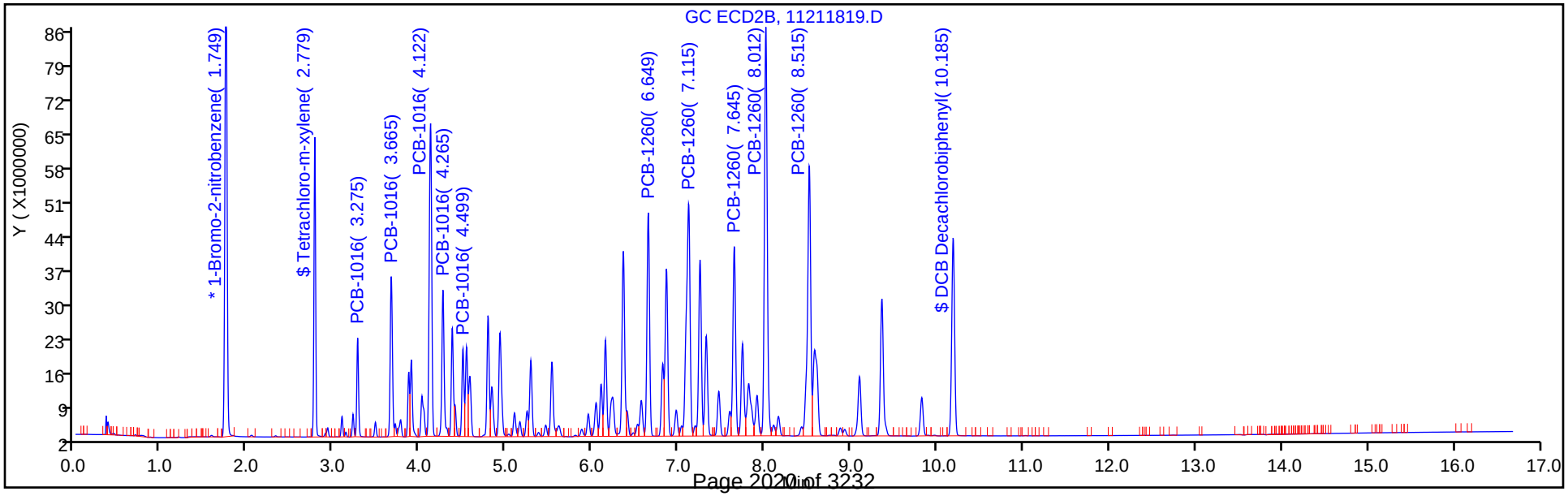
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211819.D

Injection Date:	21-Nov-2018 15:05:56	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL61660			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211820.D
Lims ID: STDL51660
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 21-Nov-2018 15:27:09 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL51660
Misc. Info.: 280-0076428-020
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:27 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 09:53:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	29769998	1000.0	1000.0	
2	1.746	1.746	0.000	167274345	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.879	2.879	0.000	19882681	25.0	25.4	
2	2.780	2.780	0.000	55710908	25.0	25.9	
						RPD = 1.91	
1 PCB-1016							M
1	3.269	3.269	0.000	6801886	500.0	528.8	
1	3.633	3.633	0.000	15989031	500.0	532.9	
1	4.116	4.116	0.000	28999155	500.0	523.9	
1	4.263	4.263	0.000	12379838	500.0	531.9	
1	4.729	4.729	0.000	12951678	500.0	514.4	
		Average of Peak Amounts =				526.4	
2	3.276	3.276	0.000	18899868	500.0	516.1	
2	3.666	3.666	0.000	40057019	500.0	530.0	M
2	4.123	4.123	0.000	88563385	500.0	528.5	M
2	4.266	4.266	0.000	38741347	500.0	537.6	M
2	4.496	4.496	0.000	20361835	500.0	524.5	M
		Average of Peak Amounts =				527.3	
						RPD = 0.18	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.249	6.249	0.000	18040094	500.0	521.2	
1	6.993	6.993	0.000	27649105	500.0	517.2	
1	7.489	7.489	0.000	16493165	500.0	520.3	
1	7.929	7.929	0.000	37154269	500.0	516.7	
1	8.319	8.319	0.000	16886305	500.0	515.7	
		Average of Peak Amounts =				518.2	
2	6.646	6.646	0.000	64958906	500.0	524.4	
2	7.116	7.116	0.000	96225163	500.0	523.6	
2	7.646	7.646	0.000	57482127	500.0	521.5	
2	8.013	8.013	0.000	129198578	500.0	523.3	
2	8.516	8.516	0.000	99208427	500.0	525.0	
		Average of Peak Amounts =				523.6	
						RPD = 1.02	
$ 15 DCB Decachlorobiphenyl							
1	9.913	9.913	0.000	15649907	25.0	26.0	
2	10.186	10.186	0.000	64572494	25.0	26.2	
						RPD = 0.81	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

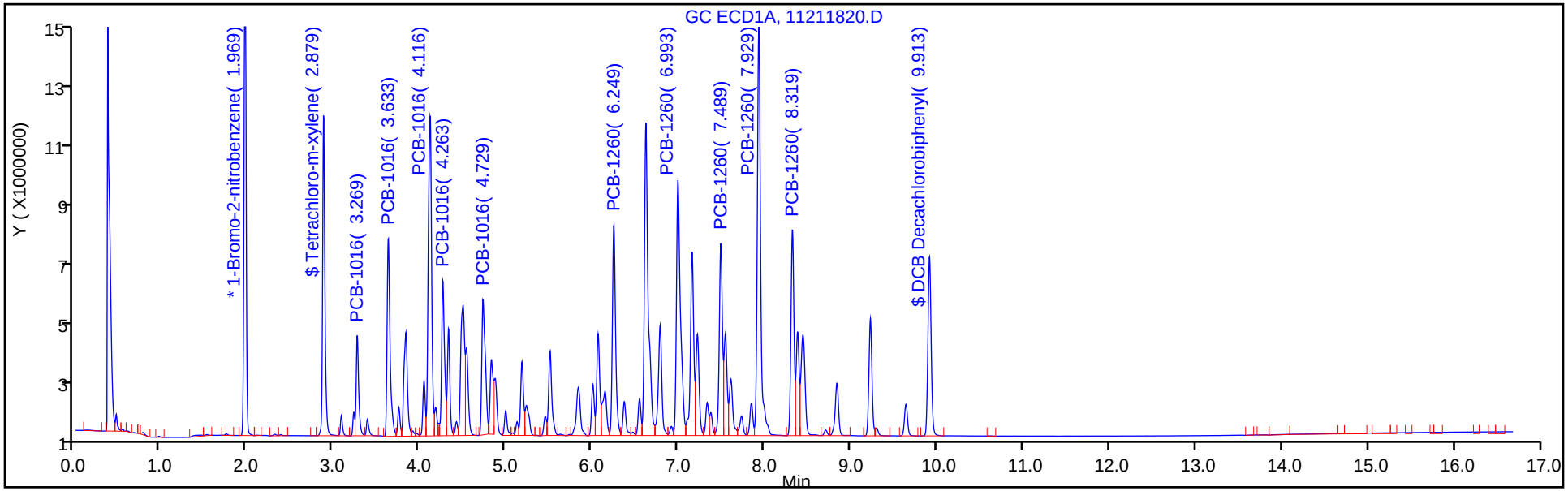
Report Date: 23-Nov-2018 11:02:28 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

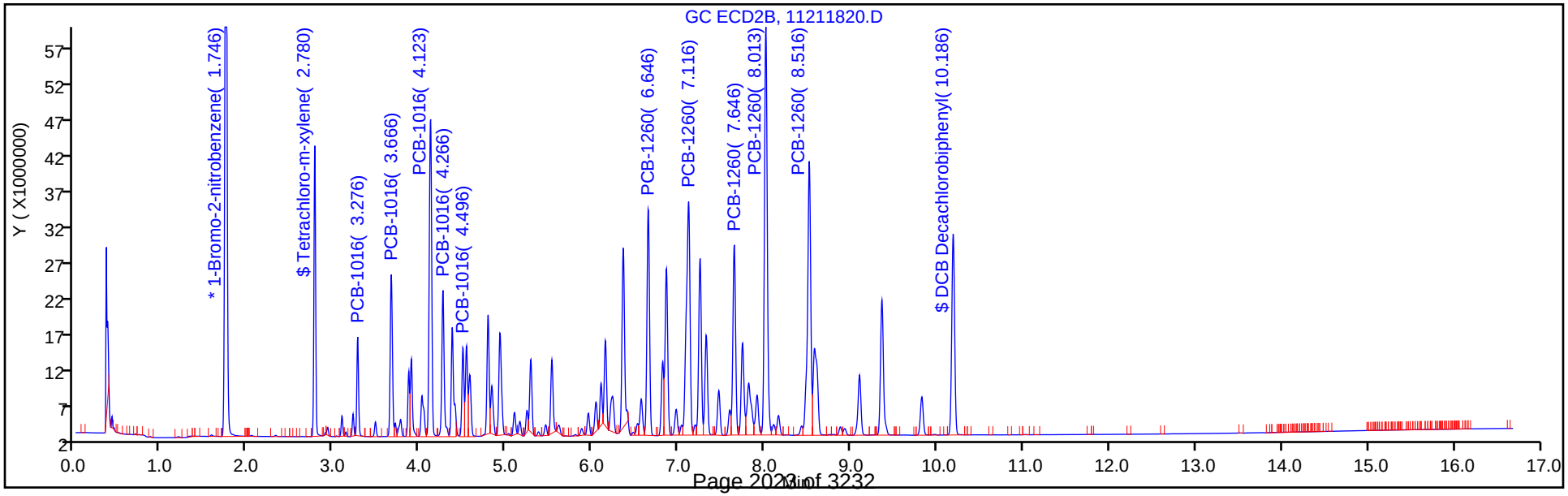
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211820.D

Injection Date:	21-Nov-2018 15:27:09	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL51660			Worklist Smp#:	20
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 23-Nov-2018 11:02:28 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211820.D

Injection Date: 21-Nov-2018 15:27:09 Instrument ID: SGC_J

Lims ID: STDL51660

Client ID:

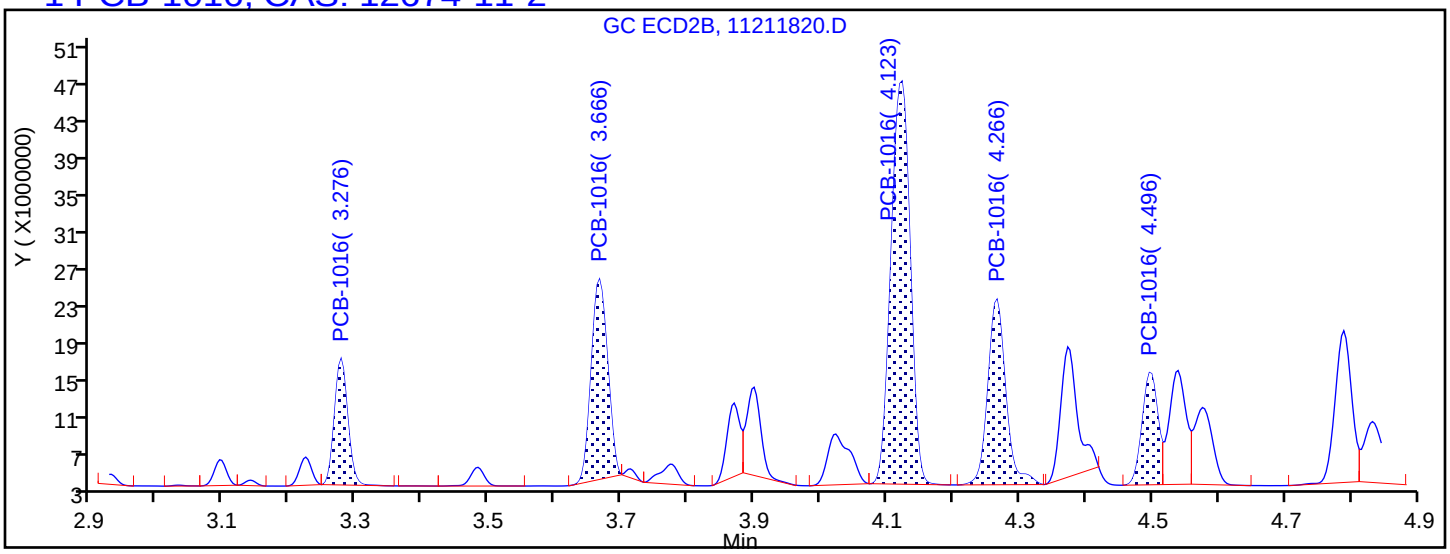
Operator ID: ALS ALS Bottle#: 20 Worklist Smp#: 20

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

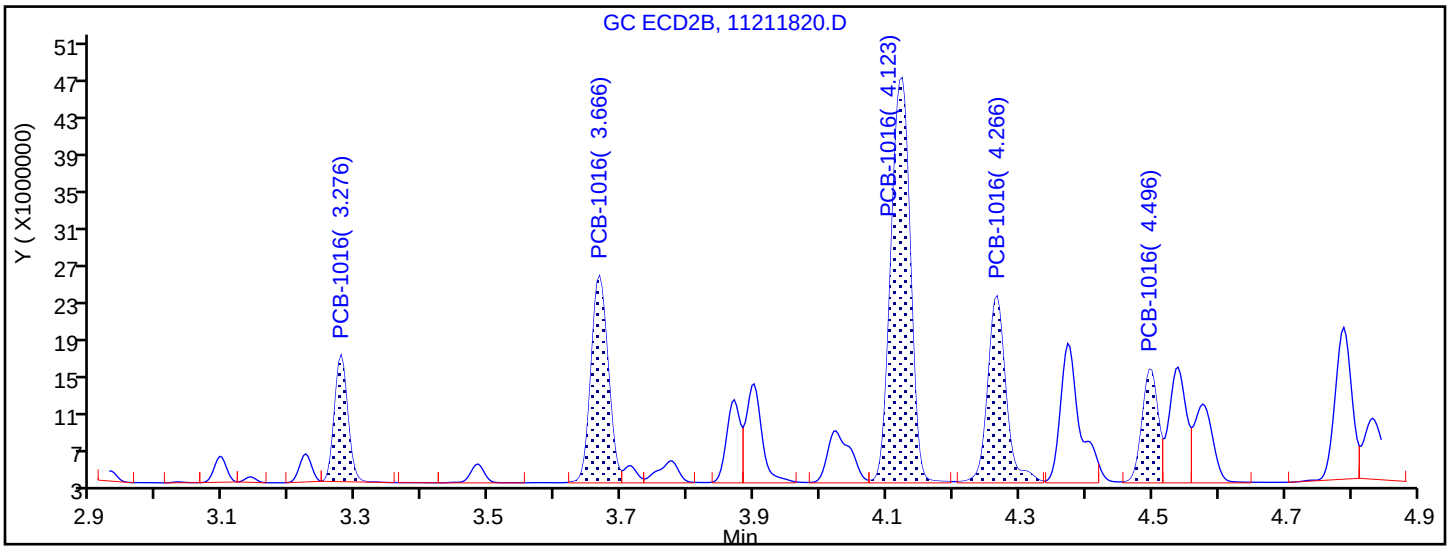
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

1 PCB-1016, CAS: 12674-11-2



Processing Integration Results

3.276	Response = 18899868	
3.666	Response = 37059133	
4.123	Response = 87084066	
4.266	Response = 37557635	
4.496	Response = 19881812	



Manual Integration Results

3.276	Response = 18899868	
3.666	Response = 40057019	M
4.123	Response = 88563385	M
4.266	Response = 38741347	M
4.496	Response = 20361835	M

Reviewer: patadiab, 23-Nov-2018 10:03:15

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211821.D
Lims ID: STDL41660
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Nov-2018 15:48:22 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL41660
Misc. Info.: 280-0076428-021
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:30 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 09:53:59

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	31460203	1000.0	1000.0	
2	1.749	1.746	0.003	176509413	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.882	2.879	0.003	10100542	12.5	12.3	
2	2.779	2.780	-0.001	30523746	12.5	13.2	
						RPD = 6.95	
1 PCB-1016							
1	3.272	3.269	0.003	3816191	250.0	273.7	
1	3.632	3.633	-0.001	8778351	250.0	270.1	
1	4.119	4.116	0.003	14886212	250.0	253.2	
1	4.265	4.263	0.002	6578902	250.0	263.4	
1	4.732	4.729	0.003	7068443	250.0	262.4	
		Average of Peak Amounts =				264.6	
2	3.275	3.276	-0.001	10752270	250.0	270.6	
2	3.665	3.666	-0.001	22260570	250.0	271.3	
2	4.122	4.123	-0.001	48351201	250.0	266.7	
2	4.265	4.266	-0.001	21045310	250.0	269.2	
2	4.499	4.496	0.003	11353500	250.0	269.0	
		Average of Peak Amounts =				269.4	
						RPD = 1.80	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.249	6.249	0.000	9650098	250.0	259.6	
1	6.992	6.993	-0.001	14238155	250.0	250.5	
1	7.489	7.489	0.000	8615850	250.0	254.1	
1	7.932	7.929	0.003	19166787	250.0	251.1	
1	8.322	8.319	0.003	8672757	250.0	249.7	
		Average of Peak Amounts =				253.0	
2	6.649	6.646	0.003	35419484	250.0	264.3	
2	7.115	7.116	-0.001	52349958	250.0	263.8	
2	7.645	7.646	-0.001	31335455	250.0	263.4	
2	8.012	8.013	-0.001	70151512	250.0	263.6	
2	8.515	8.516	-0.001	53442743	250.0	262.1	
		Average of Peak Amounts =				263.4	
						RPD = 4.04	
$ 15 DCB Decachlorobiphenyl							
1	9.912	9.913	-0.001	8405396	12.5	12.9	
2	10.185	10.186	-0.001	35221995	12.5	13.2	
						RPD = 2.14	
S 8 Polychlorinated biphenyls, Total							
1						517.6	
2						532.8	
						RPD = 2.90	

Reagents:

AR_1660_L4_00068	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

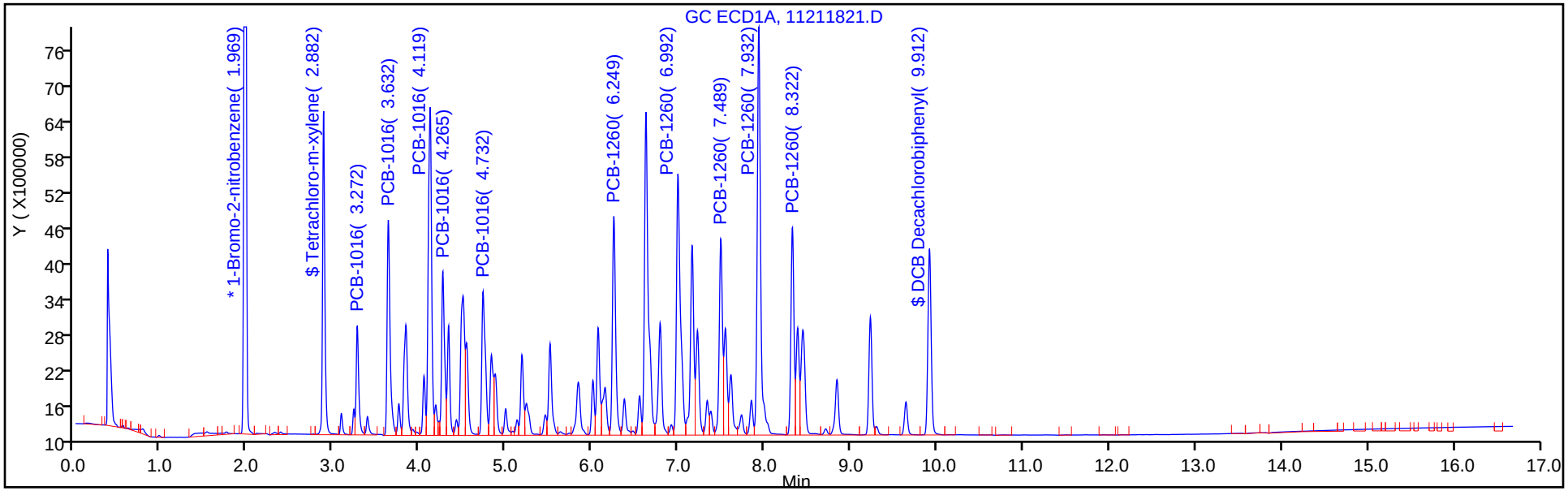
Report Date: 23-Nov-2018 11:02:31 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

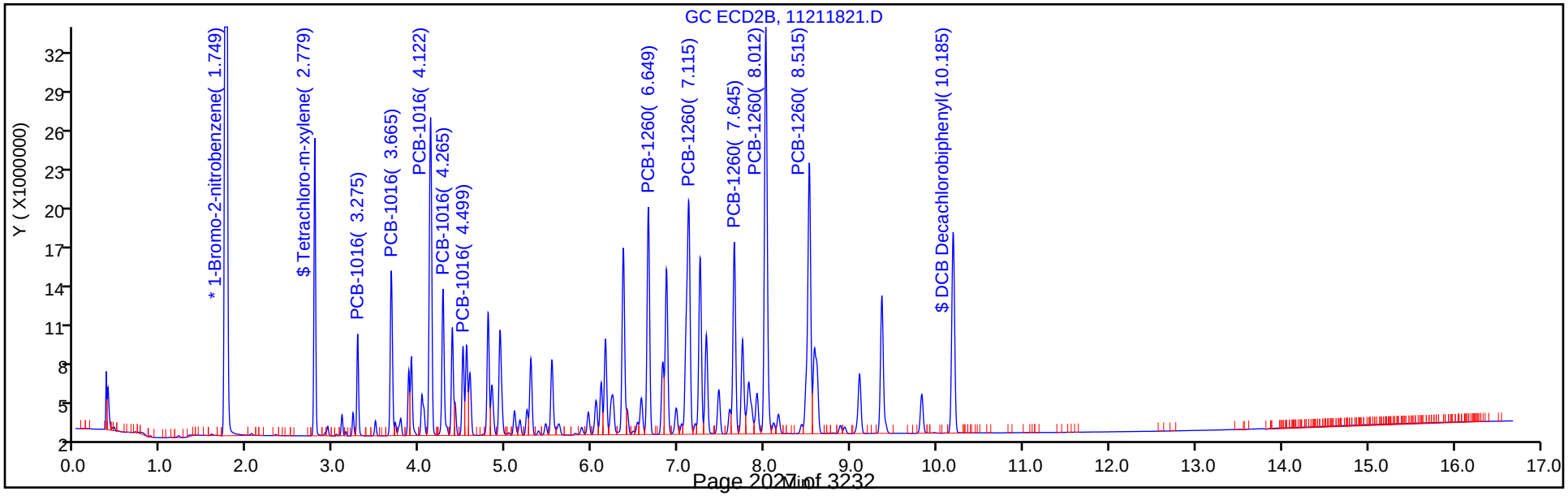
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211821.D

Injection Date:	21-Nov-2018 15:48:22	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL41660			Worklist Smp#:	21
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211822.D
Lims ID: STDL31660
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Nov-2018 16:09:34 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL31660
Misc. Info.: 280-0076428-022
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:33 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:05:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	31048095	1000.0	1000.0	
2	1.750	1.746	0.004	175133355	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.879	2.879	0.000	3964953	5.00	4.96	
2	2.780	2.780	0.000	13257502	5.00	5.43	
						RPD = 9.06	
1 PCB-1016							
1	3.269	3.269	0.000	1679350	100.0	113.7	
1	3.633	3.633	0.000	3824818	100.0	111.4	
1	4.116	4.116	0.000	6086050	100.0	103.5	
1	4.263	4.263	0.000	2807752	100.0	109.2	
1	4.729	4.729	0.000	2974460	100.0	107.9	
		Average of Peak Amounts =				109.1	
2	3.276	3.276	0.000	4799160	100.0	112.6	
2	3.666	3.666	0.000	9573999	100.0	108.2	
2	4.123	4.123	0.000	20834280	100.0	108.0	
2	4.266	4.266	0.000	9095859	100.0	108.4	
2	4.496	4.496	0.000	5107027	100.0	112.5	
		Average of Peak Amounts =				109.9	
						RPD = 0.73	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.249	6.249	0.000	4140653	100.0	108.0	
1	6.993	6.993	0.000	5923763	100.0	103.9	
1	7.489	7.489	0.000	3726238	100.0	108.0	
1	7.929	7.929	0.000	7859527	100.0	103.1	
1	8.319	8.319	0.000	3558044	100.0	102.7	
		Average of Peak Amounts =				105.1	
2	6.650	6.646	0.004	15611005	100.0	109.8	
2	7.116	7.116	0.000	22806129	100.0	108.8	
2	7.646	7.646	0.000	13672887	100.0	108.8	
2	8.013	8.013	0.000	30406302	100.0	108.5	
2	8.520	8.516	0.004	23327598	100.0	108.5	
		Average of Peak Amounts =				108.9	
						RPD = 3.50	
$ 15 DCB Decachlorobiphenyl							
1	9.913	9.913	0.000	3708204	5.00	5.46	
2	10.186	10.186	0.000	15646900	5.00	5.52	
						RPD = 1.19	
S 8 Polychlorinated biphenyls, Total							
1						214.3	
2						218.8	
						RPD = 2.10	

Reagents:

AR_1660_L3_00031	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

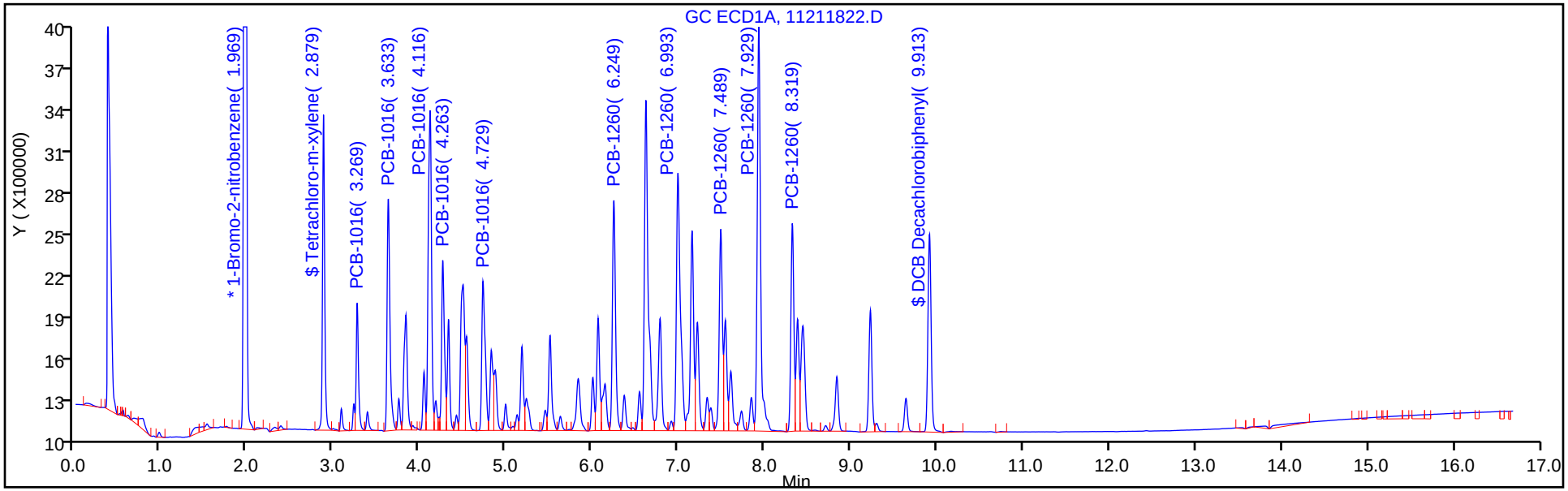
Report Date: 23-Nov-2018 11:02:34 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

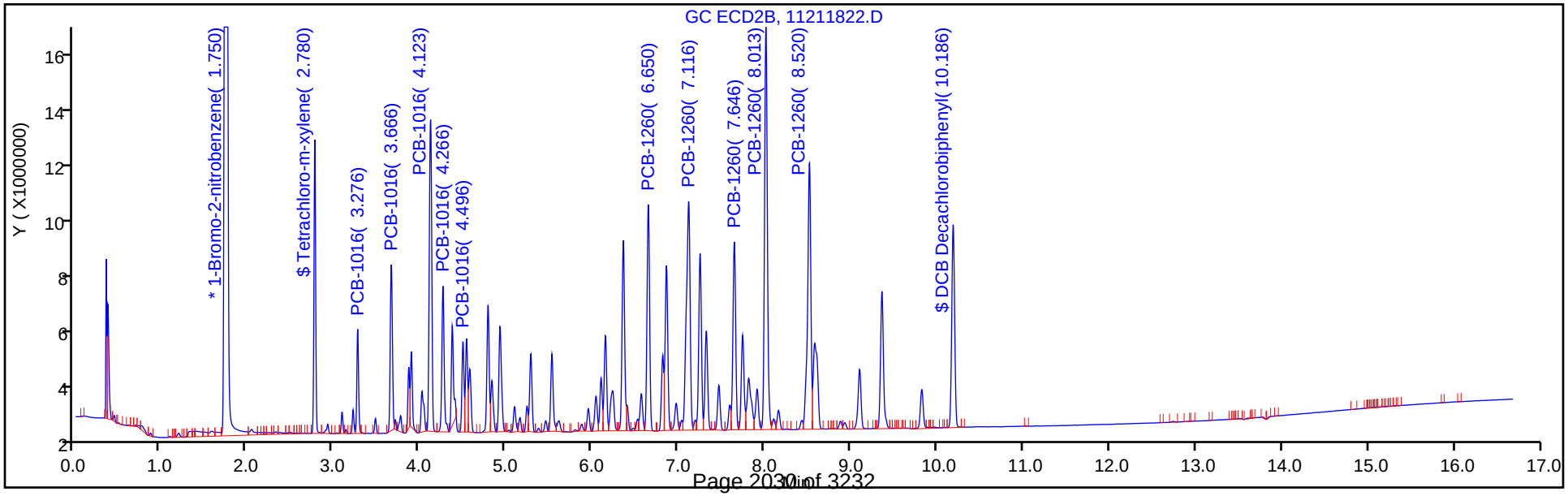
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211822.D

Injection Date:	21-Nov-2018 16:09:34	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL31660			Worklist Smp#:	22
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211823.D
Lims ID: STDL21660
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Nov-2018 16:30:45 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL21660
Misc. Info.: 280-0076428-023
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:36 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:06:02

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	31839217	1000.0	1000.0	
2	1.750	1.746	0.004	177179573	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.879	2.879	0.000	1996738	2.50	2.50	
2	2.780	2.780	0.000	7055763	2.50	2.57	
						RPD = 3.03	
1 PCB-1016							
1	3.269	3.269	0.000	883638	50.0	51.0	
1	3.629	3.633	-0.004	2058248	50.0	51.7	
1	4.116	4.116	0.000	3122897	50.0	50.5	
1	4.263	4.263	0.000	1447486	50.0	50.8	
1	4.729	4.729	0.000	1525625	50.0	50.6	
		Average of Peak Amounts =				50.9	
2	3.276	3.276	0.000	2565446	50.0	51.6	
2	3.666	3.666	0.000	5231349	50.0	50.8	
2	4.123	4.123	0.000	11249839	50.0	51.1	
2	4.266	4.266	0.000	4898205	50.0	50.4	
2	4.496	4.496	0.000	2765621	50.0	52.2	
		Average of Peak Amounts =				51.2	
						RPD = 0.60	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.249	6.249	0.000	2188444	50.0	51.5	
1	6.993	6.993	0.000	3052493	50.0	50.8	
1	7.489	7.489	0.000	1885624	50.0	50.2	
1	7.929	7.929	0.000	4026393	50.0	50.4	
1	8.319	8.319	0.000	1831626	50.0	50.6	
		Average of Peak Amounts =				50.7	
2	6.650	6.646	0.004	8418682	50.0	52.2	
2	7.116	7.116	0.000	12242650	50.0	51.8	
2	7.646	7.646	0.000	7400170	50.0	52.4	
2	8.013	8.013	0.000	16246619	50.0	51.8	
2	8.516	8.516	0.000	12553559	50.0	52.0	
		Average of Peak Amounts =				52.0	
						RPD = 2.58	
$ 15 DCB Decachlorobiphenyl							
1	9.909	9.913	-0.004	1981347	2.50	2.56	
2	10.183	10.186	-0.003	8427351	2.50	2.61	
						RPD = 1.72	
S 8 Polychlorinated biphenyls, Total							
1						101.6	
2						103.3	
						RPD = 1.59	

Reagents:

AR_1660_L2_00030	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

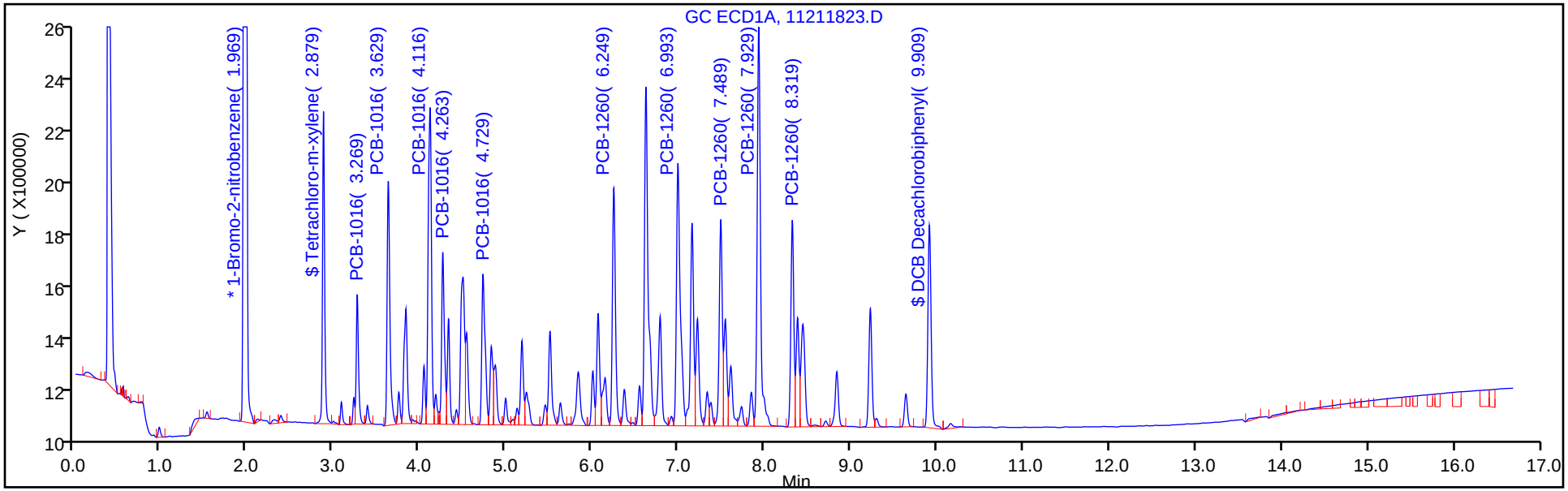
Report Date: 23-Nov-2018 11:02:38 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

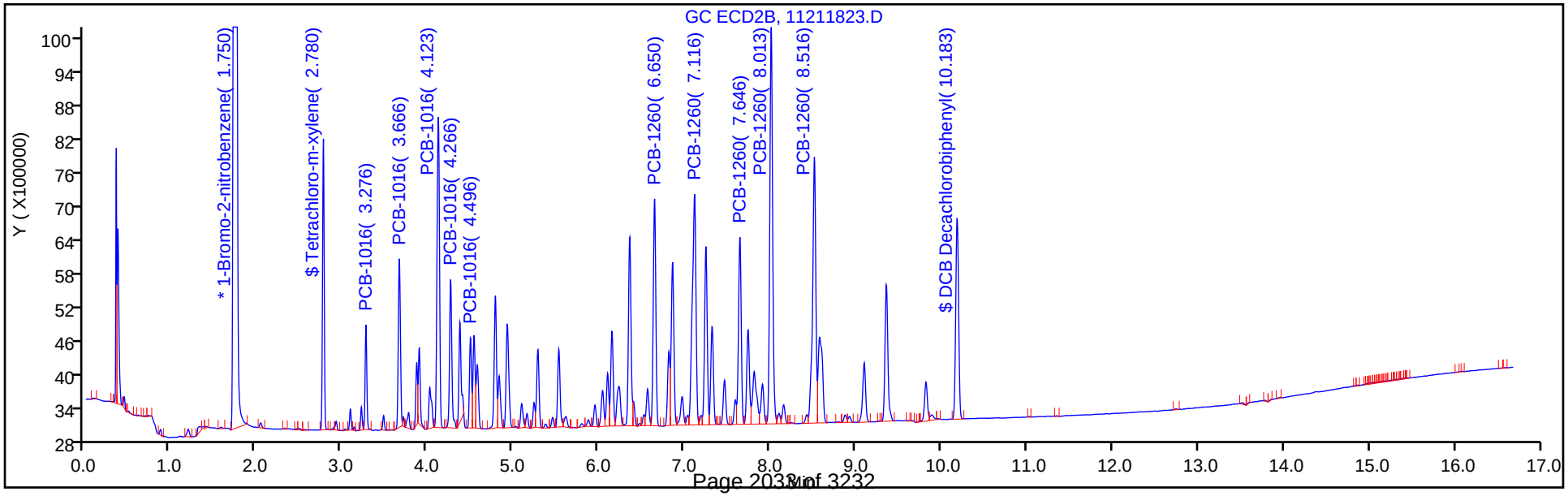
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211823.D

Injection Date:	21-Nov-2018 16:30:45	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL21660			Worklist Smp#:	23
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211824.D
Lims ID: STDL11660
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Nov-2018 16:51:56 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL11660
Misc. Info.: 280-0076428-024
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:40 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:06:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	33056810	1000.0	1000.0	
2	1.749	1.746	0.003	183948370	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.879	2.879	0.000	998558	1.25	1.26	
2	2.779	2.780	-0.001	3780517	1.25	1.04	
						RPD = 19.58	
1 PCB-1016							
1	3.272	3.269	0.003	469132	25.0	18.7	
1	3.632	3.633	-0.001	1080310	25.0	19.2	
1	4.116	4.116	0.000	1562445	25.0	23.1	
1	4.262	4.263	-0.001	734649	25.0	20.6	
1	4.729	4.729	0.000	784034	25.0	21.6	
		Average of Peak Amounts =				20.6	
2	3.276	3.276	0.000	1402102	25.0	19.3	
2	3.666	3.666	0.000	2975533	25.0	20.4	
2	4.122	4.123	-0.001	6206319	25.0	20.7	
2	4.266	4.266	0.000	2787481	25.0	20.5	
2	4.499	4.496	0.003	1494252	25.0	18.9	
		Average of Peak Amounts =				19.9	
						RPD = 3.38	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.249	6.249	0.000	1127159	25.0	21.2	
1	6.992	6.993	-0.001	1550296	25.0	23.3	
1	7.489	7.489	0.000	988085	25.0	22.3	
1	7.929	7.929	0.000	2054328	25.0	23.7	
1	8.319	8.319	0.000	929879	25.0	23.8	
		Average of Peak Amounts =				22.9	
2	6.649	6.646	0.003	4471690	25.0	20.0	
2	7.116	7.116	0.000	6532137	25.0	20.5	
2	7.646	7.646	0.000	3887676	25.0	20.3	
2	8.012	8.013	-0.001	8601587	25.0	20.6	
2	8.516	8.516	0.000	6657019	25.0	20.6	
		Average of Peak Amounts =				20.4	
						RPD = 11.35	
$ 15 DCB Decachlorobiphenyl							
1	9.909	9.913	-0.004	1072007	1.25	1.06	
2	10.186	10.186	0.000	4494073	1.25	0.99	
						RPD = 6.04	
S 8 Polychlorinated biphenyls, Total							
1						43.5	
2						40.4	
						RPD = 7.49	

Reagents:

AR_1660_L1_00031	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

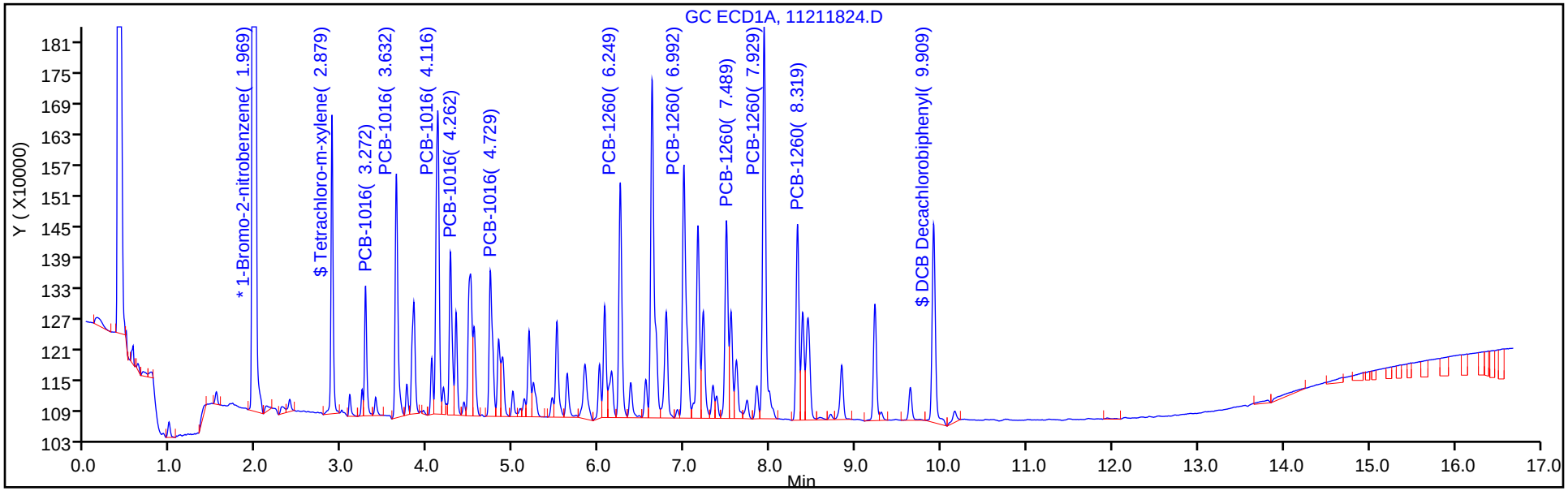
Report Date: 23-Nov-2018 11:02:41 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

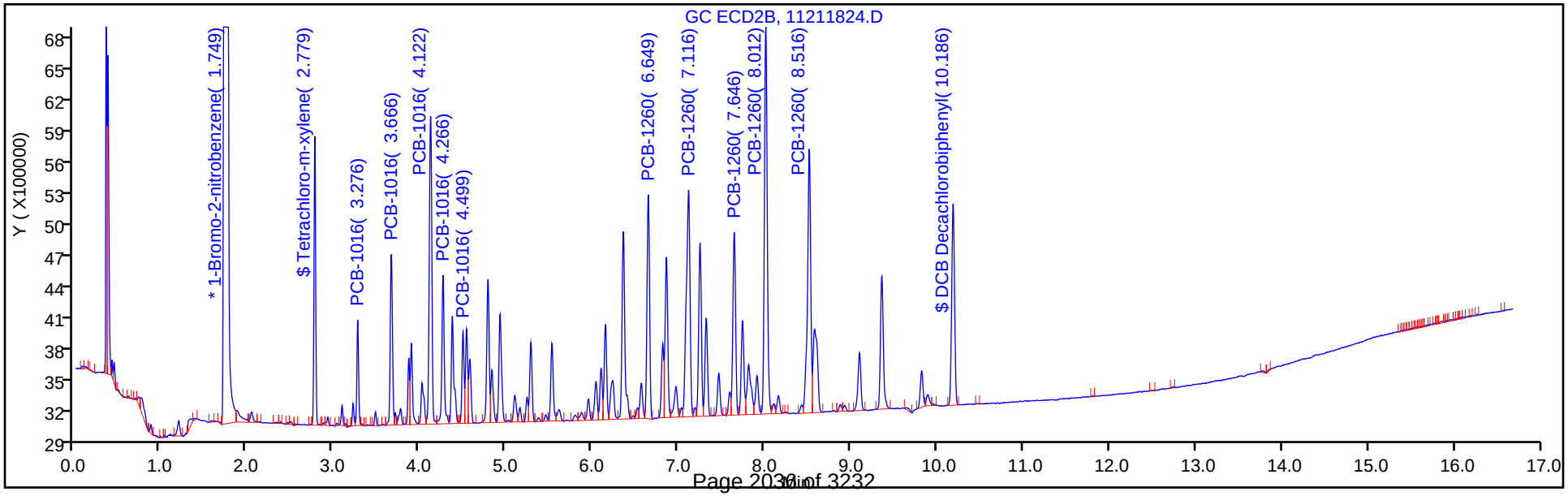
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211824.D

Injection Date:	21-Nov-2018 16:51:56	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL11660			Worklist Smp#:	24
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 17:13 Calibration End Date: 11/21/2018 19:20 Calibration ID: 34390

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL13262 280-438388/31	11211831.D
Level 2	STDL23262 280-438388/30	11211830.D
Level 3	STDL33262 280-438388/29	11211829.D
Level 4	STDL43262 280-438388/28	11211828.D
Level 5	STDL53262 280-438388/27	11211827.D
Level 6	STDL63262 280-438388/26	11211826.D
Level 7	STDL73262 280-438388/25	11211825.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1232 Peak 1	0.2020 0.1716	0.2001 0.1576	0.1758	0.1799	0.1642	Lin1	1.4008	0.1631							0.9980		0.9900
PCB-1232 Peak 2	0.7316 0.5379	0.6621 0.4960	0.5963	0.5828	0.5382	Lin1	6.9182	0.5147							0.9970		0.9900
PCB-1232 Peak 3	0.8869 0.8293	0.8265 0.7752	0.7896	0.8158	0.7901	Lin1	1.9484	0.7944							0.9990		0.9900
PCB-1232 Peak 4	0.4237 0.3607	0.3807 0.3320	0.3740	0.3767	0.3499	Lin1	2.3547	0.3447							0.9980		0.9900
PCB-1232 Peak 5	0.4155 0.3609	0.3923 0.3303	0.3615	0.3738	0.3558	Lin1	2.2391	0.3450							0.9980		0.9900
PCB-1262 Peak 1	1.2460 0.9862	1.1306 0.9078	1.0330	1.0289	0.9612	Lin1	9.1979	0.9390							0.9980		0.9900
PCB-1262 Peak 2	1.9150 1.5416	1.7805 1.4315	1.5760	1.5898	1.5128	Lin1	13.088	1.4746							0.9990		0.9900
PCB-1262 Peak 3	1.6782 1.3722	1.5439 1.2785	1.3824	1.4086	1.3079	Lin1	10.443	1.3077							0.9990		0.9900
PCB-1262 Peak 4	3.2087 2.8651	2.9676 2.6722	2.6736	2.8308	2.7344	Lin1	10.149	2.7368							0.9990		0.9900
PCB-1262 Peak 5	1.0018 0.8715	0.9225 0.8216	0.8505	0.8771	0.8263	Lin1	4.1209	0.8355							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 17:13 Calibration End Date: 11/21/2018 19:20 Calibration ID: 34390

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL13262 280-438388/31	11211831.D
Level 2	STDL23262 280-438388/30	11211830.D
Level 3	STDL33262 280-438388/29	11211829.D
Level 4	STDL43262 280-438388/28	11211828.D
Level 5	STDL53262 280-438388/27	11211827.D
Level 6	STDL63262 280-438388/26	11211826.D
Level 7	STDL73262 280-438388/25	11211825.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1232 Peak 1	BNB	Lin1	145633 3825778	308483 4984840	547298	1392895	2583135	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 2	BNB	Lin1	527466 11992126	1020472 15689198	1856728	4511528	8464098	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 3	BNB	Lin1	639419 18488855	1273955 24520289	2458762	6315260	12426844	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 4	BNB	Lin1	305449 8040685	586726 10501101	1164474	2916425	5502198	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 5	BNB	Lin1	299569 8045853	604692 10446034	1125602	2893984	5595129	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 1	BNB	Lin1	898312 21984609	1742564 28715451	3216578	7964853	15117077	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 2	BNB	Lin1	1380613 34368147	2744291 45278660	4907514	12307287	23792647	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 3	BNB	Lin1	1209897 30590995	2379701 40438292	4304645	10904443	20569577	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 4	BNB	Lin1	2313295 63873370	4573994 84521517	8325389	21913797	43005230	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 5	BNB	Lin1	722269 19427531	1421934 25986514	2648440	6789639	12995186	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211825.D
Lims ID: STDL73262
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Nov-2018 17:13:09 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL73262
Misc. Info.: 280-0076428-025
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:44 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:18:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.969	0.001	31630227	1000.0	1000.0	
2	1.747	1.746	0.001	177174681	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							M
1	3.086	3.088	-0.002	4984840	1000.0	957.8	
1	3.270	3.271	-0.001	15689198	1000.0	950.2	
1	4.116	4.118	-0.002	24520289	1000.0	973.4	
1	4.263	4.264	-0.001	10501101	1000.0	956.2	
1	4.730	4.731	-0.001	10446034	1000.0	950.9	M
		Average of Peak Amounts =				957.7	
2	3.277	3.275	0.002	43153197	1000.0	951.3	M
2	3.667	3.665	0.002	37154008	1000.0	967.1	M
2	4.120	4.121	-0.001	76218445	1000.0	956.2	M
2	4.267	4.265	0.002	33438438	1000.0	958.6	M
2	4.927	4.928	-0.001	28051936	1000.0	956.8	M
		Average of Peak Amounts =				958.0	
						RPD = 0.03	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							M
1	6.250	6.248	0.002	28715451	1000.0	957.0	M
1	7.156	7.154	0.002	45278660	1000.0	961.9	M
1	7.490	7.488	0.002	40438292	1000.0	969.7	M
1	7.930	7.931	-0.001	84521517	1000.0	972.7	M
1	8.320	8.321	-0.001	25986514	1000.0	978.4	M
		Average of Peak Amounts =				967.9	
2	6.647	6.648	-0.001	98230933	1000.0	943.5	M
2	7.247	7.248	-0.001	138859883	1000.0	944.4	
2	7.647	7.645	0.002	137990458	1000.0	944.0	
2	8.010	8.011	-0.001	270071150	1000.0	945.2	
2	8.517	8.515	0.002	204325846	1000.0	947.3	
		Average of Peak Amounts =				944.9	
						RPD = 2.41	
S 8 Polychlorinated biphenyls, Total							
1						1925.6	
2						1902.8	
						RPD = 1.19	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_3262_L7_00017	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

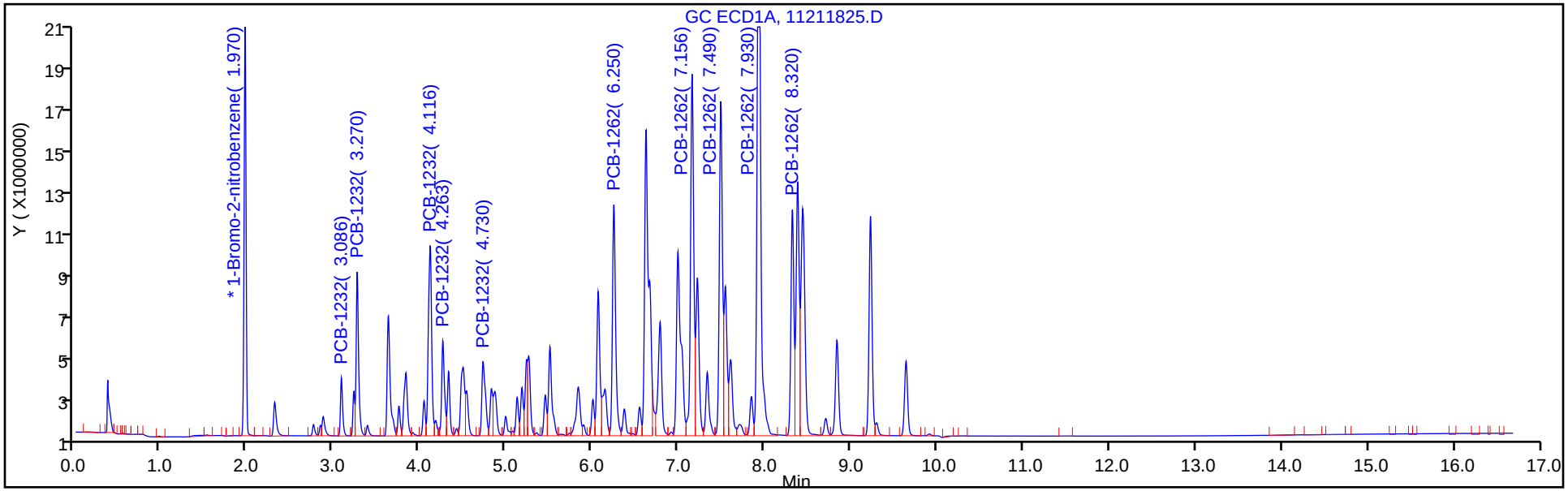
Report Date: 23-Nov-2018 11:02:45 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

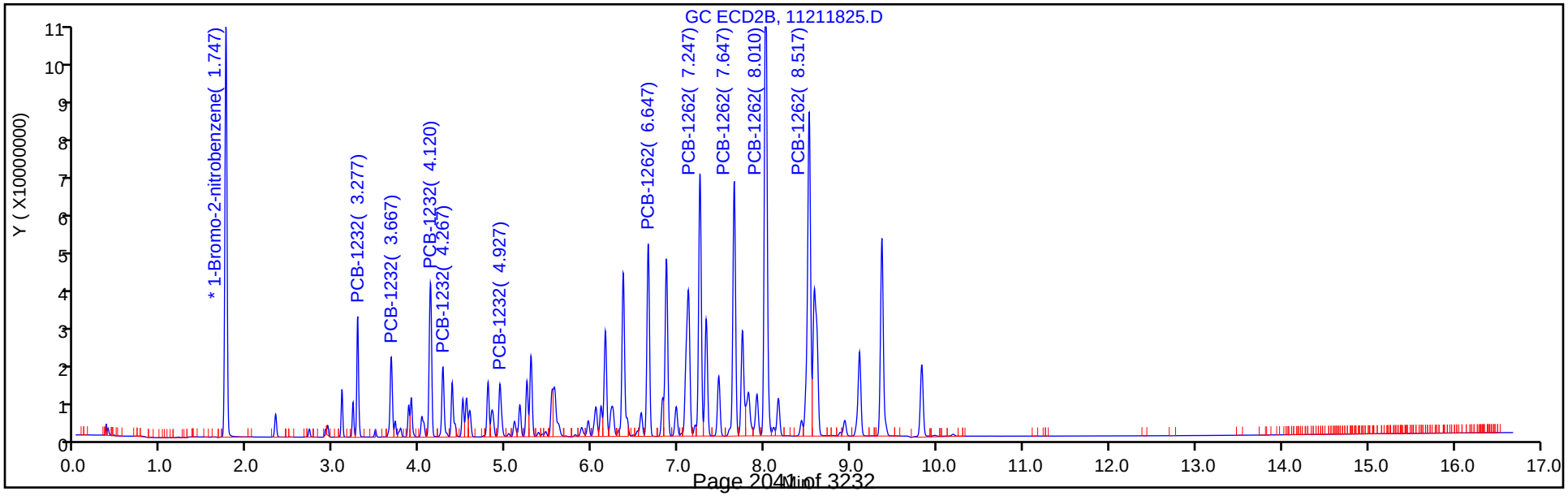
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211825.D

Injection Date:	21-Nov-2018 17:13:09	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL73262			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 23-Nov-2018 11:02:45 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211825.D

Injection Date: 21-Nov-2018 17:13:09 Instrument ID: SGC_J

Lims ID: STDL73262

Client ID:

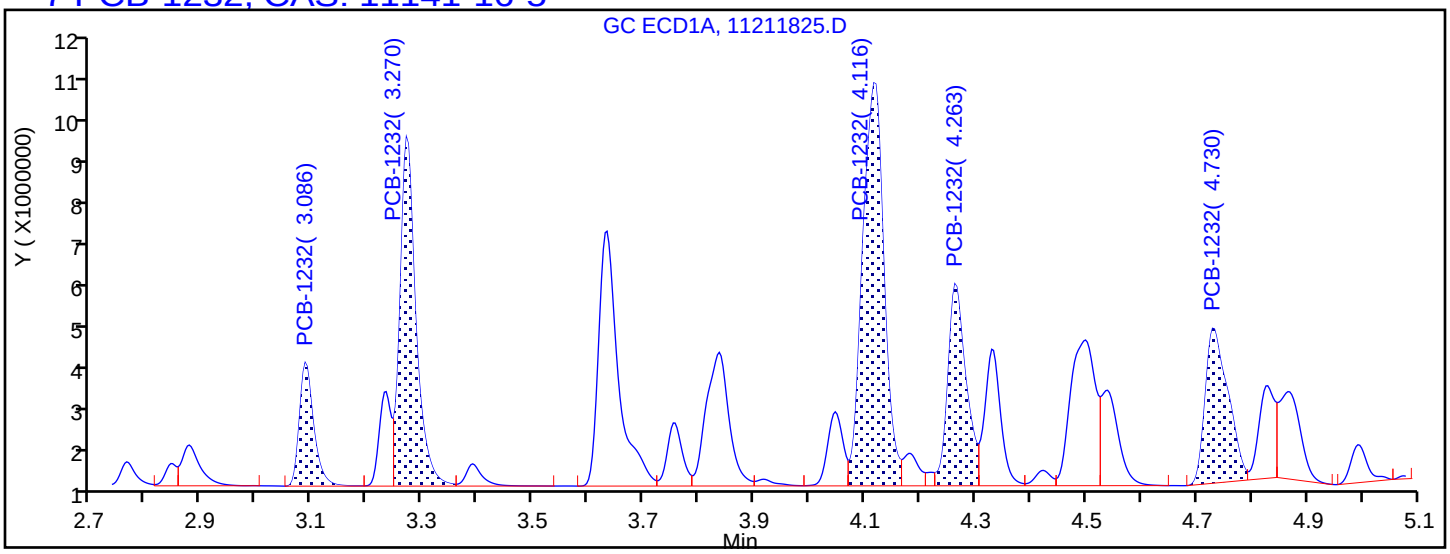
Operator ID: ALS ALS Bottle#: 25 Worklist Smp#: 25

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

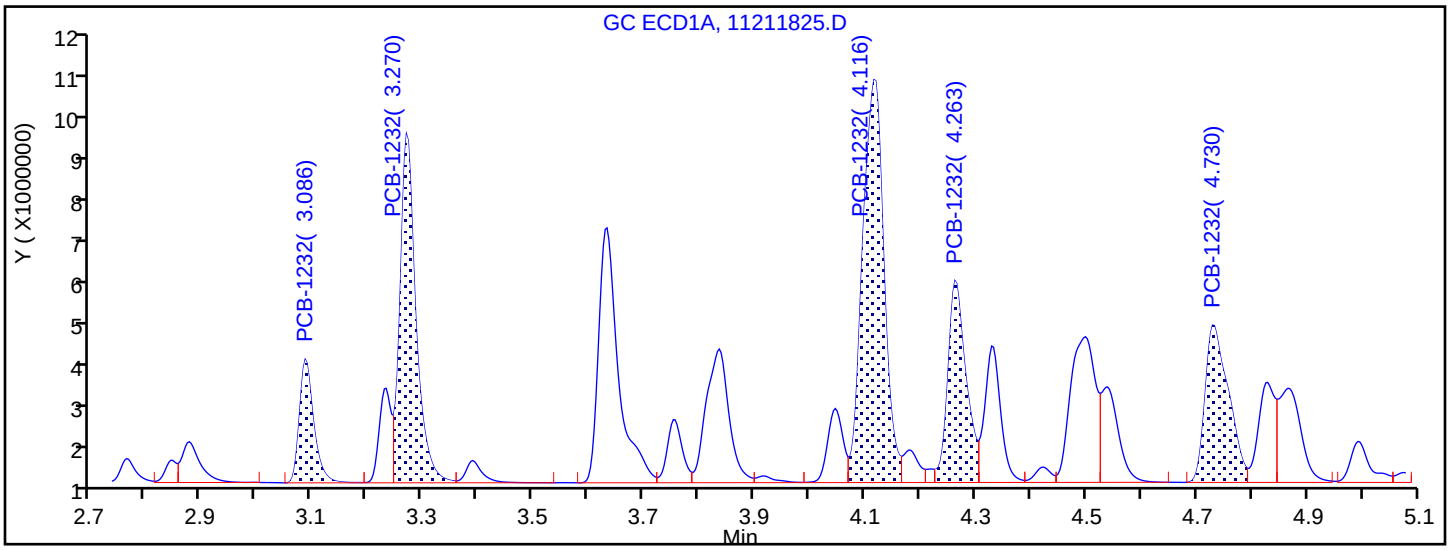
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

7 PCB-1232, CAS: 11141-16-5



Processing Integration Results

3.086	Response = 4984840
3.270	Response = 15689198
4.116	Response = 24520289
4.263	Response = 10501101
4.730	Response = 10017869



Manual Integration Results

3.086	Response = 4984840	
3.270	Response = 15689198	
4.116	Response = 24520289	
4.263	Response = 10501101	
4.730	Response = 10446034	M

Reviewer: patadiab, 23-Nov-2018 10:17:48

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Report Date: 23-Nov-2018 11:02:46 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211825.D

Injection Date: 21-Nov-2018 17:13:09 Instrument ID: SGC_J

Lims ID: STDL73262

Client ID:

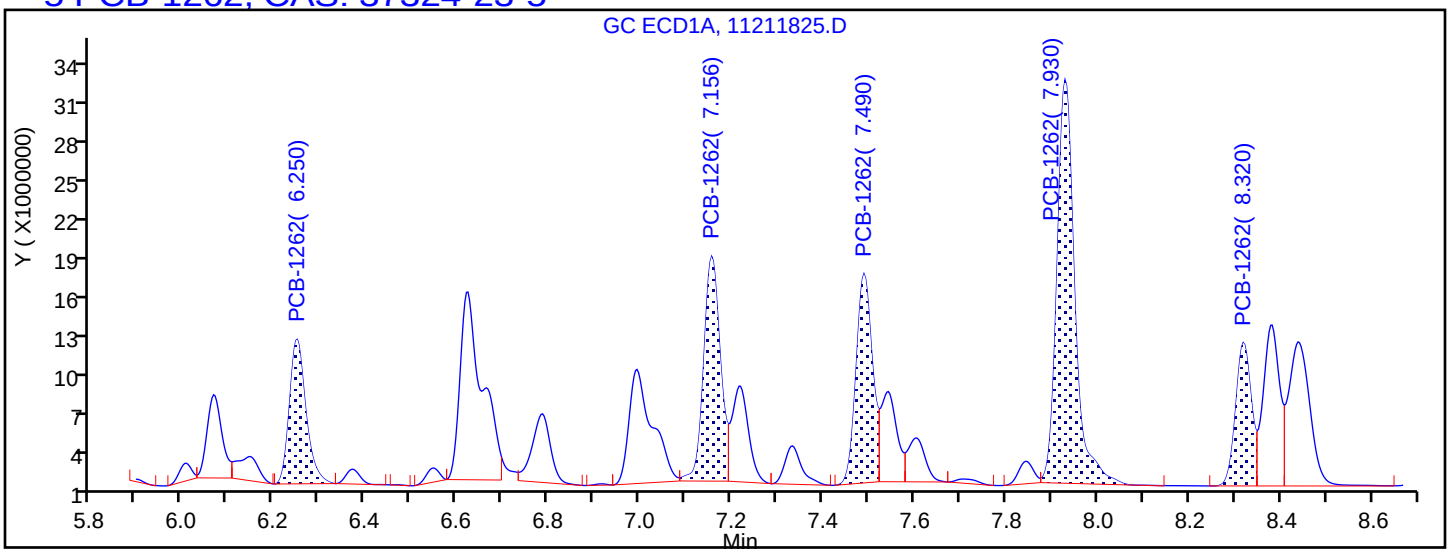
Operator ID: ALS ALS Bottle#: 25 Worklist Smp#: 25

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

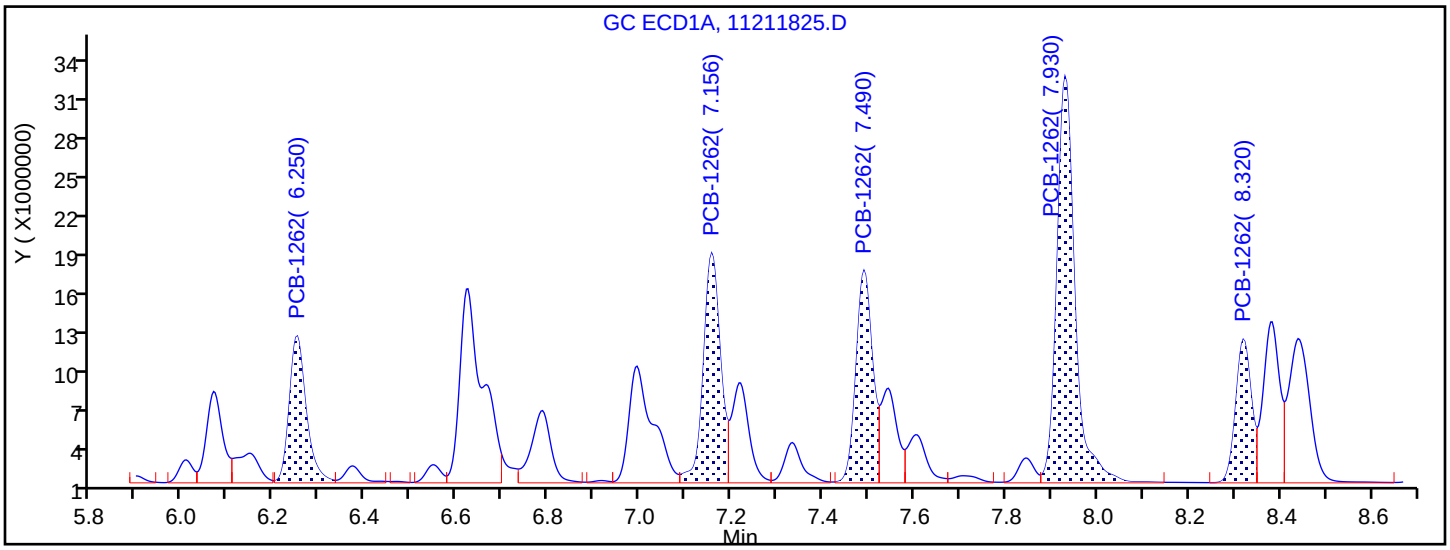
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

5 PCB-1262, CAS: 37324-23-5



Processing Integration Results

6.250	Response = 27284287
7.156	Response = 42823297
7.490	Response = 39275835
7.930	Response = 82203775
8.320	Response = 25885445



Manual Integration Results

6.250	Response = 28715451	M
7.156	Response = 45278660	M
7.490	Response = 40438292	M
7.930	Response = 84521517	M
8.320	Response = 25986514	M

Reviewer: patadiab, 23-Nov-2018 10:17:48

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211826.D
Lims ID: STDL63262
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Nov-2018 17:34:18 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL63262
Misc. Info.: 280-0076428-026
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:49 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:20:18

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	29724345	1000.0	1000.0	
2	1.749	1.746	0.003	167597392	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							M
1	3.086	3.088	-0.002	3825778	750.0	780.6	
1	3.269	3.271	-0.002	11992126	750.0	770.4	
1	4.116	4.118	-0.002	18488855	750.0	780.5	
1	4.263	4.264	-0.001	8040685	750.0	777.9	
1	4.729	4.731	-0.002	8045853	750.0	778.2	M
		Average of Peak Amounts =				777.5	
2	3.276	3.275	0.001	33236999	750.0	771.4	
2	3.666	3.665	0.001	27752244	750.0	759.9	
2	4.123	4.121	0.002	58138353	750.0	768.0	
2	4.266	4.265	0.001	25319272	750.0	764.2	
2	4.929	4.928	0.001	21128917	750.0	758.5	
		Average of Peak Amounts =				764.4	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							M
1	6.249	6.248	0.001	21984609	750.0	777.9	M
1	7.156	7.154	0.002	34368147	750.0	775.2	M
1	7.489	7.488	0.001	30590995	750.0	779.0	M
1	7.929	7.931	-0.002	63873370	750.0	781.5	M
1	8.319	8.321	-0.002	19427531	750.0	777.3	M
		Average of Peak Amounts =				778.2	
2	6.649	6.648	0.001	76501019	750.0	773.9	
2	7.249	7.248	0.001	108005184	750.0	773.7	
2	7.646	7.645	0.001	107493024	750.0	774.8	
2	8.013	8.011	0.002	210407349	750.0	776.0	
2	8.516	8.515	0.001	158732369	750.0	775.3	
		Average of Peak Amounts =				774.7	
						RPD = 0.45	
S 8 Polychlorinated biphenyls, Total							
1						1555.7	
2						1539.1	
						RPD = 1.07	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_3262_L6_00019	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

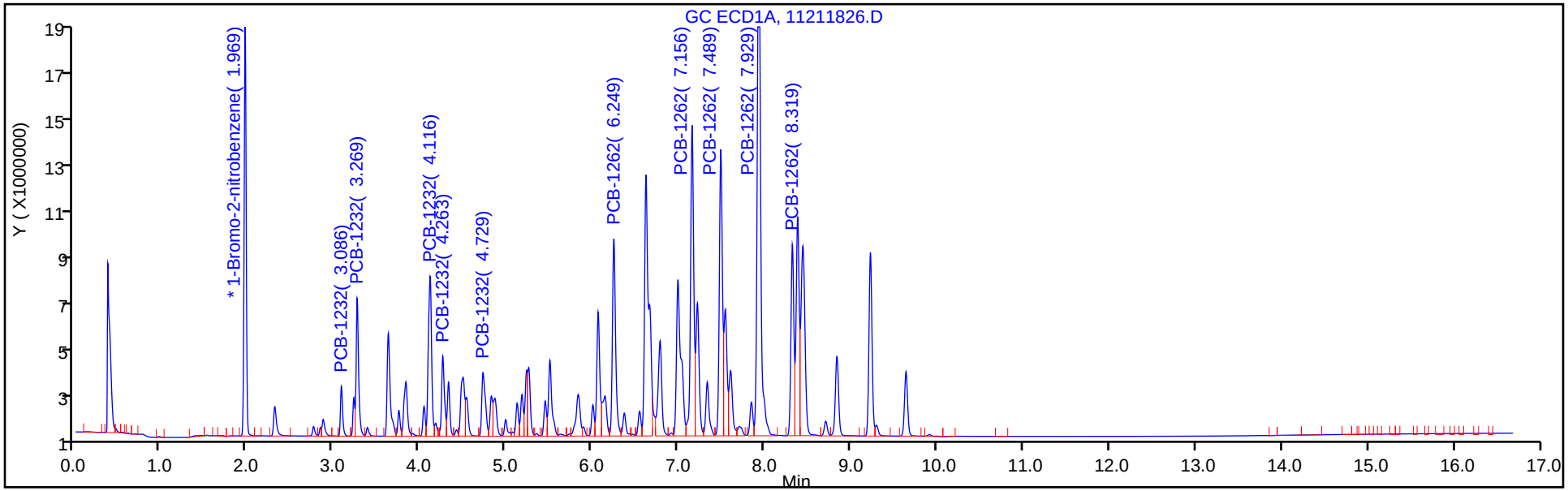
Report Date: 23-Nov-2018 11:02:50 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

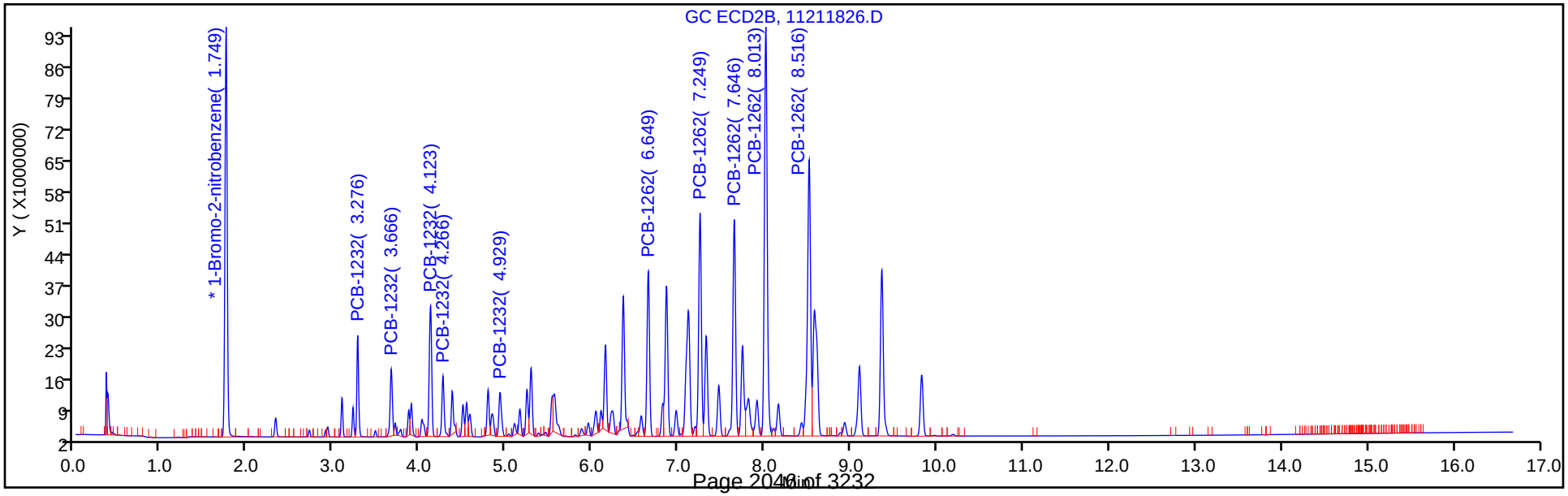
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211826.D

Injection Date:	21-Nov-2018 17:34:18	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL63262			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 23-Nov-2018 11:02:51 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211826.D

Injection Date: 21-Nov-2018 17:34:18 Instrument ID: SGC_J

Lims ID: STDL63262

Client ID:

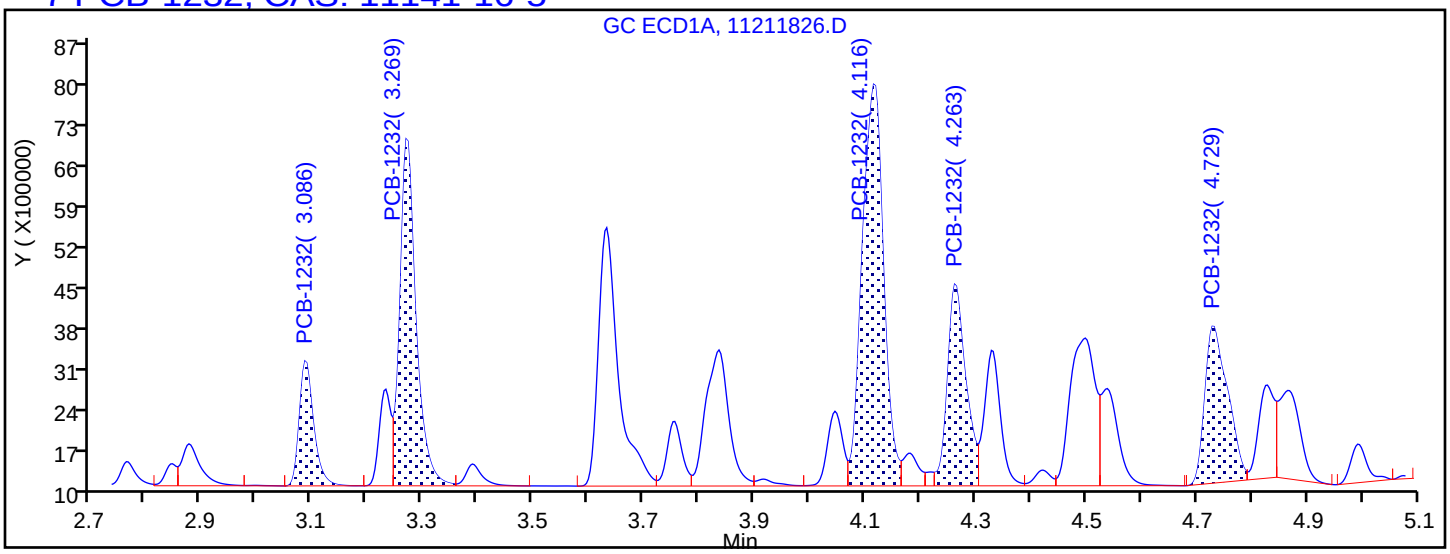
Operator ID: ALS ALS Bottle#: 26 Worklist Smp#: 26

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

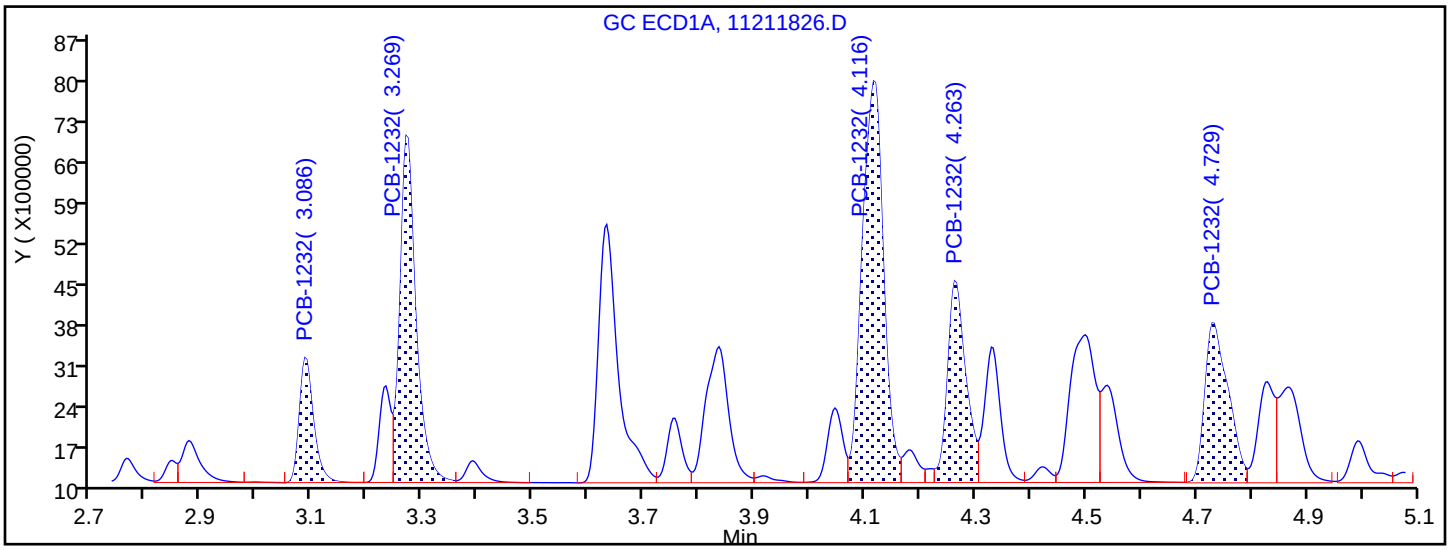
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

7 PCB-1232, CAS: 11141-16-5



Processing Integration Results

3.086	Response = 3825778
3.269	Response = 11992126
4.116	Response = 18488855
4.263	Response = 8040685
4.729	Response = 7671926



Manual Integration Results

3.086	Response = 3825778	
3.269	Response = 11992126	
4.116	Response = 18488855	
4.263	Response = 8040685	
4.729	Response = 8045853	M

Reviewer: patadiab, 23-Nov-2018 10:20:10

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Report Date: 23-Nov-2018 11:02:51 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211826.D

Injection Date: 21-Nov-2018 17:34:18 Instrument ID: SGC_J

Lims ID: STDL63262

Client ID:

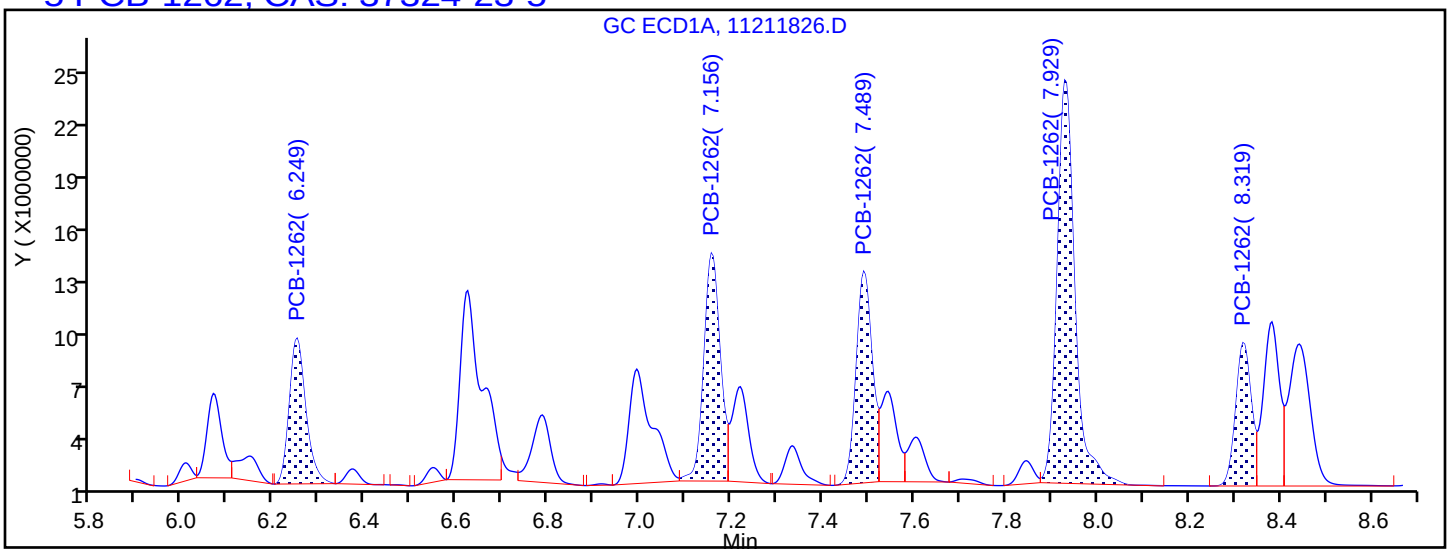
Operator ID: ALS ALS Bottle#: 26 Worklist Smp#: 26

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

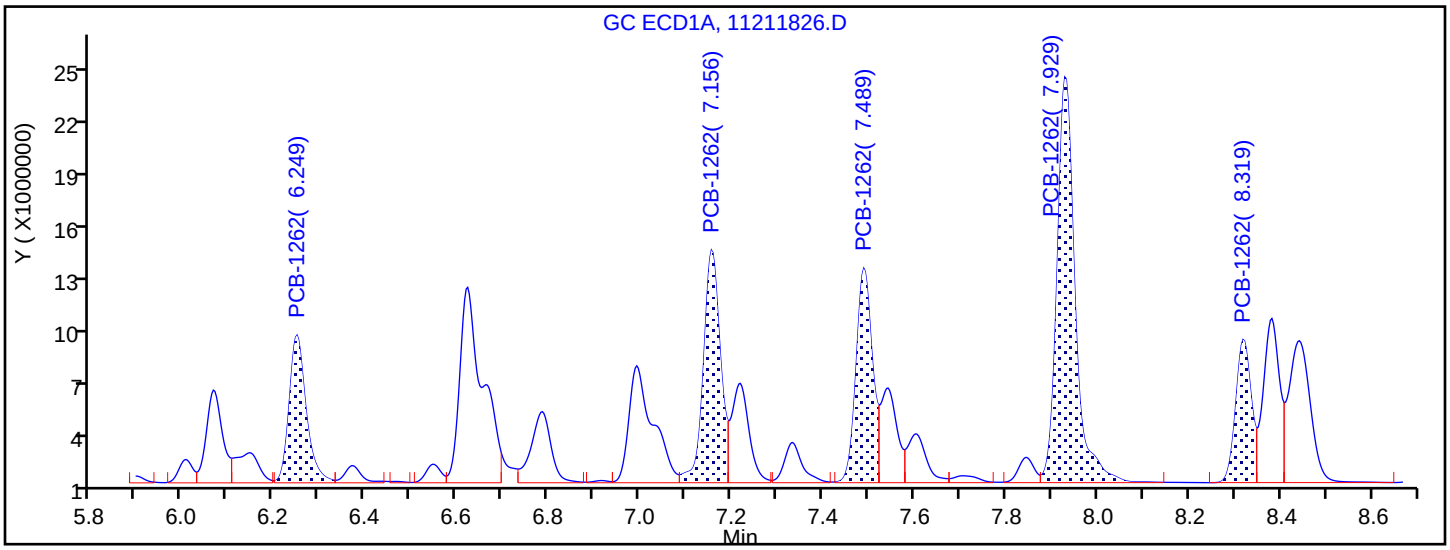
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

5 PCB-1262, CAS: 37324-23-5



Processing Integration Results

6.249	Response = 20927193
7.156	Response = 32519750
7.489	Response = 29752196
7.929	Response = 62336451
8.319	Response = 19446262



Manual Integration Results

6.249	Response = 21984609	M
7.156	Response = 34368147	M
7.489	Response = 30590995	M
7.929	Response = 63873370	M
8.319	Response = 19427531	M

Reviewer: patadiab, 23-Nov-2018 10:20:10

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211827.D
Lims ID: STDL53262
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Nov-2018 17:55:27 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL53262
Misc. Info.: 280-0076428-027
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:53 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:14:18

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.968	0.000	31454394	1000.0	1000.0	
2	1.748	1.748	0.000	177287409	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							M
1	3.088	3.088	0.000	2583135	500.0	495.0	
1	3.271	3.271	0.000	8464098	500.0	509.4	
1	4.118	4.118	0.000	12426844	500.0	494.9	M
1	4.264	4.264	0.000	5502198	500.0	500.6	M
1	4.731	4.731	0.000	5595129	500.0	509.2	M
		Average of Peak Amounts =				501.8	
2	3.275	3.275	0.000	23119208	500.0	501.5	
2	3.665	3.665	0.000	19468141	500.0	497.9	
2	4.121	4.121	0.000	40797414	500.0	504.3	
2	4.265	4.265	0.000	17838929	500.0	503.9	
2	4.928	4.928	0.000	15244324	500.0	512.0	
		Average of Peak Amounts =				503.9	
						RPD = 0.42	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							M
1	6.248	6.248	0.000	15117077	500.0	502.0	M
1	7.154	7.154	0.000	23792647	500.0	504.1	M
1	7.488	7.488	0.000	20569577	500.0	492.1	M
1	7.931	7.931	0.000	43005230	500.0	495.9	M
1	8.321	8.321	0.000	12995186	500.0	489.6	M
		Average of Peak Amounts =				496.7	
2	6.648	6.648	0.000	54027511	500.0	511.3	
2	7.248	7.248	0.000	76105584	500.0	510.0	
2	7.645	7.645	0.000	75571069	500.0	510.0	
2	8.011	8.011	0.000	147285972	500.0	508.7	
2	8.515	8.515	0.000	110696168	500.0	506.1	
		Average of Peak Amounts =				509.2	
						RPD = 2.49	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_3262_L5_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

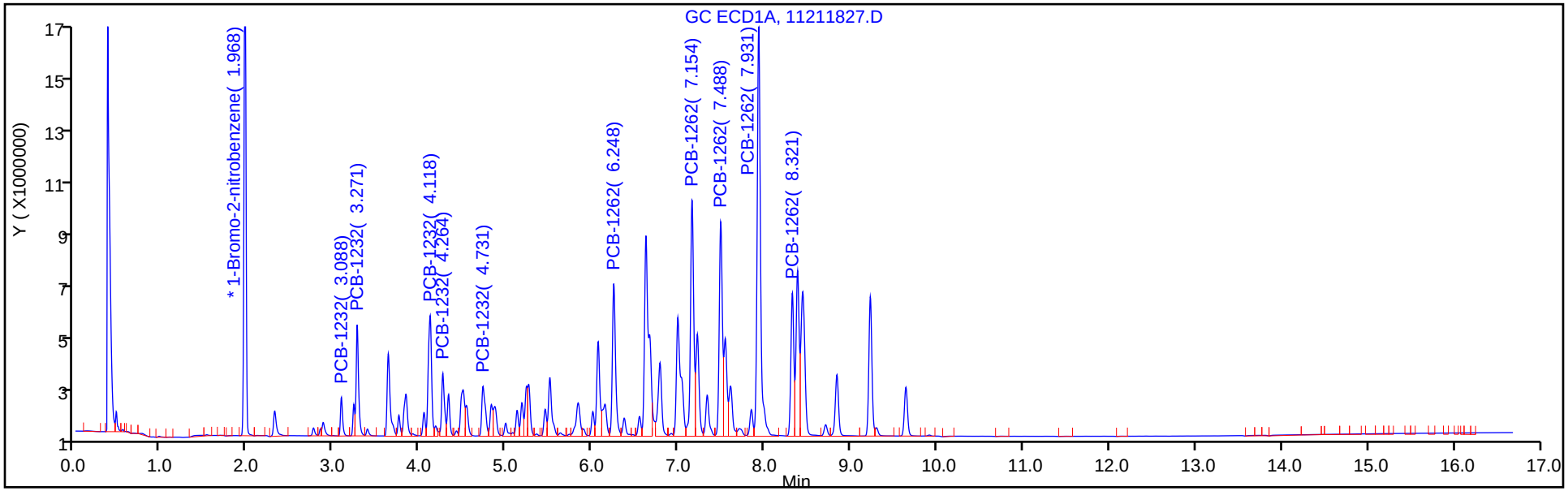
Report Date: 23-Nov-2018 11:02:53 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

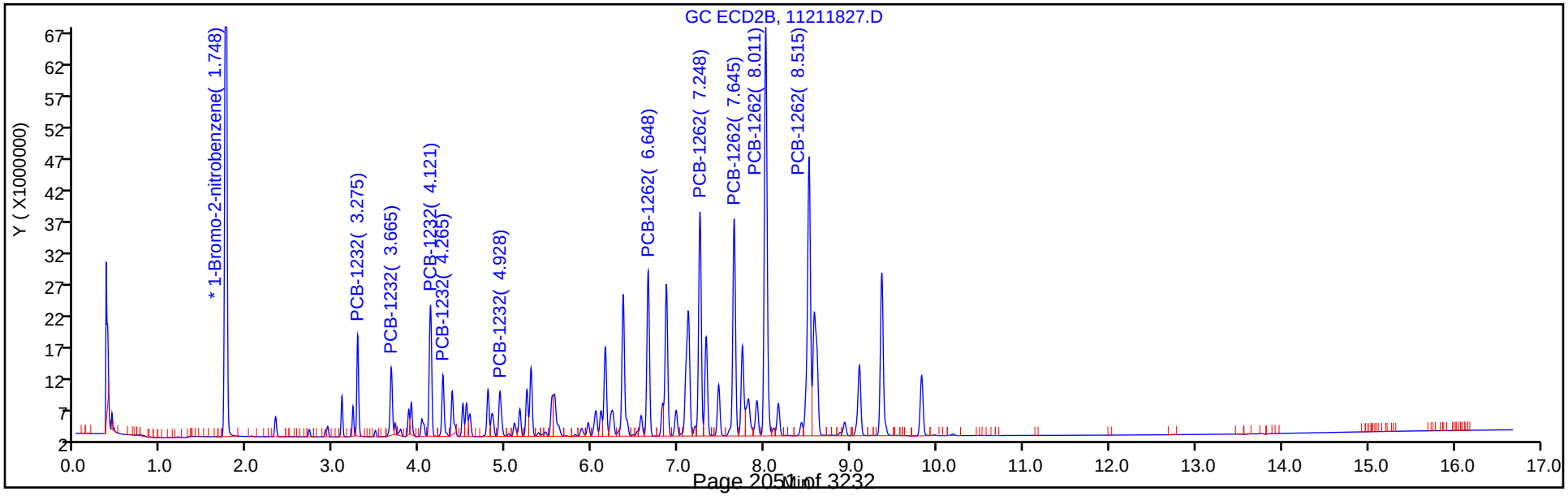
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211827.D

Injection Date:	21-Nov-2018 17:55:27	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL53262			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 23-Nov-2018 11:02:53 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211827.D

Injection Date: 21-Nov-2018 17:55:27 Instrument ID: SGC_J

Lims ID: STDL53262

Client ID:

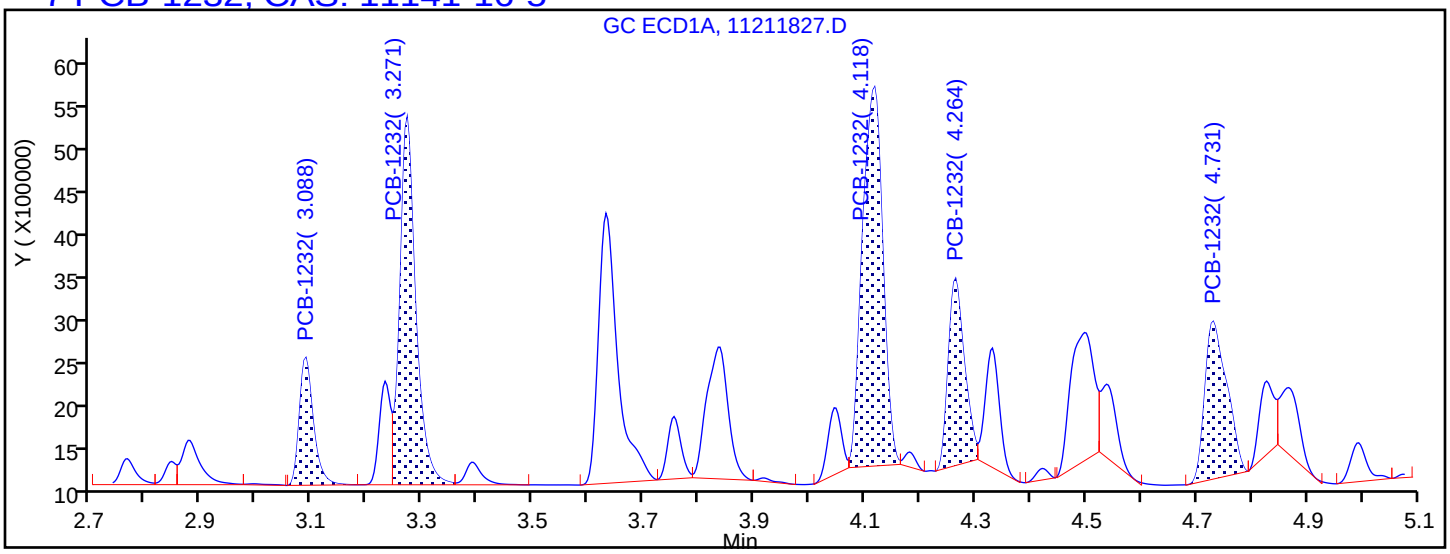
Operator ID: ALS ALS Bottle#: 27 Worklist Smp#: 27

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

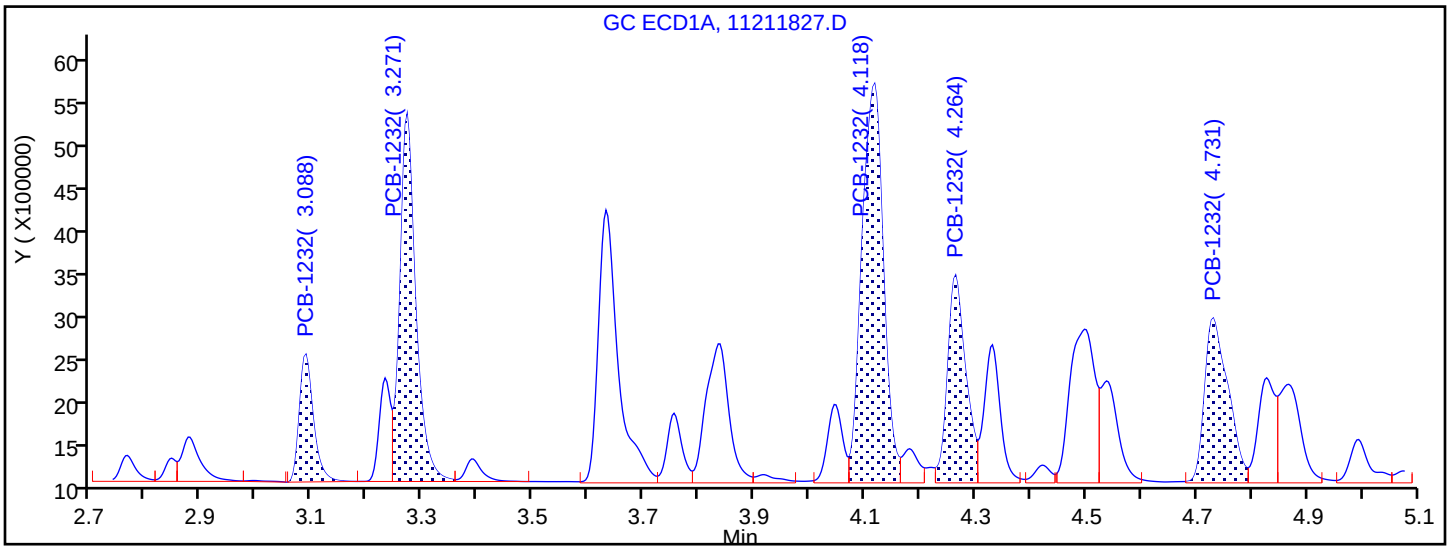
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

7 PCB-1232, CAS: 11141-16-5



Processing Integration Results

3.088	Response = 2583135	
3.271	Response = 8464098	
4.118	Response = 11130600	
4.264	Response = 4396782	
4.731	Response = 4977431	



Manual Integration Results

3.088	Response = 2583135	
3.271	Response = 8464098	
4.118	Response = 12426844	M
4.264	Response = 5502198	M
4.731	Response = 5595129	M

Reviewer: patadiab, 23-Nov-2018 10:21:16

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Report Date: 23-Nov-2018 11:02:53 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211827.D

Injection Date: 21-Nov-2018 17:55:27 Instrument ID: SGC_J

Lims ID: STDL53262

Client ID:

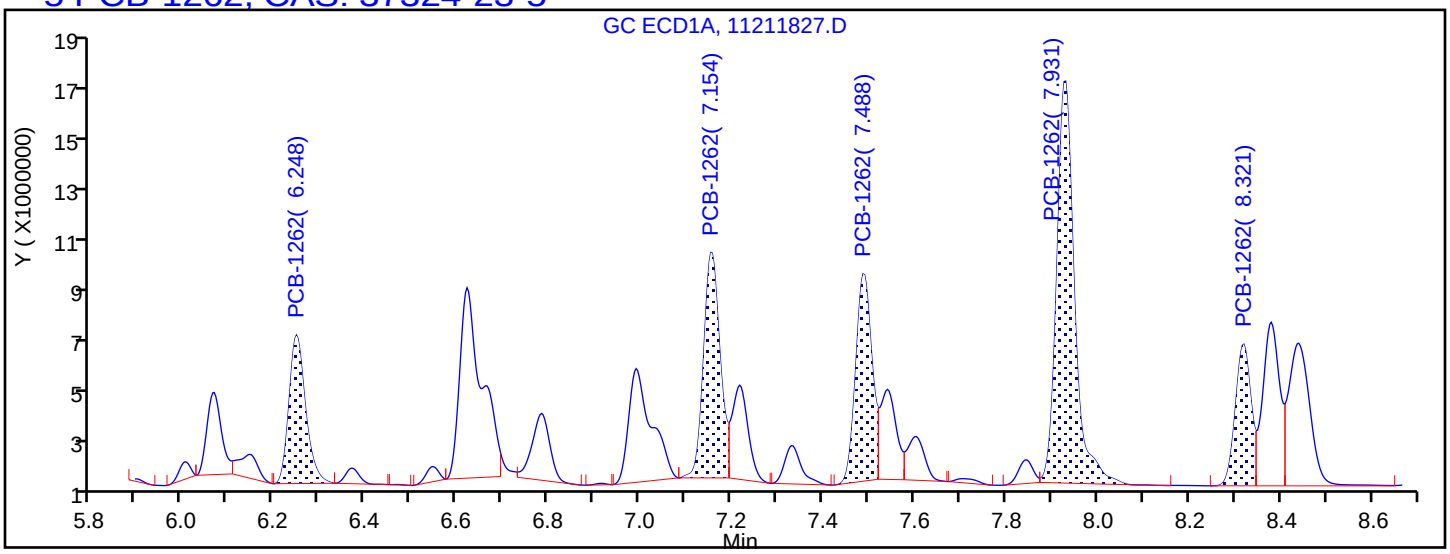
Operator ID: ALS ALS Bottle#: 27 Worklist Smp#: 27

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

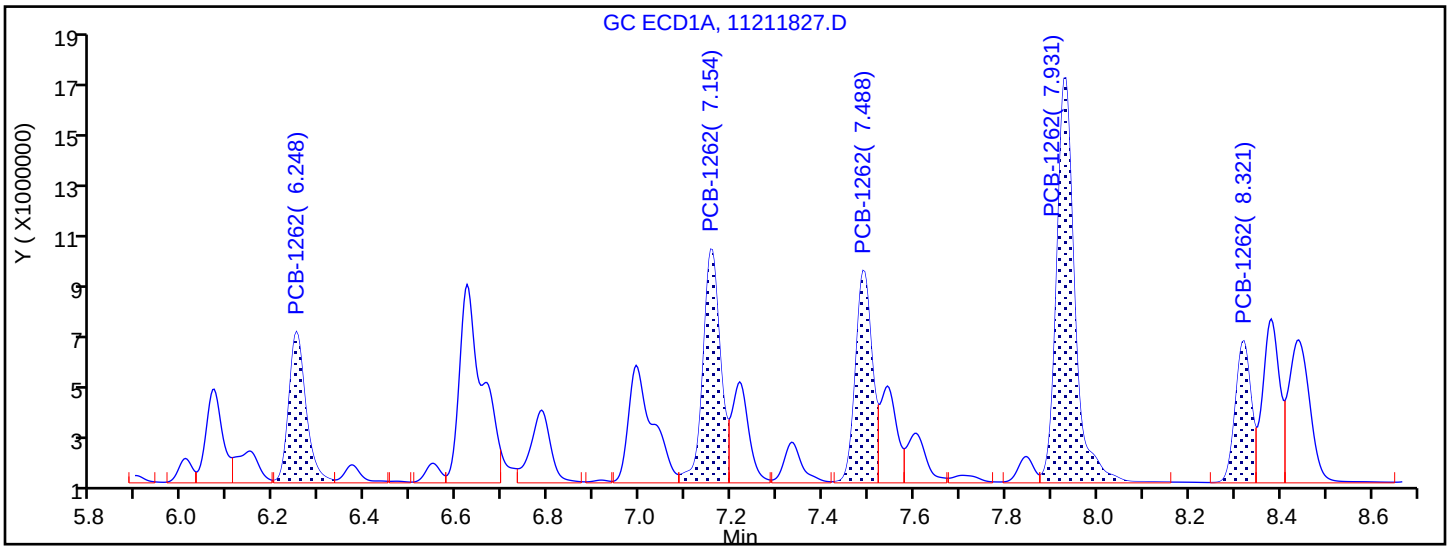
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

5 PCB-1262, CAS: 37324-23-5



Processing Integration Results

6.248	Response = 14296465
7.154	Response = 21705490
7.488	Response = 19673274
7.931	Response = 41669539
8.321	Response = 12921719



Manual Integration Results

6.248	Response = 15117077	M
7.154	Response = 23792647	M
7.488	Response = 20569577	M
7.931	Response = 43005230	M
8.321	Response = 12995186	M

Reviewer: patadiab, 23-Nov-2018 10:21:16

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211828.D
Lims ID: STDL43262
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Nov-2018 18:16:46 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL43262
Misc. Info.: 280-0076428-028
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:56 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:16:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.968	0.002	30965018	1000.0	1000.0	
2	1.747	1.748	-0.001	174717072	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.087	3.088	-0.001	1392895	250.0	267.2	
1	3.270	3.271	-0.001	4511528	250.0	269.6	
1	4.117	4.118	-0.001	6315260	250.0	254.3	
1	4.263	4.264	-0.001	2916425	250.0	266.4	
1	4.730	4.731	-0.001	2893984	250.0	264.4	
		Average of Peak Amounts =				264.4	
2	3.277	3.275	0.002	12740193	250.0	272.9	
2	3.663	3.665	-0.002	10698875	250.0	269.7	
2	4.120	4.121	-0.001	21982243	250.0	268.7	
2	4.267	4.265	0.002	9641479	250.0	269.4	
2	4.927	4.928	-0.001	8096778	250.0	268.2	
		Average of Peak Amounts =				269.8	
						RPD = 2.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.250	6.248	0.002	7964853	250.0	264.1	
1	7.157	7.154	0.003	12307287	250.0	260.7	
1	7.490	7.488	0.002	10904443	250.0	261.3	
1	7.930	7.931	-0.001	21913797	250.0	254.9	
1	8.320	8.321	-0.001	6789639	250.0	257.5	
		Average of Peak Amounts =				259.7	
2	6.647	6.648	-0.001	28900783	250.0	270.2	
2	7.247	7.248	-0.001	40916207	250.0	271.0	
2	7.647	7.645	0.002	40467048	250.0	270.4	
2	8.010	8.011	-0.001	78867004	250.0	270.0	
2	8.513	8.515	-0.002	59822420	250.0	270.9	
		Average of Peak Amounts =				270.5	
						RPD = 4.07	
S 8 Polychlorinated biphenyls, Total							
1						524.1	
2						540.3	
						RPD = 3.04	

Reagents:

AR_3262_L4_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

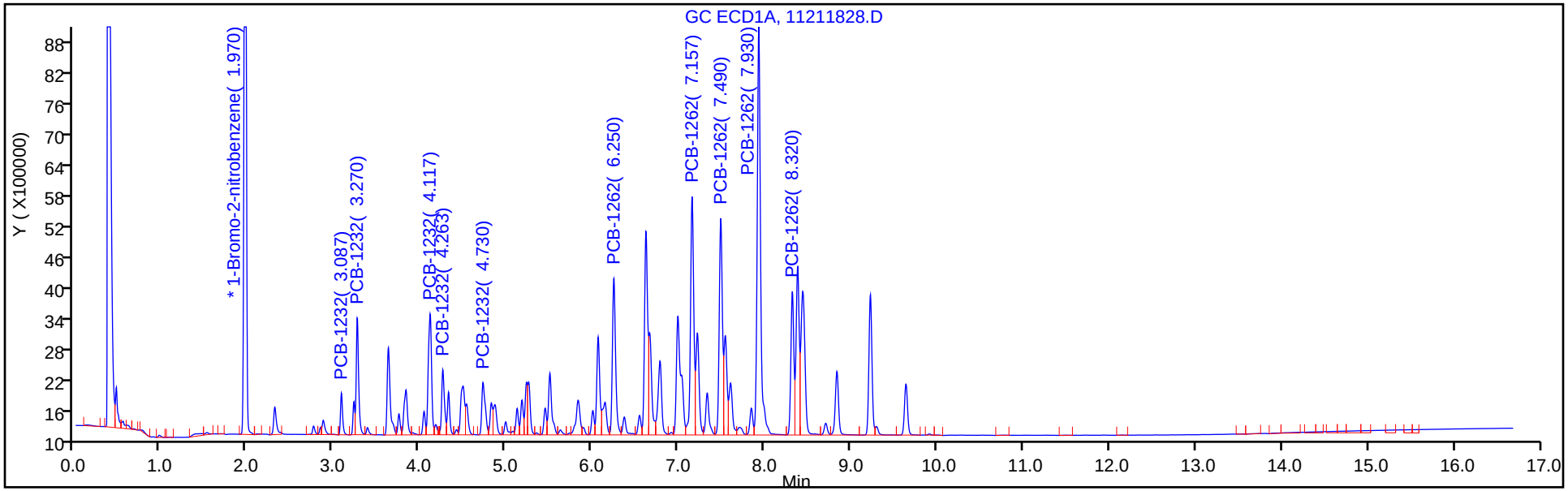
Report Date: 23-Nov-2018 11:02:56 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

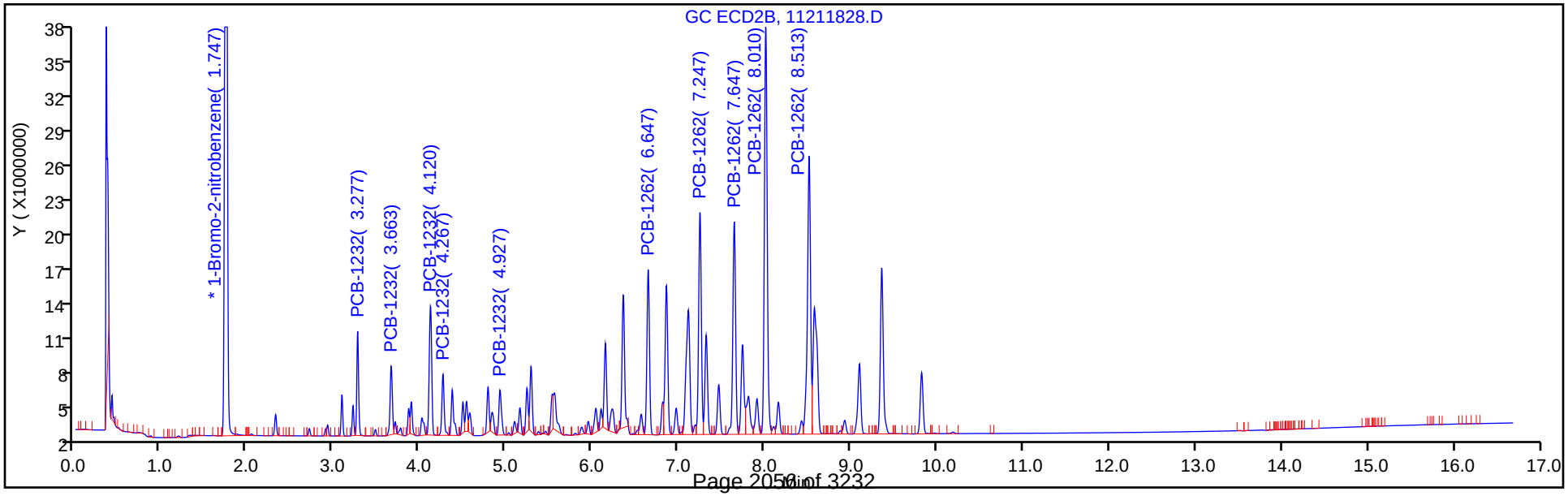
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211828.D

Injection Date:	21-Nov-2018 18:16:46	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL43262			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211829.D
Lims ID: STDL33262
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Nov-2018 18:37:56 ALS Bottle#: 29 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL33262
Misc. Info.: 280-0076428-029
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:58 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:25:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.972	1.968	0.004	31139299	1000.0	1000.0	
2	1.749	1.748	0.001	176067915	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.086	3.088	-0.002	547298	100.0	99.2	
1	3.272	3.271	0.001	1856728	100.0	102.4	
1	4.116	4.118	-0.002	2458762	100.0	96.9	
1	4.262	4.264	-0.002	1164474	100.0	101.6	
1	4.729	4.731	-0.002	1125602	100.0	98.3	
		Average of Peak Amounts =				99.7	
2	3.276	3.275	0.001	5377655	100.0	104.5	
2	3.666	3.665	0.001	4662843	100.0	106.4	
2	4.122	4.121	0.001	9281019	100.0	103.5	
2	4.266	4.265	0.001	4103159	100.0	104.9	
2	4.926	4.928	-0.002	3526090	100.0	106.4	
		Average of Peak Amounts =				105.2	
						RPD = 5.33	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.249	6.248	0.001	3216578	100.0	100.2	
1	7.156	7.154	0.002	4907514	100.0	98.0	
1	7.489	7.488	0.001	4304645	100.0	97.7	
1	7.929	7.931	-0.002	8325389	100.0	94.0	
1	8.319	8.321	-0.002	2648440	100.0	96.9	
		Average of Peak Amounts =				97.4	
2	6.646	6.648	-0.002	12068360	100.0	102.5	
2	7.249	7.248	0.001	17019760	100.0	102.5	
2	7.646	7.645	0.001	16739062	100.0	102.3	
2	8.012	8.011	0.001	32344111	100.0	101.5	
2	8.512	8.515	-0.003	24623782	100.0	101.9	
		Average of Peak Amounts =				102.2	
						RPD = 4.81	
S 8 Polychlorinated biphenyls, Total							
1						197.1	
2						207.3	
						RPD = 5.07	

Reagents:

AR_3262_L3_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

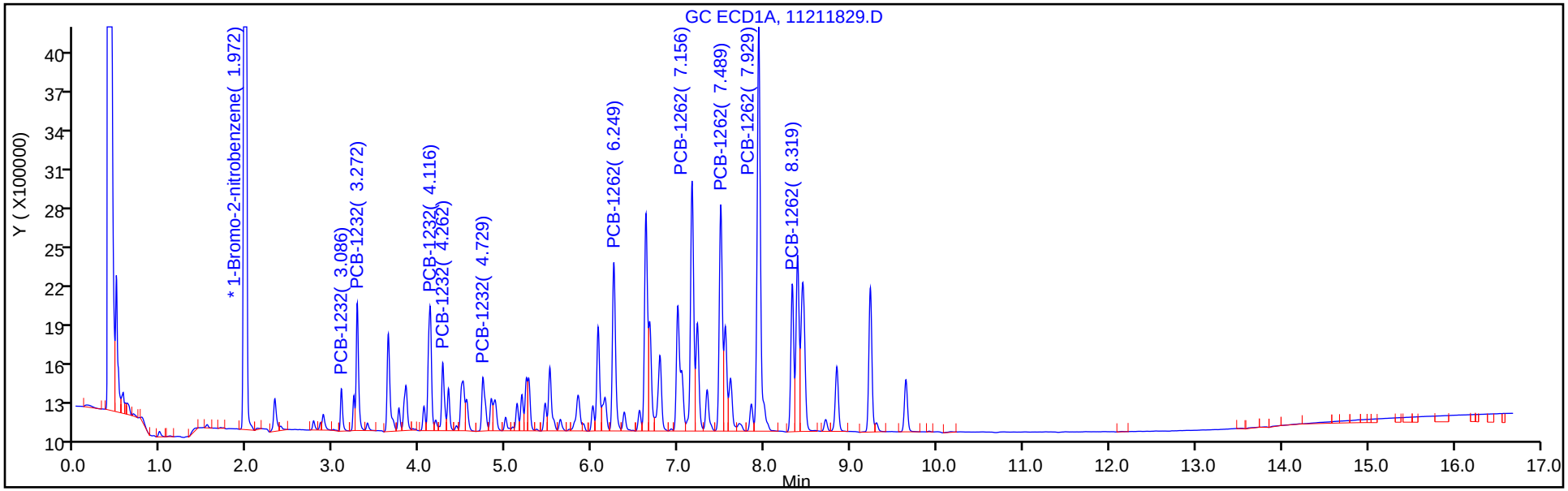
Report Date: 23-Nov-2018 11:02:59 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

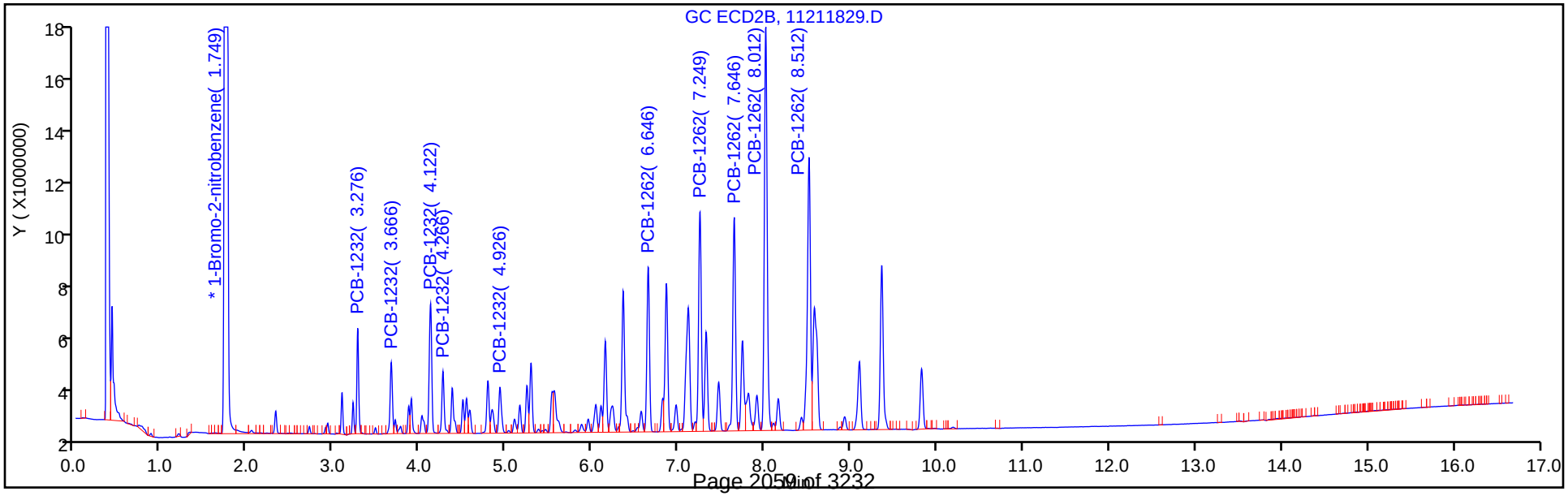
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211829.D

Injection Date:	21-Nov-2018 18:37:56	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL33262			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211830.D
Lims ID: STDL23262
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Nov-2018 18:59:04 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL23262
Misc. Info.: 280-0076428-030
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:02 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:25:46

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.968	0.000	30826448	1000.0	1000.0	
2	1.748	1.748	0.000	173971839	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.088	3.088	0.000	308483	50.0	52.8	
1	3.271	3.271	0.000	1020472	50.0	50.9	
1	4.118	4.118	0.000	1273955	50.0	49.6	
1	4.264	4.264	0.000	586726	50.0	48.4	
1	4.731	4.731	0.000	604692	50.0	50.4	
		Average of Peak Amounts =				50.4	
2	3.274	3.275	-0.001	3052064	50.0	52.8	
2	3.664	3.665	-0.001	2666828	50.0	54.0	
2	4.121	4.121	0.000	5327006	50.0	53.6	
2	4.264	4.265	-0.001	2327446	50.0	53.7	
2	4.928	4.928	0.000	1962103	50.0	52.6	
		Average of Peak Amounts =				53.4	
						RPD = 5.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.248	6.248	0.000	1742564	50.0	50.4	
1	7.154	7.154	0.000	2744291	50.0	51.5	
1	7.488	7.488	0.000	2379701	50.0	51.0	
1	7.928	7.931	-0.003	4573994	50.0	50.5	
1	8.318	8.321	-0.003	1421934	50.0	50.3	
		Average of Peak Amounts =				50.7	
2	6.648	6.648	0.000	6882439	50.0	52.4	
2	7.248	7.248	0.000	9662784	50.0	52.1	
2	7.644	7.645	-0.001	9459588	50.0	52.2	
2	8.011	8.011	0.000	18241846	50.0	51.9	
2	8.514	8.515	-0.001	13866078	50.0	51.7	
		Average of Peak Amounts =				52.1	
						RPD = 2.56	
S 8 Polychlorinated biphenyls, Total							
1						101.1	
2						105.4	
						RPD = 4.14	

Reagents:

AR_3262_L2_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

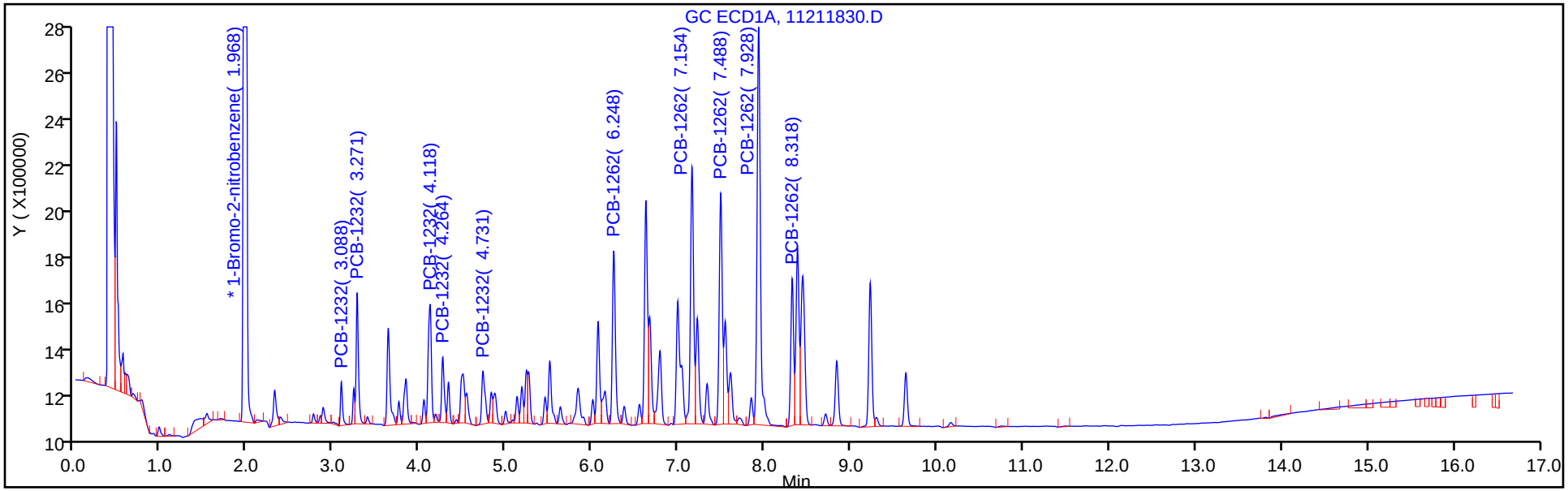
Report Date: 23-Nov-2018 11:03:03 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

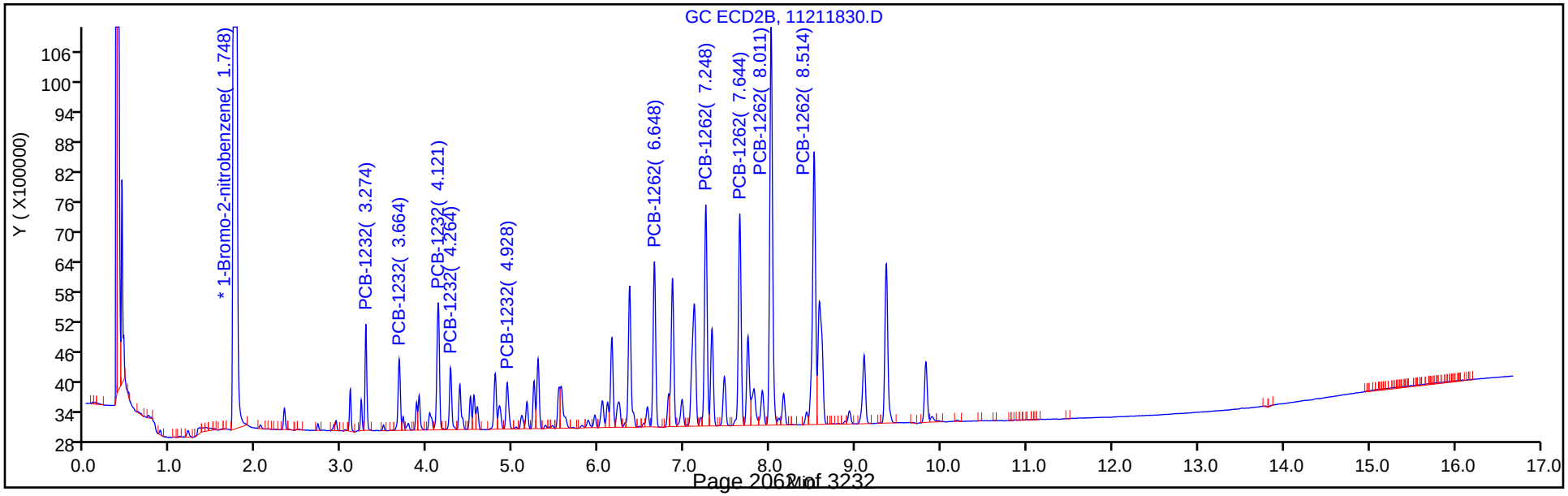
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211830.D

Injection Date:	21-Nov-2018 18:59:04	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL23262			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211831.D
Lims ID: STDL13262
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Nov-2018 19:20:15 ALS Bottle#: 31 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL13262
Misc. Info.: 280-0076428-031
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:05 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:27:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.968	0.002	28837858	1000.0	1000.0	
2	1.747	1.748	-0.001	164029832	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.087	3.088	-0.001	145633	25.0	22.4	
1	3.270	3.271	-0.001	527466	25.0	22.1	
1	4.117	4.118	-0.001	639419	25.0	25.5	
1	4.263	4.264	-0.001	305449	25.0	23.9	
1	4.730	4.731	-0.001	299569	25.0	23.6	
		Average of Peak Amounts =				23.5	
2	3.277	3.275	0.002	1549784	25.0	20.6	
2	3.667	3.665	0.002	1327362	25.0	20.0	
2	4.120	4.121	-0.001	2630983	25.0	20.7	
2	4.267	4.265	0.002	1136029	25.0	20.4	
2	4.927	4.928	-0.001	991404	25.0	20.5	
		Average of Peak Amounts =				20.4	
						RPD = 13.91	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.247	6.248	-0.001	898312	25.0	23.4	
1	7.157	7.154	0.003	1380613	25.0	23.6	
1	7.490	7.488	0.002	1209897	25.0	24.1	
1	7.930	7.931	-0.001	2313295	25.0	25.6	
1	8.320	8.321	-0.001	722269	25.0	25.0	
		Average of Peak Amounts =				24.3	
2	6.647	6.648	-0.001	3536624	25.0	21.2	
2	7.250	7.248	0.002	4988537	25.0	21.3	
2	7.647	7.645	0.002	4810570	25.0	21.4	
2	8.010	8.011	-0.001	9332035	25.0	21.7	
2	8.513	8.515	-0.002	7179707	25.0	21.7	
		Average of Peak Amounts =				21.5	
						RPD = 12.52	
S 8 Polychlorinated biphenyls, Total							
1						47.8	
2						41.9	
						RPD = 13.20	

Reagents:

AR_3262_L1_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

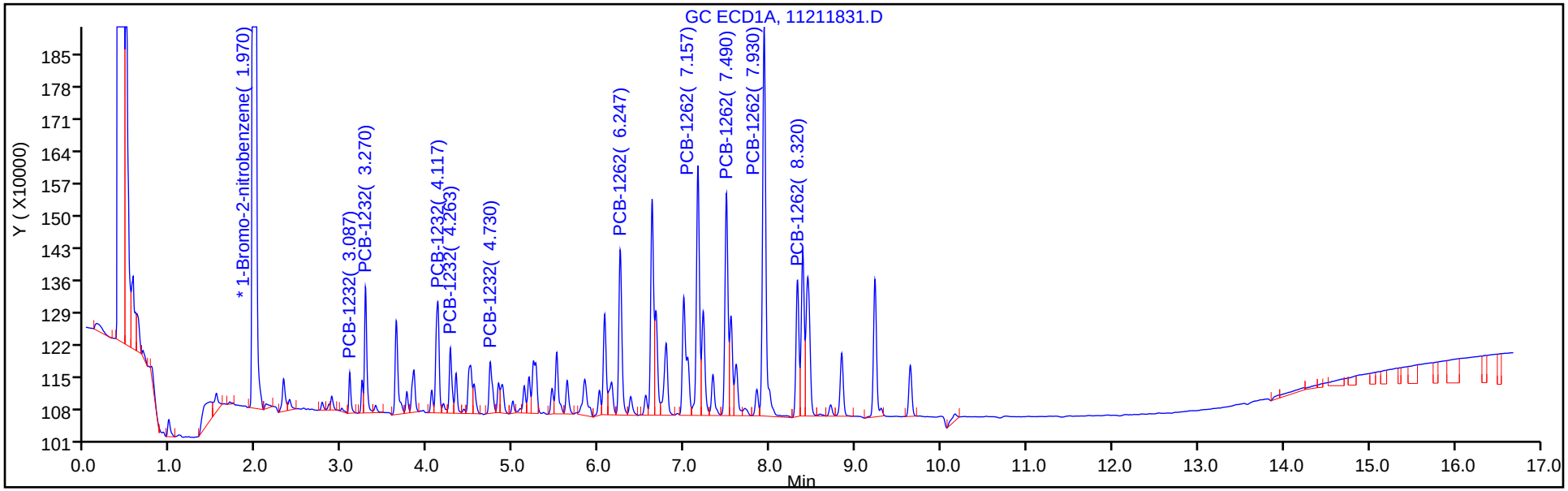
Report Date: 23-Nov-2018 11:03:06 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

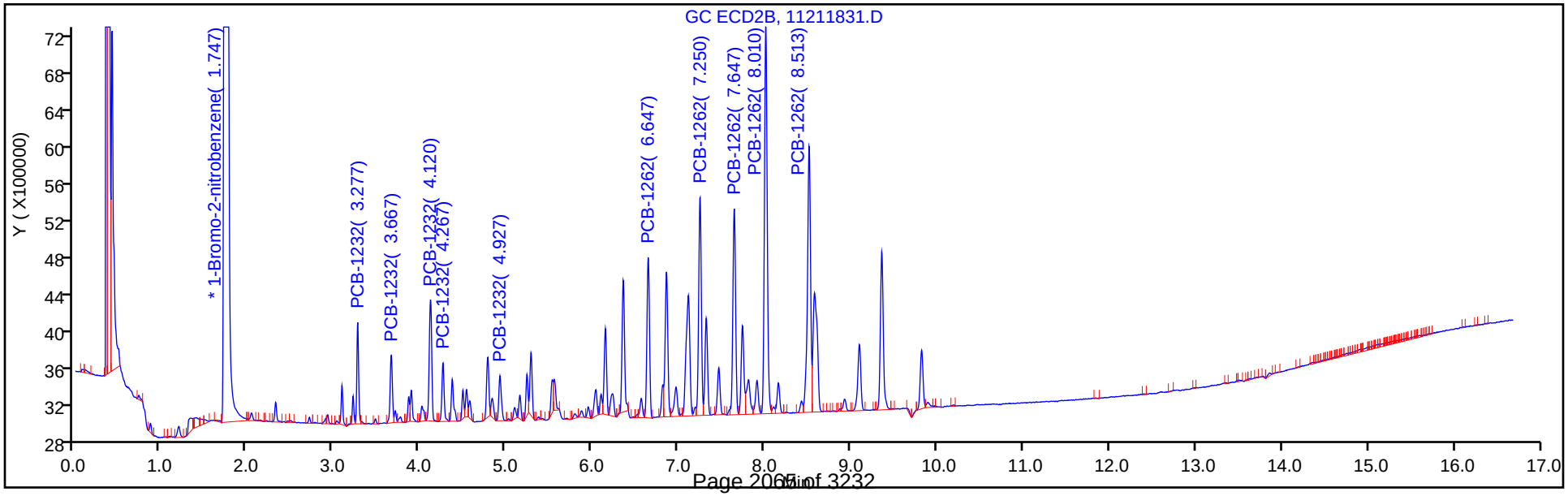
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211831.D

Injection Date:	21-Nov-2018 19:20:15	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL13262			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 17:13 Calibration End Date: 11/21/2018 19:20 Calibration ID: 34391

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL13262 280-438388/31	11211831.D
Level 2	STDL23262 280-438388/30	11211830.D
Level 3	STDL33262 280-438388/29	11211829.D
Level 4	STDL43262 280-438388/28	11211828.D
Level 5	STDL53262 280-438388/27	11211827.D
Level 6	STDL63262 280-438388/26	11211826.D
Level 7	STDL73262 280-438388/25	11211825.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1232 Peak 1	0.3779 0.2644	0.3509 0.2436	0.3054	0.2917	0.2608	Lin1	4.2615	0.2516							0.9970		0.9900
PCB-1232 Peak 2	0.3237 0.2208	0.3066 0.2097	0.2648	0.2449	0.2196	Lin1	3.8305	0.2129							0.9980		0.9900
PCB-1232 Peak 3	0.6416 0.4625	0.6124 0.4302	0.5271	0.5033	0.4602	Lin1	6.8713	0.4427							0.9980		0.9900
PCB-1232 Peak 4	0.2770 0.2014	0.2676 0.1887	0.2330	0.2207	0.2012	Lin1	2.9783	0.1938							0.9980		0.9900
PCB-1232 Peak 5	0.2418 0.1681	0.2256 0.1583	0.2003	0.1854	0.1720	Lin1	2.7180	0.1626							0.9980		0.9900
PCB-1262 Peak 1	0.8624 0.6086	0.7912 0.5544	0.6854	0.6617	0.6095	Lin1	9.3030	0.5778							0.9970		0.9900
PCB-1262 Peak 2	1.2165 0.8592	1.1108 0.7837	0.9667	0.9367	0.8586	Lin1	13.012	0.8161							0.9970		0.9900
PCB-1262 Peak 3	1.1731 0.8552	1.0875 0.7788	0.9507	0.9265	0.8525	Lin1	11.971	0.8124							0.9970		0.9900
PCB-1262 Peak 4	2.2757 1.6739	2.0971 1.5243	1.8370	1.8056	1.6616	Lin1	22.359	1.5891							0.9970		0.9900
PCB-1262 Peak 5	1.7508 1.2628	1.5941 1.1532	1.3985	1.3696	1.2488	Lin1	17.706	1.1987							0.9970		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 17:13 Calibration End Date: 11/21/2018 19:20 Calibration ID: 34391

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL13262 280-438388/31	11211831.D
Level 2	STDL23262 280-438388/30	11211830.D
Level 3	STDL33262 280-438388/29	11211829.D
Level 4	STDL43262 280-438388/28	11211828.D
Level 5	STDL53262 280-438388/27	11211827.D
Level 6	STDL63262 280-438388/26	11211826.D
Level 7	STDL73262 280-438388/25	11211825.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1232 Peak 1	BNB	Lin1	1549784 33236999	3052064 43153197	5377655	12740193	23119208	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 2	BNB	Lin1	1327362 27752244	2666828 37154008	4662843	10698875	19468141	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 3	BNB	Lin1	2630983 58138353	5327006 76218445	9281019	21982243	40797414	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 4	BNB	Lin1	1136029 25319272	2327446 33438438	4103159	9641479	17838929	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 5	BNB	Lin1	991404 21128917	1962103 28051936	3526090	8096778	15244324	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 1	BNB	Lin1	3536624 76501019	6882439 98230933	12068360	28900783	54027511	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 2	BNB	Lin1	4988537 108005184	9662784 138859883	17019760	40916207	76105584	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 3	BNB	Lin1	4810570 107493024	9459588 137990458	16739062	40467048	75571069	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 4	BNB	Lin1	9332035 210407349	18241846 270071150	32344111	78867004	147285972	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 5	BNB	Lin1	7179707 158732369	13866078 204325846	24623782	59822420	110696168	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211825.D
Lims ID: STDL73262
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Nov-2018 17:13:09 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL73262
Misc. Info.: 280-0076428-025
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:44 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:18:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.969	0.001	31630227	1000.0	1000.0	
2	1.747	1.746	0.001	177174681	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							M
1	3.086	3.088	-0.002	4984840	1000.0	957.8	
1	3.270	3.271	-0.001	15689198	1000.0	950.2	
1	4.116	4.118	-0.002	24520289	1000.0	973.4	
1	4.263	4.264	-0.001	10501101	1000.0	956.2	
1	4.730	4.731	-0.001	10446034	1000.0	950.9	M
		Average of Peak Amounts =				957.7	
2	3.277	3.275	0.002	43153197	1000.0	951.3	M
2	3.667	3.665	0.002	37154008	1000.0	967.1	M
2	4.120	4.121	-0.001	76218445	1000.0	956.2	M
2	4.267	4.265	0.002	33438438	1000.0	958.6	M
2	4.927	4.928	-0.001	28051936	1000.0	956.8	M
		Average of Peak Amounts =				958.0	
						RPD = 0.03	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							M
1	6.250	6.248	0.002	28715451	1000.0	957.0	M
1	7.156	7.154	0.002	45278660	1000.0	961.9	M
1	7.490	7.488	0.002	40438292	1000.0	969.7	M
1	7.930	7.931	-0.001	84521517	1000.0	972.7	M
1	8.320	8.321	-0.001	25986514	1000.0	978.4	M
		Average of Peak Amounts =				967.9	
2	6.647	6.648	-0.001	98230933	1000.0	943.5	M
2	7.247	7.248	-0.001	138859883	1000.0	944.4	
2	7.647	7.645	0.002	137990458	1000.0	944.0	
2	8.010	8.011	-0.001	270071150	1000.0	945.2	
2	8.517	8.515	0.002	204325846	1000.0	947.3	
		Average of Peak Amounts =				944.9	
						RPD = 2.41	
S 8 Polychlorinated biphenyls, Total							
1						1925.6	
2						1902.8	
						RPD = 1.19	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_3262_L7_00017	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

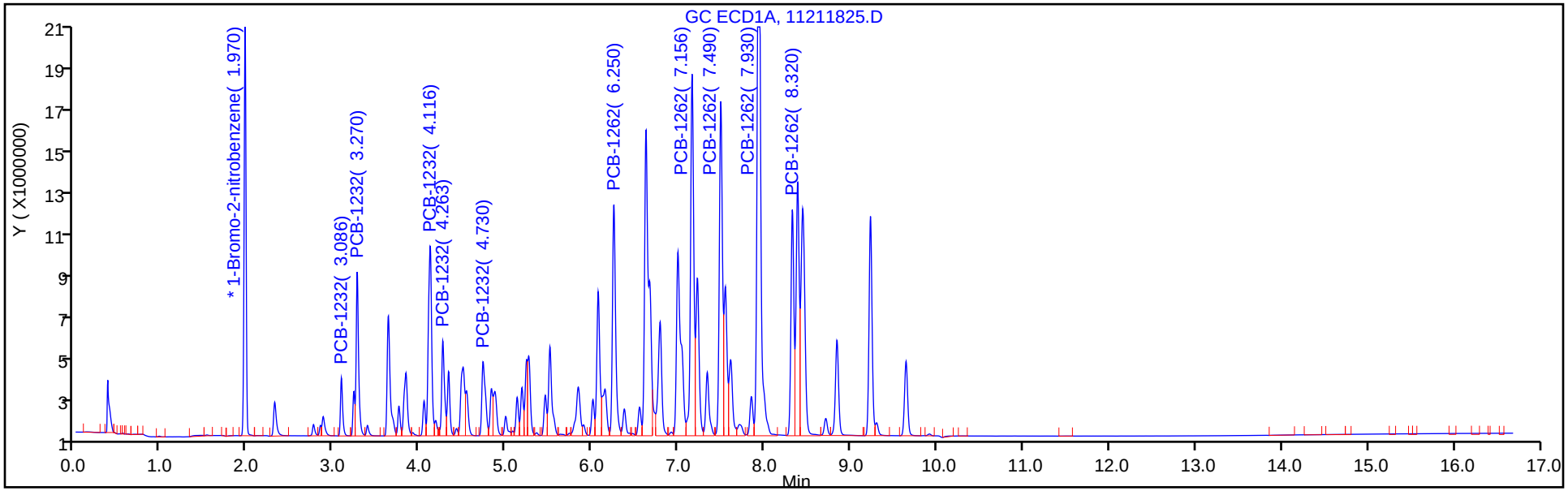
Report Date: 23-Nov-2018 11:02:46 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

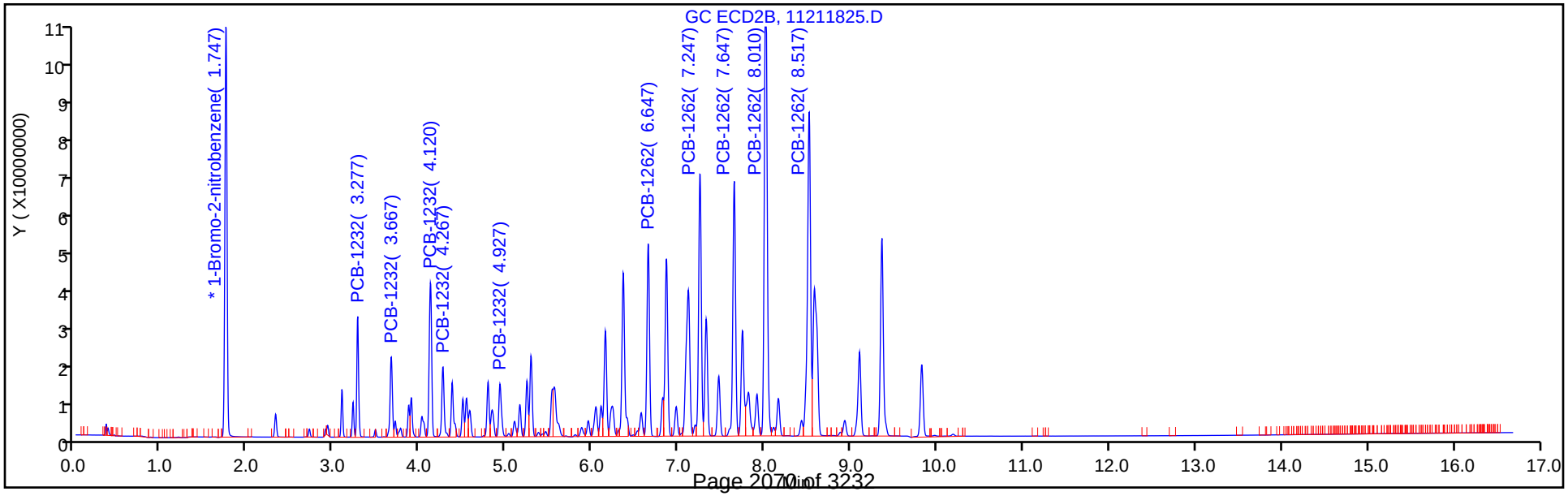
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211825.D

Injection Date:	21-Nov-2018 17:13:09	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL73262			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 23-Nov-2018 11:02:46 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211825.D

Injection Date: 21-Nov-2018 17:13:09 Instrument ID: SGC_J

Lims ID: STDL73262

Client ID:

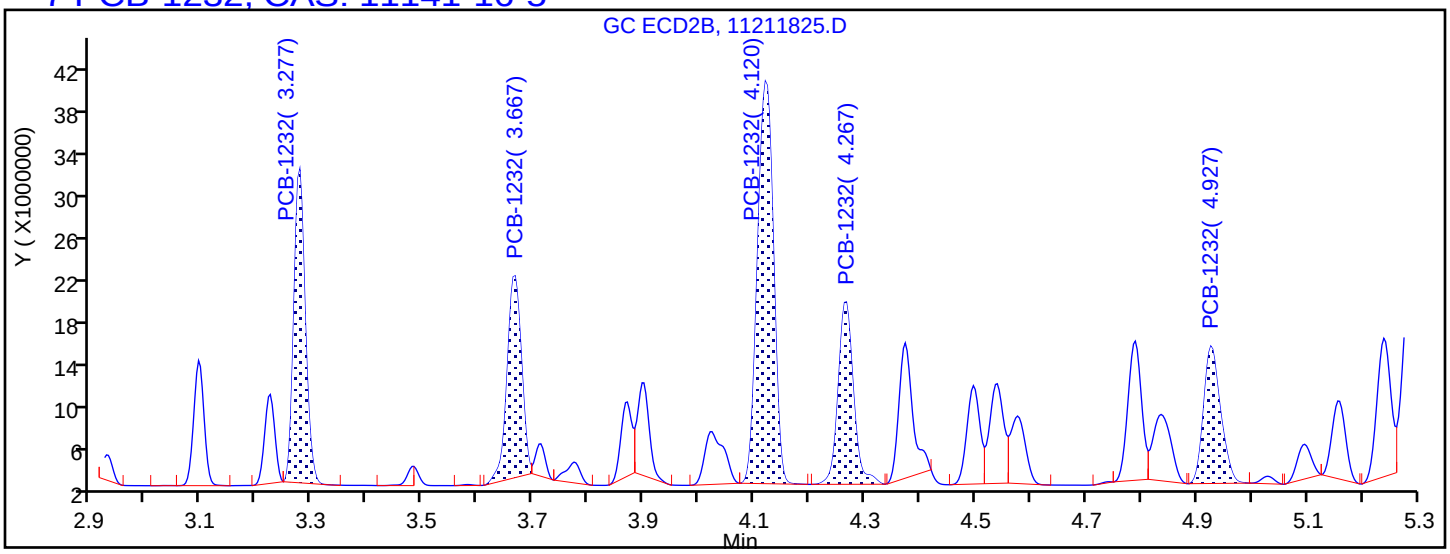
Operator ID: ALS ALS Bottle#: 25 Worklist Smp#: 25

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

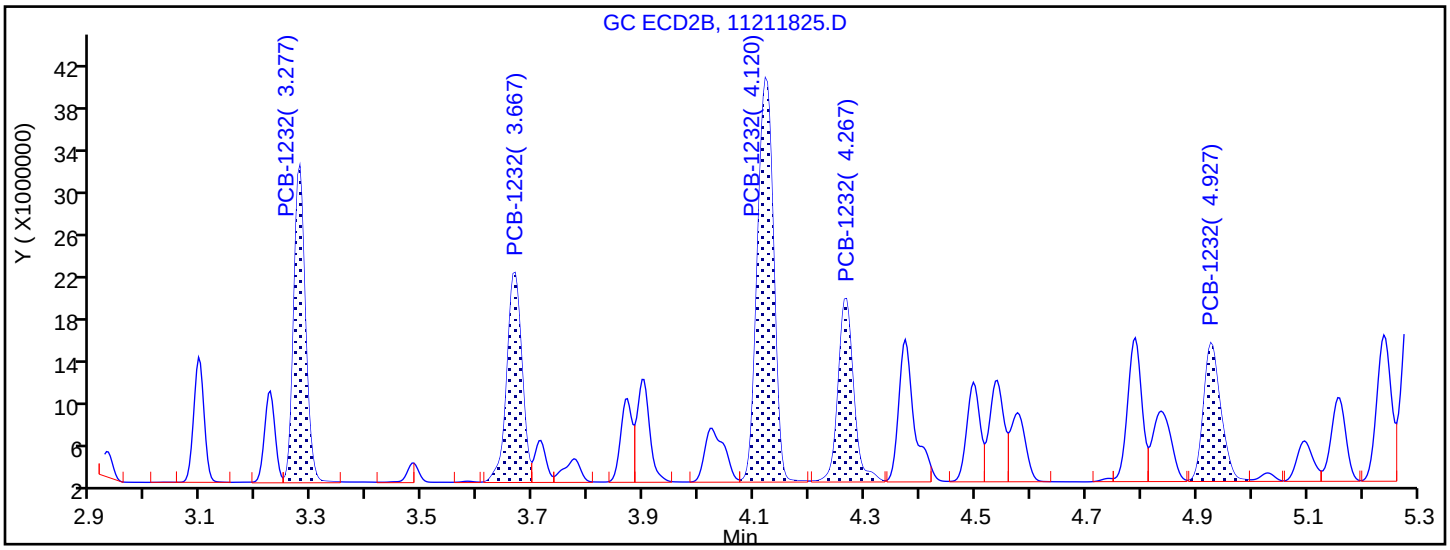
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

7 PCB-1232, CAS: 11141-16-5



Processing Integration Results

3.277	Response = 41723521
3.667	Response = 34071287
4.120	Response = 75089161
4.267	Response = 32655110
4.927	Response = 27191504



Manual Integration Results

3.277	Response = 43153197	M
3.667	Response = 37154008	M
4.120	Response = 76218445	M
4.267	Response = 33438438	M
4.927	Response = 28051936	M

Reviewer: patadiab, 23-Nov-2018 10:18:40

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Report Date: 23-Nov-2018 11:02:46 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211825.D

Injection Date: 21-Nov-2018 17:13:09 Instrument ID: SGC_J

Lims ID: STDL73262

Client ID:

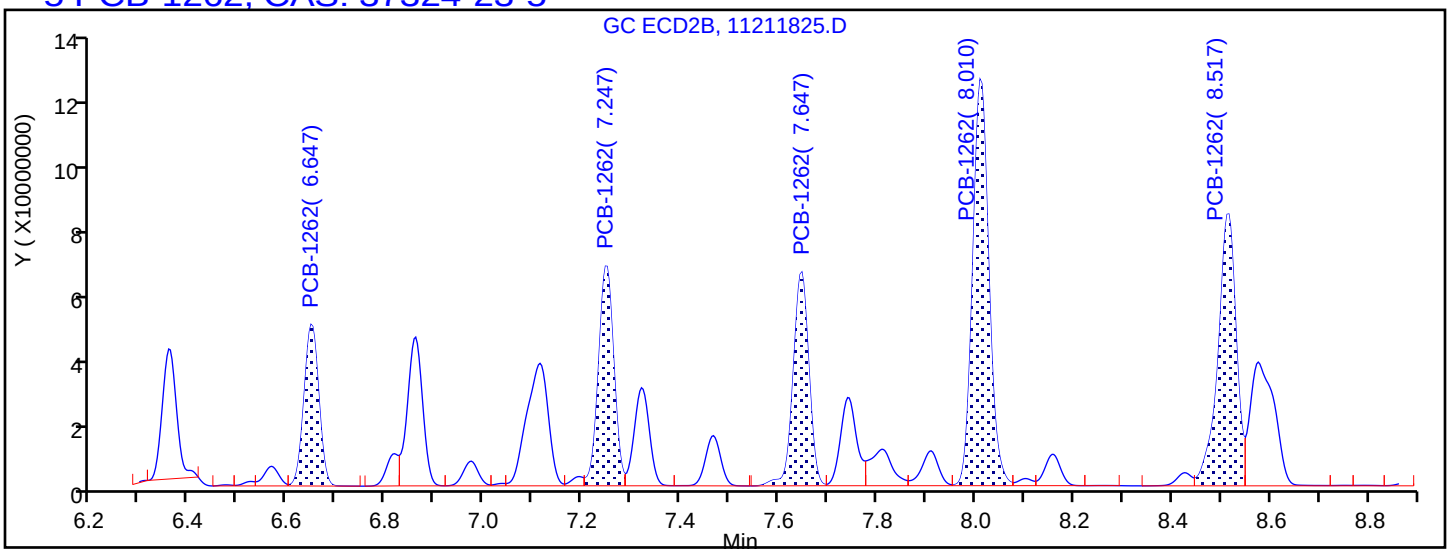
Operator ID: ALS ALS Bottle#: 25 Worklist Smp#: 25

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

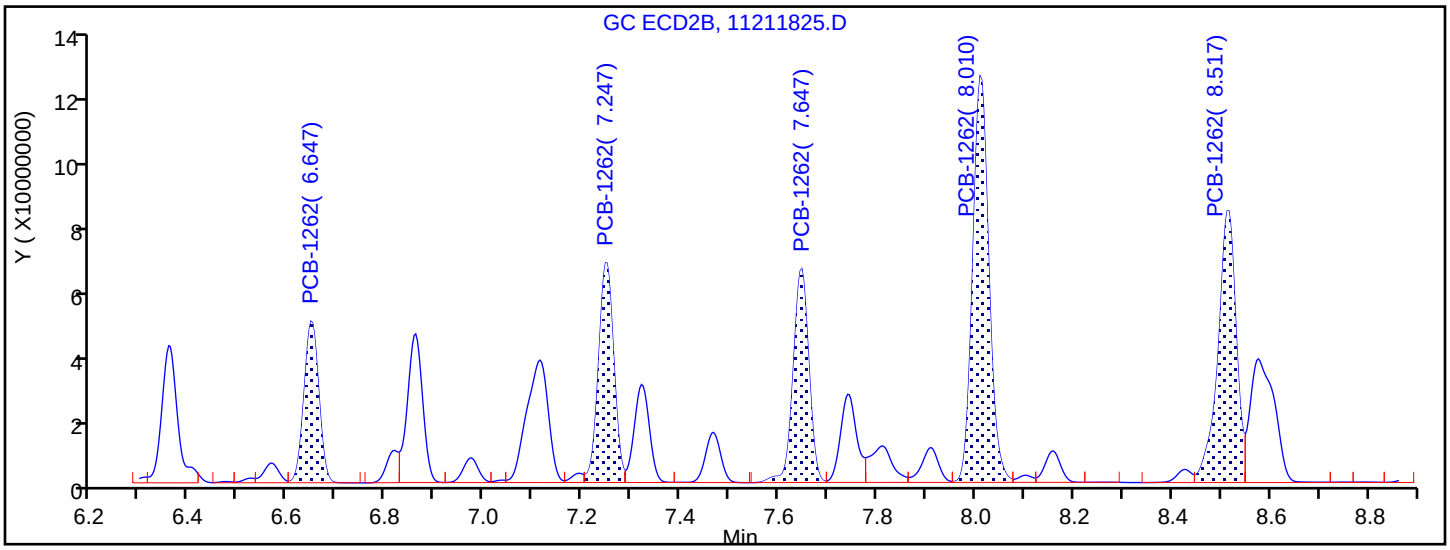
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

5 PCB-1262, CAS: 37324-23-5



Processing Integration Results

6.647	Response = 98275730
7.247	Response = 138859883
7.647	Response = 137990458
8.010	Response = 270071150
8.517	Response = 204325846



Manual Integration Results

6.647	Response = 98230933	M
7.247	Response = 138859883	
7.647	Response = 137990458	
8.010	Response = 270071150	
8.517	Response = 204325846	

Reviewer: patadiab, 23-Nov-2018 10:18:40

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211826.D
Lims ID: STDL63262
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Nov-2018 17:34:18 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL63262
Misc. Info.: 280-0076428-026
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:49 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:20:18

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.969	0.000	29724345	1000.0	1000.0	
2	1.749	1.746	0.003	167597392	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							M
1	3.086	3.088	-0.002	3825778	750.0	780.6	
1	3.269	3.271	-0.002	11992126	750.0	770.4	
1	4.116	4.118	-0.002	18488855	750.0	780.5	
1	4.263	4.264	-0.001	8040685	750.0	777.9	
1	4.729	4.731	-0.002	8045853	750.0	778.2	M
		Average of Peak Amounts =				777.5	
2	3.276	3.275	0.001	33236999	750.0	771.4	
2	3.666	3.665	0.001	27752244	750.0	759.9	
2	4.123	4.121	0.002	58138353	750.0	768.0	
2	4.266	4.265	0.001	25319272	750.0	764.2	
2	4.929	4.928	0.001	21128917	750.0	758.5	
		Average of Peak Amounts =				764.4	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							M
1	6.249	6.248	0.001	21984609	750.0	777.9	M
1	7.156	7.154	0.002	34368147	750.0	775.2	M
1	7.489	7.488	0.001	30590995	750.0	779.0	M
1	7.929	7.931	-0.002	63873370	750.0	781.5	M
1	8.319	8.321	-0.002	19427531	750.0	777.3	M
		Average of Peak Amounts =				778.2	
2	6.649	6.648	0.001	76501019	750.0	773.9	
2	7.249	7.248	0.001	108005184	750.0	773.7	
2	7.646	7.645	0.001	107493024	750.0	774.8	
2	8.013	8.011	0.002	210407349	750.0	776.0	
2	8.516	8.515	0.001	158732369	750.0	775.3	
		Average of Peak Amounts =				774.7	
						RPD = 0.45	
S 8 Polychlorinated biphenyls, Total							
1						1555.7	
2						1539.1	
						RPD = 1.07	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_3262_L6_00019	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

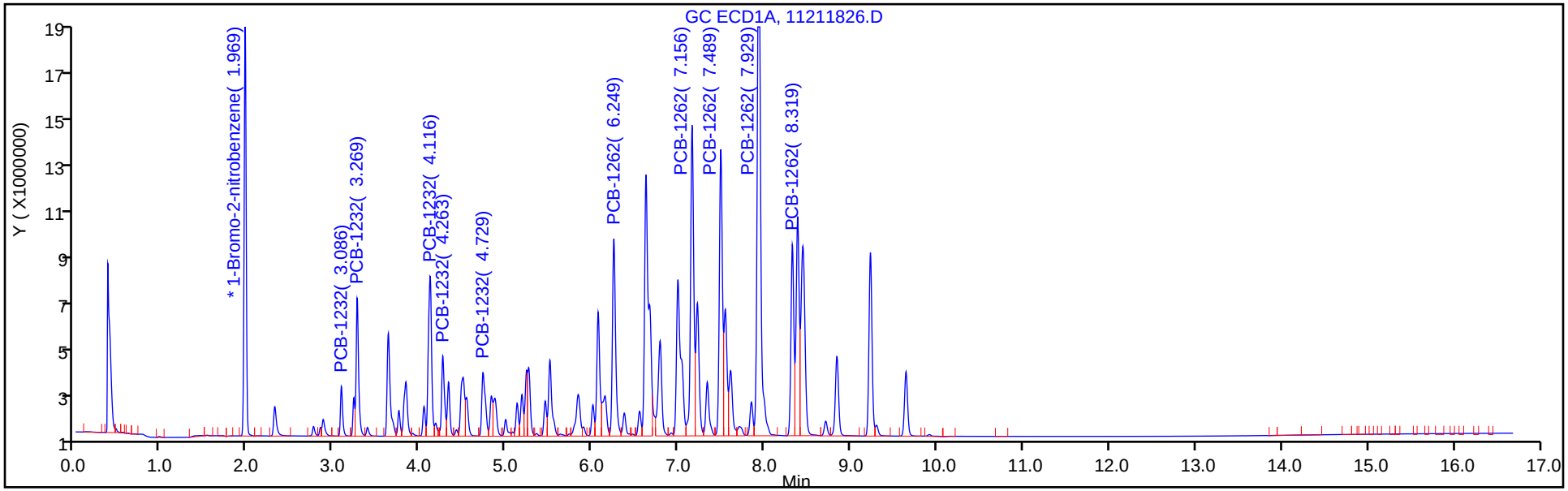
Report Date: 23-Nov-2018 11:02:51 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

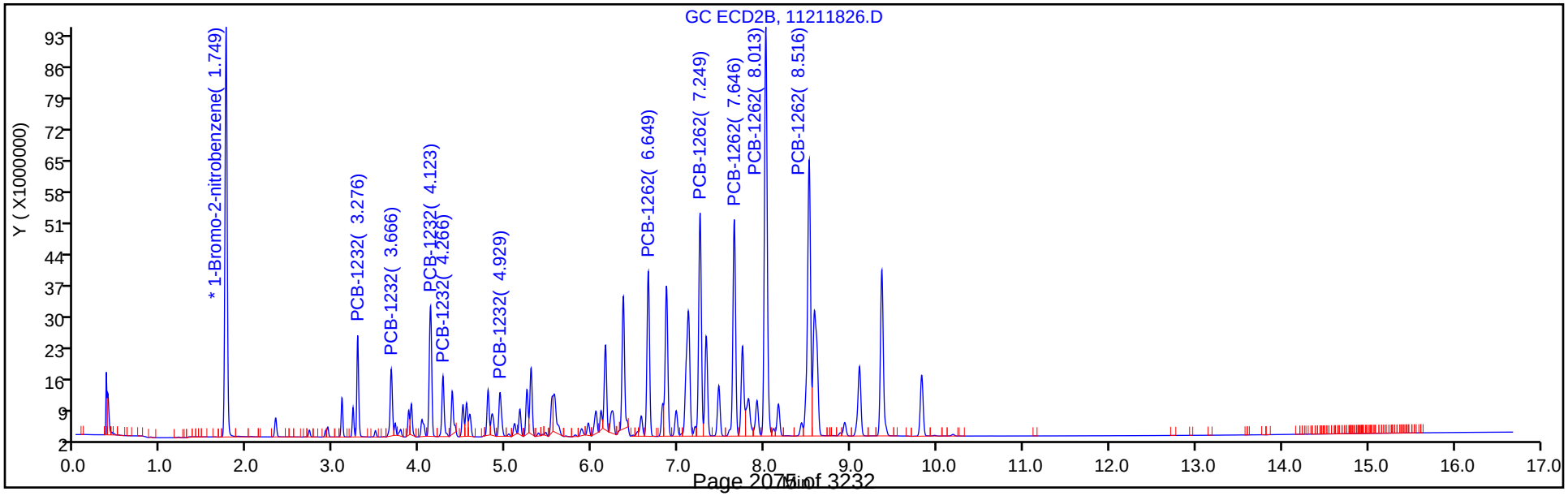
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211826.D

Injection Date:	21-Nov-2018 17:34:18	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL63262			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211827.D
Lims ID: STDL53262
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Nov-2018 17:55:27 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL53262
Misc. Info.: 280-0076428-027
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:53 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:14:18

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.968	0.000	31454394	1000.0	1000.0	
2	1.748	1.748	0.000	177287409	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							M
1	3.088	3.088	0.000	2583135	500.0	495.0	
1	3.271	3.271	0.000	8464098	500.0	509.4	
1	4.118	4.118	0.000	12426844	500.0	494.9	M
1	4.264	4.264	0.000	5502198	500.0	500.6	M
1	4.731	4.731	0.000	5595129	500.0	509.2	M
		Average of Peak Amounts =				501.8	
2	3.275	3.275	0.000	23119208	500.0	501.5	
2	3.665	3.665	0.000	19468141	500.0	497.9	
2	4.121	4.121	0.000	40797414	500.0	504.3	
2	4.265	4.265	0.000	17838929	500.0	503.9	
2	4.928	4.928	0.000	15244324	500.0	512.0	
		Average of Peak Amounts =				503.9	
						RPD = 0.42	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							M
1	6.248	6.248	0.000	15117077	500.0	502.0	M
1	7.154	7.154	0.000	23792647	500.0	504.1	M
1	7.488	7.488	0.000	20569577	500.0	492.1	M
1	7.931	7.931	0.000	43005230	500.0	495.9	M
1	8.321	8.321	0.000	12995186	500.0	489.6	M
		Average of Peak Amounts =				496.7	
2	6.648	6.648	0.000	54027511	500.0	511.3	
2	7.248	7.248	0.000	76105584	500.0	510.0	
2	7.645	7.645	0.000	75571069	500.0	510.0	
2	8.011	8.011	0.000	147285972	500.0	508.7	
2	8.515	8.515	0.000	110696168	500.0	506.1	
		Average of Peak Amounts =				509.2	
						RPD = 2.49	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_3262_L5_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

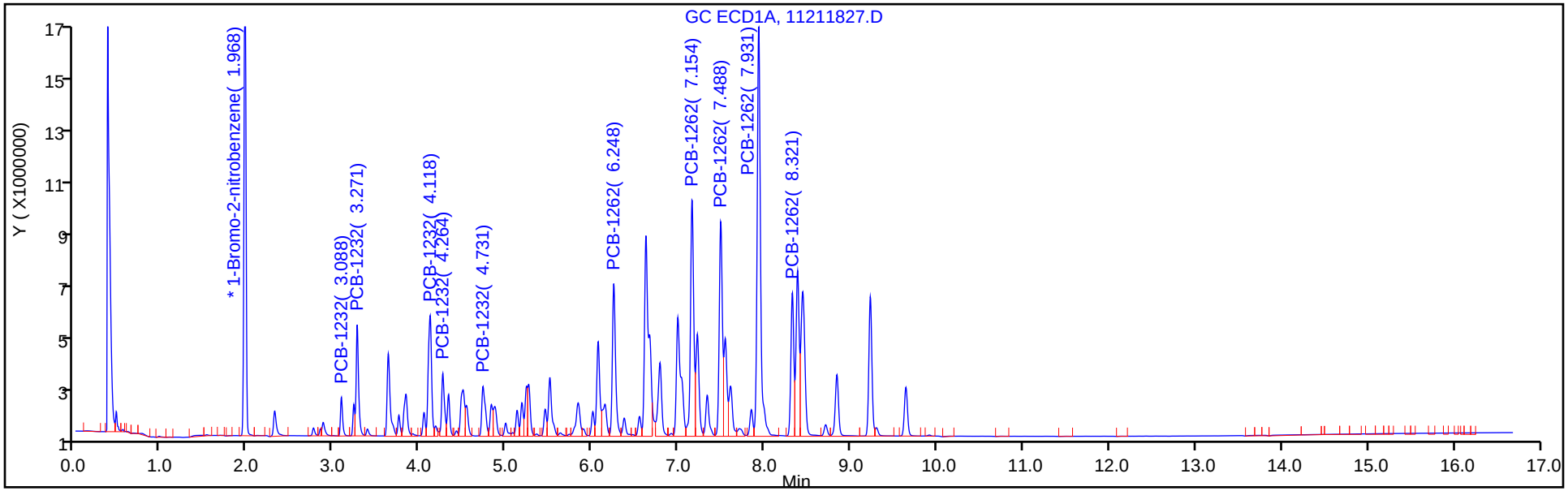
Report Date: 23-Nov-2018 11:02:54 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

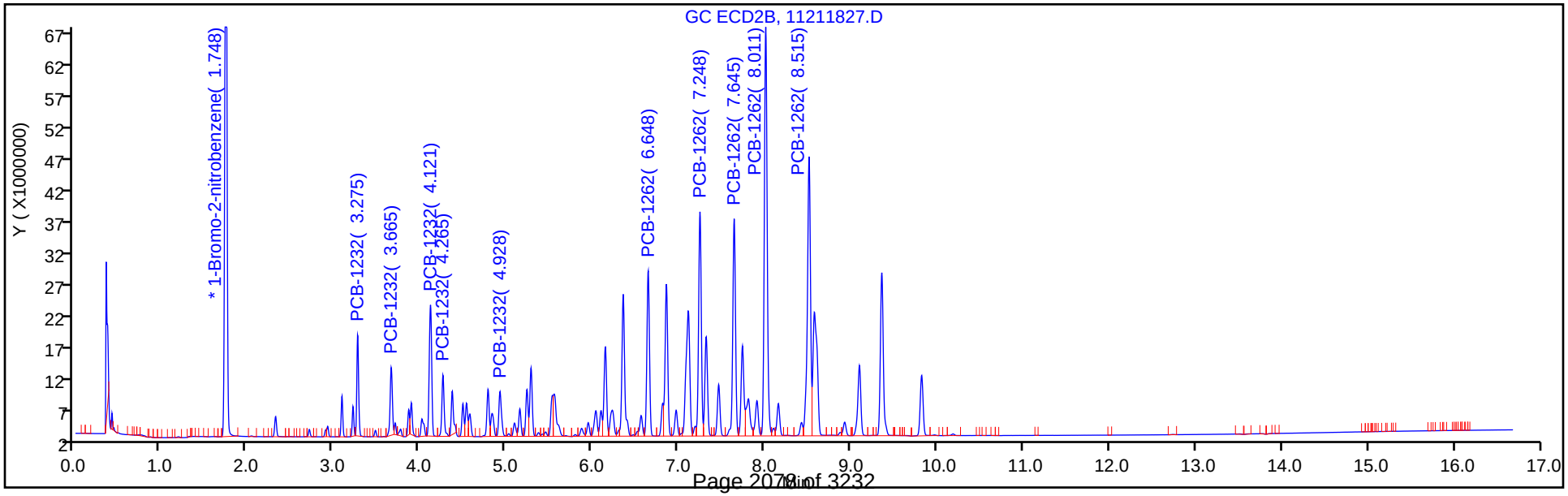
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211827.D

Injection Date:	21-Nov-2018 17:55:27	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL53262			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211828.D
Lims ID: STDL43262
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Nov-2018 18:16:46 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL43262
Misc. Info.: 280-0076428-028
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:56 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:16:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.968	0.002	30965018	1000.0	1000.0	
2	1.747	1.748	-0.001	174717072	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.087	3.088	-0.001	1392895	250.0	267.2	
1	3.270	3.271	-0.001	4511528	250.0	269.6	
1	4.117	4.118	-0.001	6315260	250.0	254.3	
1	4.263	4.264	-0.001	2916425	250.0	266.4	
1	4.730	4.731	-0.001	2893984	250.0	264.4	
		Average of Peak Amounts =				264.4	
2	3.277	3.275	0.002	12740193	250.0	272.9	
2	3.663	3.665	-0.002	10698875	250.0	269.7	
2	4.120	4.121	-0.001	21982243	250.0	268.7	
2	4.267	4.265	0.002	9641479	250.0	269.4	
2	4.927	4.928	-0.001	8096778	250.0	268.2	
		Average of Peak Amounts =				269.8	
						RPD = 2.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.250	6.248	0.002	7964853	250.0	264.1	
1	7.157	7.154	0.003	12307287	250.0	260.7	
1	7.490	7.488	0.002	10904443	250.0	261.3	
1	7.930	7.931	-0.001	21913797	250.0	254.9	
1	8.320	8.321	-0.001	6789639	250.0	257.5	
		Average of Peak Amounts =				259.7	
2	6.647	6.648	-0.001	28900783	250.0	270.2	
2	7.247	7.248	-0.001	40916207	250.0	271.0	
2	7.647	7.645	0.002	40467048	250.0	270.4	
2	8.010	8.011	-0.001	78867004	250.0	270.0	
2	8.513	8.515	-0.002	59822420	250.0	270.9	
		Average of Peak Amounts =				270.5	
						RPD = 4.07	
S 8 Polychlorinated biphenyls, Total							
1						524.1	
2						540.3	
						RPD = 3.04	

Reagents:

AR_3262_L4_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

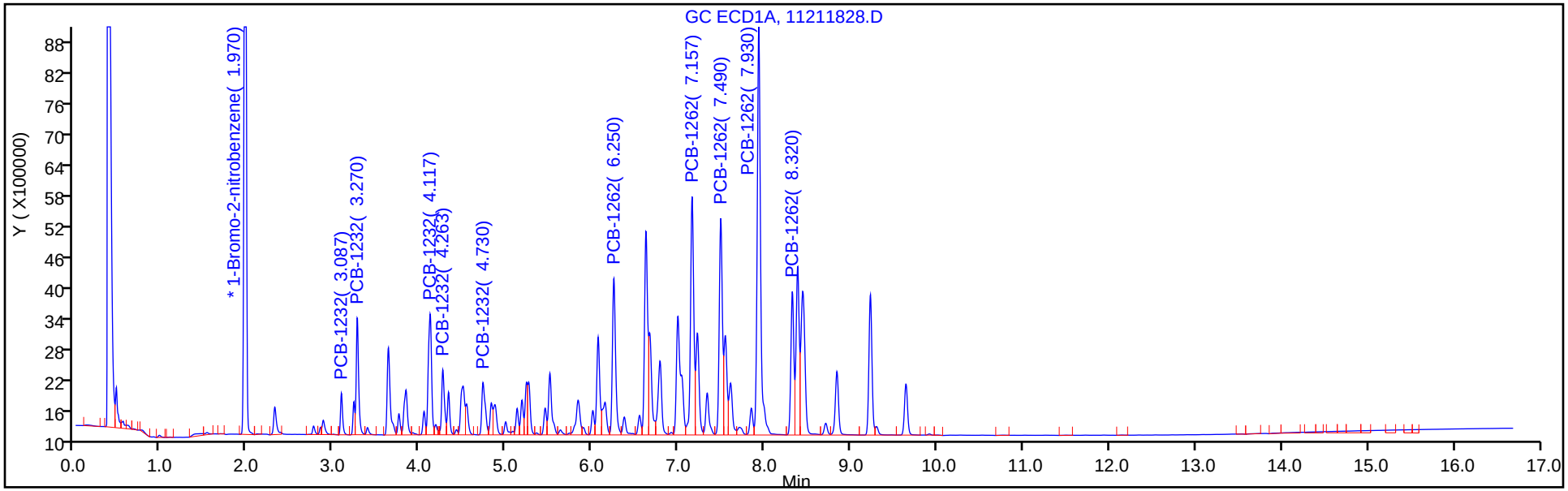
Report Date: 23-Nov-2018 11:02:57 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

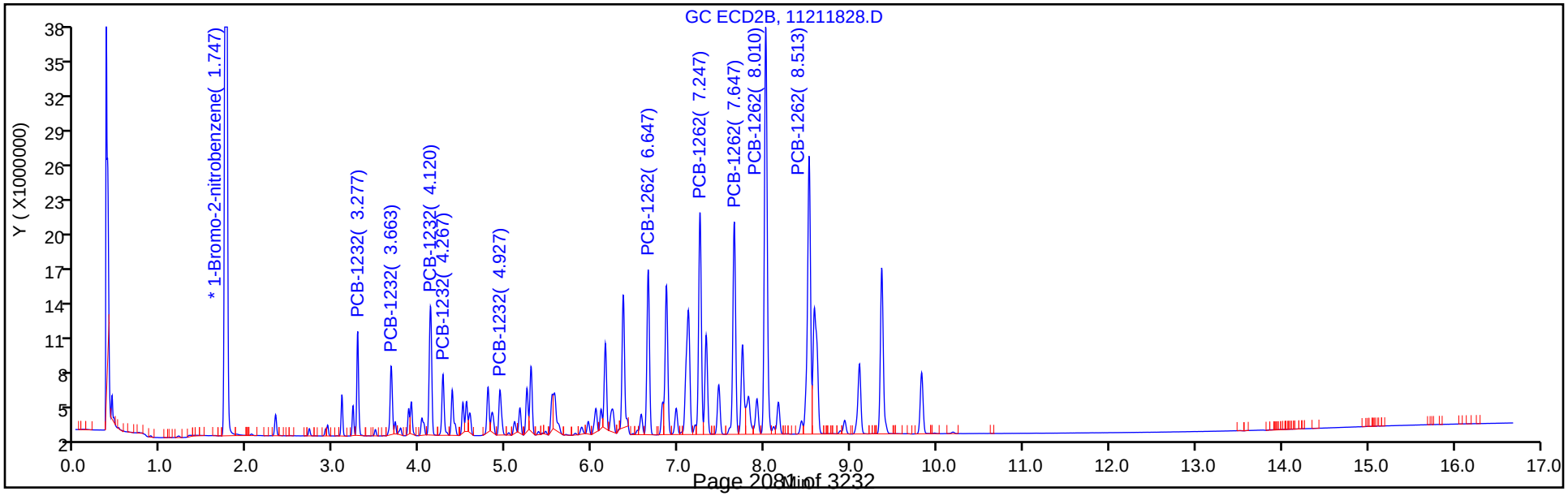
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211828.D

Injection Date:	21-Nov-2018 18:16:46	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL43262			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211829.D
Lims ID: STDL33262
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Nov-2018 18:37:56 ALS Bottle#: 29 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL33262
Misc. Info.: 280-0076428-029
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:02:58 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:25:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.972	1.968	0.004	31139299	1000.0	1000.0	
2	1.749	1.748	0.001	176067915	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.086	3.088	-0.002	547298	100.0	99.2	
1	3.272	3.271	0.001	1856728	100.0	102.4	
1	4.116	4.118	-0.002	2458762	100.0	96.9	
1	4.262	4.264	-0.002	1164474	100.0	101.6	
1	4.729	4.731	-0.002	1125602	100.0	98.3	
		Average of Peak Amounts =				99.7	
2	3.276	3.275	0.001	5377655	100.0	104.5	
2	3.666	3.665	0.001	4662843	100.0	106.4	
2	4.122	4.121	0.001	9281019	100.0	103.5	
2	4.266	4.265	0.001	4103159	100.0	104.9	
2	4.926	4.928	-0.002	3526090	100.0	106.4	
		Average of Peak Amounts =				105.2	
						RPD = 5.33	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.249	6.248	0.001	3216578	100.0	100.2	
1	7.156	7.154	0.002	4907514	100.0	98.0	
1	7.489	7.488	0.001	4304645	100.0	97.7	
1	7.929	7.931	-0.002	8325389	100.0	94.0	
1	8.319	8.321	-0.002	2648440	100.0	96.9	
		Average of Peak Amounts =				97.4	
2	6.646	6.648	-0.002	12068360	100.0	102.5	
2	7.249	7.248	0.001	17019760	100.0	102.5	
2	7.646	7.645	0.001	16739062	100.0	102.3	
2	8.012	8.011	0.001	32344111	100.0	101.5	
2	8.512	8.515	-0.003	24623782	100.0	101.9	
		Average of Peak Amounts =				102.2	
						RPD = 4.81	
S 8 Polychlorinated biphenyls, Total							
1						197.1	
2						207.3	
						RPD = 5.07	

Reagents:

AR_3262_L3_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

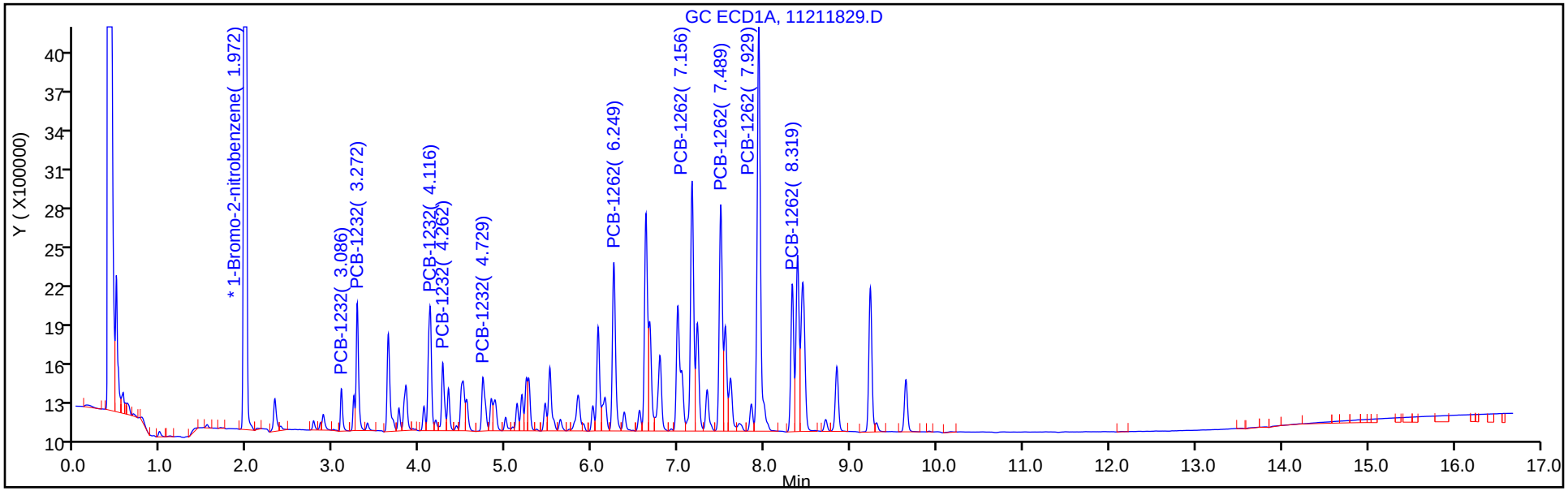
Report Date: 23-Nov-2018 11:03:00 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

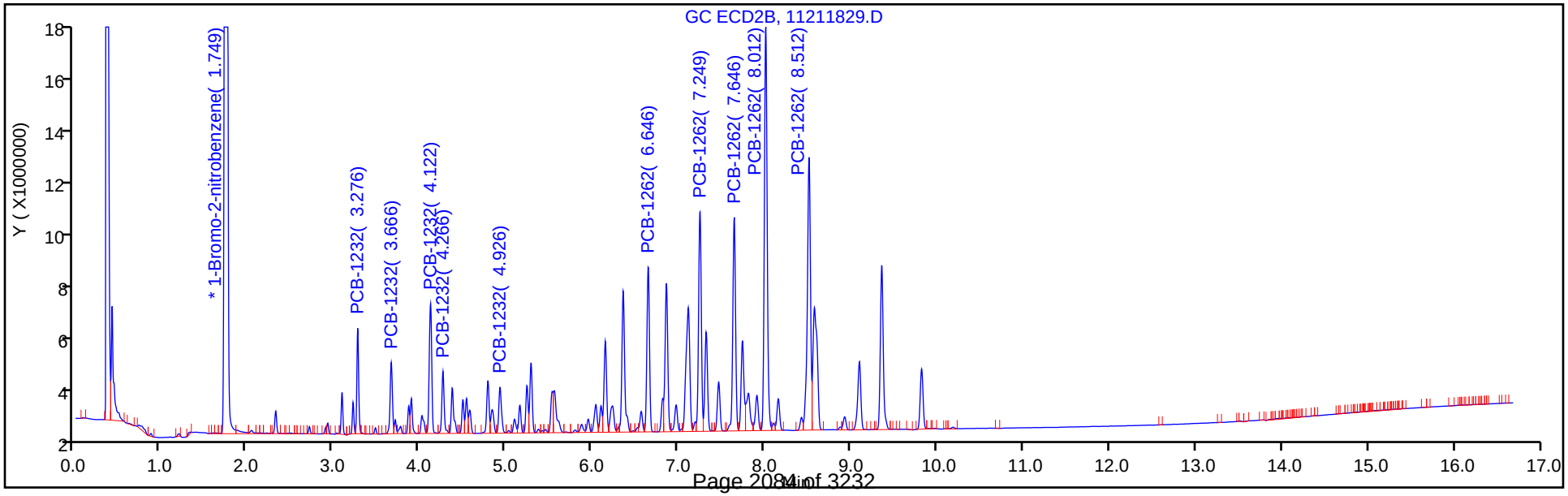
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211829.D

Injection Date:	21-Nov-2018 18:37:56	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL33262			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211830.D
Lims ID: STDL23262
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Nov-2018 18:59:04 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL23262
Misc. Info.: 280-0076428-030
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:02 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:25:46

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.968	0.000	30826448	1000.0	1000.0	
2	1.748	1.748	0.000	173971839	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.088	3.088	0.000	308483	50.0	52.8	
1	3.271	3.271	0.000	1020472	50.0	50.9	
1	4.118	4.118	0.000	1273955	50.0	49.6	
1	4.264	4.264	0.000	586726	50.0	48.4	
1	4.731	4.731	0.000	604692	50.0	50.4	
		Average of Peak Amounts =				50.4	
2	3.274	3.275	-0.001	3052064	50.0	52.8	
2	3.664	3.665	-0.001	2666828	50.0	54.0	
2	4.121	4.121	0.000	5327006	50.0	53.6	
2	4.264	4.265	-0.001	2327446	50.0	53.7	
2	4.928	4.928	0.000	1962103	50.0	52.6	
		Average of Peak Amounts =				53.4	
						RPD = 5.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.248	6.248	0.000	1742564	50.0	50.4	
1	7.154	7.154	0.000	2744291	50.0	51.5	
1	7.488	7.488	0.000	2379701	50.0	51.0	
1	7.928	7.931	-0.003	4573994	50.0	50.5	
1	8.318	8.321	-0.003	1421934	50.0	50.3	
		Average of Peak Amounts =				50.7	
2	6.648	6.648	0.000	6882439	50.0	52.4	
2	7.248	7.248	0.000	9662784	50.0	52.1	
2	7.644	7.645	-0.001	9459588	50.0	52.2	
2	8.011	8.011	0.000	18241846	50.0	51.9	
2	8.514	8.515	-0.001	13866078	50.0	51.7	
		Average of Peak Amounts =				52.1	
						RPD = 2.56	
S 8 Polychlorinated biphenyls, Total							
1						101.1	
2						105.4	
						RPD = 4.14	

Reagents:

AR_3262_L2_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

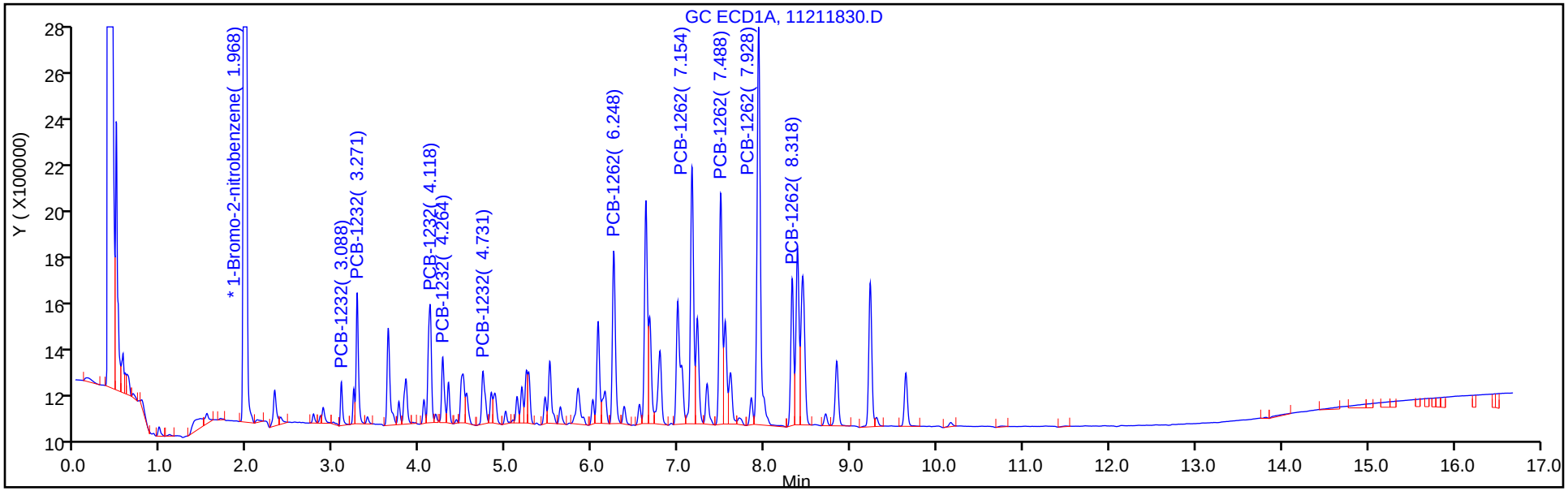
Report Date: 23-Nov-2018 11:03:03 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

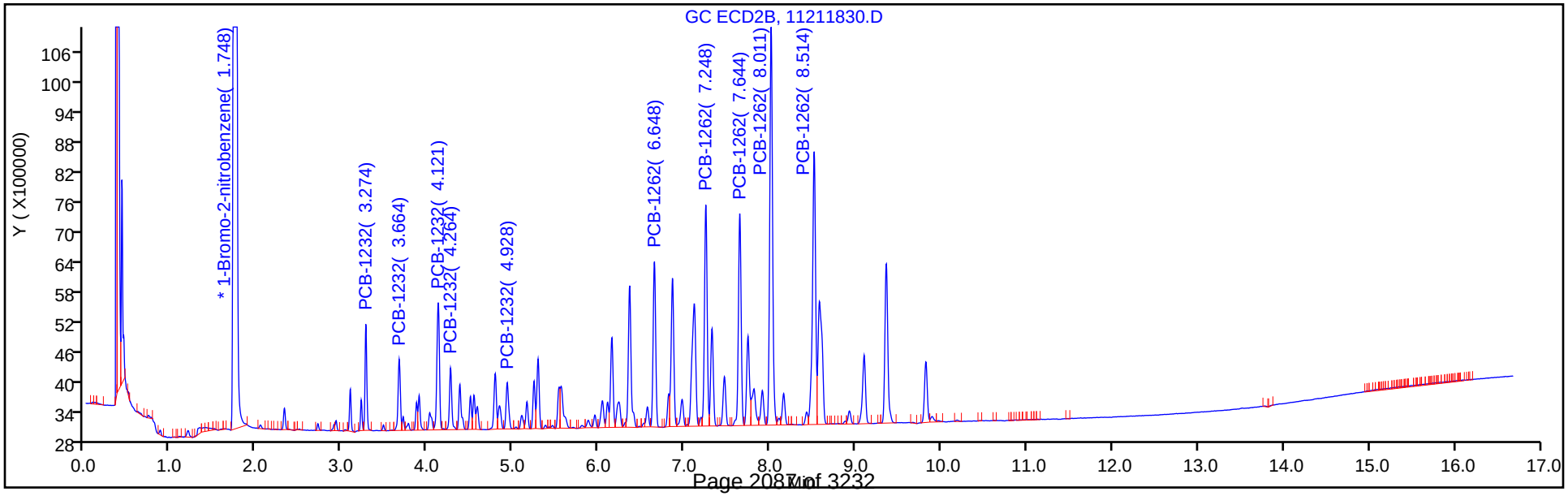
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211830.D

Injection Date:	21-Nov-2018 18:59:04	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL23262			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211831.D
Lims ID: STDL13262
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Nov-2018 19:20:15 ALS Bottle#: 31 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL13262
Misc. Info.: 280-0076428-031
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:05 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:27:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.968	0.002	28837858	1000.0	1000.0	
2	1.747	1.748	-0.001	164029832	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.087	3.088	-0.001	145633	25.0	22.4	
1	3.270	3.271	-0.001	527466	25.0	22.1	
1	4.117	4.118	-0.001	639419	25.0	25.5	
1	4.263	4.264	-0.001	305449	25.0	23.9	
1	4.730	4.731	-0.001	299569	25.0	23.6	
		Average of Peak Amounts =				23.5	
2	3.277	3.275	0.002	1549784	25.0	20.6	
2	3.667	3.665	0.002	1327362	25.0	20.0	
2	4.120	4.121	-0.001	2630983	25.0	20.7	
2	4.267	4.265	0.002	1136029	25.0	20.4	
2	4.927	4.928	-0.001	991404	25.0	20.5	
		Average of Peak Amounts =				20.4	
						RPD = 13.91	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.247	6.248	-0.001	898312	25.0	23.4	
1	7.157	7.154	0.003	1380613	25.0	23.6	
1	7.490	7.488	0.002	1209897	25.0	24.1	
1	7.930	7.931	-0.001	2313295	25.0	25.6	
1	8.320	8.321	-0.001	722269	25.0	25.0	
		Average of Peak Amounts =				24.3	
2	6.647	6.648	-0.001	3536624	25.0	21.2	
2	7.250	7.248	0.002	4988537	25.0	21.3	
2	7.647	7.645	0.002	4810570	25.0	21.4	
2	8.010	8.011	-0.001	9332035	25.0	21.7	
2	8.513	8.515	-0.002	7179707	25.0	21.7	
		Average of Peak Amounts =				21.5	
						RPD = 12.52	
S 8 Polychlorinated biphenyls, Total							
1						47.8	
2						41.9	
						RPD = 13.20	

Reagents:

AR_3262_L1_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

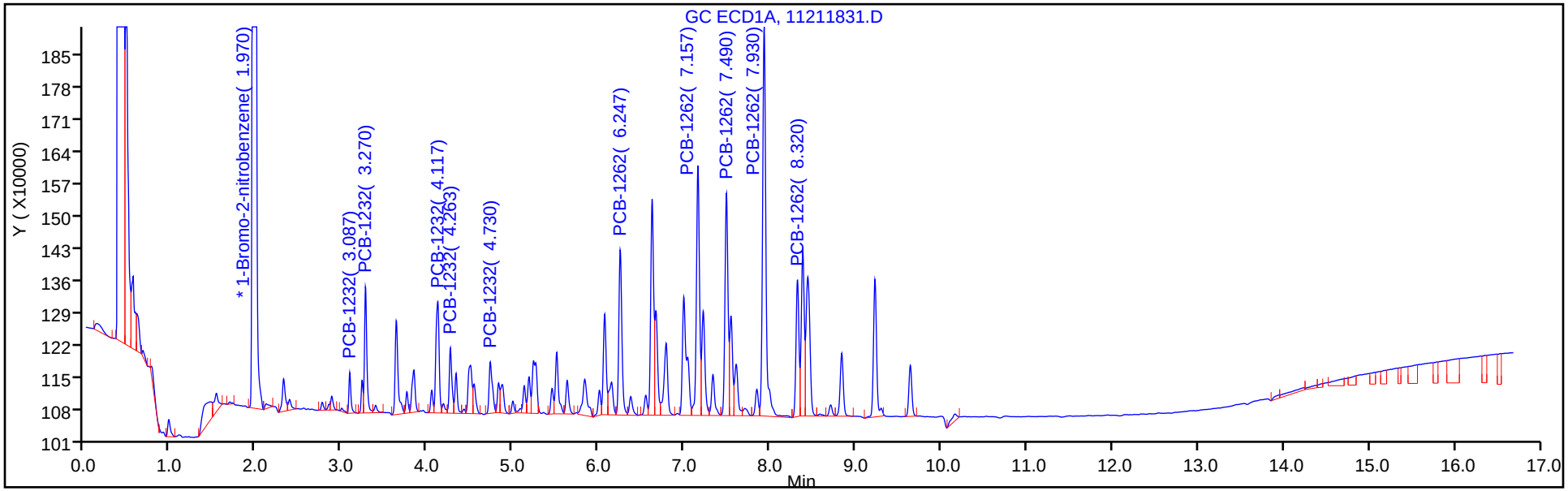
Report Date: 23-Nov-2018 11:03:07 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

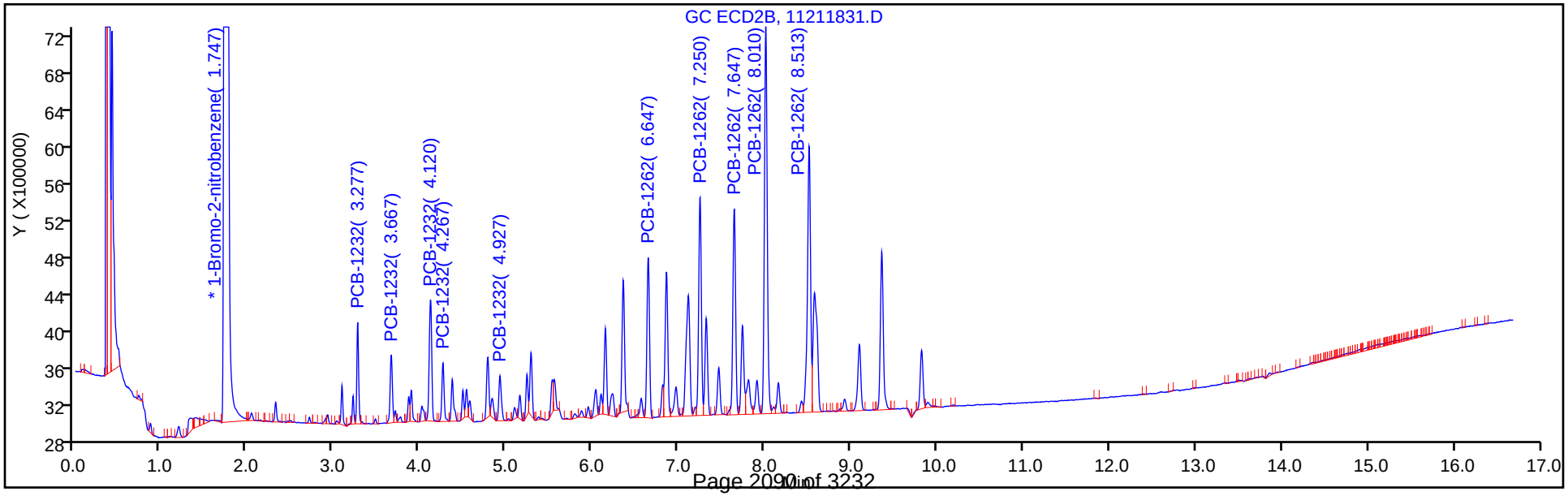
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211831.D

Injection Date:	21-Nov-2018 19:20:15	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL13262			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 19:41 Calibration End Date: 11/21/2018 21:48 Calibration ID: 34394

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL14268 280-438388/38	11211838.D
Level 2	STDL24268 280-438388/37	11211837.D
Level 3	STDL34268 280-438388/36	11211836.D
Level 4	STDL44268 280-438388/35	11211835.D
Level 5	STDL54268 280-438388/34	11211834.D
Level 6	STDL64268 280-438388/33	11211833.D
Level 7	STDL74268 280-438388/32	11211832.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1242 Peak 1	1.1005 0.7826	0.9842 0.7518	0.9316	0.8484	0.7941	Lin1	10.854	0.7633							0.9990		0.9900
PCB-1242 Peak 2	1.5351 1.4359	1.4435 1.3946	1.4192	1.3986	1.3859	Lin1	2.6035	1.4013							1.0000		0.9900
PCB-1242 Peak 3	0.7458 0.6049	0.6733 0.5795	0.6658	0.6259	0.5875	Lin1	4.8264	0.5864							0.9990		0.9900
PCB-1242 Peak 4	0.5373 0.4151	0.4846 0.3856	0.4813	0.4405	0.4151	Lin1	4.6644	0.3992							0.9980		0.9900
PCB-1242 Peak 5	0.6137 0.5483	0.5247 0.5411	0.5407	0.5157	0.5074	Lin1	0.7978	0.5327							0.9990		0.9900
PCB-1268 Peak 1	3.5642 2.9823	3.0682 2.7748	2.9905	2.8187	2.7519	Lin1	16.238	2.8112							0.9980		0.9900
PCB-1268 Peak 2	3.1918 2.9518	3.0270 2.8076	3.0783	2.8955	2.8596	Lin1	10.417	2.8565							0.9990		0.9900
PCB-1268 Peak 3	2.7905 2.3929	2.5131 2.2614	2.5155	2.3054	2.2736	Lin1	13.091	2.2896							0.9990		0.9900
PCB-1268 Peak 4	1.1823 0.9884	1.0224 0.9333	1.2421	0.9577	0.9386	Lin1	8.1973	0.9461							0.9960		0.9900
PCB-1268 Peak 5	8.0817 7.1359	7.2815 6.6759	7.5820	6.9414	6.8481	Lin1	35.077	6.8284							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 19:41 Calibration End Date: 11/21/2018 21:48 Calibration ID: 34394

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL14268 280-438388/38	11211838.D
Level 2	STDL24268 280-438388/37	11211837.D
Level 3	STDL34268 280-438388/36	11211836.D
Level 4	STDL44268 280-438388/35	11211835.D
Level 5	STDL54268 280-438388/34	11211834.D
Level 6	STDL64268 280-438388/33	11211833.D
Level 7	STDL74268 280-438388/32	11211832.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1242 Peak 1	BNB	Lin1	826846 18033958	1591803 23666995	2785673	6934698	12621153	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 2	BNB	Lin1	1153326 33088198	2334811 43906093	4243819	11431468	22028422	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 3	BNB	Lin1	560286 13939481	1089072 18245316	1990794	5115672	9337377	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 4	BNB	Lin1	403656 9565455	783867 12139444	1439135	3600286	6598400	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 5	BNB	Lin1	461108 12635374	848605 17036171	1616814	4215035	8065513	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 1	BNB	Lin1	2677797 68720772	4962556 87356816	8942275	23038908	43739892	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 2	BNB	Lin1	2398046 68019827	4896006 88389199	9204821	23666972	45452498	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 3	BNB	Lin1	2096540 55139677	4064693 71195019	7521874	18843418	36138239	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 4	BNB	Lin1	888286 22774873	1653587 29381338	3714053	7827884	14918235	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 5	BNB	Lin1	6071834 164433426	11777400 210173125	22672079	56736910	108847285	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211832.D
Lims ID: STDL74268
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Nov-2018 19:41:25 ALS Bottle#: 32 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL74268
Misc. Info.: 280-0076428-032
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:08 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:32:50

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.968	0.001	31482365	1000.0	1000.0	
2	1.749	1.748	0.001	176421211	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.632	3.631	0.001	23666995	1000.0	970.7	
1	4.116	4.117	-0.001	43906093	1000.0	993.4	
1	4.262	4.264	-0.002	18245316	1000.0	980.1	
1	5.239	5.237	0.002	12139444	1000.0	954.3	
1	5.259	5.261	-0.002	17036171	1000.0	1014.3	
		Average of Peak Amounts =				982.6	
2	3.666	3.664	0.002	58050740	1000.0	958.5	
2	4.122	4.121	0.001	129222617	1000.0	962.4	
2	4.266	4.264	0.002	55919168	1000.0	961.9	
2	4.789	4.788	0.001	44752744	1000.0	955.6	
2	4.926	4.928	-0.002	54422086	1000.0	963.6	
		Average of Peak Amounts =				960.4	
						RPD = 2.28	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.382	8.381	0.001	87356816	1000.0	981.3	
1	8.432	8.434	-0.002	88389199	1000.0	979.2	
1	8.709	8.707	0.002	71195019	1000.0	982.0	
1	9.226	9.224	0.002	29381338	1000.0	977.8	
1	9.639	9.637	0.002	210173125	1000.0	972.5	
		Average of Peak Amounts =				978.6	
2	8.512	8.511	0.001	304523679	1000.0	954.1	
2	8.576	8.574	0.002	292646780	1000.0	964.9	
2	8.929	8.928	0.001	252817304	1000.0	959.6	
2	9.359	9.358	0.001	119674966	1000.0	955.3	
2	9.819	9.821	-0.002	772165320	1000.0	960.8	
		Average of Peak Amounts =				959.0	
						RPD = 2.02	
S 8 Polychlorinated biphenyls, Total							
1						1961.1	
2						1919.4	
						RPD = 2.15	

Reagents:

AR_4268_L7_00016	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

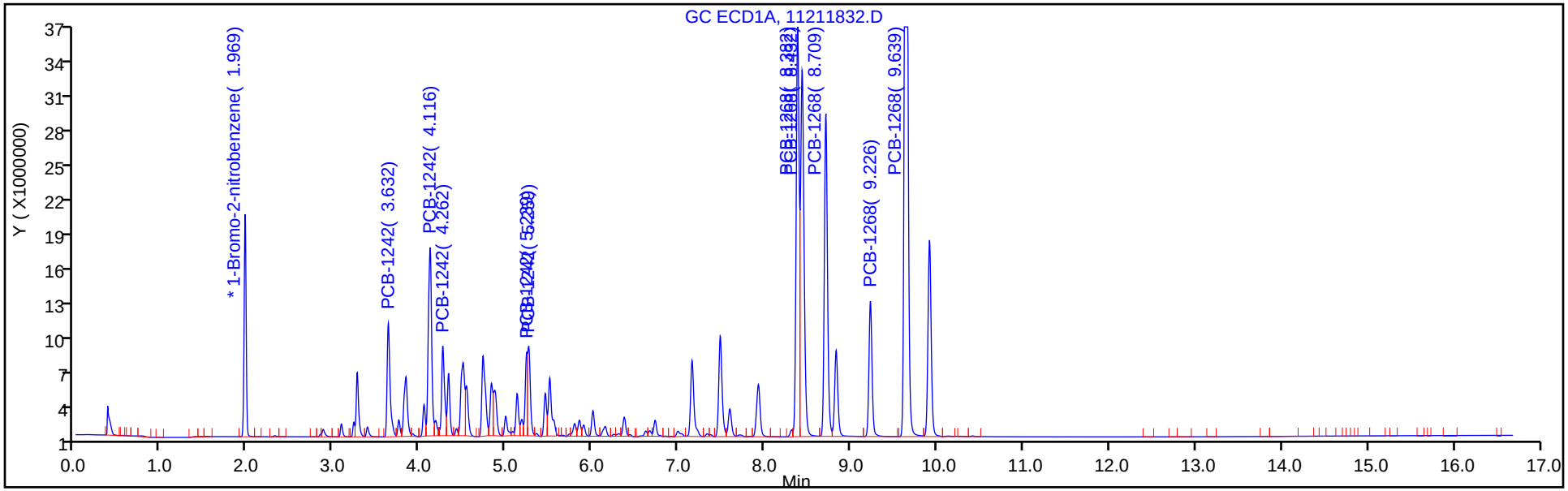
Report Date: 23-Nov-2018 11:03:09 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

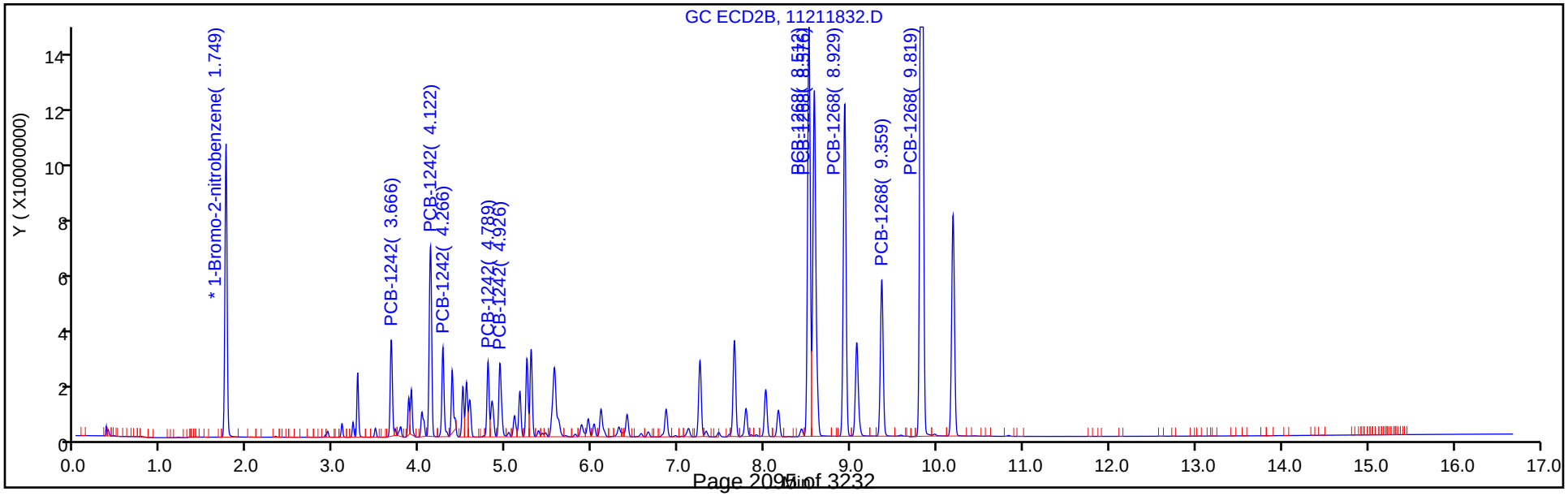
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211832.D

Injection Date:	21-Nov-2018 19:41:25	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL74268			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	32
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211833.D
Lims ID: STDL64268
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Nov-2018 20:02:35 ALS Bottle#: 33 Worklist Smp#: 33
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL64268
Misc. Info.: 280-0076428-033
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:11 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:33:21

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.966	1.968	-0.002	30724311	1000.0	1000.0	
2	1.747	1.748	-0.001	172295175	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.630	3.631	-0.001	18033958	750.0	754.8	
1	4.116	4.117	-0.001	33088198	750.0	766.7	
1	4.263	4.264	-0.001	13939481	750.0	765.5	
1	5.236	5.237	-0.001	9565455	750.0	768.3	
1	5.260	5.261	-0.001	12635374	750.0	770.5	
		Average of Peak Amounts =				765.1	
2	3.663	3.664	-0.001	44959096	750.0	756.3	
2	4.120	4.121	-0.001	100690473	750.0	764.9	
2	4.263	4.264	-0.001	43601831	750.0	764.9	
2	4.790	4.788	0.002	35305208	750.0	766.5	
2	4.927	4.928	-0.001	42582862	750.0	769.0	
		Average of Peak Amounts =				764.3	
						RPD = 0.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.383	8.381	0.002	68720772	750.0	789.9	
1	8.433	8.434	-0.001	68019827	750.0	771.4	
1	8.710	8.707	0.003	55139677	750.0	778.1	
1	9.226	9.224	0.002	22774873	750.0	774.9	
1	9.640	9.637	0.003	164433426	750.0	778.6	
		Average of Peak Amounts =				778.6	
2	8.513	8.511	0.002	242643975	750.0	775.8	
2	8.573	8.574	-0.001	229976284	750.0	773.9	
2	8.927	8.928	-0.001	200377742	750.0	776.3	
2	9.357	9.358	-0.001	95407700	750.0	777.4	
2	9.820	9.821	-0.001	610063306	750.0	774.7	
		Average of Peak Amounts =				775.6	
						RPD = 0.38	
S 8 Polychlorinated biphenyls, Total							
1						1543.7	
2						1540.0	
						RPD = 0.24	

Reagents:

AR_4268_L6_00018	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

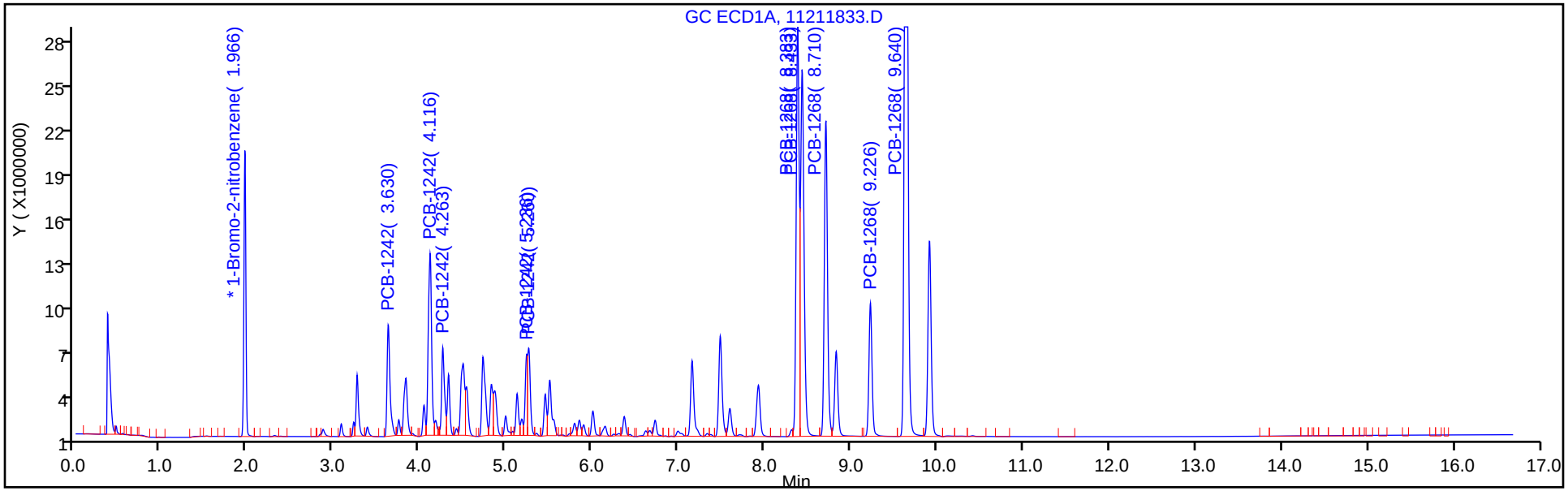
Report Date: 23-Nov-2018 11:03:12 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

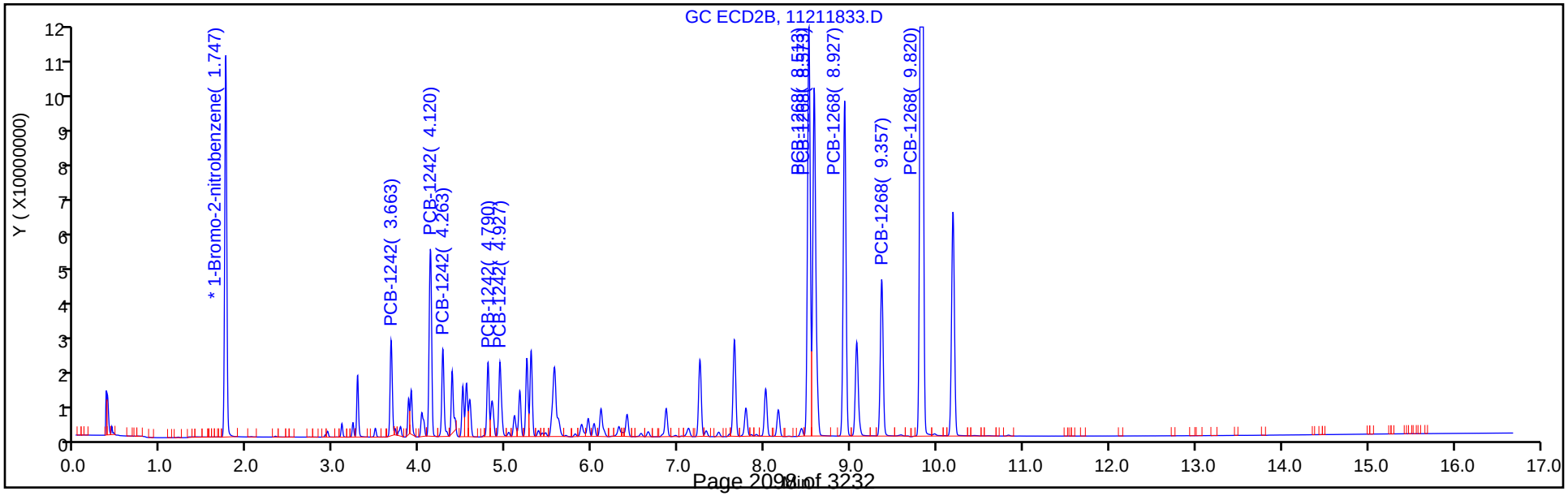
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211833.D

Injection Date:	21-Nov-2018 20:02:35	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL64268			Worklist Smp#:	33
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	33
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211834.D
Lims ID: STDL54268
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Nov-2018 20:23:44 ALS Bottle#: 34 Worklist Smp#: 34
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL54268
Misc. Info.: 280-0076428-034
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:15 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:31:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.967	1.967	0.000	31789266	1000.0	1000.0	
2	1.744	1.744	0.000	178179597	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.631	3.631	0.000	12621153	500.0	505.9	
1	4.117	4.117	0.000	22028422	500.0	492.7	
1	4.264	4.264	0.000	9337377	500.0	492.7	
1	5.237	5.237	0.000	6598400	500.0	508.3	
1	5.261	5.261	0.000	8065513	500.0	474.8	
		Average of Peak Amounts =				494.9	
2	3.664	3.664	0.000	32047030	500.0	515.5	
2	4.121	4.121	0.000	69892795	500.0	508.6	
2	4.264	4.264	0.000	30223208	500.0	507.7	
2	4.788	4.788	0.000	24589768	500.0	507.1	
2	4.928	4.928	0.000	29090693	500.0	502.9	
		Average of Peak Amounts =				508.4	
						RPD = 2.69	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.381	8.381	0.000	43739892	500.0	483.7	
1	8.434	8.434	0.000	45452498	500.0	496.9	
1	8.707	8.707	0.000	36138239	500.0	490.8	
1	9.224	9.224	0.000	14918235	500.0	487.4	
1	9.637	9.637	0.000	108847285	500.0	496.3	
		Average of Peak Amounts =				491.0	
2	8.511	8.511	0.000	164790872	500.0	504.5	
2	8.574	8.574	0.000	154491173	500.0	498.2	
2	8.928	8.928	0.000	134857881	500.0	500.7	
2	9.358	9.358	0.000	64325885	500.0	502.2	
2	9.821	9.821	0.000	410787422	500.0	499.6	
		Average of Peak Amounts =				501.0	
						RPD = 2.02	

Reagents:

AR_4268_L5_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

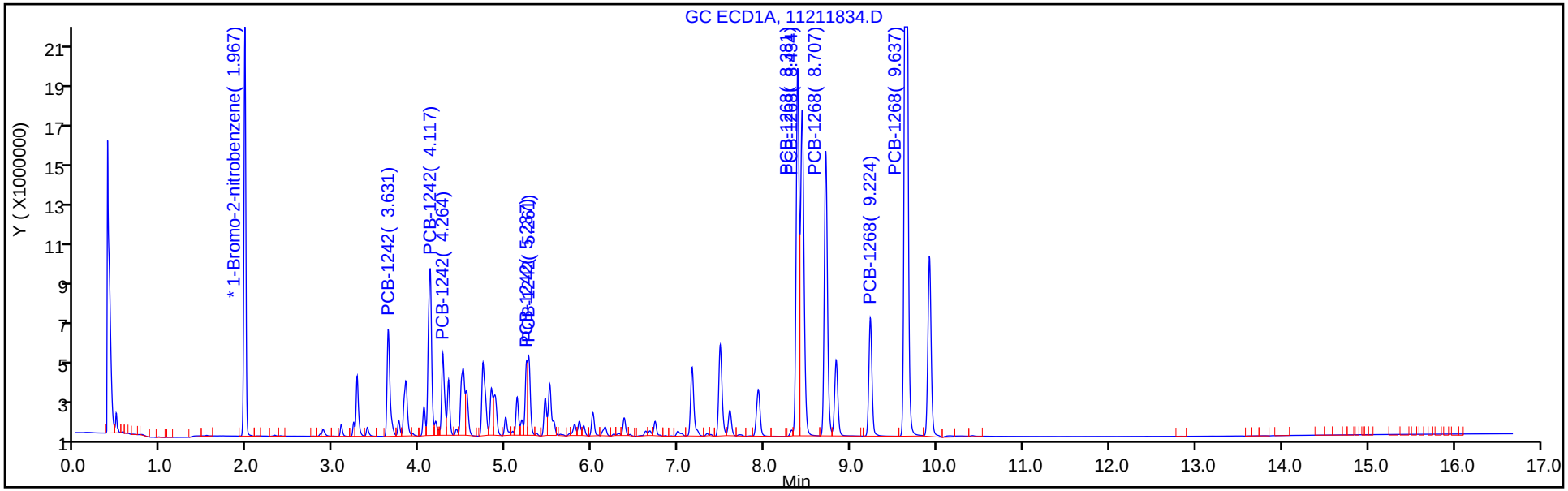
Report Date: 23-Nov-2018 11:03:15 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

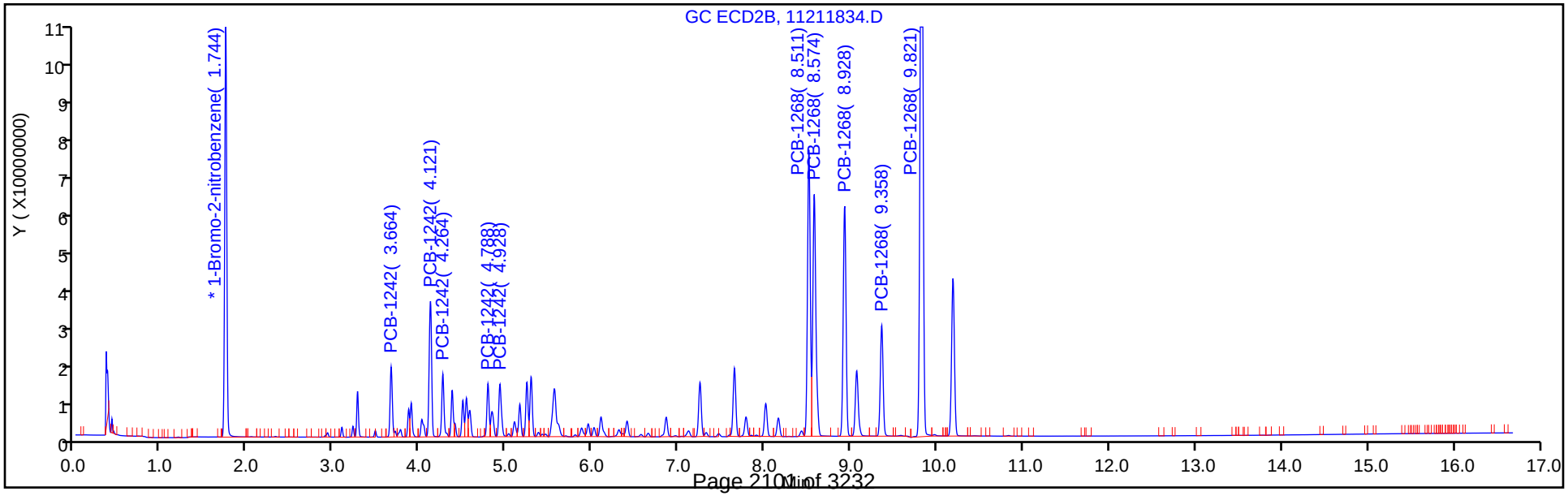
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211834.D

Injection Date:	21-Nov-2018 20:23:44	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL54268			Worklist Smp#:	34
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	34
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211835.D
Lims ID: STDL44268
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Nov-2018 20:44:55 ALS Bottle#: 35 Worklist Smp#: 35
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL44268
Misc. Info.: 280-0076428-035
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:18 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:32:09

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.967	0.001	32694800	1000.0	1000.0	
2	1.745	1.744	0.001	183441113	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.631	3.631	0.000	6934698	250.0	263.7	
1	4.118	4.117	0.001	11431468	250.0	247.7	
1	4.265	4.264	0.001	5115672	250.0	258.6	
1	5.238	5.237	0.001	3600286	250.0	264.2	
1	5.261	5.261	0.000	4215035	250.0	240.5	
		Average of Peak Amounts =				254.9	
2	3.665	3.664	0.001	17497734	250.0	264.7	
2	4.121	4.121	0.000	37814505	250.0	260.3	
2	4.265	4.264	0.001	16456921	250.0	261.4	
2	4.788	4.788	0.000	13877871	250.0	265.3	
2	4.928	4.928	0.000	15905764	250.0	260.0	
		Average of Peak Amounts =				262.4	
						RPD = 2.87	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.381	8.381	0.000	23038908	250.0	244.9	
1	8.434	8.434	0.000	23666972	250.0	249.8	
1	8.708	8.707	0.001	18843418	250.0	246.0	
1	9.224	9.224	0.000	7827884	250.0	244.4	
1	9.638	9.637	0.001	56736910	250.0	249.0	
		Average of Peak Amounts =				246.8	
2	8.511	8.511	0.000	89874672	250.0	260.4	
2	8.575	8.574	0.001	84348061	250.0	258.1	
2	8.928	8.928	0.000	73465781	250.0	258.8	
2	9.358	9.358	0.000	35091487	250.0	259.9	
2	9.821	9.821	0.000	224575190	250.0	258.9	
		Average of Peak Amounts =				259.2	
						RPD = 4.90	
S 8 Polychlorinated biphenyls, Total							
1						501.7	
2						521.6	
						RPD = 3.88	

Reagents:

AR_4268_L4_00023	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

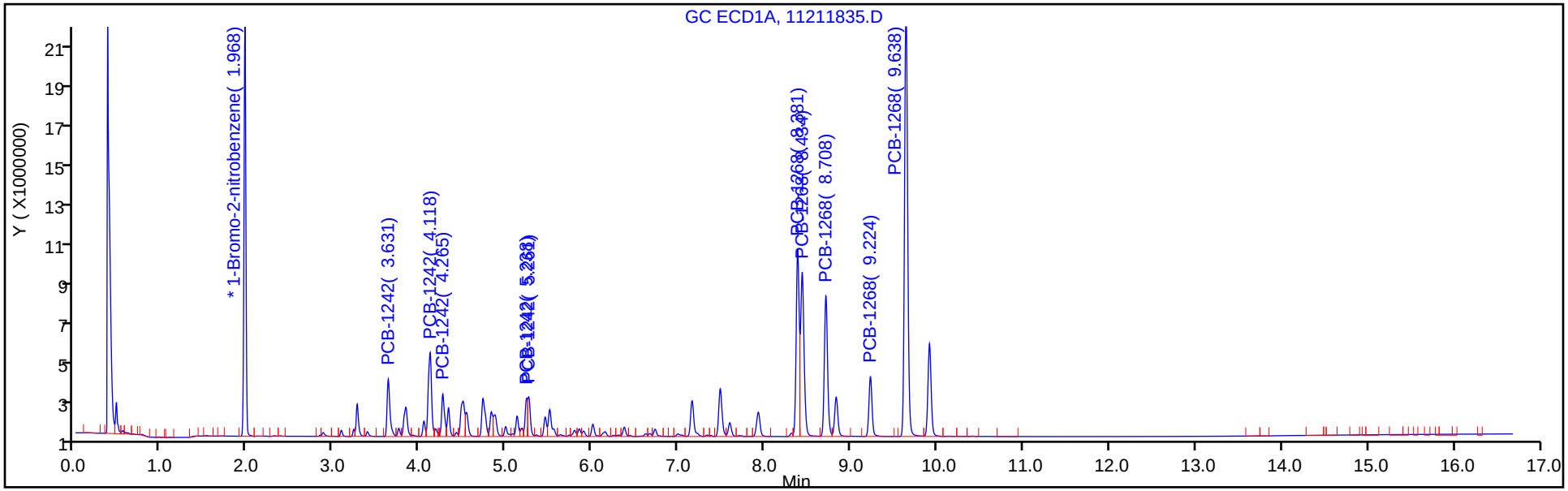
Report Date: 23-Nov-2018 11:03:18 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

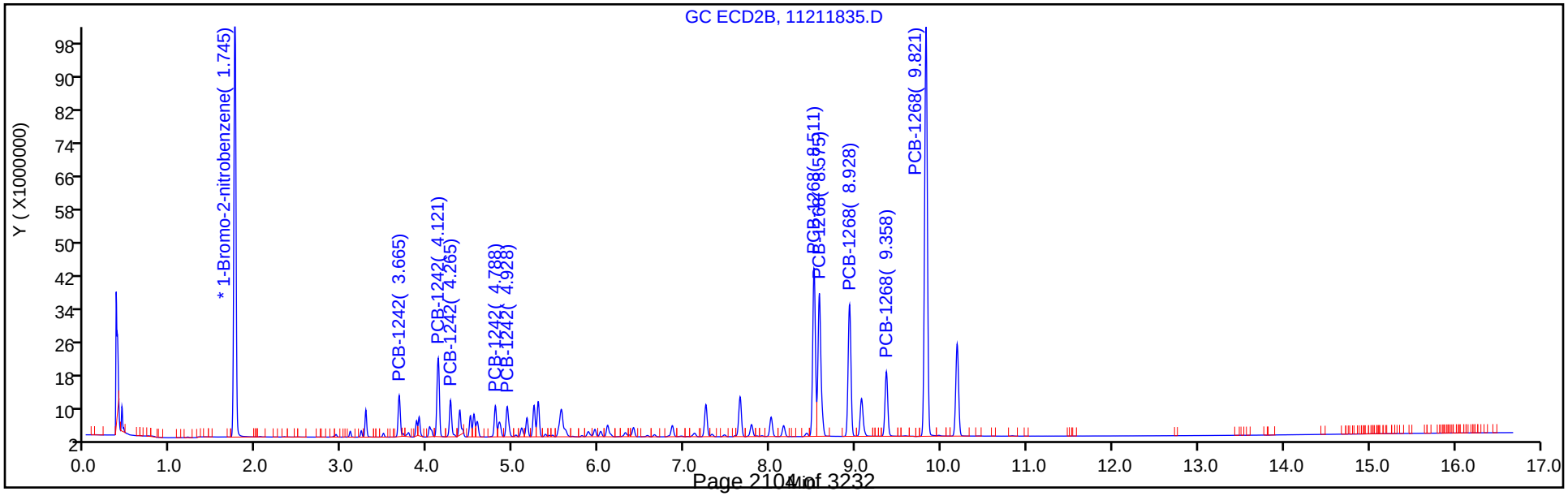
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211835.D

Injection Date:	21-Nov-2018 20:44:55	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL44268			Worklist Smp#:	35
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	35
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211836.D
Lims ID: STDL34268
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Nov-2018 21:06:06 ALS Bottle#: 36 Worklist Smp#: 36
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL34268
Misc. Info.: 280-0076428-036
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:21 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:34:37

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.967	1.967	0.000	29902517	1000.0	1000.0	
2	1.744	1.744	0.000	169052125	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.631	3.631	0.000	2785673	100.0	107.8	
1	4.117	4.117	0.000	4243819	100.0	99.4	
1	4.264	4.264	0.000	1990794	100.0	105.3	
1	5.237	5.237	0.000	1439135	100.0	108.9	
1	5.261	5.261	0.000	1616814	100.0	100.0	
		Average of Peak Amounts =				104.3	
2	3.664	3.664	0.000	7236657	100.0	108.6	
2	4.121	4.121	0.000	15341647	100.0	106.4	
2	4.264	4.264	0.000	6684107	100.0	106.7	
2	4.788	4.788	0.000	5937221	100.0	108.2	
2	4.928	4.928	0.000	6462864	100.0	106.2	
		Average of Peak Amounts =				107.2	
						RPD = 2.78	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.381	8.381	0.000	8942275	100.0	100.6	
1	8.434	8.434	0.000	9204821	100.0	104.1	
1	8.707	8.707	0.000	7521874	100.0	104.1	
1	9.224	9.224	0.000	3714053	100.0	122.6	
1	9.641	9.637	0.004	22672079	100.0	105.9	
		Average of Peak Amounts =				107.5	
2	8.511	8.511	0.000	37039039	100.0	108.4	
2	8.574	8.574	0.000	34510186	100.0	107.4	
2	8.928	8.928	0.000	29936037	100.0	107.2	
2	9.358	9.358	0.000	14362338	100.0	108.0	
2	9.821	9.821	0.000	93152179	100.0	109.0	
		Average of Peak Amounts =				108.0	
						RPD = 0.49	
S 8 Polychlorinated biphenyls, Total							
1						211.8	
2						215.2	
						RPD = 1.62	

Reagents:

AR_4268_L3_00020	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

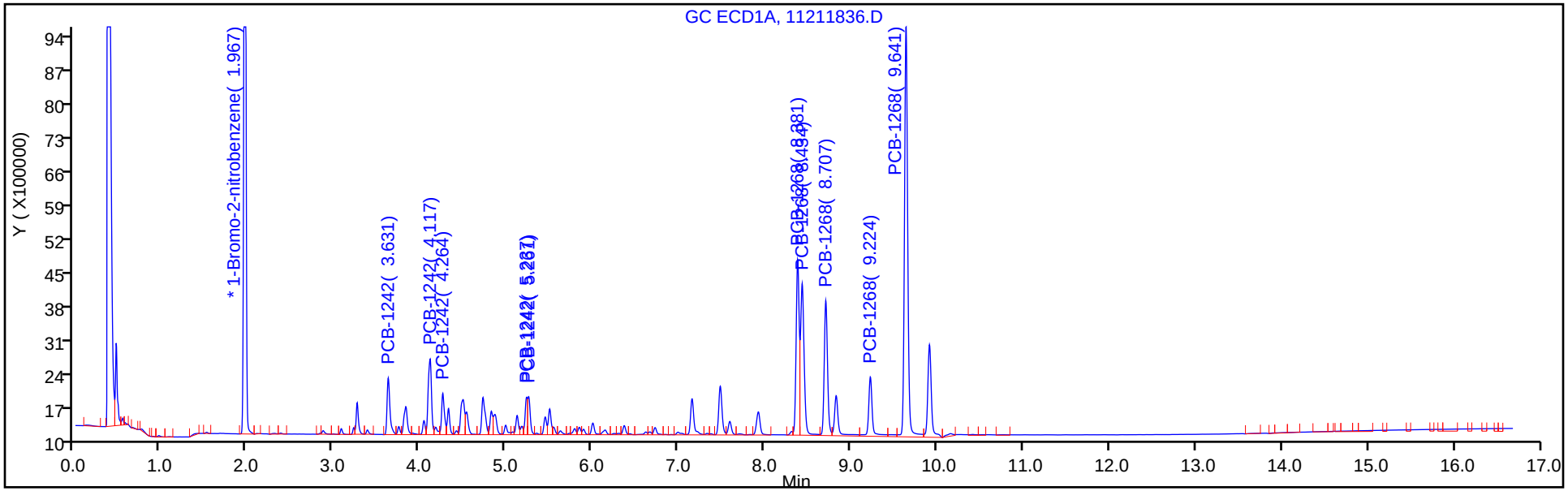
Report Date: 23-Nov-2018 11:03:21 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

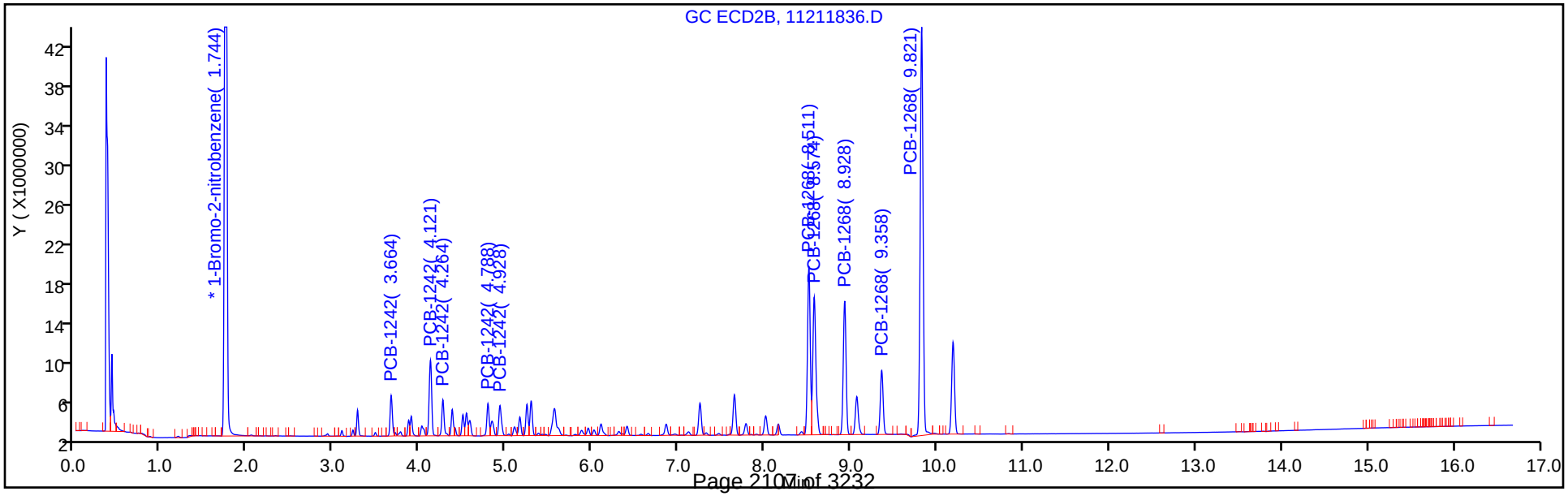
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211836.D

Injection Date:	21-Nov-2018 21:06:06	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL34268			Worklist Smp#:	36
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	36
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211837.D
Lims ID: STDL24268
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Nov-2018 21:27:18 ALS Bottle#: 37 Worklist Smp#: 37
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL24268
Misc. Info.: 280-0076428-037
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:23 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:34:55

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.967	0.001	32348608	1000.0	1000.0	
2	1.745	1.744	0.001	181848580	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.631	3.631	0.000	1591803	50.0	50.2	
1	4.118	4.117	0.001	2334811	50.0	49.6	
1	4.264	4.264	0.000	1089072	50.0	49.2	
1	5.234	5.237	-0.003	783867	50.0	49.0	
1	5.261	5.261	0.000	848605	50.0	47.7	
		Average of Peak Amounts =				49.2	
2	3.665	3.664	0.001	4196303	50.0	50.0	
2	4.121	4.121	0.000	8787056	50.0	49.8	
2	4.265	4.264	0.001	3857429	50.0	50.2	
2	4.788	4.788	0.000	3715663	50.0	51.2	
2	4.928	4.928	0.000	3803015	50.0	51.3	
		Average of Peak Amounts =				50.5	
						RPD = 2.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.381	8.381	0.000	4962556	50.0	48.8	
1	8.434	8.434	0.000	4896006	50.0	49.3	
1	8.708	8.707	0.001	4064693	50.0	49.2	
1	9.224	9.224	0.000	1653587	50.0	45.4	
1	9.638	9.637	0.001	11777400	50.0	48.2	
		Average of Peak Amounts =				48.2	
2	8.511	8.511	0.000	20840173	50.0	49.8	
2	8.575	8.574	0.001	19449827	50.0	50.1	
2	8.928	8.928	0.000	16824081	50.0	49.8	
2	9.358	9.358	0.000	8076058	50.0	50.1	
2	9.821	9.821	0.000	51994829	50.0	50.0	
		Average of Peak Amounts =				50.0	
						RPD = 3.64	
S 8 Polychlorinated biphenyls, Total							
1						97.3	
2						100.5	
						RPD = 3.17	

Reagents:

AR_4268_L2_00020	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

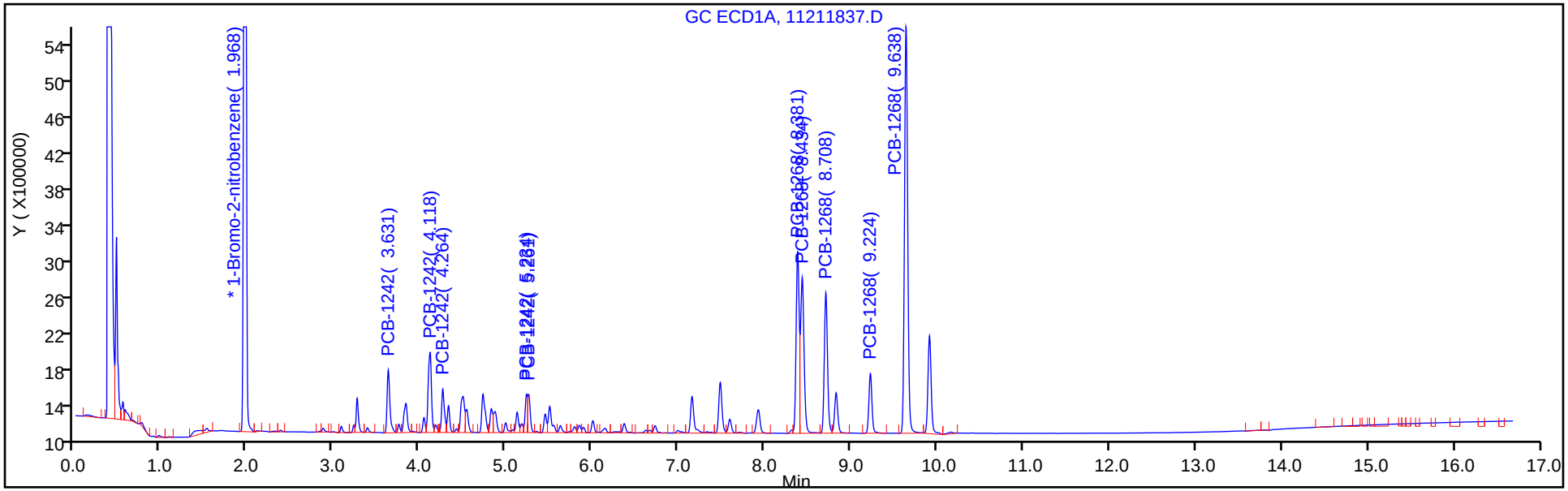
Report Date: 23-Nov-2018 11:03:24 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

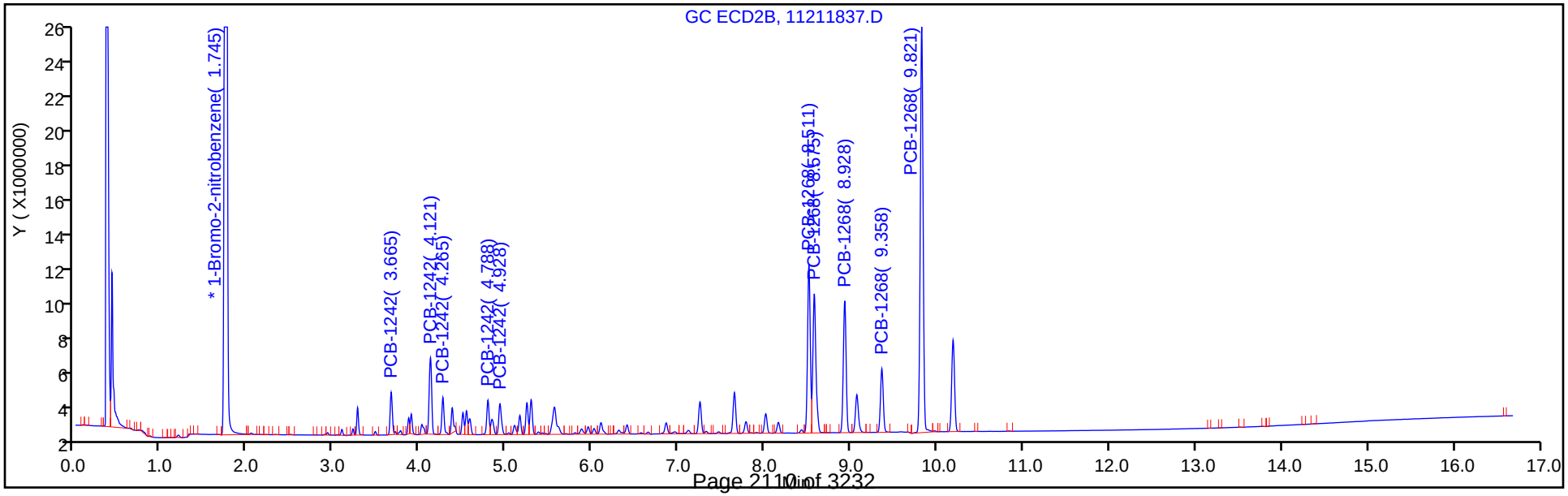
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211837.D

Injection Date:	21-Nov-2018 21:27:18	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL24268			Worklist Smp#:	37
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	37
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D
Lims ID: STDL14268
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Nov-2018 21:48:29 ALS Bottle#: 38 Worklist Smp#: 38
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL14268
Misc. Info.: 280-0076428-038
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:28 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:35:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.967	0.003	30052215	1000.0	1000.0	
2	1.747	1.744	0.003	169482834	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.630	3.631	-0.001	826846	25.0	21.8	
1	4.117	4.117	0.000	1153326	25.0	25.5	
1	4.263	4.264	-0.001	560286	25.0	23.6	
1	5.237	5.237	0.000	403656	25.0	22.0	
1	5.260	5.261	-0.001	461108	25.0	27.3	
		Average of Peak Amounts =				24.0	
2	3.663	3.664	-0.001	2277242	25.0	21.4	
2	4.120	4.121	-0.001	4714790	25.0	22.5	
2	4.267	4.264	0.003	2052043	25.0	22.1	
2	4.787	4.788	-0.001	2142202	25.0	21.0	
2	4.927	4.928	-0.001	1976394	25.0	21.9	
		Average of Peak Amounts =				21.8	
						RPD = 9.79	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.380	8.381	-0.001	2677797	25.0	25.9	
1	8.433	8.434	-0.001	2398046	25.0	24.3	
1	8.707	8.707	0.000	2096540	25.0	24.8	
1	9.223	9.224	-0.001	888286	25.0	22.6	
1	9.640	9.637	0.003	6071834	25.0	24.5	
		Average of Peak Amounts =				24.4	
2	8.510	8.511	-0.001	11047301	25.0	22.0	
2	8.573	8.574	-0.001	10180170	25.0	22.5	
2	8.927	8.928	-0.001	8862587	25.0	22.5	
2	9.357	9.358	-0.001	4193339	25.0	22.0	
2	9.820	9.821	-0.001	27200635	25.0	22.0	
		Average of Peak Amounts =				22.2	
						RPD = 9.35	
S 8 Polychlorinated biphenyls, Total							
1						48.4	
2						44.0	
						RPD = 9.57	

Reagents:

AR_4268_L1_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

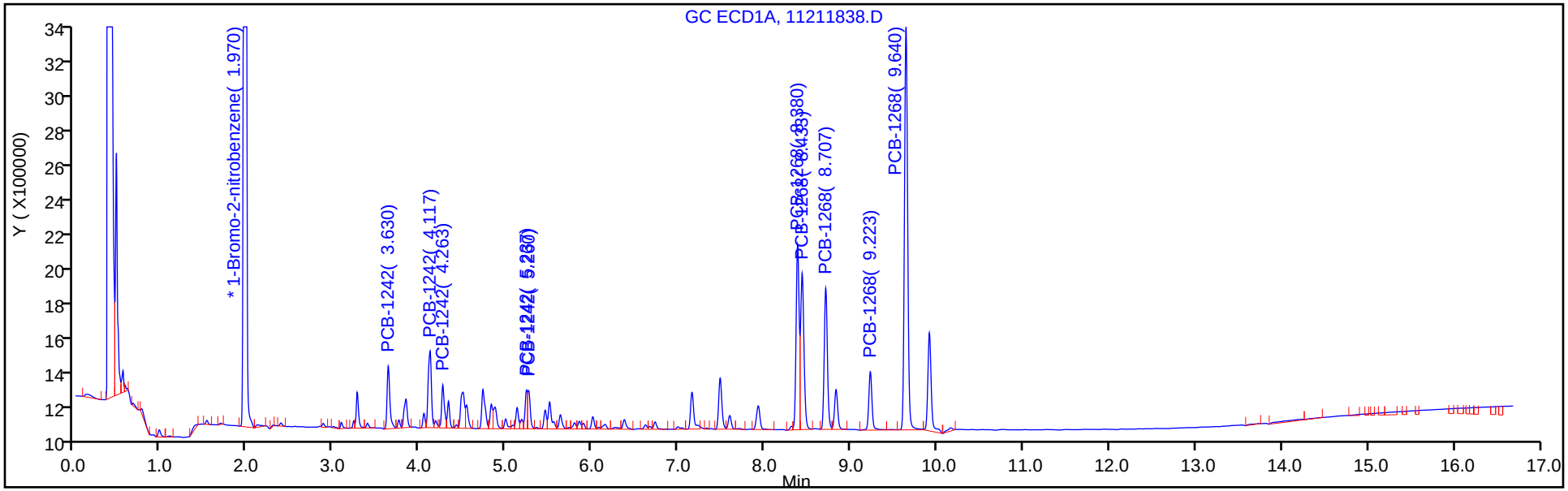
Report Date: 23-Nov-2018 11:03:29 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

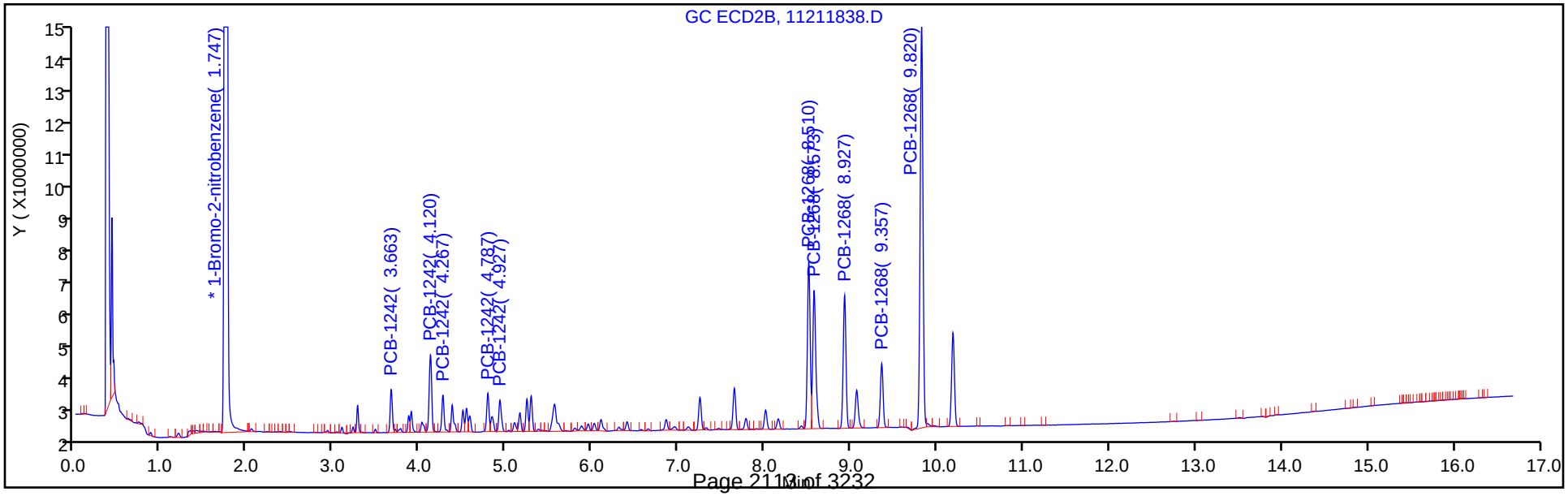
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Injection Date:	21-Nov-2018 21:48:29	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL14268			Worklist Smp#:	38
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	38
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 19:41 Calibration End Date: 11/21/2018 21:48 Calibration ID: 34395

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL14268 280-438388/38	11211838.D
Level 2	STDL24268 280-438388/37	11211837.D
Level 3	STDL34268 280-438388/36	11211836.D
Level 4	STDL44268 280-438388/35	11211835.D
Level 5	STDL54268 280-438388/34	11211834.D
Level 6	STDL64268 280-438388/33	11211833.D
Level 7	STDL74268 280-438388/32	11211832.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1242 Peak 1	0.5375 0.3479	0.4615 0.3290	0.4281	0.3815	0.3597	Lin1	6.2242	0.3368							0.9980		0.9900
PCB-1242 Peak 2	1.1127 0.7792	0.9664 0.7325	0.9075	0.8246	0.7845	Lin1	10.977	0.7497							0.9990		0.9900
PCB-1242 Peak 3	0.4843 0.3374	0.4242 0.3170	0.3954	0.3588	0.3392	Lin1	4.9231	0.3244							0.9980		0.9900
PCB-1242 Peak 4	0.5056 0.2732	0.4087 0.2537	0.3512	0.3026	0.2760	Lin1	7.2210	0.2579							0.9980		0.9900
PCB-1242 Peak 5	0.4665 0.3295	0.4183 0.3085	0.3823	0.3468	0.3265	Lin1	4.7486	0.3152							0.9990		0.9900
PCB-1268 Peak 1	2.6073 1.8777	2.2920 1.7261	2.1910	1.9597	1.8497	Lin1	25.916	1.7819							0.9980		0.9900
PCB-1268 Peak 2	2.4026 1.7797	2.1391 1.6588	2.0414	1.8392	1.7341	Lin1	21.960	1.6964							0.9990		0.9900
PCB-1268 Peak 3	2.0917 1.5507	1.8503 1.4330	1.7708	1.6019	1.5137	Lin1	19.128	1.4734							0.9980		0.9900
PCB-1268 Peak 4	0.9897 0.7383	0.8882 0.6783	0.8496	0.7652	0.7220	Lin1	9.3078	0.7003							0.9980		0.9900
PCB-1268 Peak 5	6.4197 4.7211	5.7185 4.3768	5.5103	4.8969	4.6109	Lin1	61.458	4.4914							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 438388

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2018 19:41 Calibration End Date: 11/21/2018 21:48 Calibration ID: 34395

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL14268 280-438388/38	11211838.D
Level 2	STDL24268 280-438388/37	11211837.D
Level 3	STDL34268 280-438388/36	11211836.D
Level 4	STDL44268 280-438388/35	11211835.D
Level 5	STDL54268 280-438388/34	11211834.D
Level 6	STDL64268 280-438388/33	11211833.D
Level 7	STDL74268 280-438388/32	11211832.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1242 Peak 1	BNB	Lin1	2277242 44959096	4196303 58050740	7236657	17497734	32047030	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 2	BNB	Lin1	4714790 100690473	8787056 129222617	15341647	37814505	69892795	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 3	BNB	Lin1	2052043 43601831	3857429 55919168	6684107	16456921	30223208	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 4	BNB	Lin1	2142202 35305208	3715663 44752744	5937221	13877871	24589768	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 5	BNB	Lin1	1976394 42582862	3803015 54422086	6462864	15905764	29090693	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 1	BNB	Lin1	11047301 242643975	20840173 304523679	37039039	89874672	164790872	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 2	BNB	Lin1	10180170 229976284	19449827 292646780	34510186	84348061	154491173	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 3	BNB	Lin1	8862587 200377742	16824081 252817304	29936037	73465781	134857881	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 4	BNB	Lin1	4193339 95407700	8076058 119674966	14362338	35091487	64325885	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 5	BNB	Lin1	27200635 610063306	51994829 772165320	93152179	224575190	410787422	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211832.D
Lims ID: STDL74268
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Nov-2018 19:41:25 ALS Bottle#: 32 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL74268
Misc. Info.: 280-0076428-032
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:08 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:32:50

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.968	0.001	31482365	1000.0	1000.0	
2	1.749	1.748	0.001	176421211	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.632	3.631	0.001	23666995	1000.0	970.7	
1	4.116	4.117	-0.001	43906093	1000.0	993.4	
1	4.262	4.264	-0.002	18245316	1000.0	980.1	
1	5.239	5.237	0.002	12139444	1000.0	954.3	
1	5.259	5.261	-0.002	17036171	1000.0	1014.3	
		Average of Peak Amounts =				982.6	
2	3.666	3.664	0.002	58050740	1000.0	958.5	
2	4.122	4.121	0.001	129222617	1000.0	962.4	
2	4.266	4.264	0.002	55919168	1000.0	961.9	
2	4.789	4.788	0.001	44752744	1000.0	955.6	
2	4.926	4.928	-0.002	54422086	1000.0	963.6	
		Average of Peak Amounts =				960.4	
						RPD = 2.28	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.382	8.381	0.001	87356816	1000.0	981.3	
1	8.432	8.434	-0.002	88389199	1000.0	979.2	
1	8.709	8.707	0.002	71195019	1000.0	982.0	
1	9.226	9.224	0.002	29381338	1000.0	977.8	
1	9.639	9.637	0.002	210173125	1000.0	972.5	
		Average of Peak Amounts =				978.6	
2	8.512	8.511	0.001	304523679	1000.0	954.1	
2	8.576	8.574	0.002	292646780	1000.0	964.9	
2	8.929	8.928	0.001	252817304	1000.0	959.6	
2	9.359	9.358	0.001	119674966	1000.0	955.3	
2	9.819	9.821	-0.002	772165320	1000.0	960.8	
		Average of Peak Amounts =				959.0	
						RPD = 2.02	
S 8 Polychlorinated biphenyls, Total							
1						1961.1	
2						1919.4	
						RPD = 2.15	

Reagents:

AR_4268_L7_00016	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

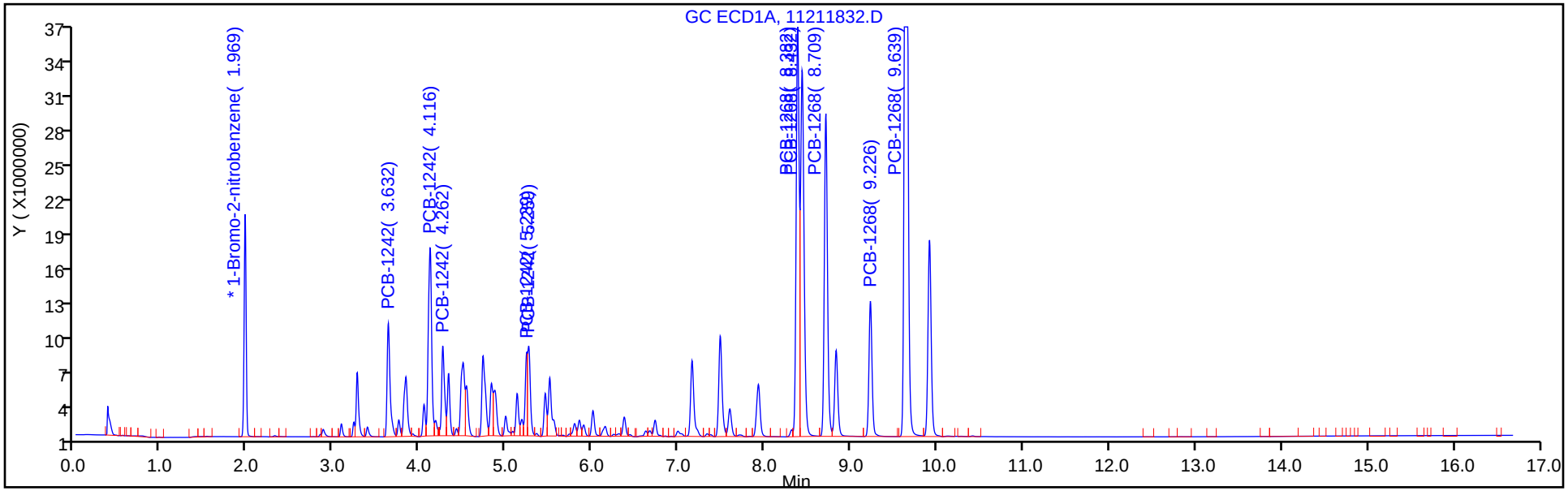
Report Date: 23-Nov-2018 11:03:09 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

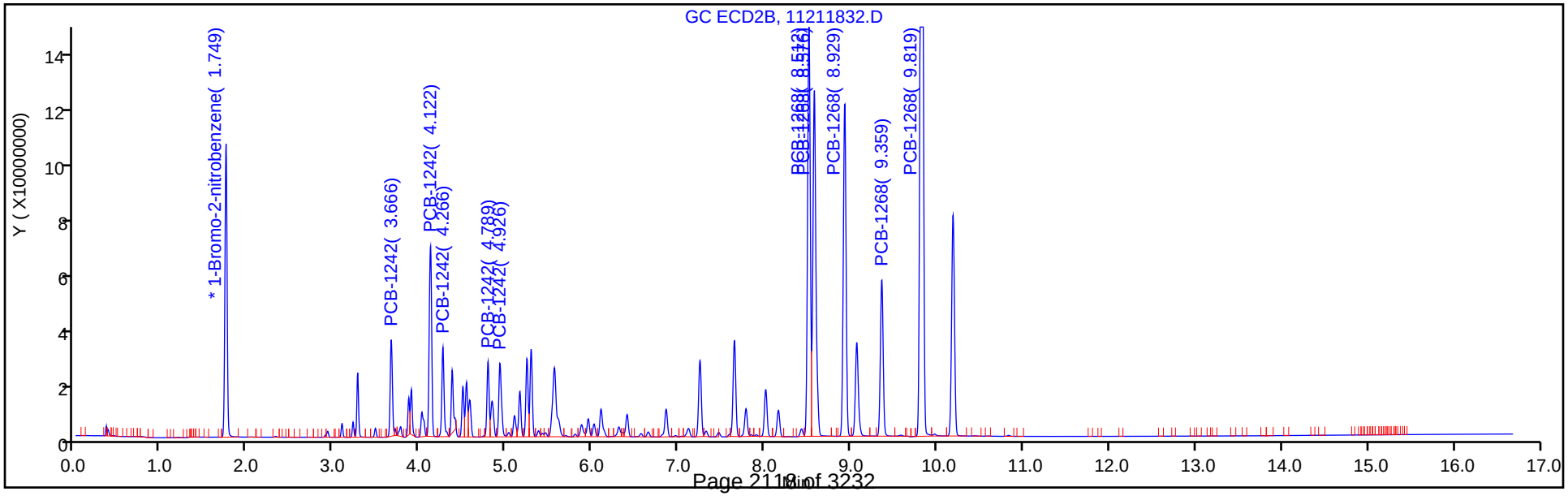
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211832.D

Injection Date:	21-Nov-2018 19:41:25	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL74268			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	32
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211833.D
Lims ID: STDL64268
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Nov-2018 20:02:35 ALS Bottle#: 33 Worklist Smp#: 33
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL64268
Misc. Info.: 280-0076428-033
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:11 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:33:21

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.966	1.968	-0.002	30724311	1000.0	1000.0	
2	1.747	1.748	-0.001	172295175	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.630	3.631	-0.001	18033958	750.0	754.8	
1	4.116	4.117	-0.001	33088198	750.0	766.7	
1	4.263	4.264	-0.001	13939481	750.0	765.5	
1	5.236	5.237	-0.001	9565455	750.0	768.3	
1	5.260	5.261	-0.001	12635374	750.0	770.5	
		Average of Peak Amounts =				765.1	
2	3.663	3.664	-0.001	44959096	750.0	756.3	
2	4.120	4.121	-0.001	100690473	750.0	764.9	
2	4.263	4.264	-0.001	43601831	750.0	764.9	
2	4.790	4.788	0.002	35305208	750.0	766.5	
2	4.927	4.928	-0.001	42582862	750.0	769.0	
		Average of Peak Amounts =				764.3	
						RPD = 0.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.383	8.381	0.002	68720772	750.0	789.9	
1	8.433	8.434	-0.001	68019827	750.0	771.4	
1	8.710	8.707	0.003	55139677	750.0	778.1	
1	9.226	9.224	0.002	22774873	750.0	774.9	
1	9.640	9.637	0.003	164433426	750.0	778.6	
		Average of Peak Amounts =				778.6	
2	8.513	8.511	0.002	242643975	750.0	775.8	
2	8.573	8.574	-0.001	229976284	750.0	773.9	
2	8.927	8.928	-0.001	200377742	750.0	776.3	
2	9.357	9.358	-0.001	95407700	750.0	777.4	
2	9.820	9.821	-0.001	610063306	750.0	774.7	
		Average of Peak Amounts =				775.6	
						RPD = 0.38	
S 8 Polychlorinated biphenyls, Total							
1						1543.7	
2						1540.0	
						RPD = 0.24	

Reagents:

AR_4268_L6_00018	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

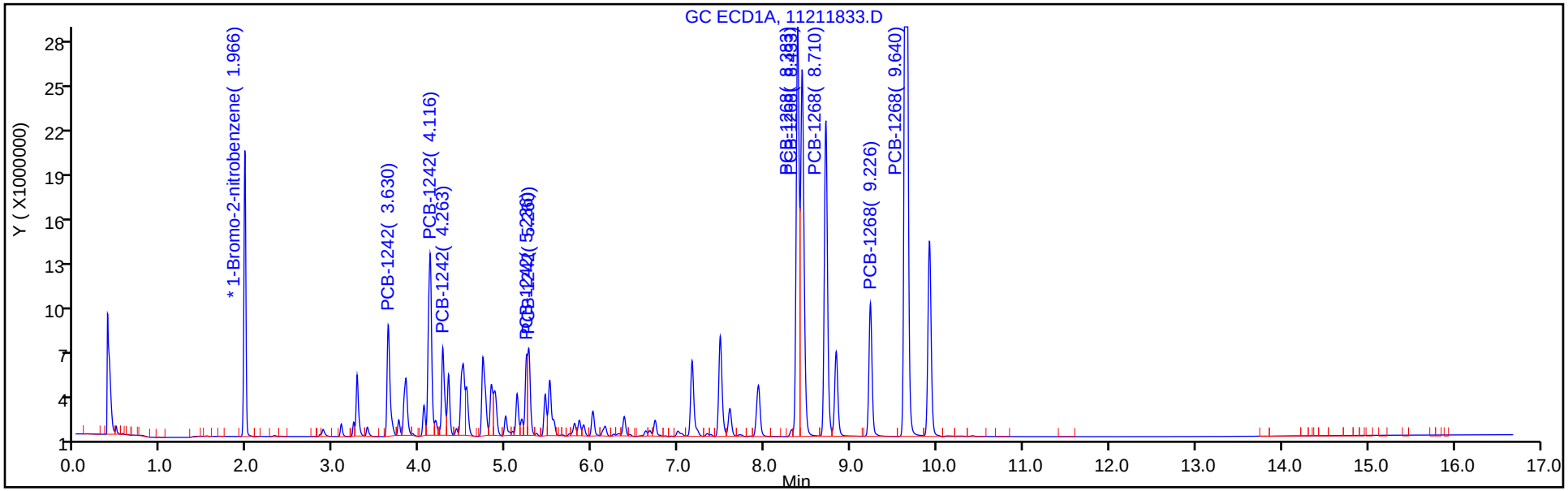
Report Date: 23-Nov-2018 11:03:12 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

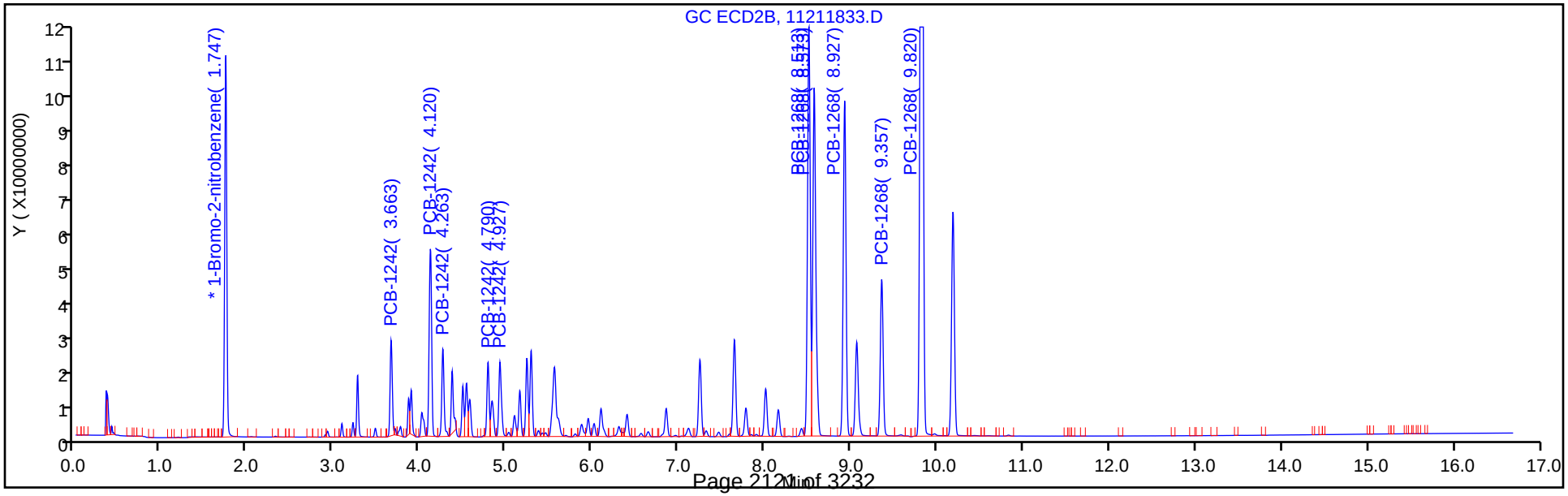
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211833.D

Injection Date:	21-Nov-2018 20:02:35	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL64268			Worklist Smp#:	33
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	33
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211834.D
Lims ID: STDL54268
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Nov-2018 20:23:44 ALS Bottle#: 34 Worklist Smp#: 34
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL54268
Misc. Info.: 280-0076428-034
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:15 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:31:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.967	1.967	0.000	31789266	1000.0	1000.0	
2	1.744	1.744	0.000	178179597	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.631	3.631	0.000	12621153	500.0	505.9	
1	4.117	4.117	0.000	22028422	500.0	492.7	
1	4.264	4.264	0.000	9337377	500.0	492.7	
1	5.237	5.237	0.000	6598400	500.0	508.3	
1	5.261	5.261	0.000	8065513	500.0	474.8	
		Average of Peak Amounts =				494.9	
2	3.664	3.664	0.000	32047030	500.0	515.5	
2	4.121	4.121	0.000	69892795	500.0	508.6	
2	4.264	4.264	0.000	30223208	500.0	507.7	
2	4.788	4.788	0.000	24589768	500.0	507.1	
2	4.928	4.928	0.000	29090693	500.0	502.9	
		Average of Peak Amounts =				508.4	
						RPD = 2.69	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.381	8.381	0.000	43739892	500.0	483.7	
1	8.434	8.434	0.000	45452498	500.0	496.9	
1	8.707	8.707	0.000	36138239	500.0	490.8	
1	9.224	9.224	0.000	14918235	500.0	487.4	
1	9.637	9.637	0.000	108847285	500.0	496.3	
		Average of Peak Amounts =				491.0	
2	8.511	8.511	0.000	164790872	500.0	504.5	
2	8.574	8.574	0.000	154491173	500.0	498.2	
2	8.928	8.928	0.000	134857881	500.0	500.7	
2	9.358	9.358	0.000	64325885	500.0	502.2	
2	9.821	9.821	0.000	410787422	500.0	499.6	
		Average of Peak Amounts =				501.0	
						RPD = 2.02	

Reagents:

AR_4268_L5_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

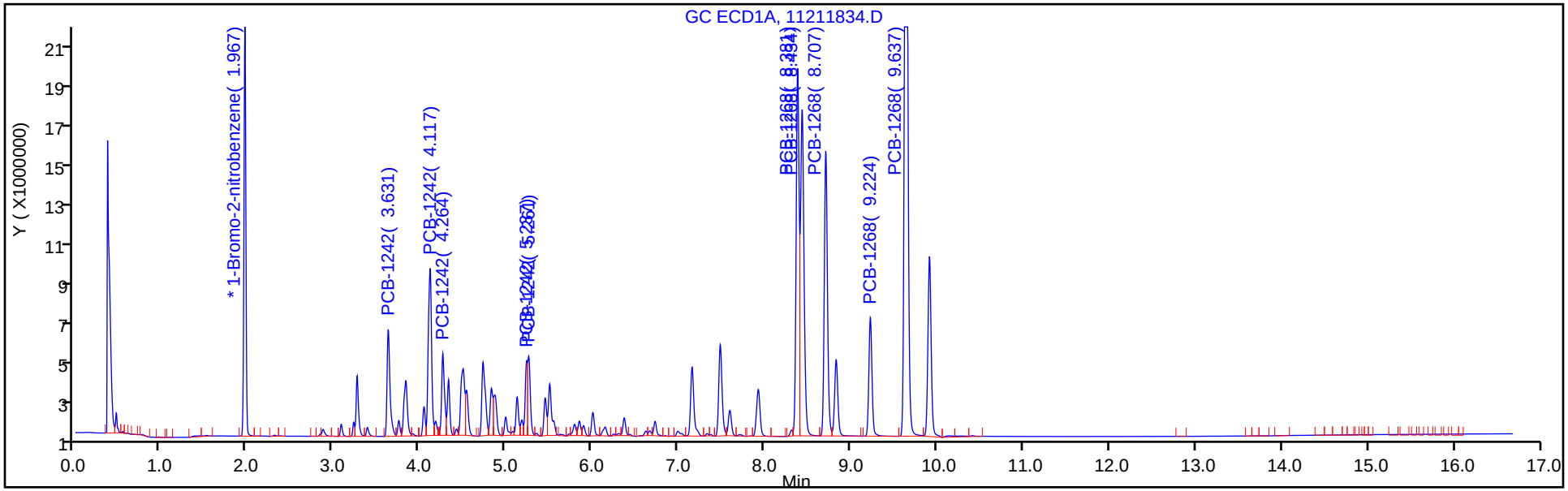
Report Date: 23-Nov-2018 11:03:16 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

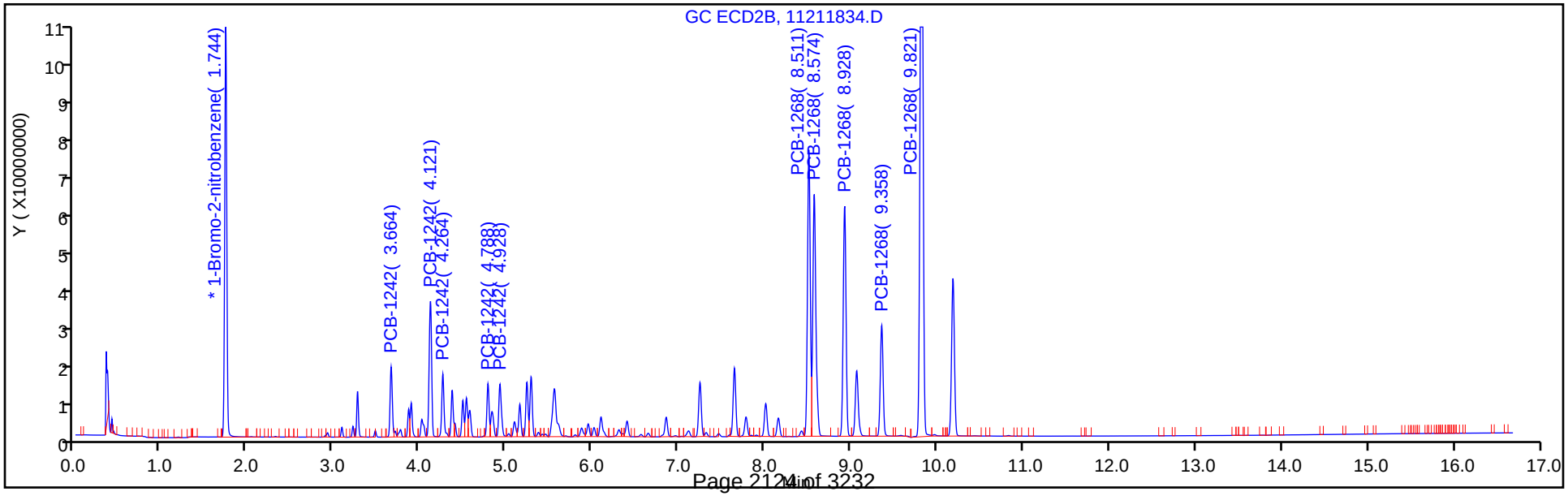
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211834.D

Injection Date:	21-Nov-2018 20:23:44	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL54268			Worklist Smp#:	34
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	34
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211835.D
Lims ID: STDL44268
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Nov-2018 20:44:55 ALS Bottle#: 35 Worklist Smp#: 35
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL44268
Misc. Info.: 280-0076428-035
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:18 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:32:09

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.967	0.001	32694800	1000.0	1000.0	
2	1.745	1.744	0.001	183441113	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.631	3.631	0.000	6934698	250.0	263.7	
1	4.118	4.117	0.001	11431468	250.0	247.7	
1	4.265	4.264	0.001	5115672	250.0	258.6	
1	5.238	5.237	0.001	3600286	250.0	264.2	
1	5.261	5.261	0.000	4215035	250.0	240.5	
		Average of Peak Amounts =				254.9	
2	3.665	3.664	0.001	17497734	250.0	264.7	
2	4.121	4.121	0.000	37814505	250.0	260.3	
2	4.265	4.264	0.001	16456921	250.0	261.4	
2	4.788	4.788	0.000	13877871	250.0	265.3	
2	4.928	4.928	0.000	15905764	250.0	260.0	
		Average of Peak Amounts =				262.4	
						RPD = 2.87	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.381	8.381	0.000	23038908	250.0	244.9	
1	8.434	8.434	0.000	23666972	250.0	249.8	
1	8.708	8.707	0.001	18843418	250.0	246.0	
1	9.224	9.224	0.000	7827884	250.0	244.4	
1	9.638	9.637	0.001	56736910	250.0	249.0	
		Average of Peak Amounts =				246.8	
2	8.511	8.511	0.000	89874672	250.0	260.4	
2	8.575	8.574	0.001	84348061	250.0	258.1	
2	8.928	8.928	0.000	73465781	250.0	258.8	
2	9.358	9.358	0.000	35091487	250.0	259.9	
2	9.821	9.821	0.000	224575190	250.0	258.9	
		Average of Peak Amounts =				259.2	
						RPD = 4.90	
S 8 Polychlorinated biphenyls, Total							
1						501.7	
2						521.6	
						RPD = 3.88	

Reagents:

AR_4268_L4_00023	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

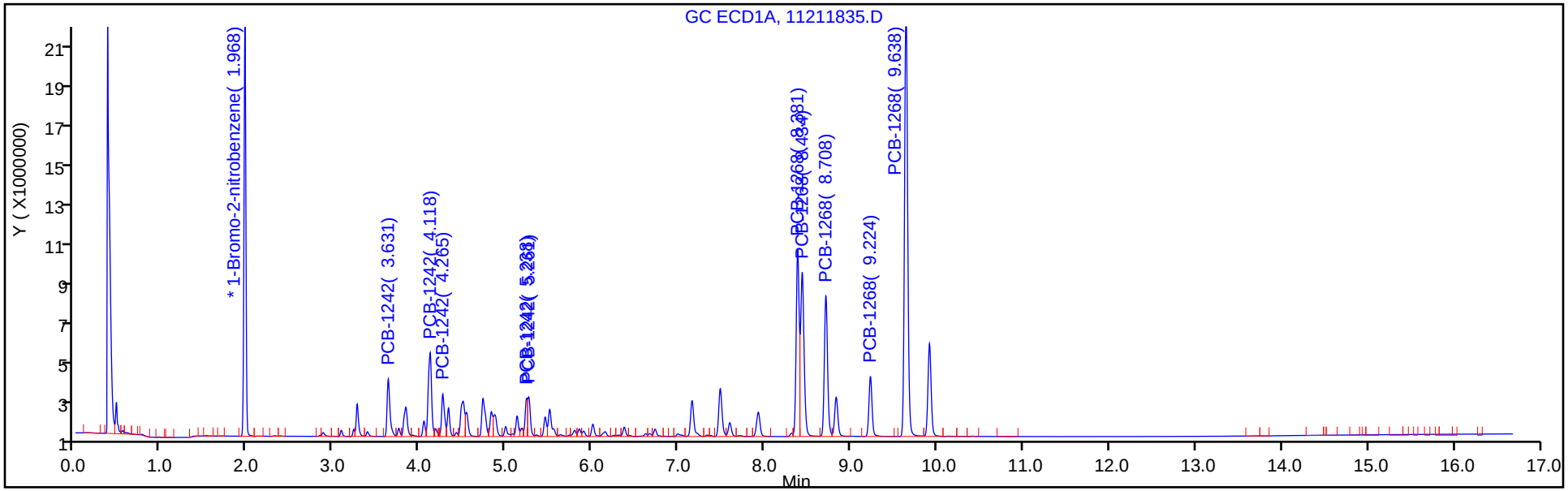
Report Date: 23-Nov-2018 11:03:19 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

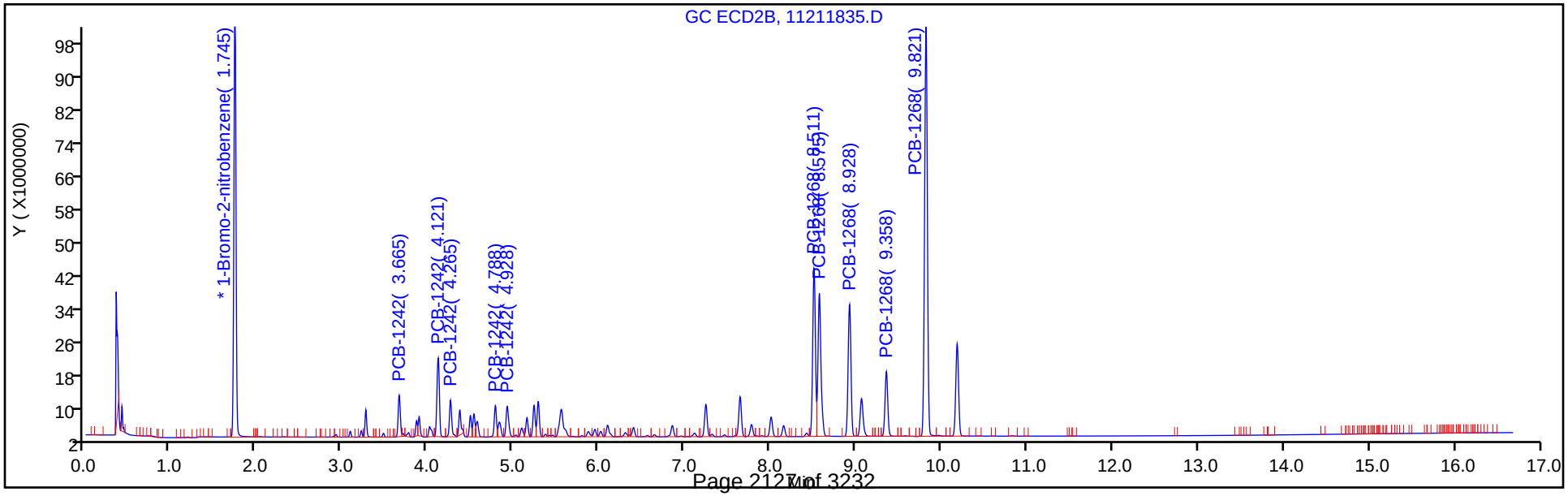
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211835.D

Injection Date:	21-Nov-2018 20:44:55	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL44268			Worklist Smp#:	35
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	35
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211836.D
Lims ID: STDL34268
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Nov-2018 21:06:06 ALS Bottle#: 36 Worklist Smp#: 36
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL34268
Misc. Info.: 280-0076428-036
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:21 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:34:37

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.967	1.967	0.000	29902517	1000.0	1000.0	
2	1.744	1.744	0.000	169052125	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.631	3.631	0.000	2785673	100.0	107.8	
1	4.117	4.117	0.000	4243819	100.0	99.4	
1	4.264	4.264	0.000	1990794	100.0	105.3	
1	5.237	5.237	0.000	1439135	100.0	108.9	
1	5.261	5.261	0.000	1616814	100.0	100.0	
		Average of Peak Amounts =				104.3	
2	3.664	3.664	0.000	7236657	100.0	108.6	
2	4.121	4.121	0.000	15341647	100.0	106.4	
2	4.264	4.264	0.000	6684107	100.0	106.7	
2	4.788	4.788	0.000	5937221	100.0	108.2	
2	4.928	4.928	0.000	6462864	100.0	106.2	
		Average of Peak Amounts =				107.2	
						RPD = 2.78	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.381	8.381	0.000	8942275	100.0	100.6	
1	8.434	8.434	0.000	9204821	100.0	104.1	
1	8.707	8.707	0.000	7521874	100.0	104.1	
1	9.224	9.224	0.000	3714053	100.0	122.6	
1	9.641	9.637	0.004	22672079	100.0	105.9	
		Average of Peak Amounts =				107.5	
2	8.511	8.511	0.000	37039039	100.0	108.4	
2	8.574	8.574	0.000	34510186	100.0	107.4	
2	8.928	8.928	0.000	29936037	100.0	107.2	
2	9.358	9.358	0.000	14362338	100.0	108.0	
2	9.821	9.821	0.000	93152179	100.0	109.0	
		Average of Peak Amounts =				108.0	
						RPD = 0.49	
S 8 Polychlorinated biphenyls, Total							
1						211.8	
2						215.2	
						RPD = 1.62	

Reagents:

AR_4268_L3_00020	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

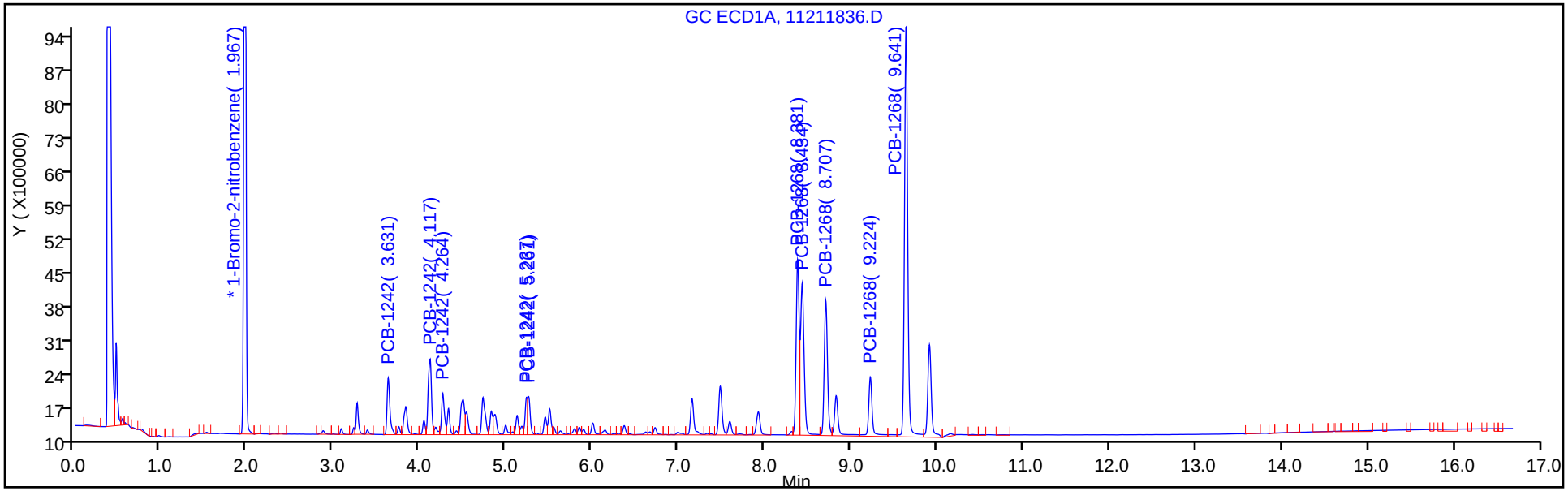
Report Date: 23-Nov-2018 11:03:22 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

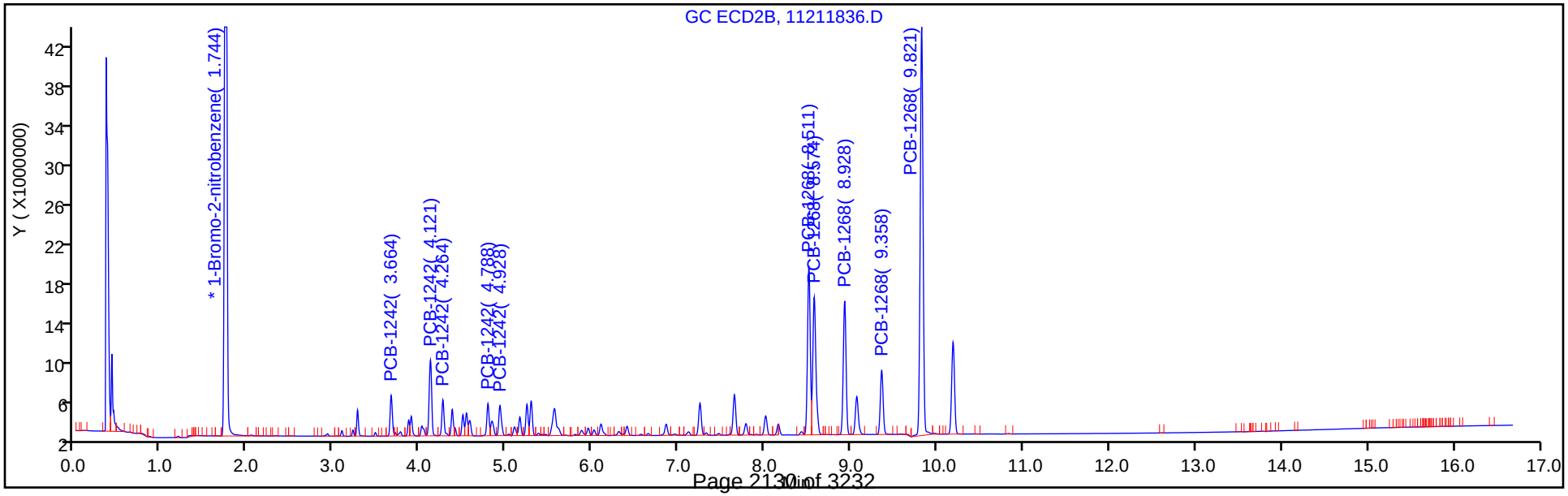
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211836.D

Injection Date:	21-Nov-2018 21:06:06	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL34268			Worklist Smp#:	36
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	36
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211837.D
Lims ID: STDL24268
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Nov-2018 21:27:18 ALS Bottle#: 37 Worklist Smp#: 37
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL24268
Misc. Info.: 280-0076428-037
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:23 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:34:55

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.967	0.001	32348608	1000.0	1000.0	
2	1.745	1.744	0.001	181848580	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.631	3.631	0.000	1591803	50.0	50.2	
1	4.118	4.117	0.001	2334811	50.0	49.6	
1	4.264	4.264	0.000	1089072	50.0	49.2	
1	5.234	5.237	-0.003	783867	50.0	49.0	
1	5.261	5.261	0.000	848605	50.0	47.7	
		Average of Peak Amounts =				49.2	
2	3.665	3.664	0.001	4196303	50.0	50.0	
2	4.121	4.121	0.000	8787056	50.0	49.8	
2	4.265	4.264	0.001	3857429	50.0	50.2	
2	4.788	4.788	0.000	3715663	50.0	51.2	
2	4.928	4.928	0.000	3803015	50.0	51.3	
		Average of Peak Amounts =				50.5	
						RPD = 2.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.381	8.381	0.000	4962556	50.0	48.8	
1	8.434	8.434	0.000	4896006	50.0	49.3	
1	8.708	8.707	0.001	4064693	50.0	49.2	
1	9.224	9.224	0.000	1653587	50.0	45.4	
1	9.638	9.637	0.001	11777400	50.0	48.2	
		Average of Peak Amounts =				48.2	
2	8.511	8.511	0.000	20840173	50.0	49.8	
2	8.575	8.574	0.001	19449827	50.0	50.1	
2	8.928	8.928	0.000	16824081	50.0	49.8	
2	9.358	9.358	0.000	8076058	50.0	50.1	
2	9.821	9.821	0.000	51994829	50.0	50.0	
		Average of Peak Amounts =				50.0	
						RPD = 3.64	
S 8 Polychlorinated biphenyls, Total							
1						97.3	
2						100.5	
						RPD = 3.17	

Reagents:

AR_4268_L2_00020	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

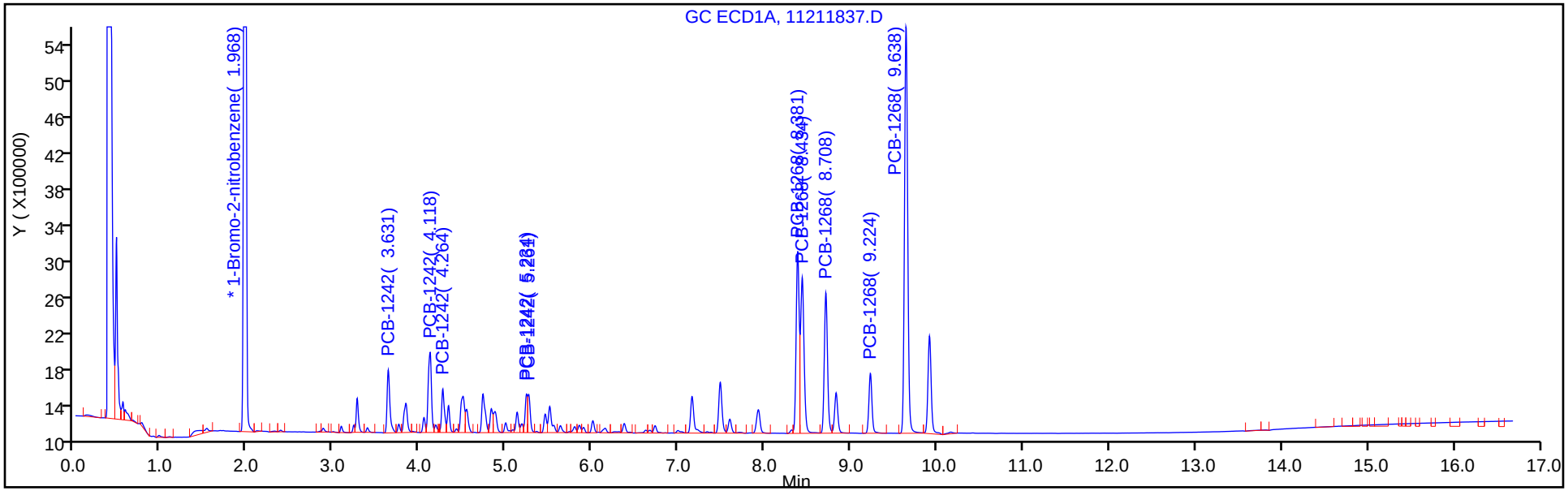
Report Date: 23-Nov-2018 11:03:25 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

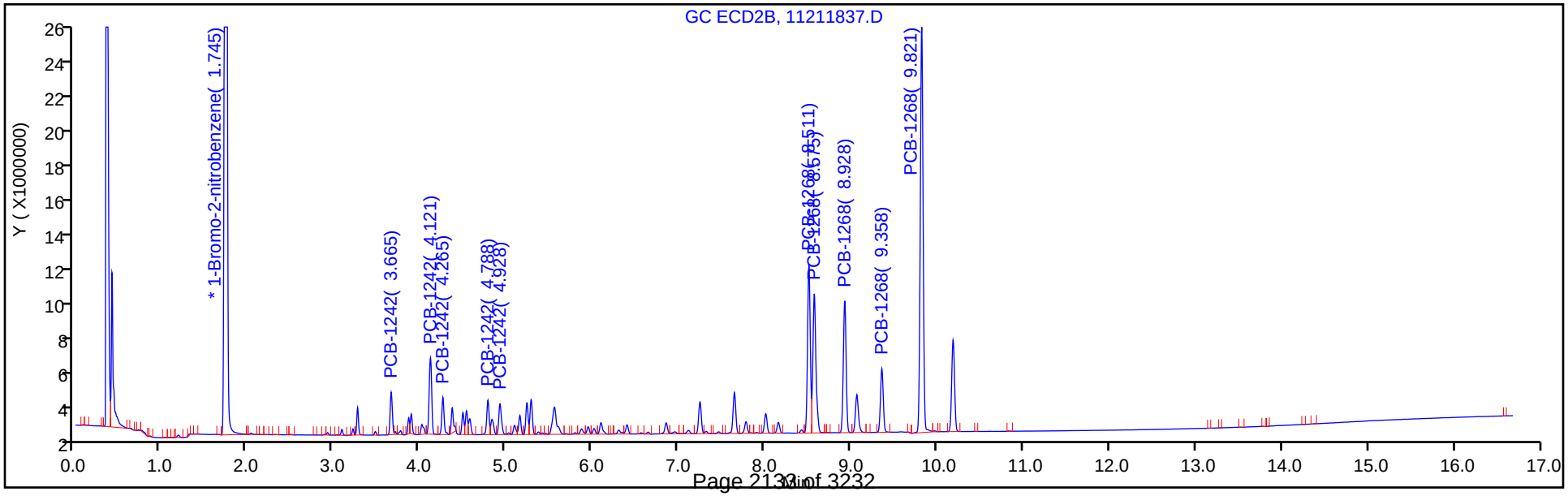
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211837.D

Injection Date:	21-Nov-2018 21:27:18	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL24268			Worklist Smp#:	37
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	37
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D
Lims ID: STDL14268
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Nov-2018 21:48:29 ALS Bottle#: 38 Worklist Smp#: 38
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL14268
Misc. Info.: 280-0076428-038
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:03:28 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:35:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.967	0.003	30052215	1000.0	1000.0	
2	1.747	1.744	0.003	169482834	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.630	3.631	-0.001	826846	25.0	21.8	
1	4.117	4.117	0.000	1153326	25.0	25.5	
1	4.263	4.264	-0.001	560286	25.0	23.6	
1	5.237	5.237	0.000	403656	25.0	22.0	
1	5.260	5.261	-0.001	461108	25.0	27.3	
		Average of Peak Amounts =				24.0	
2	3.663	3.664	-0.001	2277242	25.0	21.4	
2	4.120	4.121	-0.001	4714790	25.0	22.5	
2	4.267	4.264	0.003	2052043	25.0	22.1	
2	4.787	4.788	-0.001	2142202	25.0	21.0	
2	4.927	4.928	-0.001	1976394	25.0	21.9	
		Average of Peak Amounts =				21.8	
						RPD = 9.79	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.380	8.381	-0.001	2677797	25.0	25.9	
1	8.433	8.434	-0.001	2398046	25.0	24.3	
1	8.707	8.707	0.000	2096540	25.0	24.8	
1	9.223	9.224	-0.001	888286	25.0	22.6	
1	9.640	9.637	0.003	6071834	25.0	24.5	
		Average of Peak Amounts =				24.4	
2	8.510	8.511	-0.001	11047301	25.0	22.0	
2	8.573	8.574	-0.001	10180170	25.0	22.5	
2	8.927	8.928	-0.001	8862587	25.0	22.5	
2	9.357	9.358	-0.001	4193339	25.0	22.0	
2	9.820	9.821	-0.001	27200635	25.0	22.0	
		Average of Peak Amounts =				22.2	
						RPD = 9.35	
S 8 Polychlorinated biphenyls, Total							
1						48.4	
2						44.0	
						RPD = 9.57	

Reagents:

AR_4268_L1_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

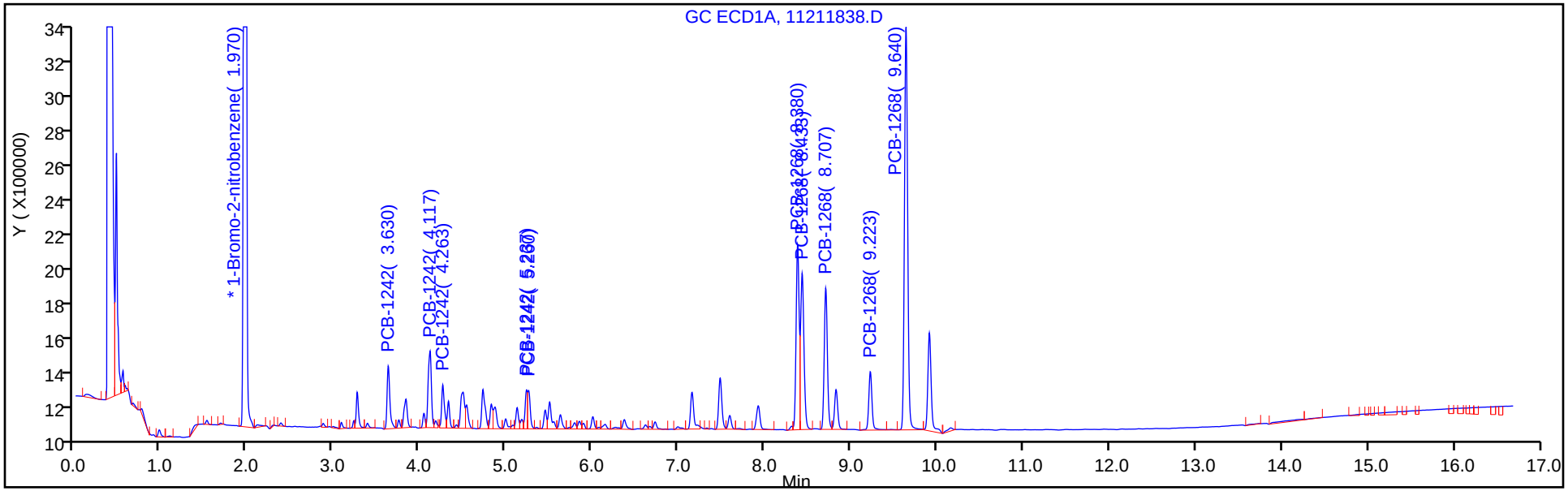
Report Date: 23-Nov-2018 11:03:29 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

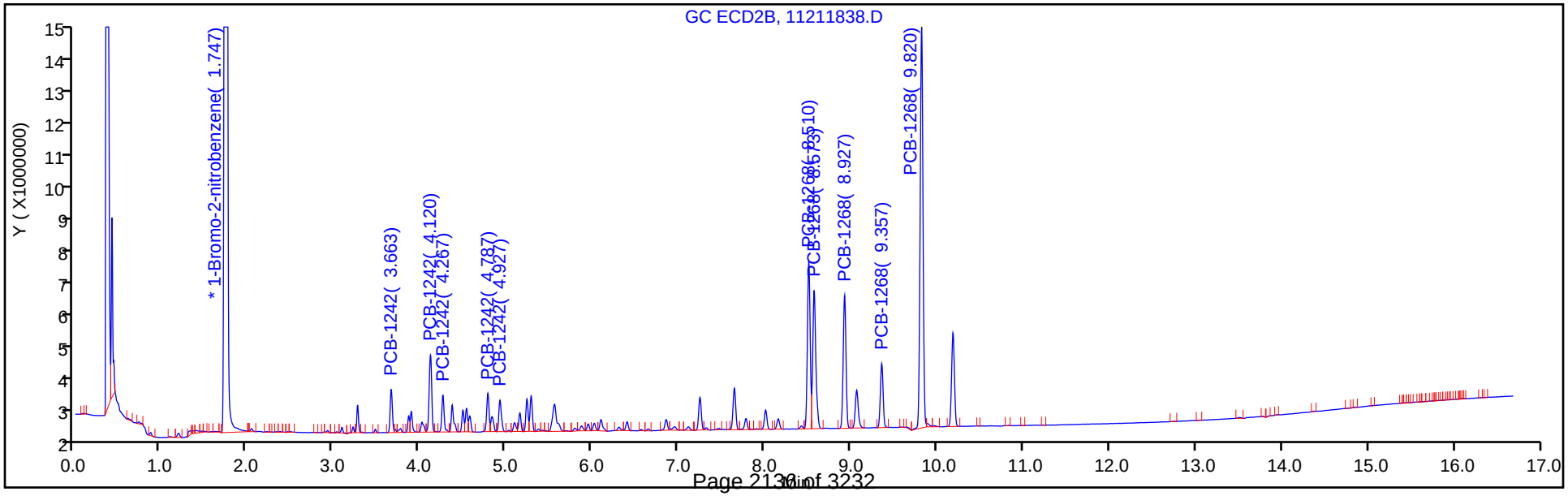
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Injection Date:	21-Nov-2018 21:48:29	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL14268			Worklist Smp#:	38
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	38
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/39 Calibration Date: 11/21/2018 22:09

Instrument ID: SGC_J Calib Start Date: 11/21/2018 09:48

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 11:55

Lab File ID: 11211839.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Lin1		0.4808		271	250	8.3	20.0
PCB-1248 Peak 2	Lin1		1.136		313	250	25.2*	20.0
PCB-1248 Peak 3	Lin1		1.211		291	250	16.4	20.0
PCB-1248 Peak 4	Lin1		0.8706		299	250	19.6	20.0
PCB-1248 Peak 5	Lin1		0.5227		274	250	9.7	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/39 Calibration Date: 11/21/2018 22:09

Instrument ID: SGC_J Calib Start Date: 11/21/2018 09:48

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 11:55

Lab File ID: 11211839.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1248 Peak 1	3.63	3.38	3.88
PCB-1248 Peak 2	4.12	3.87	4.37
PCB-1248 Peak 3	4.73	4.48	4.98
PCB-1248 Peak 4	5.51	5.26	5.76
PCB-1248 Peak 5	6.01	5.76	6.26

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211839.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Nov-2018 22:09:37 ALS Bottle#: 39 Worklist Smp#: 39
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076428-039
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 29-Nov-2018 16:31:48 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0330

First Level Reviewer: patadiab Date: 23-Nov-2018 10:36:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.972	1.967	0.005	27962663	1000.0	1000.0	
2	1.749	1.744	0.005	158680424	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.629	3.629	0.000	3361129	250.0	270.7	
1	4.116	4.115	0.001	7939440	250.0	313.1	
1	4.729	4.729	0.000	8467096	250.0	291.0	
1	5.506	5.505	0.001	6086245	250.0	298.9	
1	6.006	6.005	0.001	3653650	250.0	274.3	
		Average of Peak Amounts =				289.6	
2	4.119	4.119	0.000	27239499	250.0	322.7	
2	4.499	4.499	0.000	14508774	250.0	290.5	
2	4.789	4.789	0.000	20289286	250.0	294.8	
2	4.926	4.929	-0.003	23450109	250.0	310.7	
2	6.099	6.102	-0.003	14715297	250.0	283.0	
		Average of Peak Amounts =				300.3	
						RPD = 3.64	

Reagents:

AR_1248_ICV_00013 Amount Added: 1.00 Units: mL
BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

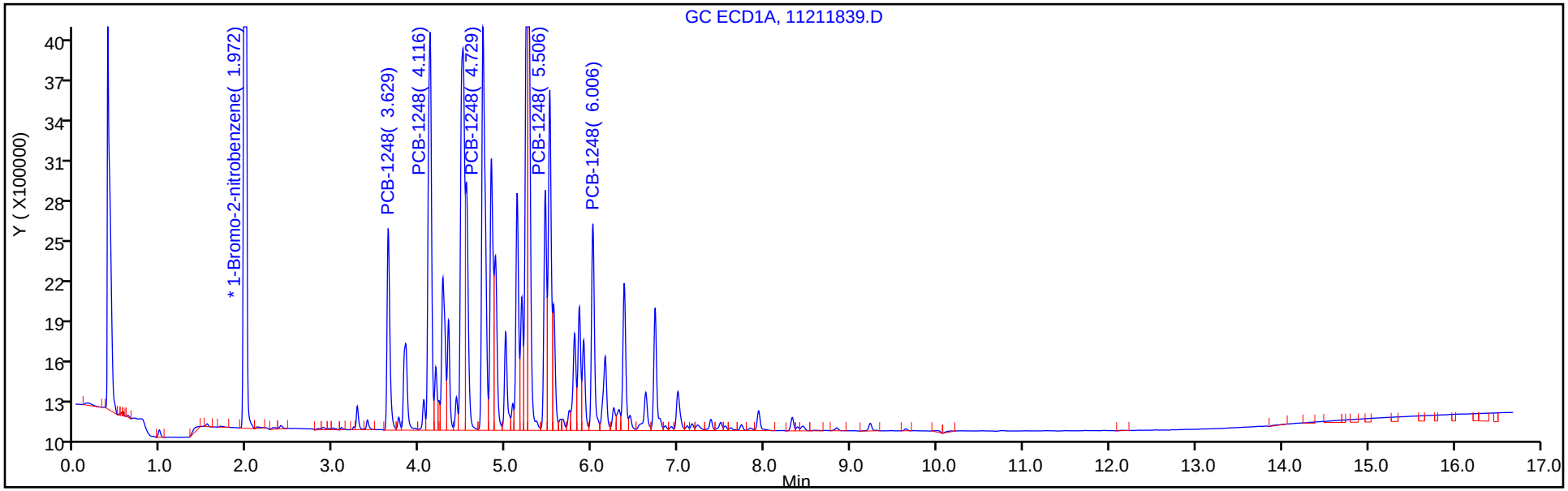
Report Date: 29-Nov-2018 16:31:48 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

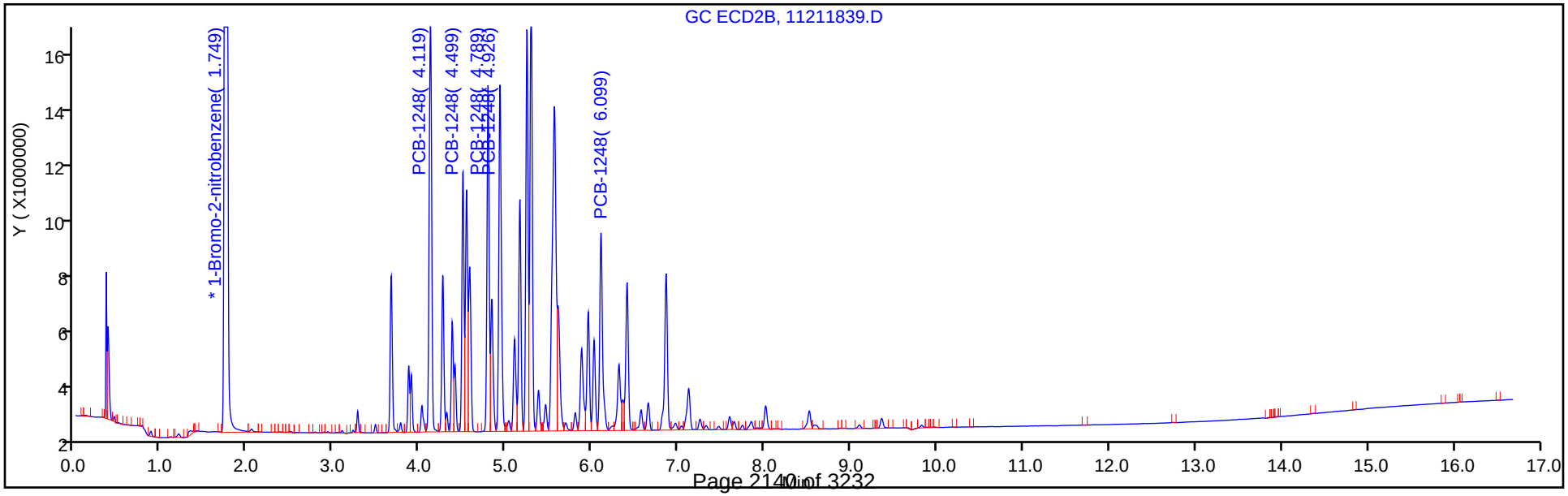
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211839.D

Injection Date:	21-Nov-2018 22:09:37	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	39
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	39
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/39 Calibration Date: 11/21/2018 22:09

Instrument ID: SGC_J Calib Start Date: 11/21/2018 09:48

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 11:55

Lab File ID: 11211839.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Lin1		0.6867		323	250	29.1*	20.0
PCB-1248 Peak 2	Lin1		0.3657		290	250	16.2	20.0
PCB-1248 Peak 3	Lin1		0.5115		295	250	17.9	20.0
PCB-1248 Peak 4	Lin1		0.5911		311	250	24.3*	20.0
PCB-1248 Peak 5	Lin1		0.3709		283	250	13.2	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/39 Calibration Date: 11/21/2018 22:09

Instrument ID: SGC_J Calib Start Date: 11/21/2018 09:48

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 11:55

Lab File ID: 11211839.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1248 Peak 1	4.12	3.87	4.37
PCB-1248 Peak 2	4.50	4.25	4.75
PCB-1248 Peak 3	4.79	4.54	5.04
PCB-1248 Peak 4	4.93	4.68	5.18
PCB-1248 Peak 5	6.10	5.85	6.35

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211839.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Nov-2018 22:09:37 ALS Bottle#: 39 Worklist Smp#: 39
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076428-039
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 29-Nov-2018 16:31:48 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0330

First Level Reviewer: patadiab Date: 23-Nov-2018 10:36:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.972	1.967	0.005	27962663	1000.0	1000.0	
2	1.749	1.744	0.005	158680424	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.629	3.629	0.000	3361129	250.0	270.7	
1	4.116	4.115	0.001	7939440	250.0	313.1	
1	4.729	4.729	0.000	8467096	250.0	291.0	
1	5.506	5.505	0.001	6086245	250.0	298.9	
1	6.006	6.005	0.001	3653650	250.0	274.3	
		Average of Peak Amounts =				289.6	
2	4.119	4.119	0.000	27239499	250.0	322.7	
2	4.499	4.499	0.000	14508774	250.0	290.5	
2	4.789	4.789	0.000	20289286	250.0	294.8	
2	4.926	4.929	-0.003	23450109	250.0	310.7	
2	6.099	6.102	-0.003	14715297	250.0	283.0	
		Average of Peak Amounts =				300.3	
						RPD = 3.64	

Reagents:

AR_1248_ICV_00013 Amount Added: 1.00 Units: mL
BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

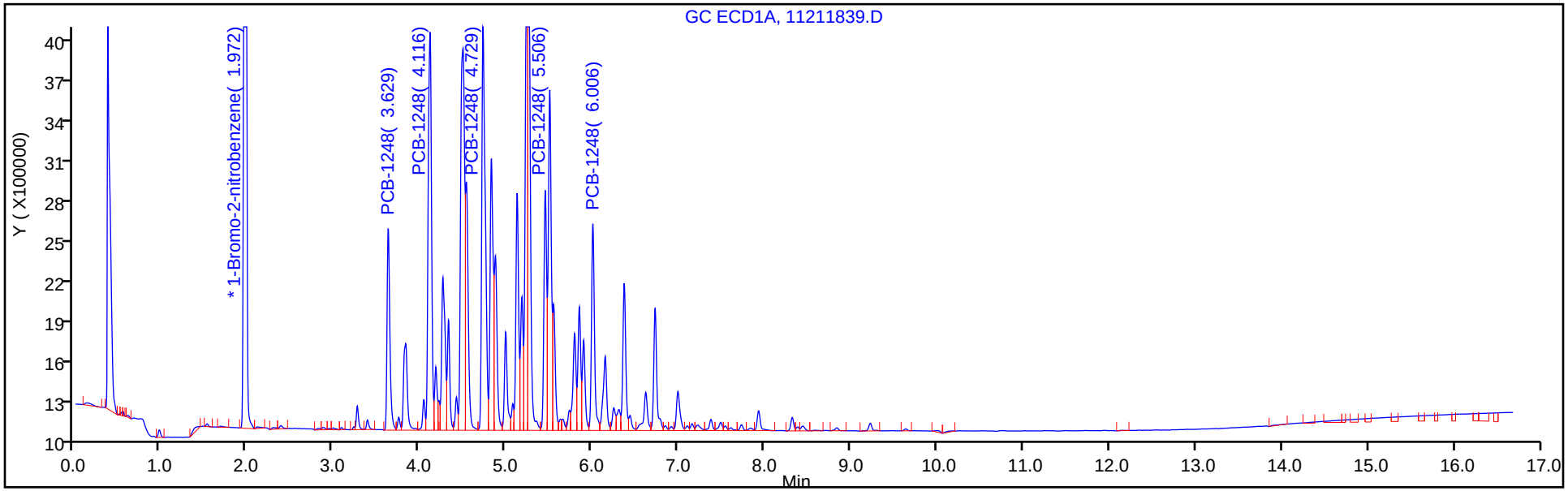
Report Date: 29-Nov-2018 16:31:49 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

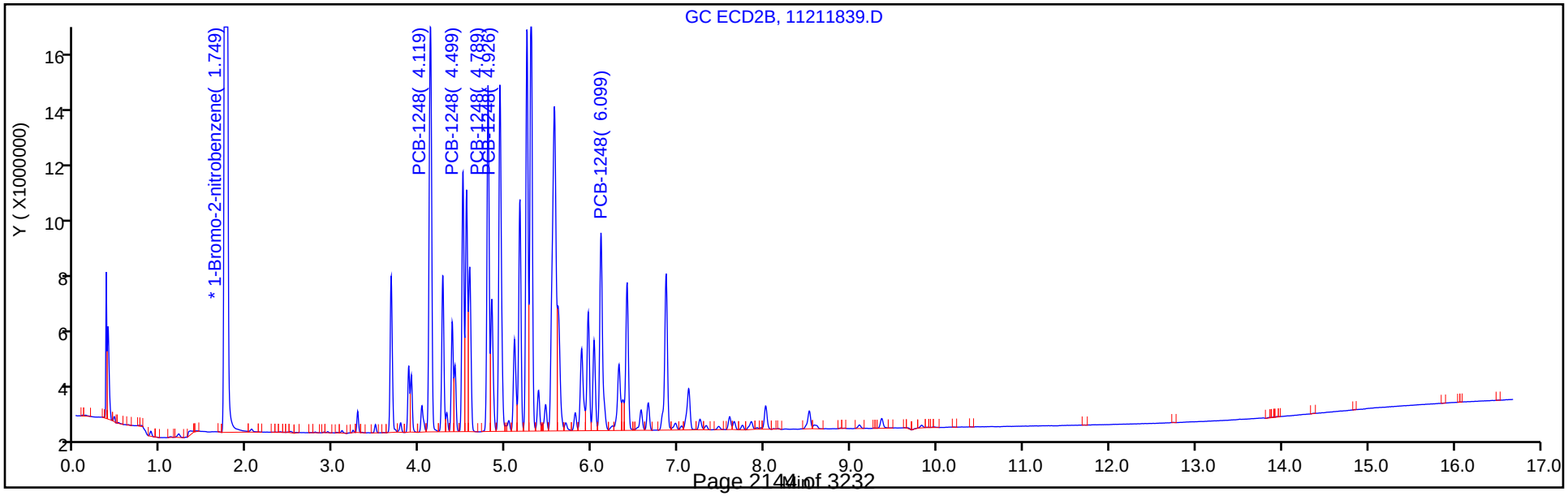
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211839.D

Injection Date:	21-Nov-2018 22:09:37	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	39
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	39
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/40 Calibration Date: 11/21/2018 22:30

Instrument ID: SGC_J Calib Start Date: 11/21/2018 12:16

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 14:23

Lab File ID: 11211840.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Lin1		0.2728		265	250	6.0	20.0
PCB-1221 Peak 2	Lin1		0.1654		276	250	10.5	20.0
PCB-1221 Peak 3	Lin1		0.7152		278	250	11.4	20.0
PCB-1254 Peak 1	Lin1		0.9104		288	250	15.3	20.0
PCB-1254 Peak 2	Lin1		1.319		288	250	15.2	20.0
PCB-1254 Peak 3	Lin1		0.9352		275	250	10.0	20.0
PCB-1254 Peak 4	Lin1		1.226		293	250	17.0	20.0
PCB-1254 Peak 5	Lin1		1.628		284	250	13.7	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/40 Calibration Date: 11/21/2018 22:30

Instrument ID: SGC_J Calib Start Date: 11/21/2018 12:16

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 14:23

Lab File ID: 11211840.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	3.09	2.84	3.34
PCB-1221 Peak 2	3.23	2.98	3.48
PCB-1221 Peak 3	3.27	3.02	3.52
PCB-1254 Peak 1	5.18	4.93	5.43
PCB-1254 Peak 2	5.51	5.26	5.76
PCB-1254 Peak 3	5.85	5.60	6.10
PCB-1254 Peak 4	6.62	6.37	6.87
PCB-1254 Peak 5	6.99	6.75	7.25

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211840.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Nov-2018 22:30:47 ALS Bottle#: 40 Worklist Smp#: 40
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076428-040
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 10:58:38 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:39:37

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.967	0.003	29773128	1000.0	1000.0	
2	1.750	1.744	0.006	167287659	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.086	3.085	0.001	2030793	250.0	264.9	
1	3.233	3.232	0.001	1231106	250.0	276.2	
1	3.270	3.269	0.001	5323184	250.0	278.4	
		Average of Peak Amounts =				273.2	
2	3.093	3.092	0.001	6568563	250.0	271.6	
2	3.223	3.222	0.001	4336984	250.0	278.2	
2	3.276	3.276	0.000	15187978	250.0	275.8	
		Average of Peak Amounts =				275.2	
						RPD = 0.75	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							M
1	5.183	5.182	0.001	6776240	250.0	288.3	M
1	5.510	5.509	0.001	9816035	250.0	287.9	M
1	5.850	5.849	0.001	6960594	250.0	275.0	M
1	6.620	6.622	-0.002	9128323	250.0	292.6	M
1	6.993	6.995	-0.002	12116804	250.0	284.4	M
		Average of Peak Amounts =				285.6	
2	5.530	5.529	0.001	28299329	250.0	280.6	
2	5.950	5.952	-0.002	22018407	250.0	278.8	
2	6.403	6.402	0.001	29793523	250.0	276.3	
2	6.646	6.649	-0.003	18699912	250.0	293.3	
2	7.116	7.119	-0.003	45648192	250.0	294.6	
		Average of Peak Amounts =				284.7	
						RPD = 0.31	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_2154_ICV_00013	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

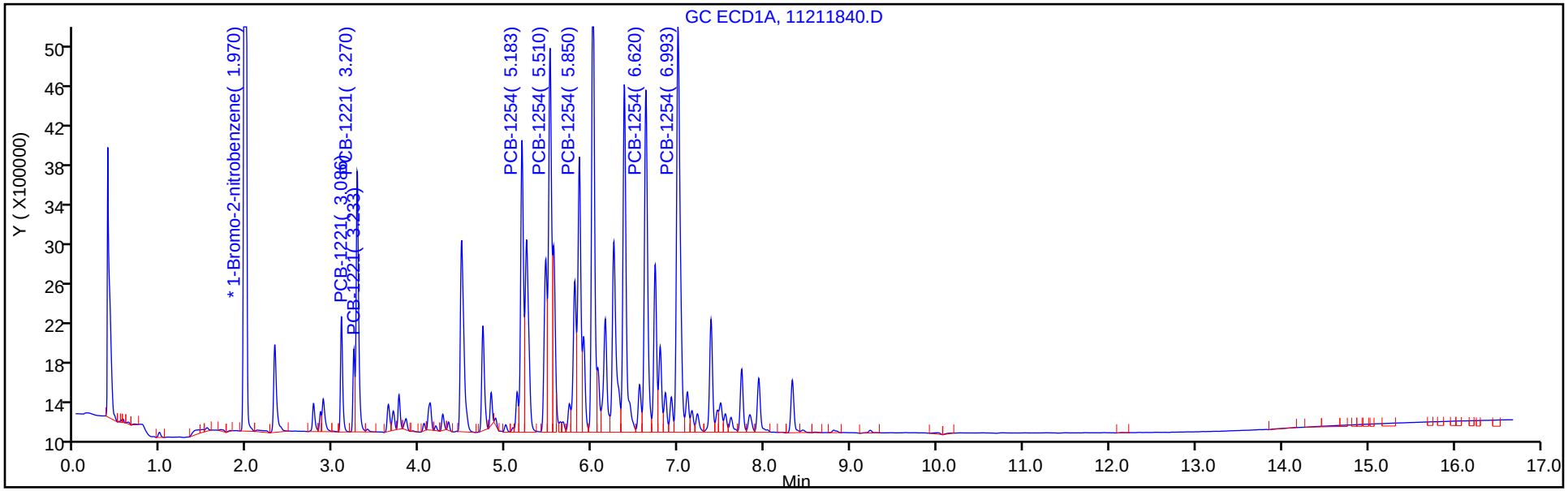
Report Date: 23-Nov-2018 10:58:42 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

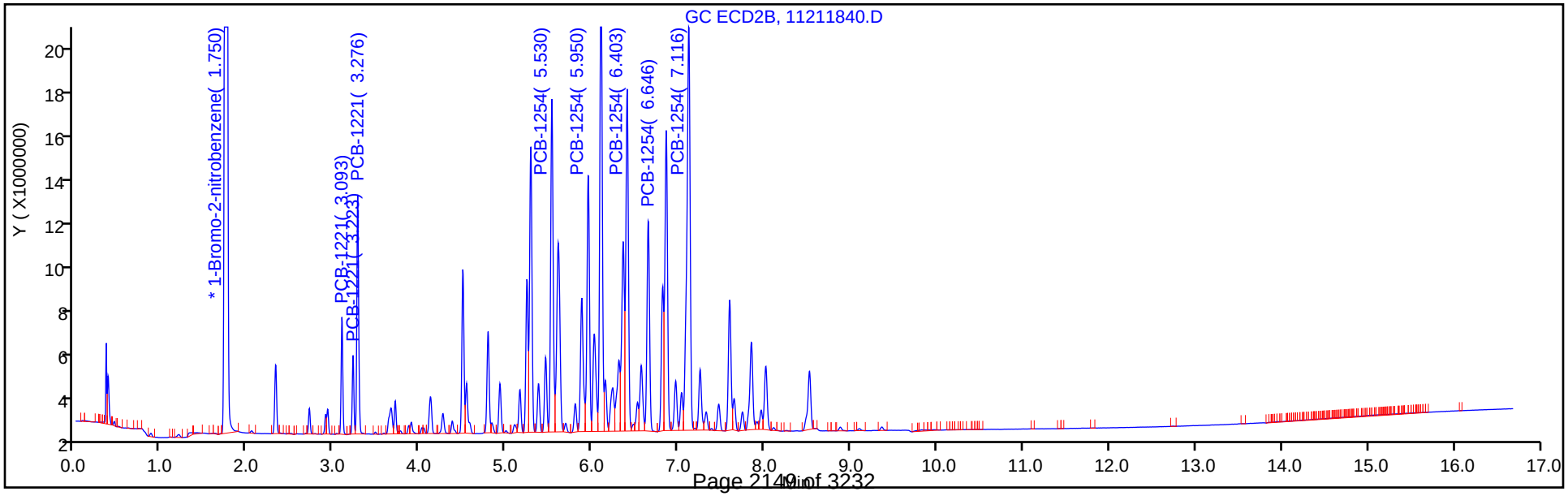
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211840.D

Injection Date:	21-Nov-2018 22:30:47	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	40
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	40
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 23-Nov-2018 10:58:43 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211840.D

Injection Date: 21-Nov-2018 22:30:47 Instrument ID: SGC_J

Lims ID: ICV

Client ID:

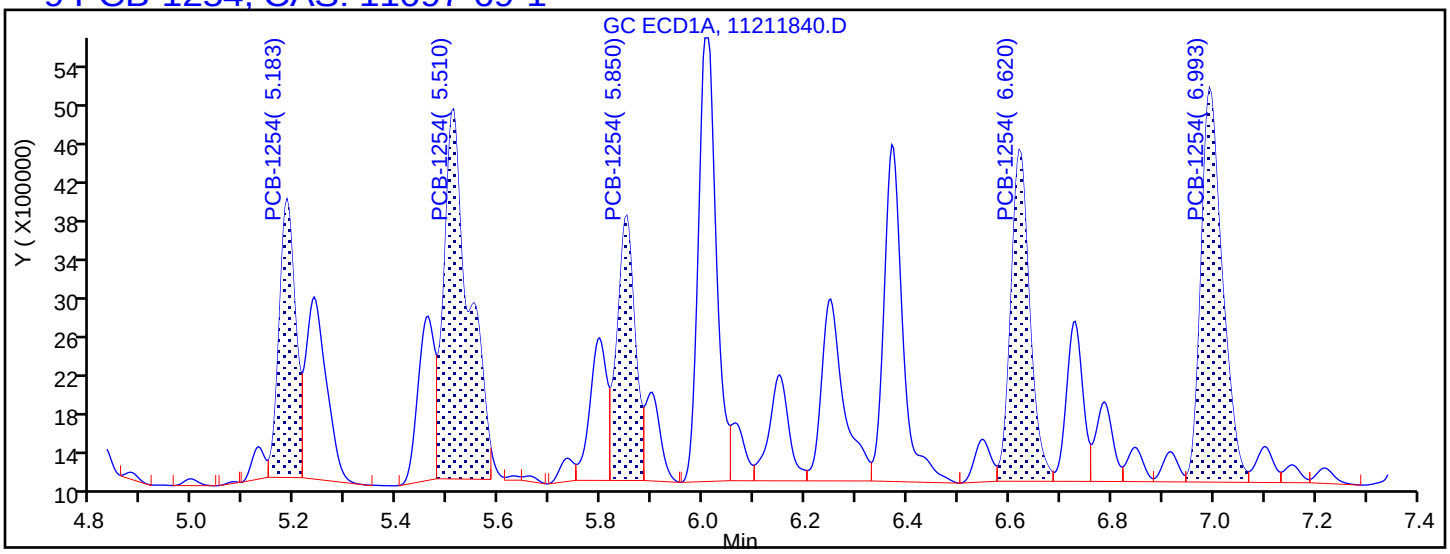
Operator ID: ALS ALS Bottle#: 40 Worklist Smp#: 40

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

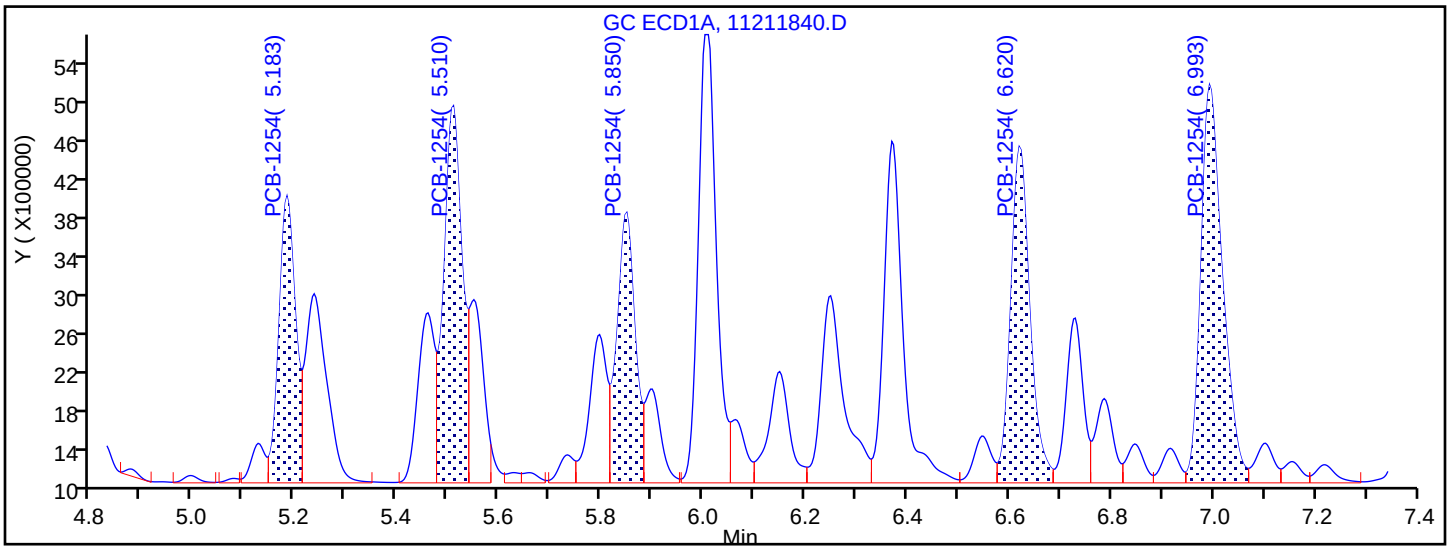
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

9 PCB-1254, CAS: 11097-69-1



Processing Integration Results

5.183	Response = 6417706
5.510	Response = 12898723
5.850	Response = 6726142
6.620	Response = 8795667
6.993	Response = 11812043



Manual Integration Results

5.183	Response = 6776240	M
5.510	Response = 9816035	M
5.850	Response = 6960594	M
6.620	Response = 9128323	M
6.993	Response = 12116804	M

Reviewer: patadiab, 23-Nov-2018 10:39:30

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/40 Calibration Date: 11/21/2018 22:30

Instrument ID: SGC_J Calib Start Date: 11/21/2018 12:16

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 14:23

Lab File ID: 11211840.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Lin1		0.1571		272	250	8.6	20.0
PCB-1221 Peak 2	Lin1		0.1037		278	250	11.3	20.0
PCB-1221 Peak 3	Lin1		0.3632		276	250	10.3	20.0
PCB-1254 Peak 1	Lin1		0.6767		281	250	12.2	20.0
PCB-1254 Peak 2	Lin1		0.5265		279	250	11.5	20.0
PCB-1254 Peak 3	Lin1		0.7124		276	250	10.5	20.0
PCB-1254 Peak 4	Lin1		0.4471		293	250	17.3	20.0
PCB-1254 Peak 5	Lin1		1.091		295	250	17.8	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/40 Calibration Date: 11/21/2018 22:30

Instrument ID: SGC_J Calib Start Date: 11/21/2018 12:16

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 14:23

Lab File ID: 11211840.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	3.09	2.84	3.34
PCB-1221 Peak 2	3.22	2.97	3.47
PCB-1221 Peak 3	3.28	3.03	3.53
PCB-1254 Peak 1	5.53	5.28	5.78
PCB-1254 Peak 2	5.95	5.70	6.20
PCB-1254 Peak 3	6.40	6.15	6.65
PCB-1254 Peak 4	6.65	6.40	6.90
PCB-1254 Peak 5	7.12	6.87	7.37

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211840.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Nov-2018 22:30:47 ALS Bottle#: 40 Worklist Smp#: 40
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076428-040
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 10:58:38 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:39:37

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.967	0.003	29773128	1000.0	1000.0	
2	1.750	1.744	0.006	167287659	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.086	3.085	0.001	2030793	250.0	264.9	
1	3.233	3.232	0.001	1231106	250.0	276.2	
1	3.270	3.269	0.001	5323184	250.0	278.4	
		Average of Peak Amounts =				273.2	
2	3.093	3.092	0.001	6568563	250.0	271.6	
2	3.223	3.222	0.001	4336984	250.0	278.2	
2	3.276	3.276	0.000	15187978	250.0	275.8	
		Average of Peak Amounts =				275.2	
						RPD = 0.75	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							M
1	5.183	5.182	0.001	6776240	250.0	288.3	M
1	5.510	5.509	0.001	9816035	250.0	287.9	M
1	5.850	5.849	0.001	6960594	250.0	275.0	M
1	6.620	6.622	-0.002	9128323	250.0	292.6	M
1	6.993	6.995	-0.002	12116804	250.0	284.4	M
		Average of Peak Amounts =				285.6	
2	5.530	5.529	0.001	28299329	250.0	280.6	
2	5.950	5.952	-0.002	22018407	250.0	278.8	
2	6.403	6.402	0.001	29793523	250.0	276.3	
2	6.646	6.649	-0.003	18699912	250.0	293.3	
2	7.116	7.119	-0.003	45648192	250.0	294.6	
		Average of Peak Amounts =				284.7	
						RPD = 0.31	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_2154_ICV_00013	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

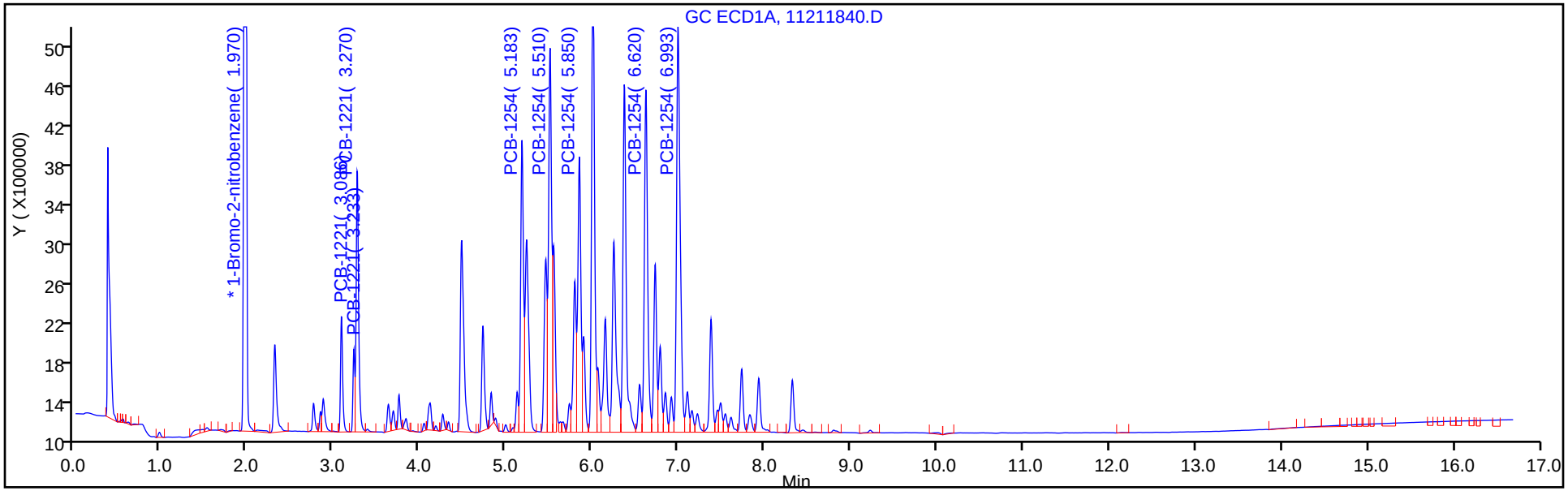
Report Date: 23-Nov-2018 10:58:43 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

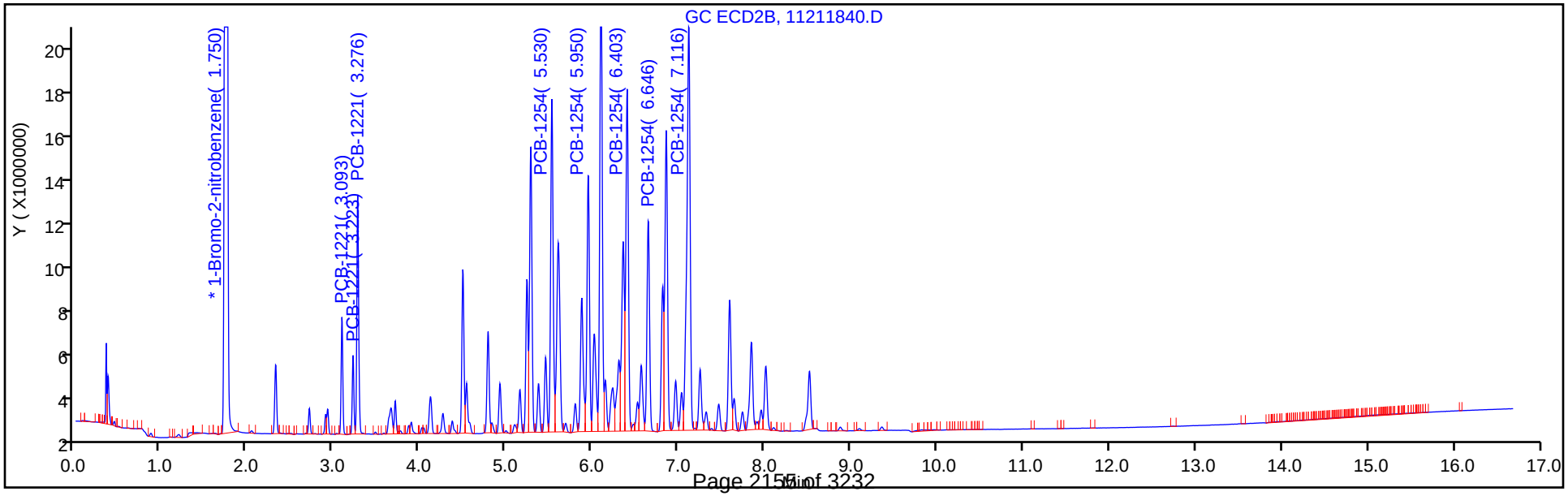
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211840.D

Injection Date:	21-Nov-2018 22:30:47	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	40
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	40
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/41 Calibration Date: 11/21/2018 22:51

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11211841.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.5269		299	250	19.4	20.0
PCB-1016 Peak 2	Lin1		1.179		286	250	14.5	20.0
PCB-1016 Peak 3	Lin1		1.998		267	250	7.0	20.0
PCB-1016 Peak 4	Lin1		0.8836		279	250	11.5	20.0
PCB-1016 Peak 5	Lin1		0.9456		276	250	10.6	20.0
PCB-1260 Peak 1	Lin1		1.407		299	250	19.6	20.0
PCB-1260 Peak 2	Lin1		1.987		275	250	10.1	20.0
PCB-1260 Peak 3	Lin1		1.244		289	250	15.7	20.0
PCB-1260 Peak 4	Lin1		2.774		286	250	14.5	20.0
PCB-1260 Peak 5	Lin1		1.255		284	250	13.8	20.0
Tetrachloro-m-xylene	Lin1		26.07		12.5	12.5	-0.2	20.0
DCB Decachlorobiphenyl	Lin1		25.43		15.5	12.5	24.0*	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/41 Calibration Date: 11/21/2018 22:51

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11211841.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.27	3.02	3.52
PCB-1016 Peak 2	3.63	3.38	3.88
PCB-1016 Peak 3	4.12	3.87	4.37
PCB-1016 Peak 4	4.27	4.01	4.51
PCB-1016 Peak 5	4.73	4.48	4.98
PCB-1260 Peak 1	6.25	6.00	6.50
PCB-1260 Peak 2	6.99	6.74	7.24
PCB-1260 Peak 3	7.49	7.24	7.74
PCB-1260 Peak 4	7.93	7.68	8.18
PCB-1260 Peak 5	8.32	8.07	8.57
Tetrachloro-m-xylene	2.88	2.63	3.13
DCB Decachlorobiphenyl	9.91	9.66	10.16

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211841.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Nov-2018 22:51:54 ALS Bottle#: 41 Worklist Smp#: 41
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076428-041
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 10:58:38 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:41:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.967	0.002	26927485	1000.0	1000.0	
2	1.749	1.744	0.005	153501296	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.879	2.879	0.000	8774677	12.5	12.5	
2	2.779	2.780	-0.001	27009747	12.5	13.4	
						RPD = 7.29	
1 PCB-1016							M
1	3.272	3.269	0.003	3547242	250.0	298.5	
1	3.632	3.633	-0.001	7938090	250.0	286.1	
1	4.119	4.116	0.003	13448891	250.0	267.4	
1	4.265	4.263	0.002	5948063	250.0	278.7	
1	4.732	4.729	0.003	6365519	250.0	276.4	
		Average of Peak Amounts =				281.4	
2	3.275	3.276	-0.001	9601034	250.0	278.3	
2	3.665	3.666	-0.001	20402534	250.0	286.8	M
2	4.122	4.123	-0.001	44757622	250.0	284.8	M
2	4.265	4.266	-0.001	19470165	250.0	287.3	M
2	4.495	4.496	-0.001	9779283	250.0	266.3	M
		Average of Peak Amounts =				280.7	
						RPD = 0.26	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.249	6.249	0.000	9472536	250.0	299.0	
1	6.992	6.993	-0.001	13373866	250.0	275.2	
1	7.492	7.489	0.003	8372131	250.0	289.3	
1	7.932	7.929	0.003	18676866	250.0	286.2	
1	8.322	8.319	0.003	8448030	250.0	284.4	
		Average of Peak Amounts =				286.8	
2	6.649	6.646	0.003	34912578	250.0	301.4	
2	7.115	7.116	-0.001	49684454	250.0	289.1	
2	7.645	7.646	-0.001	31194035	250.0	303.3	
2	8.012	8.013	-0.001	69380727	250.0	301.4	
2	8.515	8.516	-0.001	51465391	250.0	291.5	
		Average of Peak Amounts =				297.3	
						RPD = 3.60	
$ 15 DCB Decachlorobiphenyl							
1	9.912	9.913	-0.001	8559166	12.5	15.5	
2	10.185	10.186	-0.001	34784121	12.5	15.1	
						RPD = 2.59	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1660_ICV_00013	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

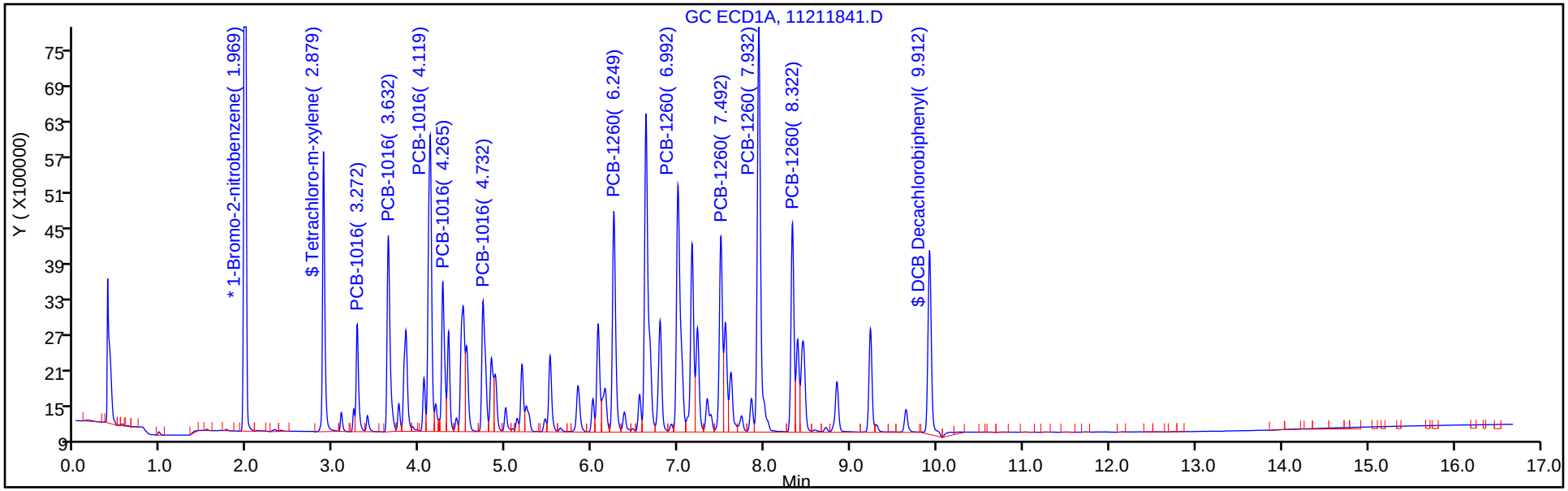
Report Date: 23-Nov-2018 10:58:45 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

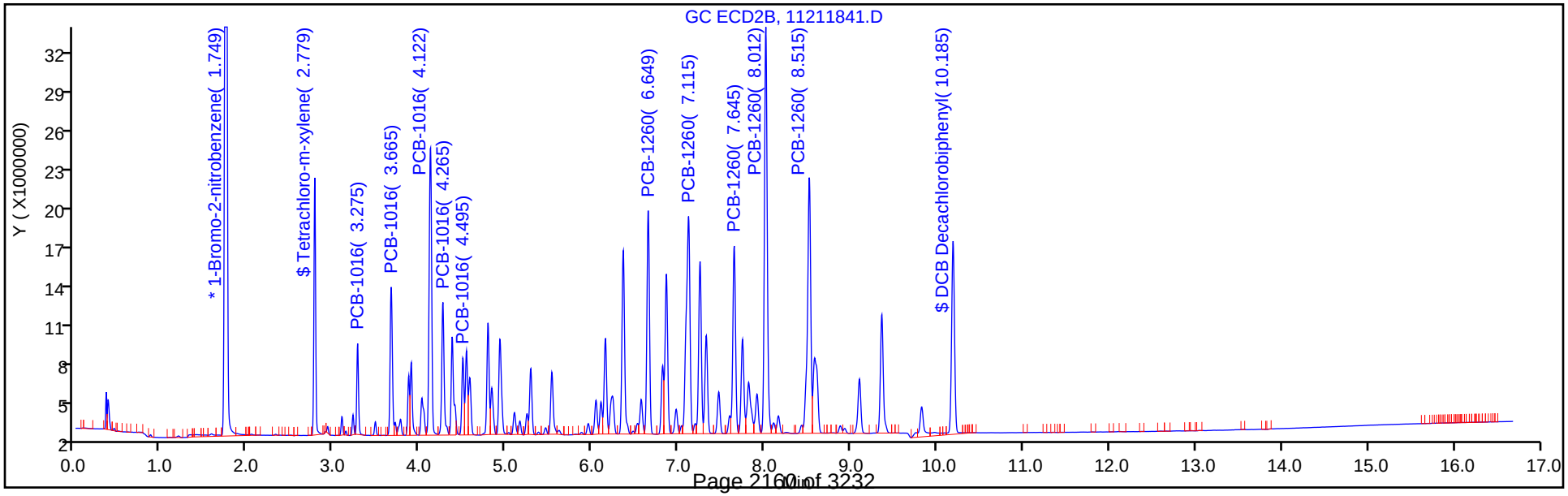
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211841.D

Injection Date:	21-Nov-2018 22:51:54	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	41
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	41
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/41 Calibration Date: 11/21/2018 22:51

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11211841.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.2502		278	250	11.3	20.0
PCB-1016 Peak 2	Lin1		0.5317		287	250	14.7	20.0
PCB-1016 Peak 3	Lin1		1.166		285	250	13.9	20.0
PCB-1016 Peak 4	Lin1		0.5074		287	250	14.9	20.0
PCB-1016 Peak 5	Lin1		0.2548		266	250	6.5	20.0
PCB-1260 Peak 1	Lin1		0.9098		301	250	20.6*	20.0
PCB-1260 Peak 2	Lin1		1.295		289	250	15.6	20.0
PCB-1260 Peak 3	Lin1		0.8129		303	250	21.3*	20.0
PCB-1260 Peak 4	Lin1		1.808		301	250	20.5*	20.0
PCB-1260 Peak 5	Lin1		1.341		292	250	16.6	20.0
Tetrachloro-m-xylene	Lin1		14.08		13.4	12.5	7.3	20.0
DCB Decachlorobiphenyl	Lin1		18.13		15.1	12.5	20.8*	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/41 Calibration Date: 11/21/2018 22:51

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11211841.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.28	3.03	3.53
PCB-1016 Peak 2	3.67	3.42	3.92
PCB-1016 Peak 3	4.12	3.87	4.37
PCB-1016 Peak 4	4.27	4.02	4.52
PCB-1016 Peak 5	4.50	4.25	4.75
PCB-1260 Peak 1	6.65	6.40	6.90
PCB-1260 Peak 2	7.12	6.87	7.37
PCB-1260 Peak 3	7.65	7.40	7.90
PCB-1260 Peak 4	8.01	7.76	8.26
PCB-1260 Peak 5	8.52	8.27	8.77
Tetrachloro-m-xylene	2.78	2.53	3.03
DCB Decachlorobiphenyl	10.19	9.94	10.44

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211841.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Nov-2018 22:51:54 ALS Bottle#: 41 Worklist Smp#: 41
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076428-041
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 10:58:38 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:41:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.967	0.002	26927485	1000.0	1000.0	
2	1.749	1.744	0.005	153501296	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.879	2.879	0.000	8774677	12.5	12.5	
2	2.779	2.780	-0.001	27009747	12.5	13.4	
						RPD = 7.29	
1 PCB-1016							M
1	3.272	3.269	0.003	3547242	250.0	298.5	
1	3.632	3.633	-0.001	7938090	250.0	286.1	
1	4.119	4.116	0.003	13448891	250.0	267.4	
1	4.265	4.263	0.002	5948063	250.0	278.7	
1	4.732	4.729	0.003	6365519	250.0	276.4	
		Average of Peak Amounts =				281.4	
2	3.275	3.276	-0.001	9601034	250.0	278.3	
2	3.665	3.666	-0.001	20402534	250.0	286.8	M
2	4.122	4.123	-0.001	44757622	250.0	284.8	M
2	4.265	4.266	-0.001	19470165	250.0	287.3	M
2	4.495	4.496	-0.001	9779283	250.0	266.3	M
		Average of Peak Amounts =				280.7	
						RPD = 0.26	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.249	6.249	0.000	9472536	250.0	299.0	
1	6.992	6.993	-0.001	13373866	250.0	275.2	
1	7.492	7.489	0.003	8372131	250.0	289.3	
1	7.932	7.929	0.003	18676866	250.0	286.2	
1	8.322	8.319	0.003	8448030	250.0	284.4	
		Average of Peak Amounts =				286.8	
2	6.649	6.646	0.003	34912578	250.0	301.4	
2	7.115	7.116	-0.001	49684454	250.0	289.1	
2	7.645	7.646	-0.001	31194035	250.0	303.3	
2	8.012	8.013	-0.001	69380727	250.0	301.4	
2	8.515	8.516	-0.001	51465391	250.0	291.5	
		Average of Peak Amounts =				297.3	
						RPD = 3.60	
$ 15 DCB Decachlorobiphenyl							
1	9.912	9.913	-0.001	8559166	12.5	15.5	
2	10.185	10.186	-0.001	34784121	12.5	15.1	
						RPD = 2.59	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1660_ICV_00013	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

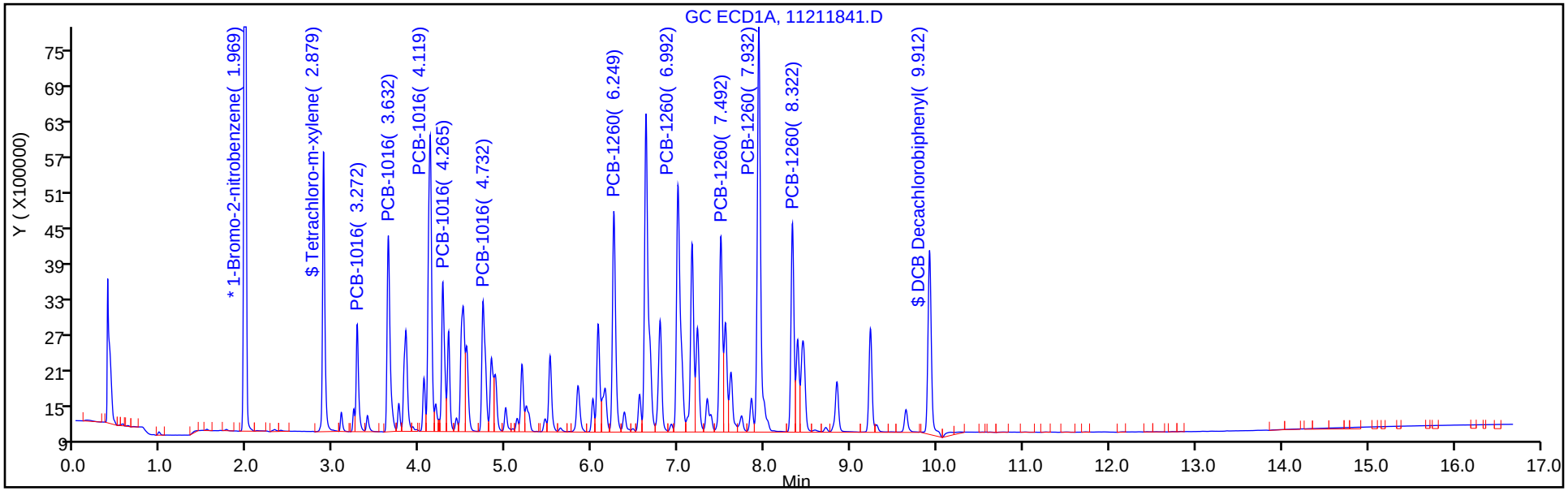
Report Date: 23-Nov-2018 10:58:45 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

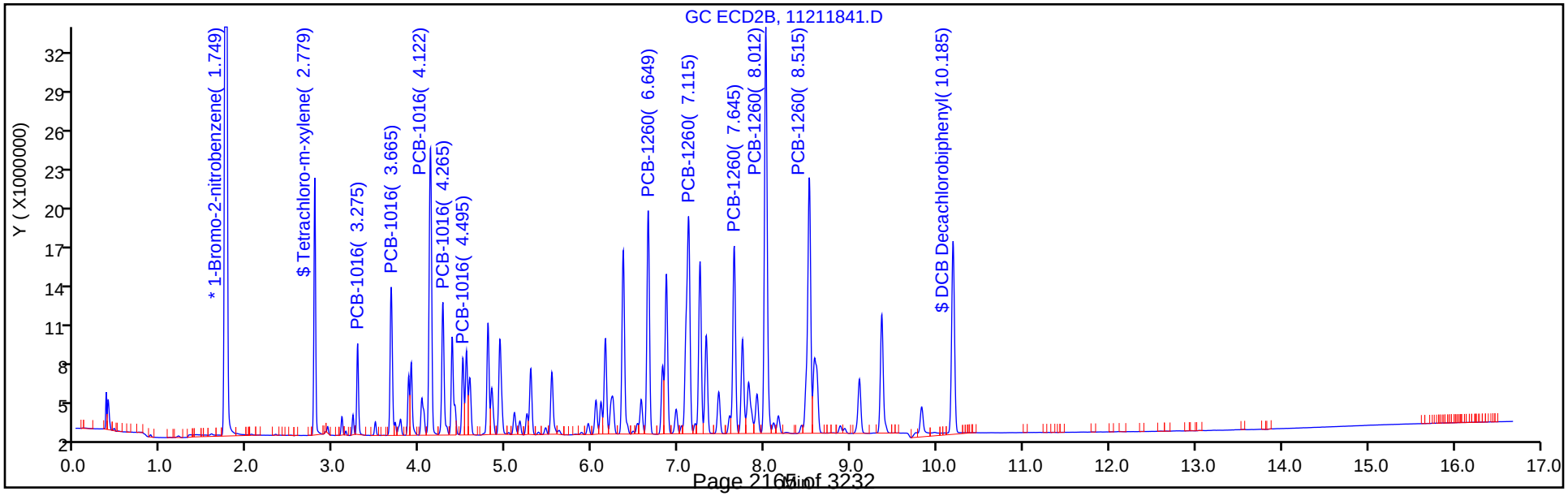
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211841.D

Injection Date:	21-Nov-2018 22:51:54	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	41
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	41
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 23-Nov-2018 10:58:46 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211841.D

Injection Date: 21-Nov-2018 22:51:54 Instrument ID: SGC_J

Lims ID: ICV

Client ID:

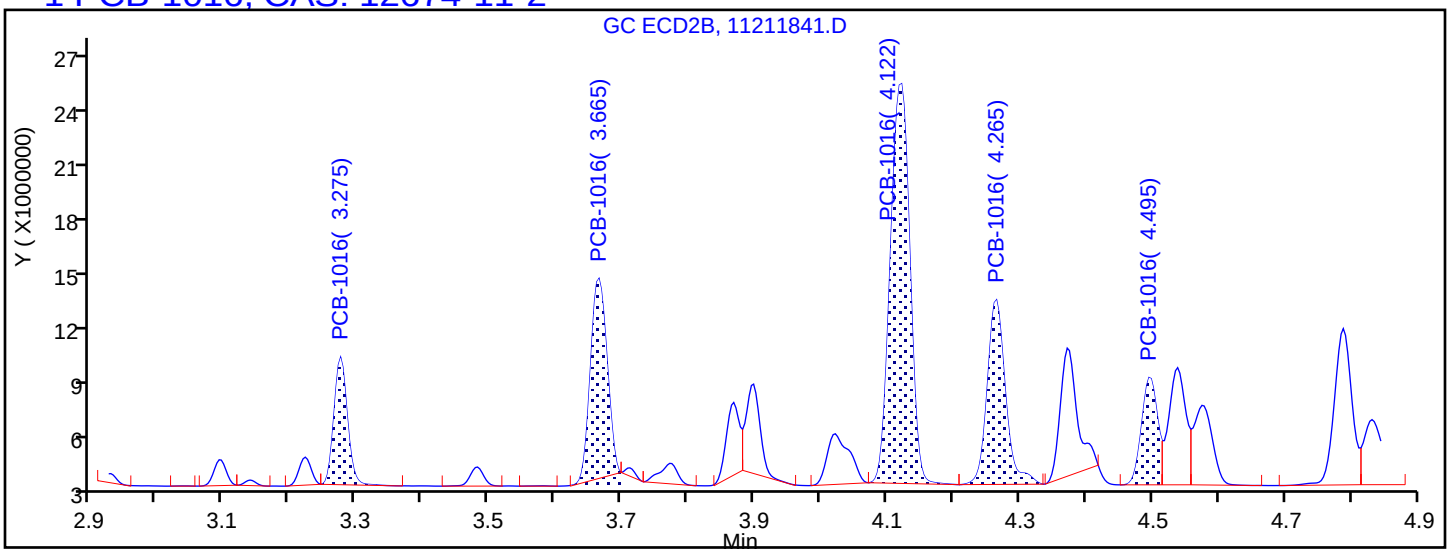
Operator ID: ALS ALS Bottle#: 41 Worklist Smp#: 41

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

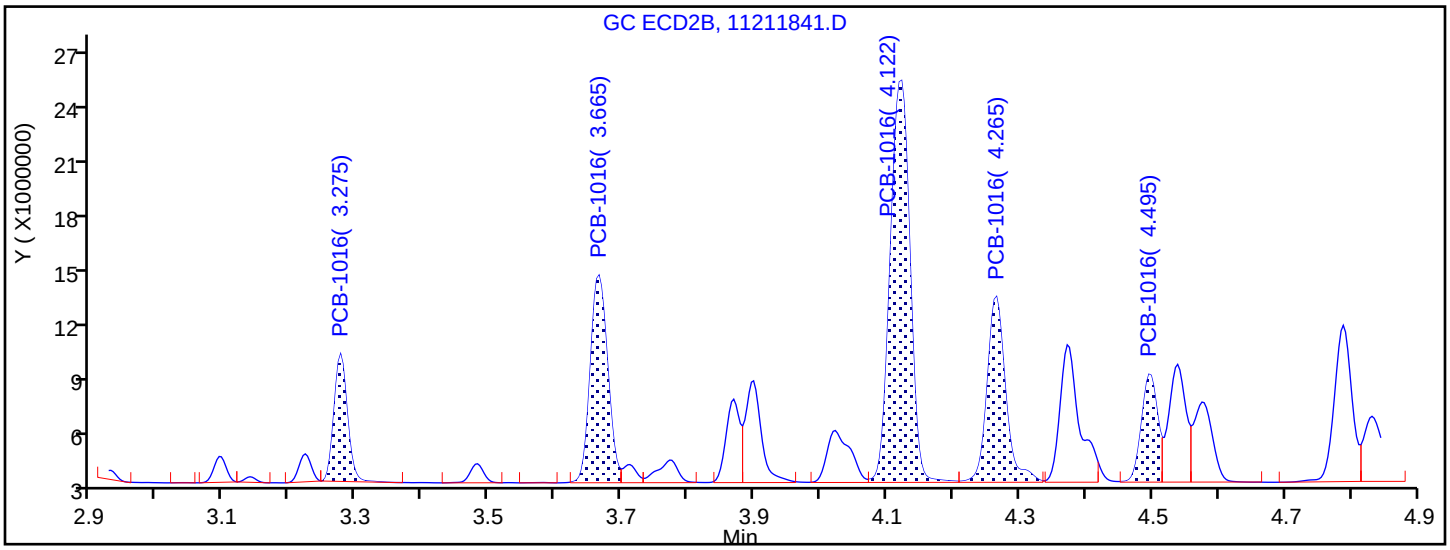
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

1 PCB-1016, CAS: 12674-11-2



Processing Integration Results

3.275	Response = 9601034	
3.665	Response = 18727987	
4.122	Response = 43874781	
4.265	Response = 18984635	
4.495	Response = 9655763	



Manual Integration Results

3.275	Response = 9601034	
3.665	Response = 20402534	M
4.122	Response = 44757622	M
4.265	Response = 19470165	M
4.495	Response = 9779283	M

Reviewer: patadiab, 23-Nov-2018 10:41:22

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/42 Calibration Date: 11/21/2018 23:13

Instrument ID: SGC_J Calib Start Date: 11/21/2018 17:13

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 19:20

Lab File ID: 11211842.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1232 Peak 1	Lin1		0.1706		253	250	1.2	20.0
PCB-1232 Peak 2	Lin1		0.5805		269	250	7.4	20.0
PCB-1232 Peak 3	Lin1		0.8455		264	250	5.4	20.0
PCB-1232 Peak 4	Lin1		0.3874		274	250	9.6	20.0
PCB-1232 Peak 5	Lin1		0.4202		298	250	19.2	20.0
PCB-1262 Peak 1	Lin1		1.153		297	250	18.8	20.0
PCB-1262 Peak 2	Lin1		1.659		272	250	9.0	20.0
PCB-1262 Peak 3	Lin1		1.483		276	250	10.2	20.0
PCB-1262 Peak 4	Lin1		3.241		292	250	17.0	20.0
PCB-1262 Peak 5	Lin1		1.059		312	250	24.8*	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/42 Calibration Date: 11/21/2018 23:13

Instrument ID: SGC_J Calib Start Date: 11/21/2018 17:13

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 19:20

Lab File ID: 11211842.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1232 Peak 1	3.09	2.84	3.34
PCB-1232 Peak 2	3.27	3.02	3.52
PCB-1232 Peak 3	4.12	3.87	4.37
PCB-1232 Peak 4	4.26	4.01	4.51
PCB-1232 Peak 5	4.73	4.48	4.98
PCB-1262 Peak 1	6.25	6.00	6.50
PCB-1262 Peak 2	7.16	6.90	7.40
PCB-1262 Peak 3	7.49	7.24	7.74
PCB-1262 Peak 4	7.93	7.68	8.18
PCB-1262 Peak 5	8.32	8.07	8.57

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211842.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Nov-2018 23:13:05 ALS Bottle#: 42 Worklist Smp#: 42
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076428-042
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 10:58:38 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:43:26

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.967	0.002	26954302	1000.0	1000.0	
2	1.746	1.744	0.002	152978208	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.086	3.088	-0.002	1149502	250.0	252.9	
1	3.269	3.271	-0.002	3911724	250.0	268.5	
1	4.116	4.118	-0.002	5697150	250.0	263.6	
1	4.262	4.264	-0.002	2610317	250.0	274.1	
1	4.729	4.731	-0.002	2831763	250.0	298.1	
		Average of Peak Amounts =				271.4	
2	3.276	3.275	0.001	11159015	250.0	273.0	
2	3.666	3.665	0.001	9939804	250.0	287.2	
2	4.123	4.121	0.002	20391815	250.0	285.6	
2	4.266	4.265	0.001	9058511	250.0	290.2	
2	4.926	4.928	-0.002	8279557	250.0	316.1	
		Average of Peak Amounts =				290.4	
						RPD = 6.76	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.249	6.248	0.001	7767201	250.0	297.1	
1	7.156	7.154	0.002	11179510	250.0	272.4	
1	7.489	7.488	0.001	9995072	250.0	275.6	
1	7.929	7.931	-0.002	21842740	250.0	292.4	
1	8.322	8.321	0.001	7135112	250.0	311.9	
		Average of Peak Amounts =				289.9	
2	6.646	6.648	-0.002	29328487	250.0	315.7	
2	7.249	7.248	0.001	37737006	250.0	286.3	
2	7.646	7.645	0.001	38058721	250.0	291.5	
2	8.009	8.011	-0.002	78979247	250.0	310.8	
2	8.516	8.515	0.001	60581655	250.0	315.6	
		Average of Peak Amounts =				304.0	
						RPD = 4.75	

Reagents:

AR_3262_ICV_00013	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

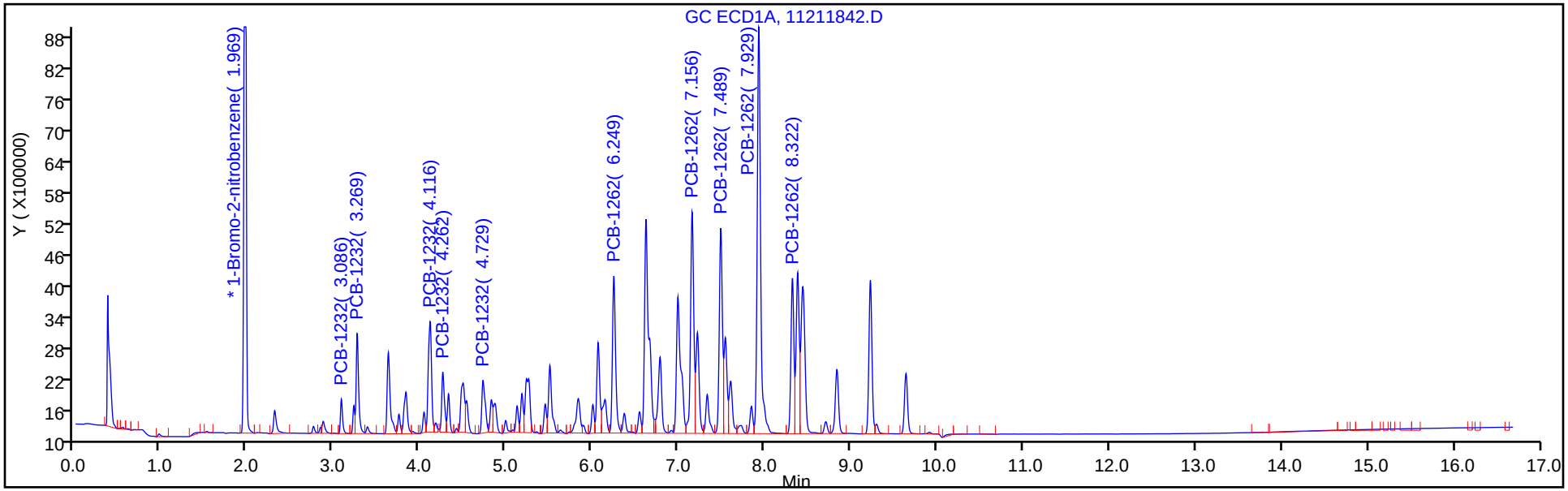
Report Date: 23-Nov-2018 10:58:48 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

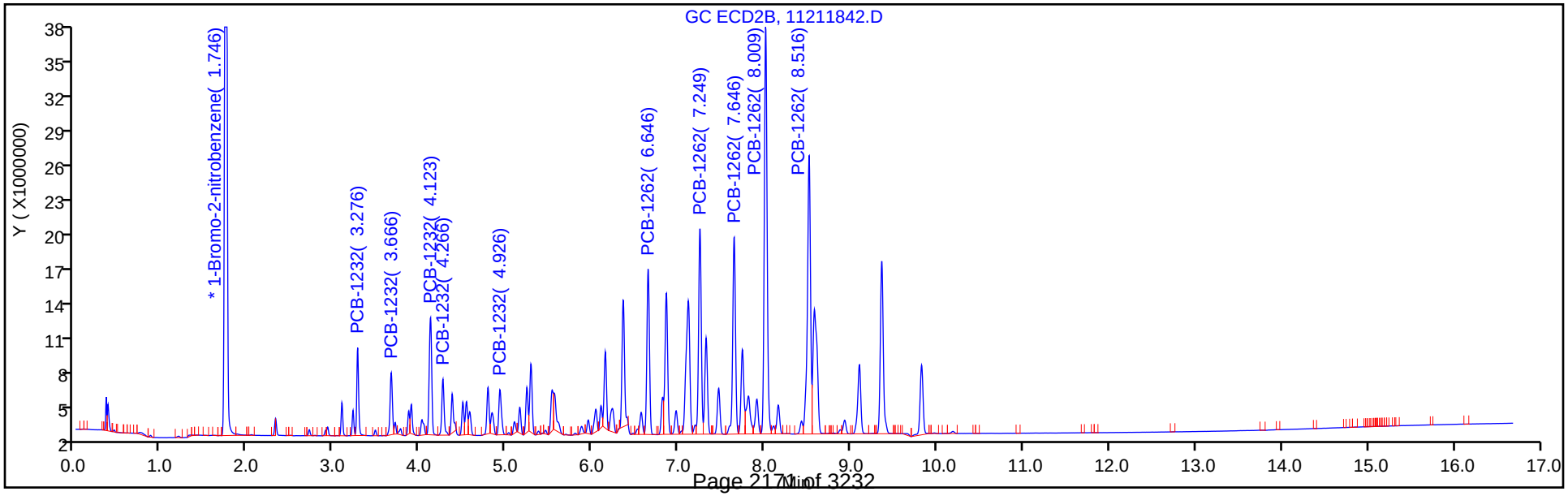
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211842.D

Injection Date:	21-Nov-2018 23:13:05	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	42
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	42
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/42 Calibration Date: 11/21/2018 23:13

Instrument ID: SGC_J Calib Start Date: 11/21/2018 17:13

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 19:20

Lab File ID: 11211842.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1232 Peak 1	Lin1		0.2918		273	250	9.2	20.0
PCB-1232 Peak 2	Lin1		0.2599		287	250	14.9	20.0
PCB-1232 Peak 3	Lin1		0.5332		286	250	14.2	20.0
PCB-1232 Peak 4	Lin1		0.2369		290	250	16.1	20.0
PCB-1232 Peak 5	Lin1		0.2165		316	250	26.4*	20.0
PCB-1262 Peak 1	Lin1		0.7669		316	250	26.3*	20.0
PCB-1262 Peak 2	Lin1		0.9867		286	250	14.5	20.0
PCB-1262 Peak 3	Lin1		0.995		292	250	16.6	20.0
PCB-1262 Peak 4	Lin1		2.065		311	250	24.3*	20.0
PCB-1262 Peak 5	Lin1		1.584		316	250	26.2*	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/42 Calibration Date: 11/21/2018 23:13

Instrument ID: SGC_J Calib Start Date: 11/21/2018 17:13

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 19:20

Lab File ID: 11211842.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1232 Peak 1	3.28	3.03	3.53
PCB-1232 Peak 2	3.67	3.42	3.92
PCB-1232 Peak 3	4.12	3.87	4.37
PCB-1232 Peak 4	4.27	4.02	4.52
PCB-1232 Peak 5	4.93	4.68	5.18
PCB-1262 Peak 1	6.65	6.40	6.90
PCB-1262 Peak 2	7.25	7.00	7.50
PCB-1262 Peak 3	7.65	7.40	7.90
PCB-1262 Peak 4	8.01	7.76	8.26
PCB-1262 Peak 5	8.52	8.27	8.77

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211842.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Nov-2018 23:13:05 ALS Bottle#: 42 Worklist Smp#: 42
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076428-042
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 10:58:38 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:43:26

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.969	1.967	0.002	26954302	1000.0	1000.0	
2	1.746	1.744	0.002	152978208	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.086	3.088	-0.002	1149502	250.0	252.9	
1	3.269	3.271	-0.002	3911724	250.0	268.5	
1	4.116	4.118	-0.002	5697150	250.0	263.6	
1	4.262	4.264	-0.002	2610317	250.0	274.1	
1	4.729	4.731	-0.002	2831763	250.0	298.1	
		Average of Peak Amounts =				271.4	
2	3.276	3.275	0.001	11159015	250.0	273.0	
2	3.666	3.665	0.001	9939804	250.0	287.2	
2	4.123	4.121	0.002	20391815	250.0	285.6	
2	4.266	4.265	0.001	9058511	250.0	290.2	
2	4.926	4.928	-0.002	8279557	250.0	316.1	
		Average of Peak Amounts =				290.4	
						RPD = 6.76	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.249	6.248	0.001	7767201	250.0	297.1	
1	7.156	7.154	0.002	11179510	250.0	272.4	
1	7.489	7.488	0.001	9995072	250.0	275.6	
1	7.929	7.931	-0.002	21842740	250.0	292.4	
1	8.322	8.321	0.001	7135112	250.0	311.9	
		Average of Peak Amounts =				289.9	
2	6.646	6.648	-0.002	29328487	250.0	315.7	
2	7.249	7.248	0.001	37737006	250.0	286.3	
2	7.646	7.645	0.001	38058721	250.0	291.5	
2	8.009	8.011	-0.002	78979247	250.0	310.8	
2	8.516	8.515	0.001	60581655	250.0	315.6	
		Average of Peak Amounts =				304.0	
						RPD = 4.75	

Reagents:

AR_3262_ICV_00013	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

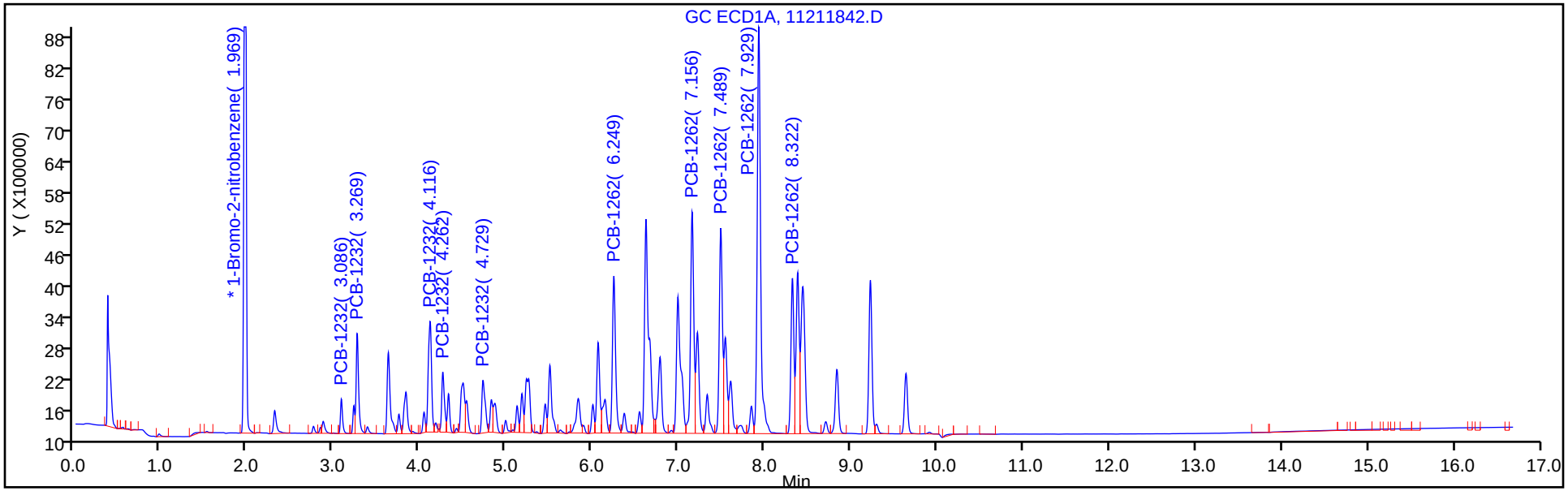
Report Date: 23-Nov-2018 10:58:48 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

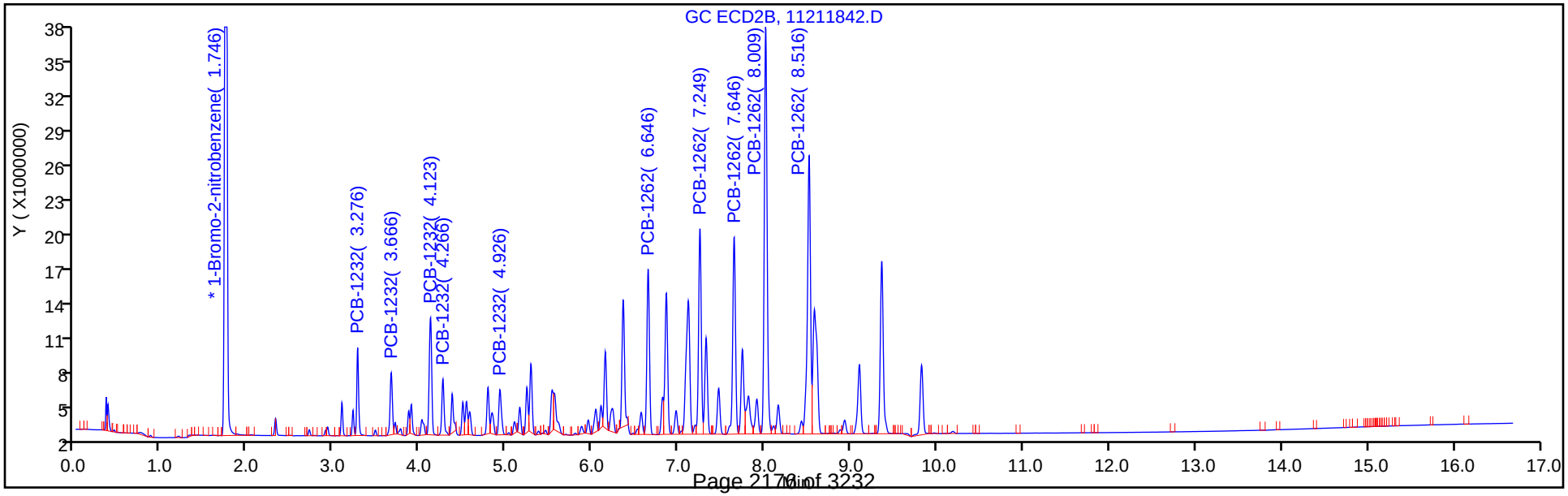
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211842.D

Injection Date:	21-Nov-2018 23:13:05	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	42
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	42
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/43 Calibration Date: 11/21/2018 23:34

Instrument ID: SGC_J Calib Start Date: 11/21/2018 19:41

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 21:48

Lab File ID: 11211843.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Lin1		0.8653		269	250	7.7	20.0
PCB-1242 Peak 2	Lin1		1.375		243	250	-2.6	20.0
PCB-1242 Peak 3	Lin1		0.6023		249	250	-0.6	20.0
PCB-1242 Peak 4	Lin1		0.4112		246	250	-1.7	20.0
PCB-1242 Peak 5	Lin1		0.4807		224	250	-10.4	20.0
PCB-1268 Peak 1	Lin1		3.171		276	250	10.5	20.0
PCB-1268 Peak 2	Lin1		3.065		265	250	5.8	20.0
PCB-1268 Peak 3	Lin1		2.752		295	250	17.9	20.0
PCB-1268 Peak 4	Lin1		0.7383		186	250	-25.4*	20.0
PCB-1268 Peak 5	Lin1		6.803		244	250	-2.4	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/43 Calibration Date: 11/21/2018 23:34

Instrument ID: SGC_J Calib Start Date: 11/21/2018 19:41

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 21:48

Lab File ID: 11211843.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1242 Peak 1	3.63	3.38	3.88
PCB-1242 Peak 2	4.12	3.87	4.37
PCB-1242 Peak 3	4.26	4.01	4.51
PCB-1242 Peak 4	5.24	4.99	5.49
PCB-1242 Peak 5	5.26	5.01	5.51
PCB-1268 Peak 1	8.38	8.13	8.63
PCB-1268 Peak 2	8.43	8.18	8.68
PCB-1268 Peak 3	8.71	8.46	8.96
PCB-1268 Peak 4	9.23	8.97	9.47
PCB-1268 Peak 5	9.64	9.39	9.89

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211843.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Nov-2018 23:34:12 ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076428-043
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:09:03 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:44:17

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.967	0.003	30567576	1000.0	1000.0	
2	1.747	1.744	0.003	172646811	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							Ma
1	3.630	3.631	-0.001	6612174	250.0	269.2	
1	4.117	4.117	0.000	10505144	250.0	243.4	
1	4.263	4.264	-0.001	4602961	250.0	248.6	
1	5.237	5.237	0.000	3142547	250.0	245.9	M
1	5.260	5.261	-0.001	3673495	250.0	224.1	M
		Average of Peak Amounts =				246.2	
2	3.664	3.664	0.000	16978060	250.0	273.5	
2	4.120	4.121	-0.001	36272110	250.0	265.6	
2	4.264	4.264	0.000	15836385	250.0	267.6	
2	4.787	4.788	-0.001	13494422	250.0	275.1	
2	4.927	4.928	-0.001	15331263	250.0	266.7	
		Average of Peak Amounts =				269.7	
						RPD = 9.10	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.383	8.381	0.002	24235953	250.0	276.3	
1	8.433	8.434	-0.001	23424284	250.0	264.6	
1	8.710	8.707	0.003	21027004	250.0	294.7	
1	9.227	9.224	0.003	5641852	250.0	186.4	
1	9.640	9.637	0.003	51985946	250.0	243.9	
		Average of Peak Amounts =				253.2	
2	8.510	8.511	-0.001	92658099	250.0	286.6	
2	8.574	8.574	0.000	85134666	250.0	277.7	
2	8.927	8.928	-0.001	81954946	250.0	309.2	
2	9.357	9.358	-0.001	25443183	250.0	197.1	
2	9.820	9.821	-0.001	205859923	250.0	251.8	
		Average of Peak Amounts =				264.5	
						RPD = 4.37	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

AR_4268_ICV_00013	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

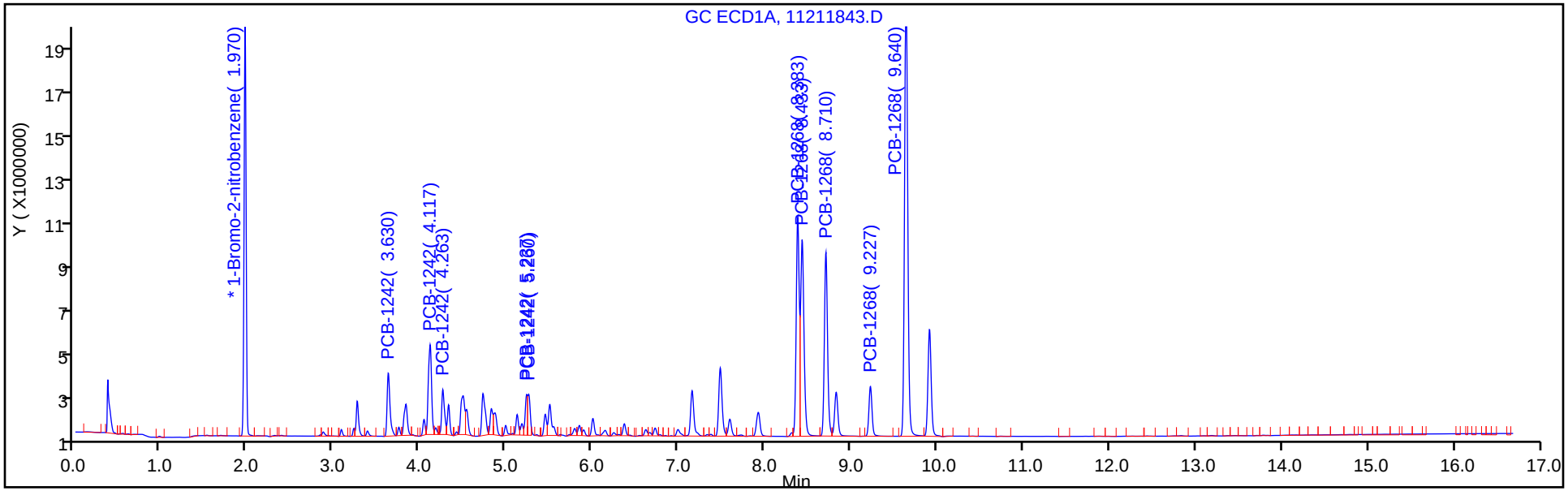
Report Date: 23-Nov-2018 11:09:04 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

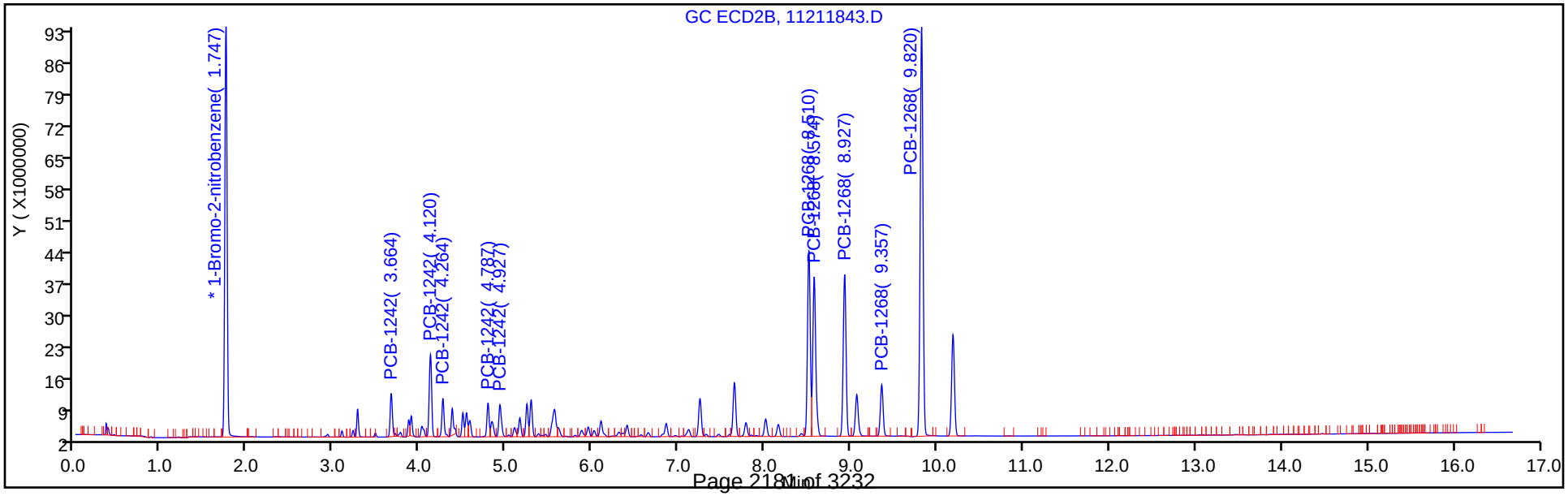
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211843.D

Injection Date:	21-Nov-2018 23:34:12	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	43
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	43
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



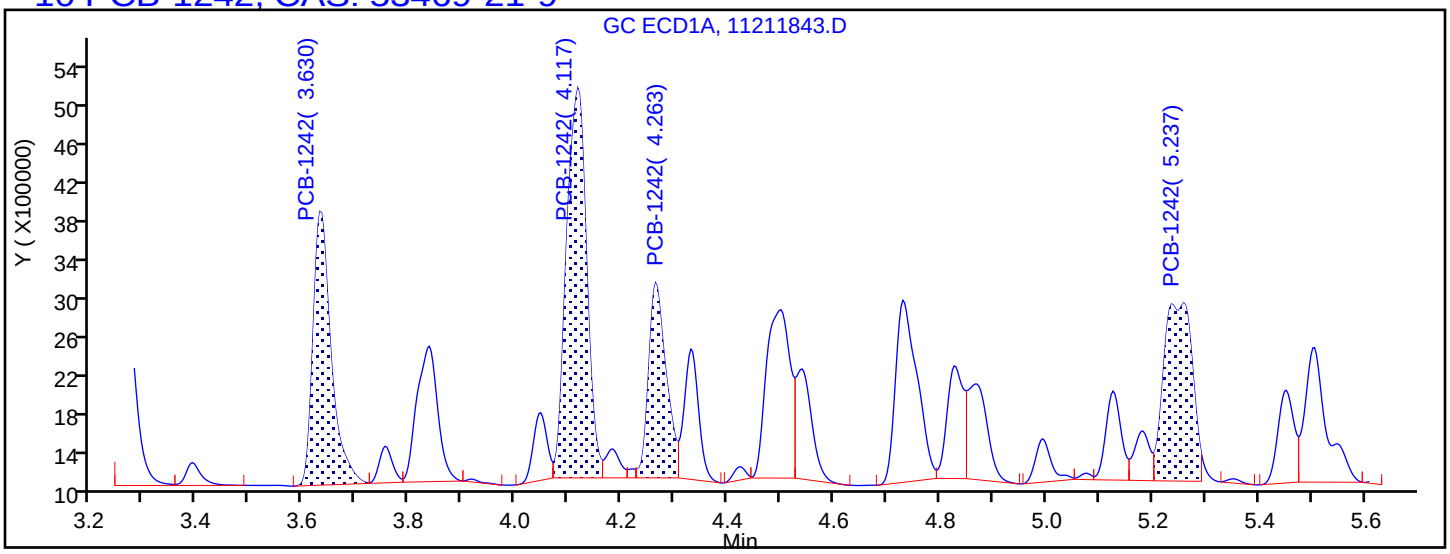
Report Date: 23-Nov-2018 11:09:04 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211843.D

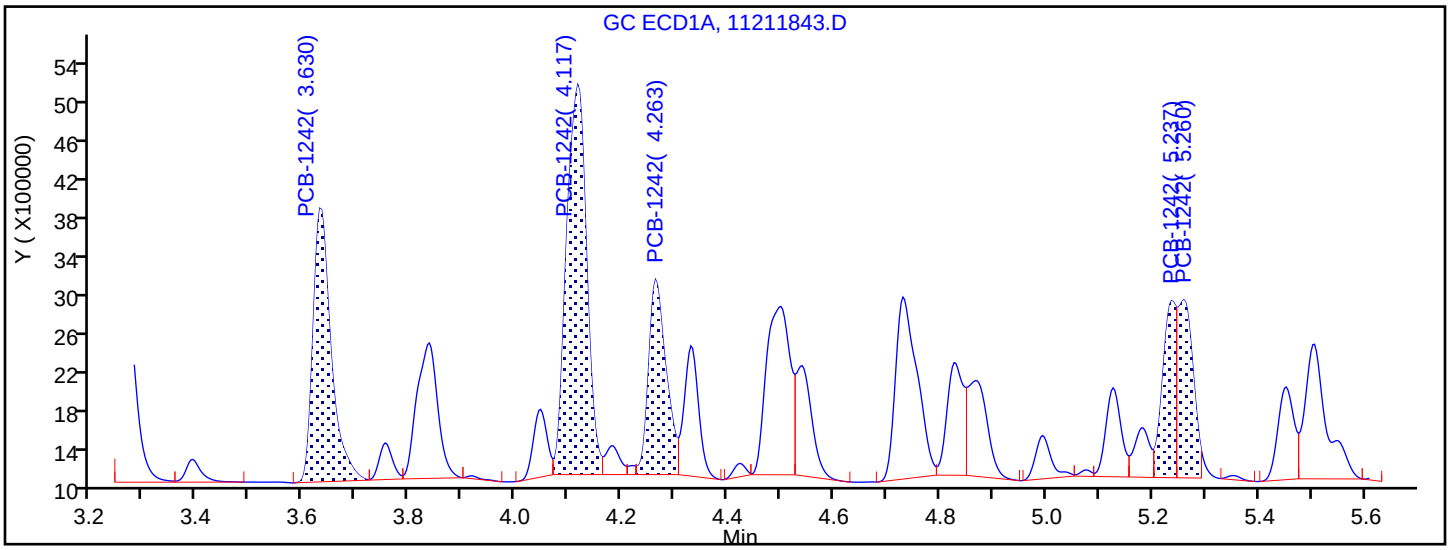
Injection Date:	21-Nov-2018 23:34:12	Instrument ID:	SGC_J		
Lims ID:	ICV				
Client ID:					
Operator ID:	ALS	ALS Bottle#:	43	Worklist Smp#:	43
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		
Column:	CLP1 Pesticides Column 1 (0.32 mm)	Detector	GC ECD1A		

10 PCB-1242, CAS: 53469-21-9



Processing Integration Results

3.630	Response = 6612174	
4.117	Response = 10505144	
4.263	Response = 4602961	
5.237	Response = 6815903	
5.261	Response = 0	



Manual Integration Results

3.630	Response = 6612174	
4.117	Response = 10505144	
4.263	Response = 4602961	
5.237	Response = 3142547	M
5.260	Response = 3673495	M

Reviewer: patadiab, 23-Nov-2018 11:08:36

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Peak not integrated

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/43 Calibration Date: 11/21/2018 23:34

Instrument ID: SGC_J Calib Start Date: 11/21/2018 19:41

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 21:48

Lab File ID: 11211843.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Lin1		0.3934		273	250	9.4	20.0
PCB-1242 Peak 2	Lin1		0.8404		266	250	6.2	20.0
PCB-1242 Peak 3	Lin1		0.3669		268	250	7.0	20.0
PCB-1242 Peak 4	Lin1		0.3127		275	250	10.0	20.0
PCB-1242 Peak 5	Lin1		0.3552		267	250	6.7	20.0
PCB-1268 Peak 1	Lin1		2.147		287	250	14.7	20.0
PCB-1268 Peak 2	Lin1		1.972		278	250	11.1	20.0
PCB-1268 Peak 3	Lin1		1.899		309	250	23.7*	20.0
PCB-1268 Peak 4	Lin1		0.5895		197	250	-21.1*	20.0
PCB-1268 Peak 5	Lin1		4.770		252	250	0.7	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-438388/43 Calibration Date: 11/21/2018 23:34

Instrument ID: SGC_J Calib Start Date: 11/21/2018 19:41

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 21:48

Lab File ID: 11211843.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1242 Peak 1	3.66	3.41	3.91
PCB-1242 Peak 2	4.12	3.87	4.37
PCB-1242 Peak 3	4.26	4.01	4.51
PCB-1242 Peak 4	4.79	4.54	5.04
PCB-1242 Peak 5	4.93	4.68	5.18
PCB-1268 Peak 1	8.51	8.26	8.76
PCB-1268 Peak 2	8.57	8.32	8.82
PCB-1268 Peak 3	8.93	8.68	9.18
PCB-1268 Peak 4	9.36	9.11	9.61
PCB-1268 Peak 5	9.82	9.57	10.07

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211843.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Nov-2018 23:34:12 ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076428-043
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 23-Nov-2018 11:09:03 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: patadiab Date: 23-Nov-2018 10:44:17

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.967	0.003	30567576	1000.0	1000.0	
2	1.747	1.744	0.003	172646811	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							Ma
1	3.630	3.631	-0.001	6612174	250.0	269.2	
1	4.117	4.117	0.000	10505144	250.0	243.4	
1	4.263	4.264	-0.001	4602961	250.0	248.6	
1	5.237	5.237	0.000	3142547	250.0	245.9	M
1	5.260	5.261	-0.001	3673495	250.0	224.1	M
		Average of Peak Amounts =				246.2	
2	3.664	3.664	0.000	16978060	250.0	273.5	
2	4.120	4.121	-0.001	36272110	250.0	265.6	
2	4.264	4.264	0.000	15836385	250.0	267.6	
2	4.787	4.788	-0.001	13494422	250.0	275.1	
2	4.927	4.928	-0.001	15331263	250.0	266.7	
		Average of Peak Amounts =				269.7	
						RPD = 9.10	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.383	8.381	0.002	24235953	250.0	276.3	
1	8.433	8.434	-0.001	23424284	250.0	264.6	
1	8.710	8.707	0.003	21027004	250.0	294.7	
1	9.227	9.224	0.003	5641852	250.0	186.4	
1	9.640	9.637	0.003	51985946	250.0	243.9	
		Average of Peak Amounts =				253.2	
2	8.510	8.511	-0.001	92658099	250.0	286.6	
2	8.574	8.574	0.000	85134666	250.0	277.7	
2	8.927	8.928	-0.001	81954946	250.0	309.2	
2	9.357	9.358	-0.001	25443183	250.0	197.1	
2	9.820	9.821	-0.001	205859923	250.0	251.8	
		Average of Peak Amounts =				264.5	
						RPD = 4.37	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

AR_4268_ICV_00013	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

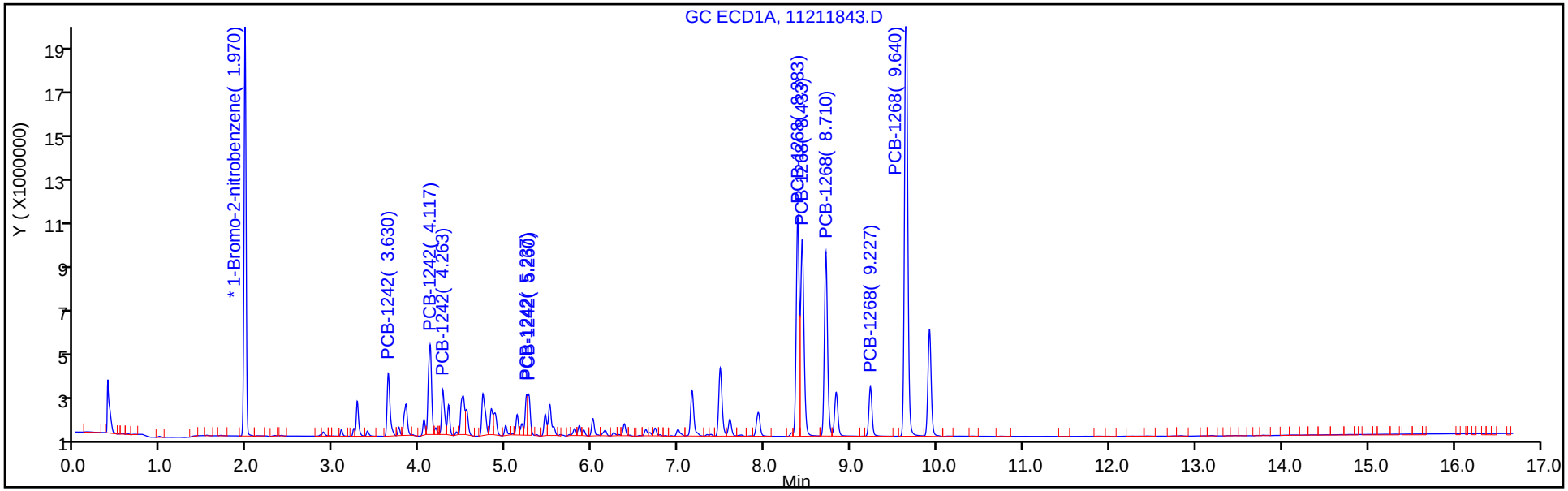
Report Date: 23-Nov-2018 11:09:04 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

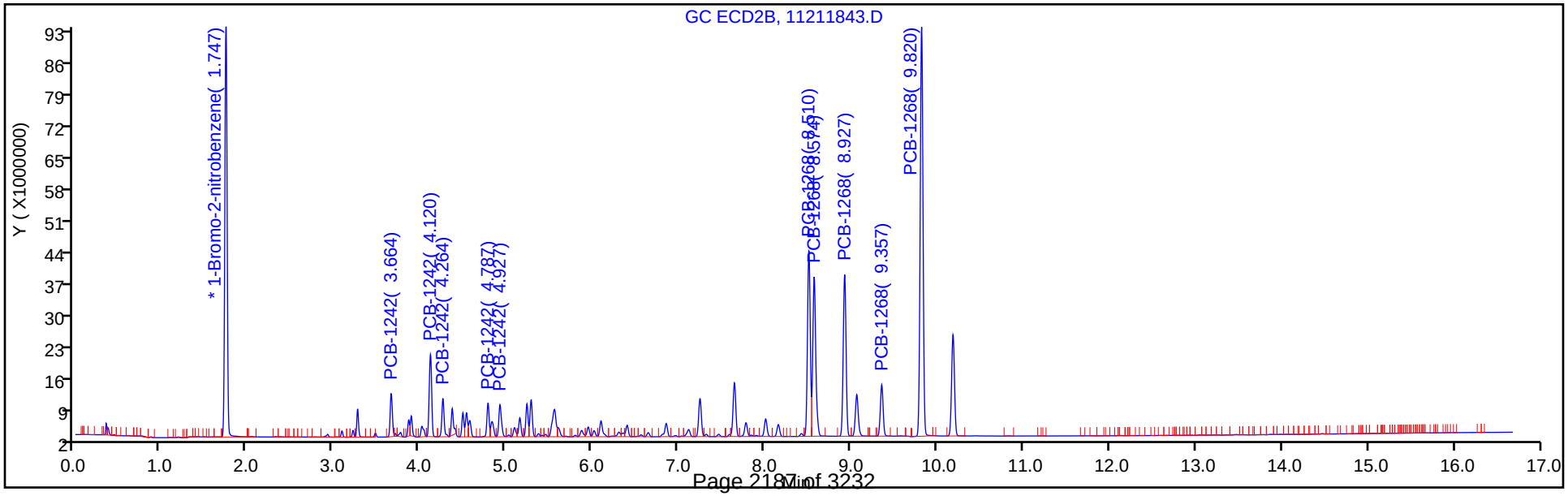
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211843.D

Injection Date:	21-Nov-2018 23:34:12	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	43
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	43
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVIS 280-438587/3 Calibration Date: 11/23/2018 15:21

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231803.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.4760		551	500	10.3	20.0
PCB-1016 Peak 2	Lin1		1.059		525	500	5.0	20.0
PCB-1016 Peak 3	Lin1		1.940		522	500	4.3	20.0
PCB-1016 Peak 4	Lin1		0.8310		531	500	6.3	20.0
PCB-1016 Peak 5	Lin1		0.8839		523	500	4.5	20.0
PCB-1260 Peak 1	Lin1		1.204		518	500	3.6	20.0
PCB-1260 Peak 2	Lin1		1.837		512	500	2.3	20.0
PCB-1260 Peak 3	Lin1		1.099		516	500	3.2	20.0
PCB-1260 Peak 4	Lin1		2.476		513	500	2.5	20.0
PCB-1260 Peak 5	Lin1		1.110		505	500	0.9	20.0
Tetrachloro-m-xylene	Lin1		27.14		25.8	25.0	3.4	20.0
DCB Decachlorobiphenyl	Lin1		19.12		23.6	25.0	-5.6	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVIS 280-438587/3 Calibration Date: 11/23/2018 15:21

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231803.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.27	3.02	3.52
PCB-1016 Peak 2	3.63	3.38	3.88
PCB-1016 Peak 3	4.12	3.87	4.37
PCB-1016 Peak 4	4.27	4.02	4.52
PCB-1016 Peak 5	4.73	4.48	4.98
PCB-1260 Peak 1	6.25	6.00	6.50
PCB-1260 Peak 2	7.00	6.75	7.25
PCB-1260 Peak 3	7.49	7.24	7.74
PCB-1260 Peak 4	7.93	7.68	8.18
PCB-1260 Peak 5	8.33	8.08	8.58
Tetrachloro-m-xylene	2.88	2.63	3.13
DCB Decachlorobiphenyl	9.92	9.67	10.17

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\SGC_J\20181123-76484.b\11231803.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 23-Nov-2018 15:21:28 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 280-0076484-003
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromna\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 07-Dec-2018 12:36:27 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: patadiab Date: 27-Nov-2018 13:46:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.968	0.000	33785987	1000.0	1000.0	
2	1.749	1.749	0.000	183019289	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.882	2.882	0.000	22923526	25.0	25.8	
2	2.779	2.779	0.000	63744653	25.0	27.1	
						RPD = 4.91	
1 PCB-1016							
1	3.272	3.272	0.000	8040601	500.0	551.5	
1	3.632	3.632	0.000	17888573	500.0	525.2	
1	4.118	4.118	0.000	32769509	500.0	521.6	
1	4.265	4.265	0.000	14038700	500.0	531.5	
1	4.732	4.732	0.000	14932173	500.0	522.7	
		Average of Peak Amounts =				530.5	
2	3.275	3.275	0.000	21544095	500.0	538.4	
2	3.665	3.665	0.000	42750593	500.0	516.6	
2	4.119	4.119	0.000	98717648	500.0	538.6	
2	4.265	4.265	0.000	42260172	500.0	536.0	
2	4.495	4.495	0.000	22422766	500.0	528.0	
		Average of Peak Amounts =				531.5	
						RPD = 0.19	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							a
1	6.252	6.252	0.000	20341969	500.0	517.8	
1	6.995	6.995	0.000	31035061	500.0	511.5	
1	7.492	7.492	0.000	18558694	500.0	515.8	
1	7.932	7.932	0.000	41834057	500.0	512.7	
1	8.325	8.325	0.000	18749410	500.0	504.5	a
		Average of Peak Amounts =				512.5	
2	6.648	6.648	0.000	73544919	500.0	543.1	
2	7.115	7.115	0.000	109220493	500.0	543.7	
2	7.645	7.645	0.000	65344746	500.0	542.3	
2	8.012	8.012	0.000	146187332	500.0	541.6	
2	8.515	8.515	0.000	111323170	500.0	538.8	
		Average of Peak Amounts =				541.9	
						RPD = 5.58	
$ 15 DCB Decachlorobiphenyl							
1	9.915	9.915	0.000	16147723	25.0	23.6	
2	10.185	10.185	0.000	72489422	25.0	26.9	
						RPD = 13.18	
19 1260 Res 1							a
1	8.325	8.325	0.000	18749410	NR	NR	a
16 1260 Res 2							a
1	8.385	8.385	0.000	9376502	NR	NR	a
18 1260 Res 3							a
1	8.445	8.445	0.000	12717777	NR	NR	a

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Review Flags

a - User Assigned ID

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

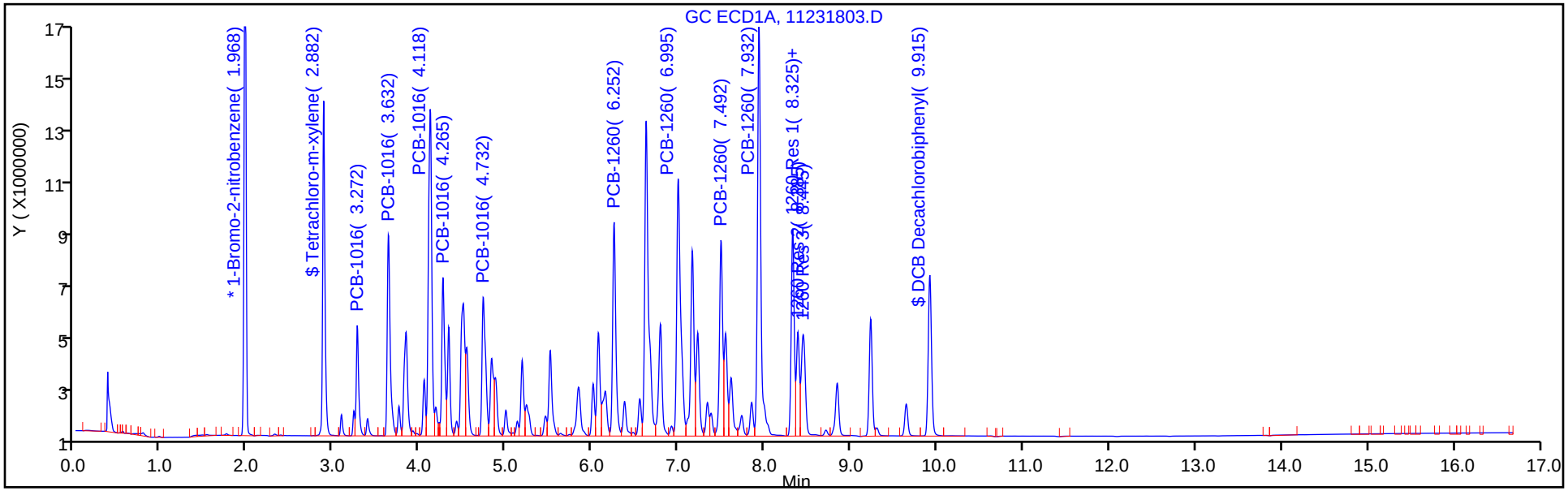
Report Date: 07-Dec-2018 12:36:28 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

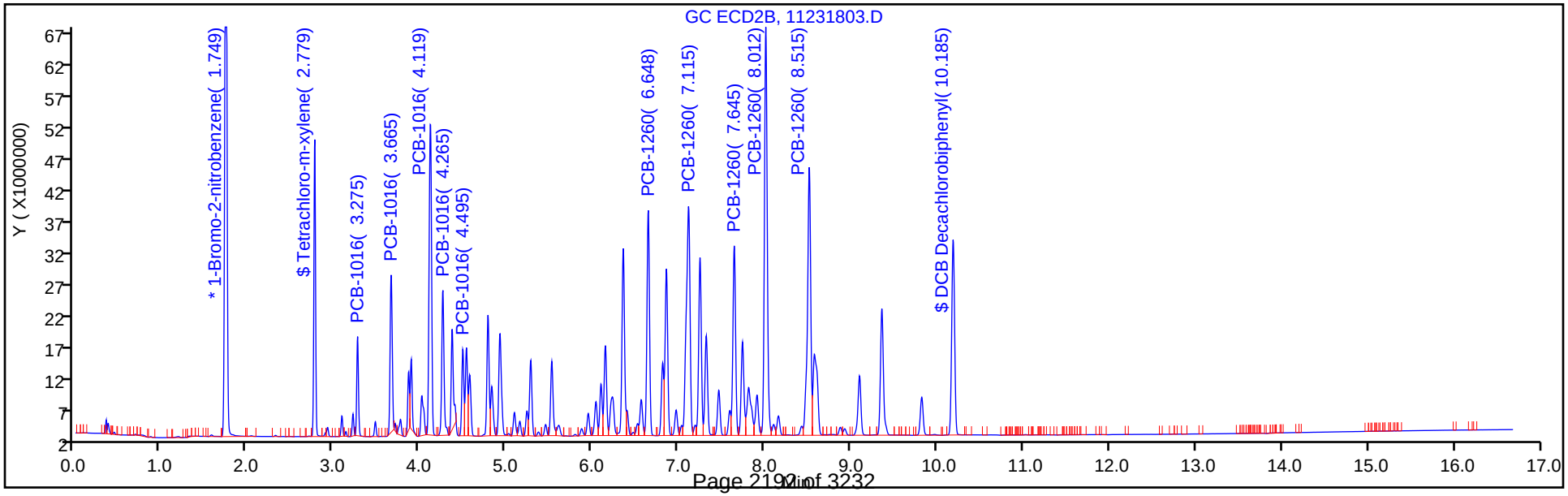
Data File: \\chromna\Denver\ChromData\SGC_J\20181123-76484.b\11231803.D

Injection Date:	23-Nov-2018 15:21:28	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	CCVIS			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 07-Dec-2018 12:36:29 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

Data File: \\chromna\Denver\ChromData\SGC_J\20181123-76484.b\11231803.D

Injection Date: 23-Nov-2018 15:21:28 Instrument ID: SGC_J

Lims ID: CCVIS

Client ID:

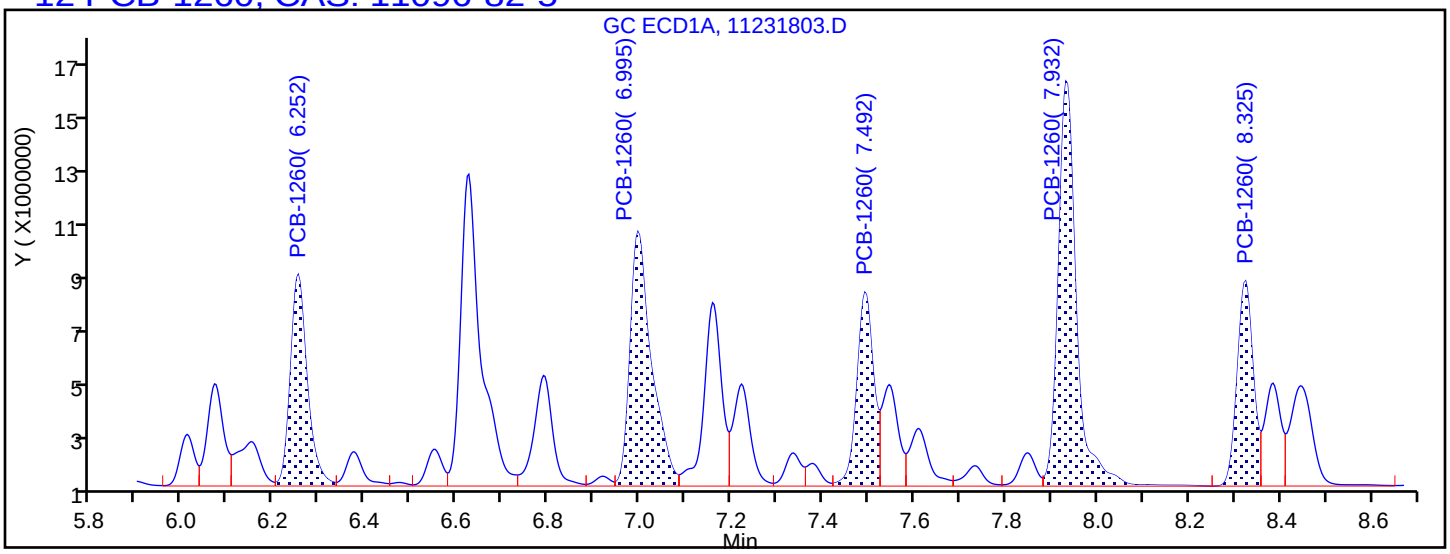
Operator ID: ALS ALS Bottle#: 3 Worklist Smp#: 3

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

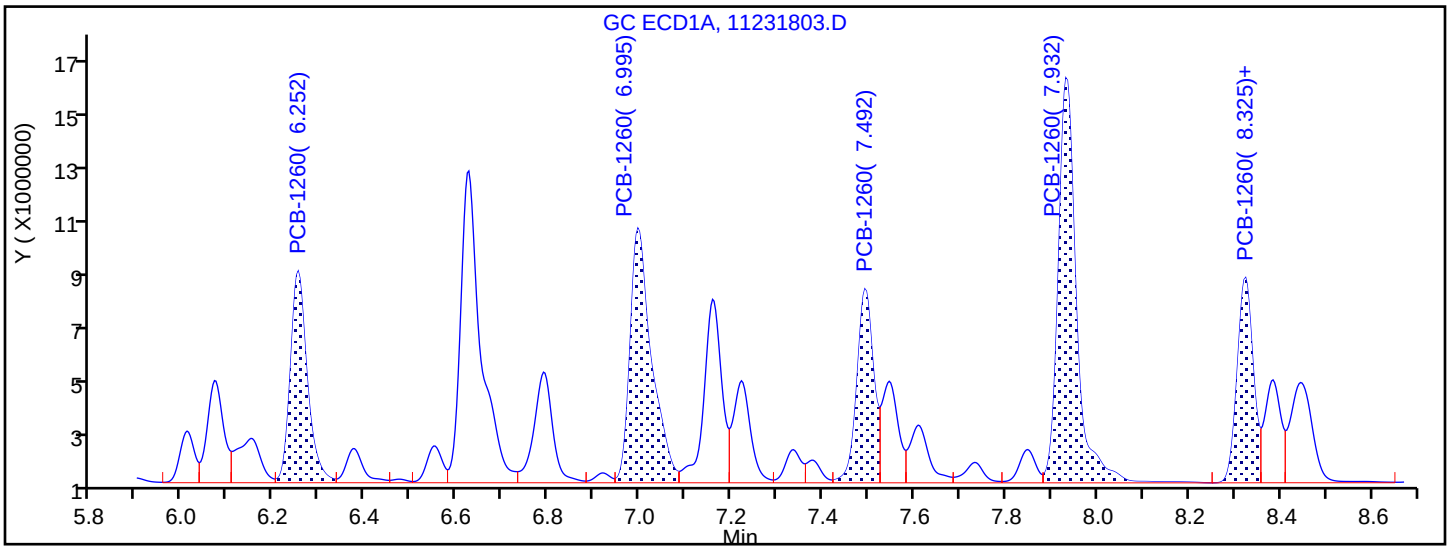
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

12 PCB-1260, CAS: 11096-82-5



Processing Integration Results

6.252	Response = 20341969
6.995	Response = 31035061
7.492	Response = 18558694
7.932	Response = 41834057
8.325	Response = 18749410



Manual Integration Results

6.252	Response = 20341969	
6.995	Response = 31035061	
7.492	Response = 18558694	
7.932	Response = 41834057	
8.325	Response = 18749410	M

Reviewer: patadiab, 27-Nov-2018 13:46:38

Audit Action: Assigned Compound ID Audit Reason:

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVIS 280-438587/3 Calibration Date: 11/23/2018 15:21

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231803.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.2354		538	500	7.7	20.0
PCB-1016 Peak 2	Lin1		0.4672		517	500	3.3	20.0
PCB-1016 Peak 3	Lin1		1.079		539	500	7.7	20.0
PCB-1016 Peak 4	Lin1		0.4618		536	500	7.2	20.0
PCB-1016 Peak 5	Lin1		0.2450		528	500	5.6	20.0
PCB-1260 Peak 1	Lin1		0.8037		543	500	8.6	20.0
PCB-1260 Peak 2	Lin1		1.194		544	500	8.7	20.0
PCB-1260 Peak 3	Lin1		0.7141		542	500	8.5	20.0
PCB-1260 Peak 4	Lin1		1.598		542	500	8.3	20.0
PCB-1260 Peak 5	Lin1		1.217		539	500	7.8	20.0
Tetrachloro-m-xylene	Lin1		13.93		27.1	25.0	8.6	20.0
DCB Decachlorobiphenyl	Lin1		15.84		26.9	25.0	7.7	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCVIS 280-438587/3 Calibration Date: 11/23/2018 15:21

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231803.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.28	3.03	3.53
PCB-1016 Peak 2	3.67	3.42	3.92
PCB-1016 Peak 3	4.12	3.87	4.37
PCB-1016 Peak 4	4.27	4.02	4.52
PCB-1016 Peak 5	4.50	4.25	4.75
PCB-1260 Peak 1	6.65	6.40	6.90
PCB-1260 Peak 2	7.12	6.87	7.37
PCB-1260 Peak 3	7.65	7.40	7.90
PCB-1260 Peak 4	8.01	7.76	8.26
PCB-1260 Peak 5	8.52	8.27	8.77
Tetrachloro-m-xylene	2.78	2.53	3.03
DCB Decachlorobiphenyl	10.19	9.94	10.44

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\SGC_J\20181123-76484.b\11231803.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 23-Nov-2018 15:21:28 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 280-0076484-003
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromna\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 07-Dec-2018 12:36:27 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: patadiab Date: 27-Nov-2018 13:46:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.968	1.968	0.000	33785987	1000.0	1000.0	
2	1.749	1.749	0.000	183019289	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.882	2.882	0.000	22923526	25.0	25.8	
2	2.779	2.779	0.000	63744653	25.0	27.1	
						RPD = 4.91	
1 PCB-1016							
1	3.272	3.272	0.000	8040601	500.0	551.5	
1	3.632	3.632	0.000	17888573	500.0	525.2	
1	4.118	4.118	0.000	32769509	500.0	521.6	
1	4.265	4.265	0.000	14038700	500.0	531.5	
1	4.732	4.732	0.000	14932173	500.0	522.7	
		Average of Peak Amounts =				530.5	
2	3.275	3.275	0.000	21544095	500.0	538.4	
2	3.665	3.665	0.000	42750593	500.0	516.6	
2	4.119	4.119	0.000	98717648	500.0	538.6	
2	4.265	4.265	0.000	42260172	500.0	536.0	
2	4.495	4.495	0.000	22422766	500.0	528.0	
		Average of Peak Amounts =				531.5	
						RPD = 0.19	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							a
1	6.252	6.252	0.000	20341969	500.0	517.8	
1	6.995	6.995	0.000	31035061	500.0	511.5	
1	7.492	7.492	0.000	18558694	500.0	515.8	
1	7.932	7.932	0.000	41834057	500.0	512.7	
1	8.325	8.325	0.000	18749410	500.0	504.5	a
		Average of Peak Amounts =				512.5	
2	6.648	6.648	0.000	73544919	500.0	543.1	
2	7.115	7.115	0.000	109220493	500.0	543.7	
2	7.645	7.645	0.000	65344746	500.0	542.3	
2	8.012	8.012	0.000	146187332	500.0	541.6	
2	8.515	8.515	0.000	111323170	500.0	538.8	
		Average of Peak Amounts =				541.9	
						RPD = 5.58	
$ 15 DCB Decachlorobiphenyl							
1	9.915	9.915	0.000	16147723	25.0	23.6	
2	10.185	10.185	0.000	72489422	25.0	26.9	
						RPD = 13.18	
19 1260 Res 1							a
1	8.325	8.325	0.000	18749410	NR	NR	a
16 1260 Res 2							a
1	8.385	8.385	0.000	9376502	NR	NR	a
18 1260 Res 3							a
1	8.445	8.445	0.000	12717777	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
a - User Assigned ID

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

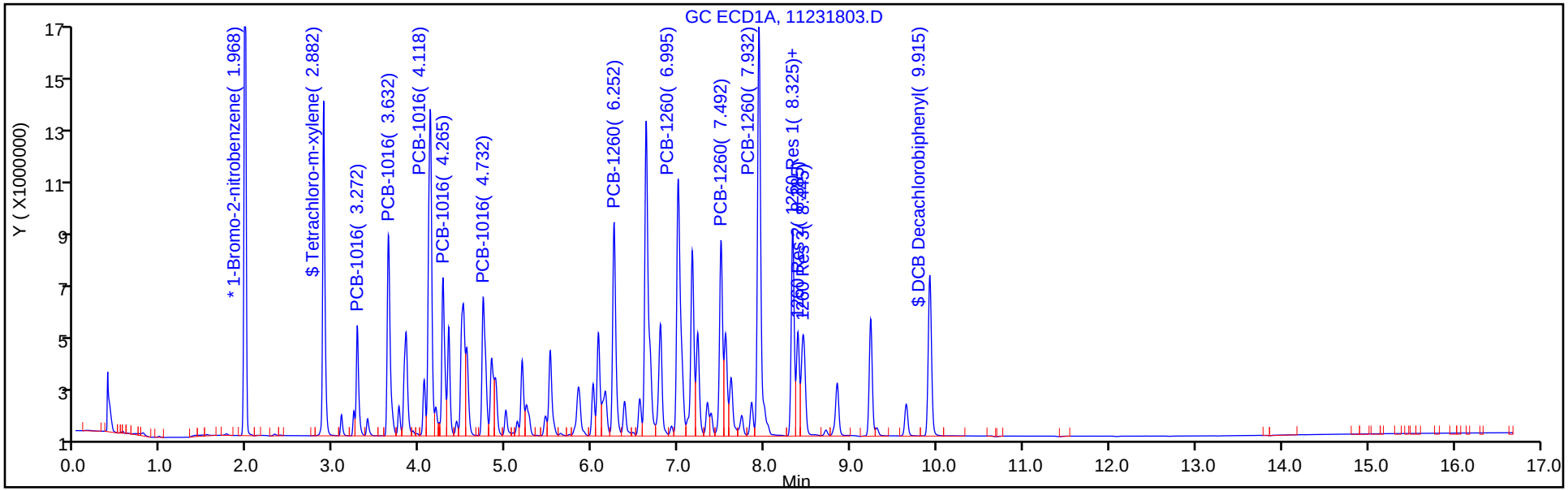
Report Date: 07-Dec-2018 12:36:29 Chrom Revision: 2.3 03-Dec-2018 18:32:22

TestAmerica Denver

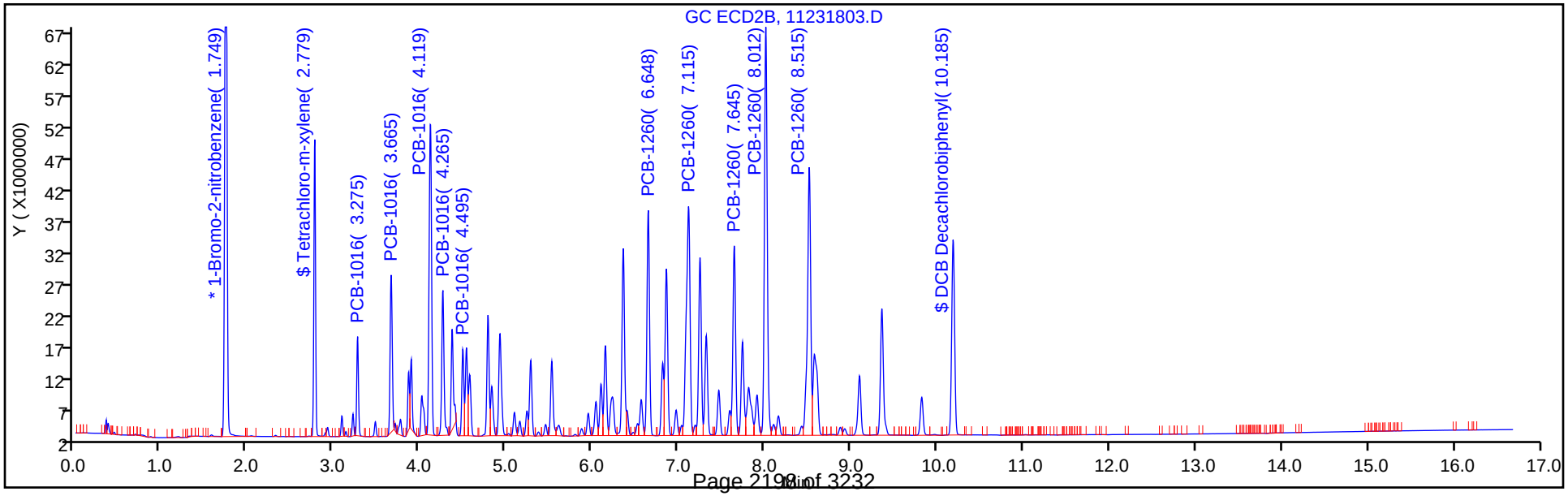
Data File: \\chromna\Denver\ChromData\SGC_J\20181123-76484.b\11231803.D

Injection Date:	23-Nov-2018 15:21:28	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	CCVIS			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438587/33 Calibration Date: 11/24/2018 01:57

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231833.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.4709		545	500	9.1	20.0
PCB-1016 Peak 2	Lin1		1.062		527	500	5.4	20.0
PCB-1016 Peak 3	Lin1		1.948		524	500	4.8	20.0
PCB-1016 Peak 4	Lin1		0.8360		535	500	6.9	20.0
PCB-1016 Peak 5	Lin1		0.8981		531	500	6.2	20.0
PCB-1260 Peak 1	Lin1		1.247		537	500	7.3	20.0
PCB-1260 Peak 2	Lin1		1.912		532	500	6.5	20.0
PCB-1260 Peak 3	Lin1		1.135		533	500	6.6	20.0
PCB-1260 Peak 4	Lin1		2.592		537	500	7.3	20.0
PCB-1260 Peak 5	Lin1		1.155		525	500	5.0	20.0
Tetrachloro-m-xylene	Lin1		26.81		25.5	25.0	2.1	20.0
DCB Decachlorobiphenyl	Lin1		19.92		24.6	25.0	-1.6	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438587/33 Calibration Date: 11/24/2018 01:57

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231833.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.27	3.02	3.52
PCB-1016 Peak 2	3.63	3.38	3.88
PCB-1016 Peak 3	4.12	3.87	4.37
PCB-1016 Peak 4	4.26	4.02	4.52
PCB-1016 Peak 5	4.73	4.48	4.98
PCB-1260 Peak 1	6.25	6.00	6.50
PCB-1260 Peak 2	6.99	6.75	7.25
PCB-1260 Peak 3	7.49	7.24	7.74
PCB-1260 Peak 4	7.93	7.68	8.18
PCB-1260 Peak 5	8.32	8.08	8.58
Tetrachloro-m-xylene	2.88	2.63	3.13
DCB Decachlorobiphenyl	9.91	9.67	10.17

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231833.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Nov-2018 01:57:07 ALS Bottle#: 33 Worklist Smp#: 33
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0076484-033
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 26-Nov-2018 13:48:19 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: patadiab Date: 24-Nov-2018 12:18:37

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.967	1.968	-0.001	33647119	1000.0	1000.0	
2	1.747	1.749	-0.002	181722393	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.880	2.882	-0.002	22554937	25.0	25.5	
2	2.777	2.779	-0.002	63646146	25.0	27.3	
						RPD = 6.69	
1 PCB-1016							
1	3.270	3.272	-0.002	7921714	500.0	545.4	
1	3.630	3.632	-0.002	17869008	500.0	526.8	
1	4.117	4.118	-0.001	32771671	500.0	523.8	
1	4.264	4.265	-0.001	14064468	500.0	534.7	
1	4.730	4.732	-0.002	15108735	500.0	531.2	
		Average of Peak Amounts =				532.4	
2	3.274	3.275	-0.001	22486159	500.0	566.8	
2	3.664	3.665	-0.001	45544618	500.0	555.5	
2	4.120	4.119	0.001	99746968	500.0	548.4	
2	4.264	4.265	-0.001	43813496	500.0	560.3	
2	4.497	4.495	0.002	23538951	500.0	559.3	
		Average of Peak Amounts =				558.1	
						RPD = 4.71	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.250	6.252	-0.002	20980324	500.0	536.6	
1	6.994	6.995	-0.001	32165149	500.0	532.4	
1	7.490	7.492	-0.002	19087500	500.0	532.9	
1	7.934	7.932	0.002	43606864	500.0	536.7	
1	8.324	8.325	-0.001	19429176	500.0	525.0	
		Average of Peak Amounts =				532.7	
2	6.647	6.648	-0.001	75119871	500.0	559.0	
2	7.117	7.115	0.002	111125006	500.0	557.4	
2	7.644	7.645	-0.001	66758540	500.0	558.4	
2	8.010	8.012	-0.002	148942405	500.0	556.0	
2	8.517	8.515	0.002	113299772	500.0	552.6	
		Average of Peak Amounts =				556.7	
						RPD = 4.40	
$ 15 DCB Decachlorobiphenyl							
1	9.914	9.915	-0.001	16752697	25.0	24.6	
2	10.184	10.185	-0.001	74278723	25.0	27.8	
						RPD = 12.22	
S 8 Polychlorinated biphenyls, Total							
1						1065.1	
2						1114.7	
						RPD = 4.55	
19 1260 Res 1							
1	8.324	8.325	-0.001	19429176	NR	NR	
16 1260 Res 2							
1	8.384	8.385	-0.001	10210210	NR	NR	
18 1260 Res 3							
1	8.447	8.445	0.002	12943238	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

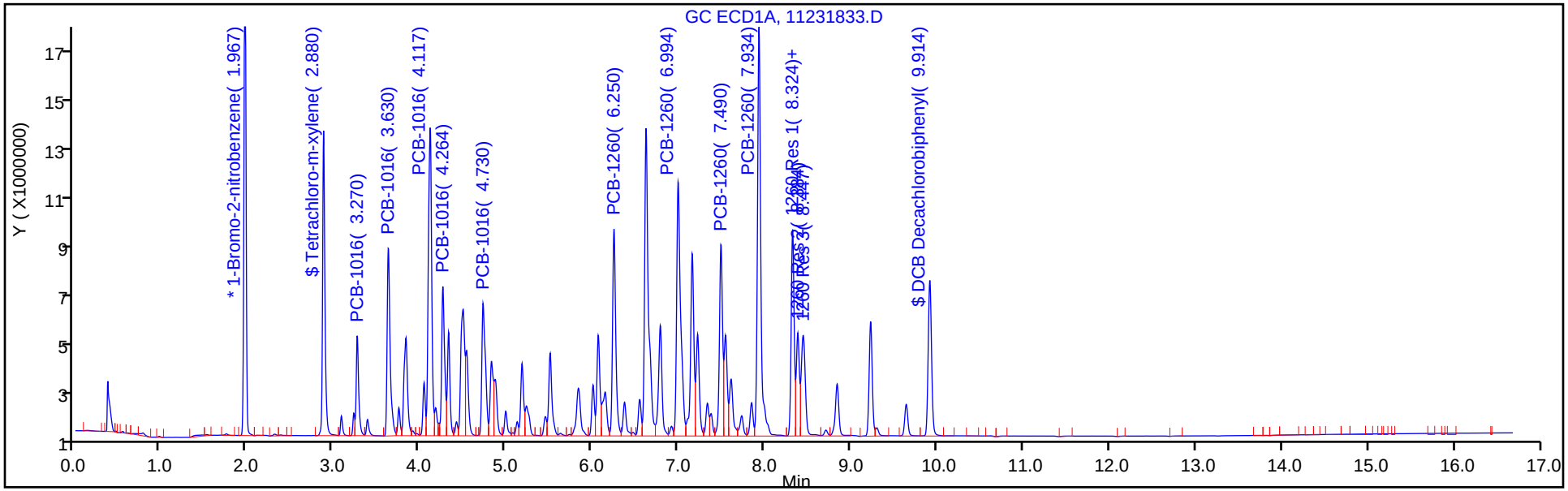
Report Date: 26-Nov-2018 13:48:19 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

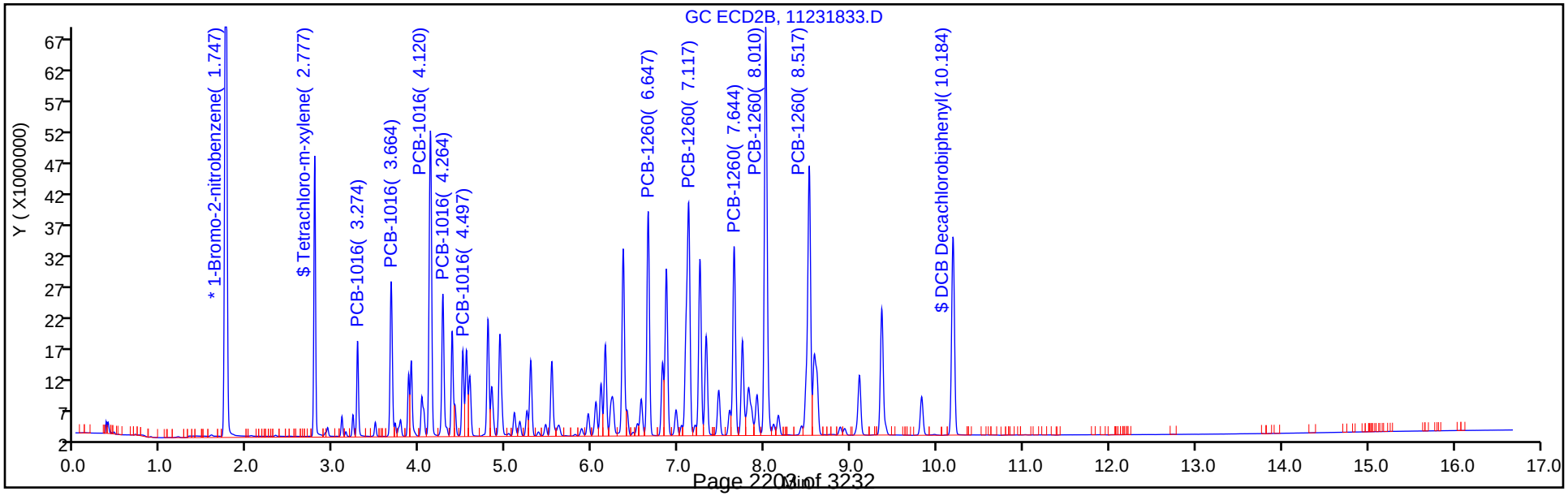
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231833.D

Injection Date:	24-Nov-2018 01:57:07	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	CCV			Worklist Smp#:	33
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	33
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438587/33 Calibration Date: 11/24/2018 01:57

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231833.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.2475		567	500	13.4	20.0
PCB-1016 Peak 2	Lin1		0.5013		555	500	11.1	20.0
PCB-1016 Peak 3	Lin1		1.098		548	500	9.7	20.0
PCB-1016 Peak 4	Lin1		0.4822		560	500	12.1	20.0
PCB-1016 Peak 5	Lin1		0.2591		559	500	11.9	20.0
PCB-1260 Peak 1	Lin1		0.8268		559	500	11.8	20.0
PCB-1260 Peak 2	Lin1		1.223		557	500	11.5	20.0
PCB-1260 Peak 3	Lin1		0.7347		558	500	11.7	20.0
PCB-1260 Peak 4	Lin1		1.639		556	500	11.2	20.0
PCB-1260 Peak 5	Lin1		1.247		553	500	10.5	20.0
Tetrachloro-m-xylene	Lin1		14.01		27.3	25.0	9.2	20.0
DCB Decachlorobiphenyl	Lin1		16.35		27.8	25.0	11.3	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438587/33 Calibration Date: 11/24/2018 01:57

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231833.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.27	3.03	3.53
PCB-1016 Peak 2	3.66	3.42	3.92
PCB-1016 Peak 3	4.12	3.87	4.37
PCB-1016 Peak 4	4.26	4.02	4.52
PCB-1016 Peak 5	4.50	4.25	4.75
PCB-1260 Peak 1	6.65	6.40	6.90
PCB-1260 Peak 2	7.12	6.87	7.37
PCB-1260 Peak 3	7.64	7.40	7.90
PCB-1260 Peak 4	8.01	7.76	8.26
PCB-1260 Peak 5	8.52	8.27	8.77
Tetrachloro-m-xylene	2.78	2.53	3.03
DCB Decachlorobiphenyl	10.18	9.94	10.44

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231833.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Nov-2018 01:57:07 ALS Bottle#: 33 Worklist Smp#: 33
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0076484-033
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 26-Nov-2018 13:48:19 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: patadiab Date: 24-Nov-2018 12:18:37

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.967	1.968	-0.001	33647119	1000.0	1000.0	
2	1.747	1.749	-0.002	181722393	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.880	2.882	-0.002	22554937	25.0	25.5	
2	2.777	2.779	-0.002	63646146	25.0	27.3	
						RPD = 6.69	
1 PCB-1016							
1	3.270	3.272	-0.002	7921714	500.0	545.4	
1	3.630	3.632	-0.002	17869008	500.0	526.8	
1	4.117	4.118	-0.001	32771671	500.0	523.8	
1	4.264	4.265	-0.001	14064468	500.0	534.7	
1	4.730	4.732	-0.002	15108735	500.0	531.2	
		Average of Peak Amounts =				532.4	
2	3.274	3.275	-0.001	22486159	500.0	566.8	
2	3.664	3.665	-0.001	45544618	500.0	555.5	
2	4.120	4.119	0.001	99746968	500.0	548.4	
2	4.264	4.265	-0.001	43813496	500.0	560.3	
2	4.497	4.495	0.002	23538951	500.0	559.3	
		Average of Peak Amounts =				558.1	
						RPD = 4.71	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.250	6.252	-0.002	20980324	500.0	536.6	
1	6.994	6.995	-0.001	32165149	500.0	532.4	
1	7.490	7.492	-0.002	19087500	500.0	532.9	
1	7.934	7.932	0.002	43606864	500.0	536.7	
1	8.324	8.325	-0.001	19429176	500.0	525.0	
		Average of Peak Amounts =				532.7	
2	6.647	6.648	-0.001	75119871	500.0	559.0	
2	7.117	7.115	0.002	111125006	500.0	557.4	
2	7.644	7.645	-0.001	66758540	500.0	558.4	
2	8.010	8.012	-0.002	148942405	500.0	556.0	
2	8.517	8.515	0.002	113299772	500.0	552.6	
		Average of Peak Amounts =				556.7	
						RPD = 4.40	
$ 15 DCB Decachlorobiphenyl							
1	9.914	9.915	-0.001	16752697	25.0	24.6	
2	10.184	10.185	-0.001	74278723	25.0	27.8	
						RPD = 12.22	
S 8 Polychlorinated biphenyls, Total							
1						1065.1	
2						1114.7	
						RPD = 4.55	
19 1260 Res 1							
1	8.324	8.325	-0.001	19429176	NR	NR	
16 1260 Res 2							
1	8.384	8.385	-0.001	10210210	NR	NR	
18 1260 Res 3							
1	8.447	8.445	0.002	12943238	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

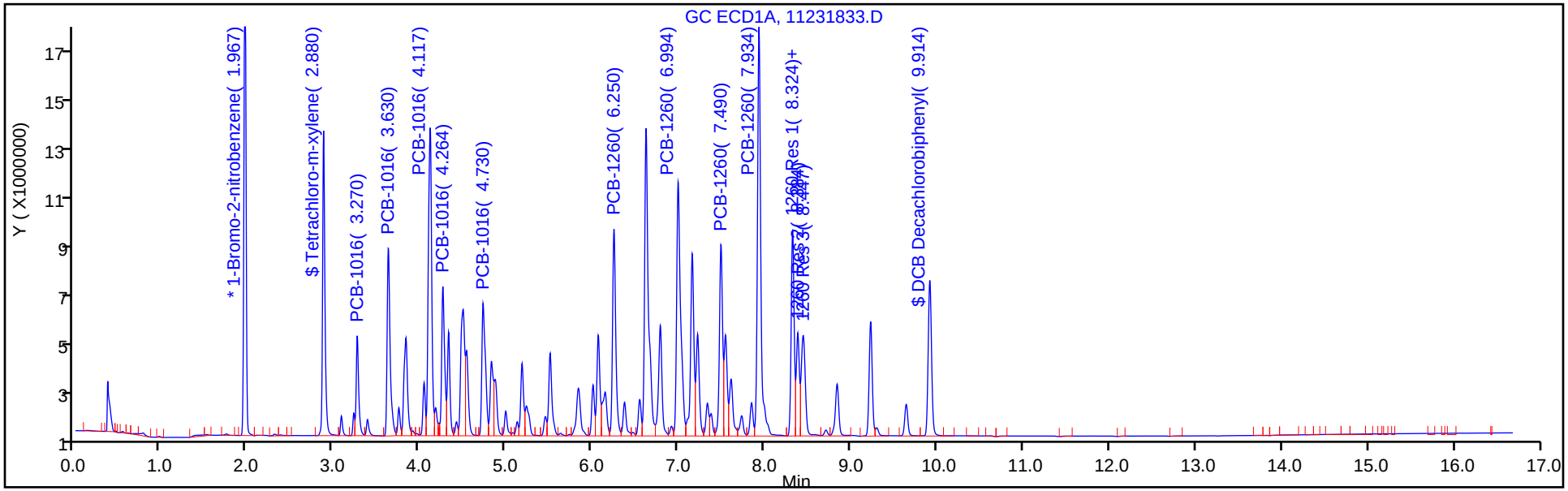
Report Date: 26-Nov-2018 13:48:19 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

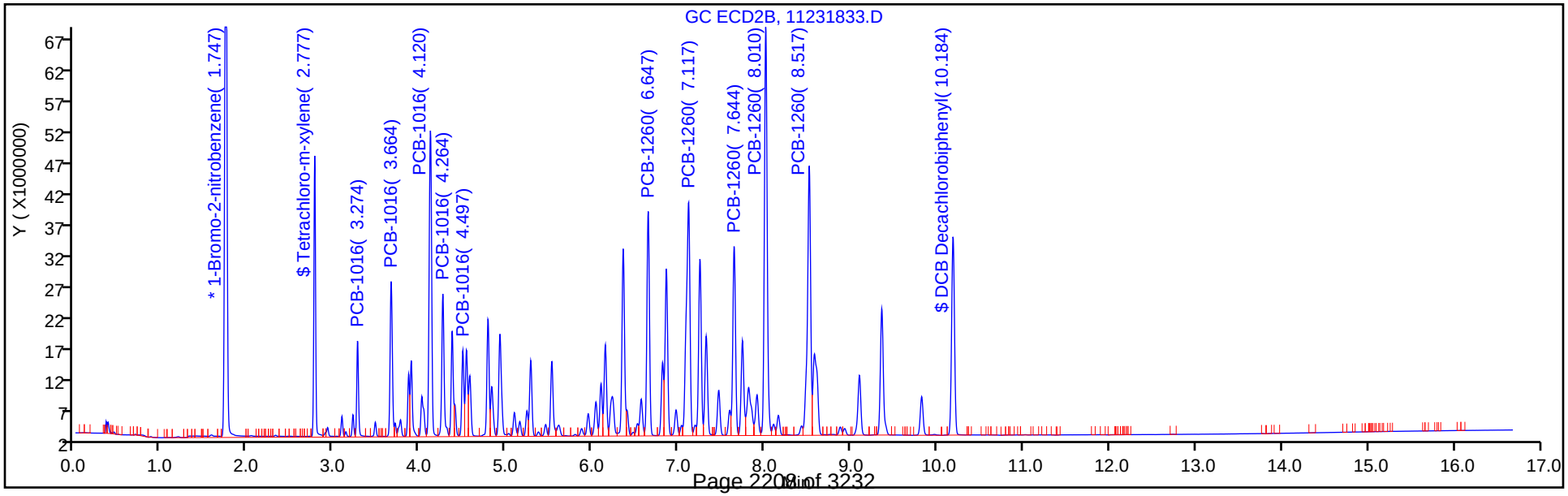
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231833.D

Injection Date:	24-Nov-2018 01:57:07	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	CCV			Worklist Smp#:	33
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	33
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438587/45 Calibration Date: 11/24/2018 06:11

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231845.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.4884		566	500	13.3	20.0
PCB-1016 Peak 2	Lin1		1.093		542	500	8.5	20.0
PCB-1016 Peak 3	Lin1		2.010		541	500	8.1	20.0
PCB-1016 Peak 4	Lin1		0.8595		550	500	10.0	20.0
PCB-1016 Peak 5	Lin1		0.9263		548	500	9.6	20.0
PCB-1260 Peak 1	Lin1		1.268		546	500	9.1	20.0
PCB-1260 Peak 2	Lin1		1.943		541	500	8.2	20.0
PCB-1260 Peak 3	Lin1		1.156		543	500	8.6	20.0
PCB-1260 Peak 4	Lin1		2.628		544	500	8.8	20.0
PCB-1260 Peak 5	Lin1		1.177		535	500	7.0	20.0
Tetrachloro-m-xylene	Lin1		27.68		26.4	25.0	5.4	20.0
DCB Decachlorobiphenyl	Lin1		20.26		25.0	25.0	0.2	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438587/45 Calibration Date: 11/24/2018 06:11

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231845.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.27	3.02	3.52
PCB-1016 Peak 2	3.63	3.38	3.88
PCB-1016 Peak 3	4.12	3.87	4.37
PCB-1016 Peak 4	4.26	4.02	4.52
PCB-1016 Peak 5	4.73	4.48	4.98
PCB-1260 Peak 1	6.25	6.00	6.50
PCB-1260 Peak 2	6.99	6.75	7.25
PCB-1260 Peak 3	7.49	7.24	7.74
PCB-1260 Peak 4	7.93	7.68	8.18
PCB-1260 Peak 5	8.32	8.08	8.58
Tetrachloro-m-xylene	2.88	2.63	3.13
DCB Decachlorobiphenyl	9.91	9.67	10.17

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231845.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Nov-2018 06:11:15 ALS Bottle#: 45 Worklist Smp#: 45
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0076484-045
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 26-Nov-2018 13:48:36 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: patadiab Date: 24-Nov-2018 12:24:06

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.968	0.002	33492128	1000.0	1000.0	
2	1.747	1.749	-0.002	178422474	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.880	2.882	-0.002	23178248	25.0	26.4	
2	2.777	2.779	-0.002	63556215	25.0	27.8	
						RPD = 5.24	
1 PCB-1016							
1	3.270	3.272	-0.002	8179288	500.0	566.3	
1	3.634	3.632	0.002	18300325	500.0	542.4	
1	4.117	4.118	-0.001	33655989	500.0	540.6	
1	4.264	4.265	-0.001	14393660	500.0	550.0	
1	4.730	4.732	-0.002	15511181	500.0	548.1	
		Average of Peak Amounts =				549.5	
2	3.274	3.275	-0.001	21532747	500.0	552.4	
2	3.664	3.665	-0.001	42371673	500.0	525.5	
2	4.121	4.119	0.002	99645854	500.0	558.2	
2	4.264	4.265	-0.001	42957817	500.0	559.5	
2	4.494	4.495	-0.001	23748198	500.0	575.2	
		Average of Peak Amounts =				554.1	
						RPD = 0.85	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.250	6.252	-0.002	21235099	500.0	545.7	
1	6.994	6.995	-0.001	32537168	500.0	541.1	
1	7.490	7.492	-0.002	19359274	500.0	543.1	
1	7.930	7.932	-0.002	44003924	500.0	544.1	
1	8.324	8.325	-0.001	19714048	500.0	535.2	
		Average of Peak Amounts =				541.9	
2	6.647	6.648	-0.001	74942294	500.0	568.3	
2	7.114	7.115	-0.001	110986206	500.0	567.2	
2	7.644	7.645	-0.001	66394733	500.0	565.8	
2	8.011	8.012	-0.001	149102810	500.0	567.2	
2	8.514	8.515	-0.001	114679707	500.0	570.0	
		Average of Peak Amounts =				567.7	
						RPD = 4.65	
$ 15 DCB Decachlorobiphenyl							
1	9.914	9.915	-0.001	16961924	25.0	25.0	
2	10.184	10.185	-0.001	74798719	25.0	28.5	
						RPD = 13.07	
S 8 Polychlorinated biphenyls, Total							
1						1091.3	
2						1121.8	
						RPD = 2.76	
19 1260 Res 1							
1	8.324	8.325	-0.001	19714048	NR	NR	
16 1260 Res 2							
1	8.384	8.385	-0.001	9885473	NR	NR	
18 1260 Res 3							
1	8.444	8.445	-0.001	13264995	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

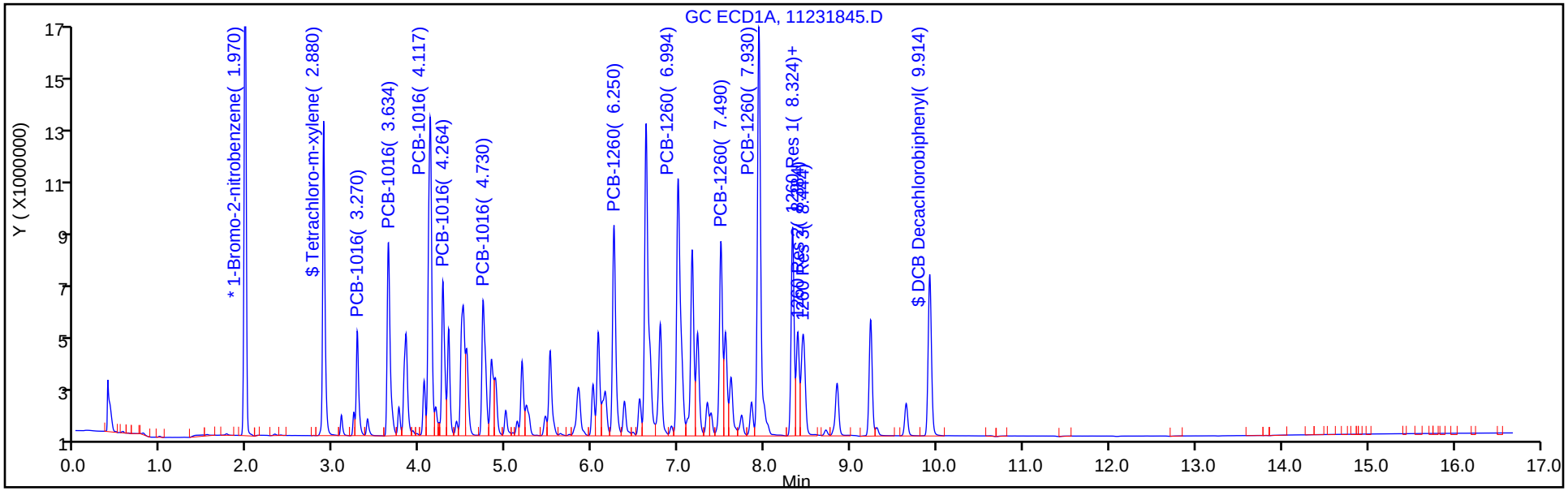
Report Date: 26-Nov-2018 13:48:37 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

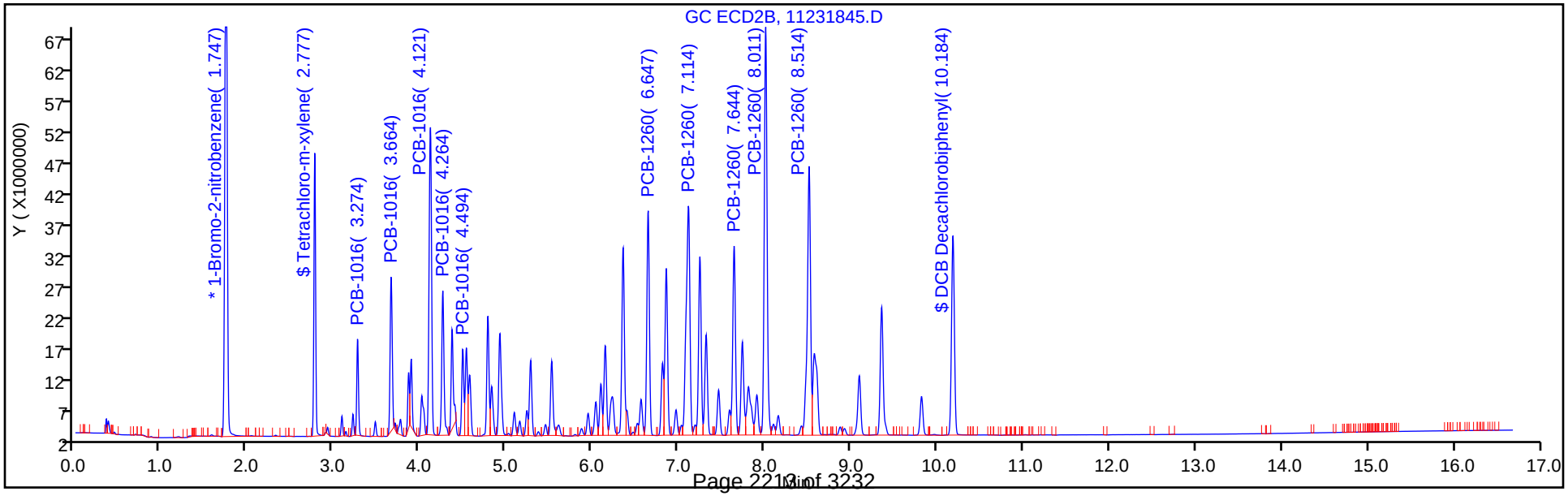
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231845.D

Injection Date:	24-Nov-2018 06:11:15	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	CCV			Worklist Smp#:	45
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	45
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438587/45 Calibration Date: 11/24/2018 06:11

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231845.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.2414		552	500	10.5	20.0
PCB-1016 Peak 2	Lin1		0.4750		525	500	5.1	20.0
PCB-1016 Peak 3	Lin1		1.117		558	500	11.6	20.0
PCB-1016 Peak 4	Lin1		0.4815		560	500	11.9	20.0
PCB-1016 Peak 5	Lin1		0.2662		575	500	15.0	20.0
PCB-1260 Peak 1	Lin1		0.8401		568	500	13.7	20.0
PCB-1260 Peak 2	Lin1		1.244		567	500	13.4	20.0
PCB-1260 Peak 3	Lin1		0.7442		566	500	13.2	20.0
PCB-1260 Peak 4	Lin1		1.671		567	500	13.4	20.0
PCB-1260 Peak 5	Lin1		1.285		570	500	14.0	20.0
Tetrachloro-m-xylene	Lin1		14.25		27.8	25.0	11.1	20.0
DCB Decachlorobiphenyl	Lin1		16.77		28.5	25.0	14.2	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438587/45 Calibration Date: 11/24/2018 06:11

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231845.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.27	3.03	3.53
PCB-1016 Peak 2	3.66	3.42	3.92
PCB-1016 Peak 3	4.12	3.87	4.37
PCB-1016 Peak 4	4.26	4.02	4.52
PCB-1016 Peak 5	4.49	4.25	4.75
PCB-1260 Peak 1	6.65	6.40	6.90
PCB-1260 Peak 2	7.11	6.87	7.37
PCB-1260 Peak 3	7.64	7.40	7.90
PCB-1260 Peak 4	8.01	7.76	8.26
PCB-1260 Peak 5	8.51	8.27	8.77
Tetrachloro-m-xylene	2.78	2.53	3.03
DCB Decachlorobiphenyl	10.18	9.94	10.44

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231845.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Nov-2018 06:11:15 ALS Bottle#: 45 Worklist Smp#: 45
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0076484-045
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 26-Nov-2018 13:48:36 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: patadiab Date: 24-Nov-2018 12:24:06

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.968	0.002	33492128	1000.0	1000.0	
2	1.747	1.749	-0.002	178422474	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.880	2.882	-0.002	23178248	25.0	26.4	
2	2.777	2.779	-0.002	63556215	25.0	27.8	
						RPD = 5.24	
1 PCB-1016							
1	3.270	3.272	-0.002	8179288	500.0	566.3	
1	3.634	3.632	0.002	18300325	500.0	542.4	
1	4.117	4.118	-0.001	33655989	500.0	540.6	
1	4.264	4.265	-0.001	14393660	500.0	550.0	
1	4.730	4.732	-0.002	15511181	500.0	548.1	
		Average of Peak Amounts =				549.5	
2	3.274	3.275	-0.001	21532747	500.0	552.4	
2	3.664	3.665	-0.001	42371673	500.0	525.5	
2	4.121	4.119	0.002	99645854	500.0	558.2	
2	4.264	4.265	-0.001	42957817	500.0	559.5	
2	4.494	4.495	-0.001	23748198	500.0	575.2	
		Average of Peak Amounts =				554.1	
						RPD = 0.85	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.250	6.252	-0.002	21235099	500.0	545.7	
1	6.994	6.995	-0.001	32537168	500.0	541.1	
1	7.490	7.492	-0.002	19359274	500.0	543.1	
1	7.930	7.932	-0.002	44003924	500.0	544.1	
1	8.324	8.325	-0.001	19714048	500.0	535.2	
		Average of Peak Amounts =				541.9	
2	6.647	6.648	-0.001	74942294	500.0	568.3	
2	7.114	7.115	-0.001	110986206	500.0	567.2	
2	7.644	7.645	-0.001	66394733	500.0	565.8	
2	8.011	8.012	-0.001	149102810	500.0	567.2	
2	8.514	8.515	-0.001	114679707	500.0	570.0	
		Average of Peak Amounts =				567.7	
						RPD = 4.65	
$ 15 DCB Decachlorobiphenyl							
1	9.914	9.915	-0.001	16961924	25.0	25.0	
2	10.184	10.185	-0.001	74798719	25.0	28.5	
						RPD = 13.07	
S 8 Polychlorinated biphenyls, Total							
1						1091.3	
2						1121.8	
						RPD = 2.76	
19 1260 Res 1							
1	8.324	8.325	-0.001	19714048	NR	NR	
16 1260 Res 2							
1	8.384	8.385	-0.001	9885473	NR	NR	
18 1260 Res 3							
1	8.444	8.445	-0.001	13264995	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

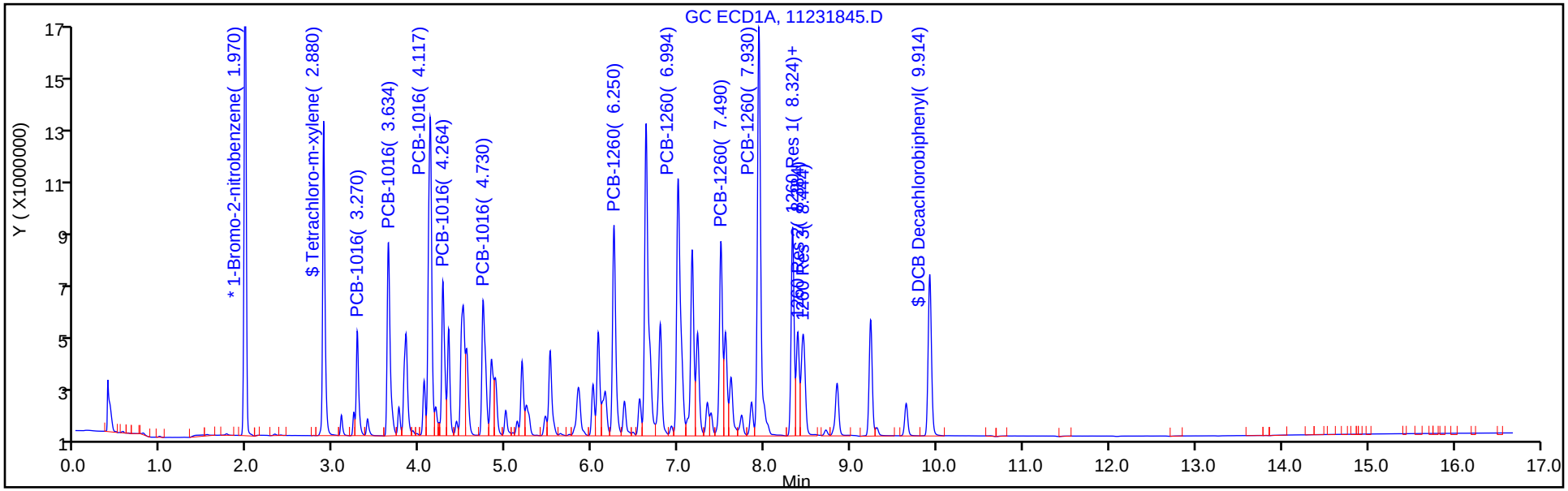
Report Date: 26-Nov-2018 13:48:37 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

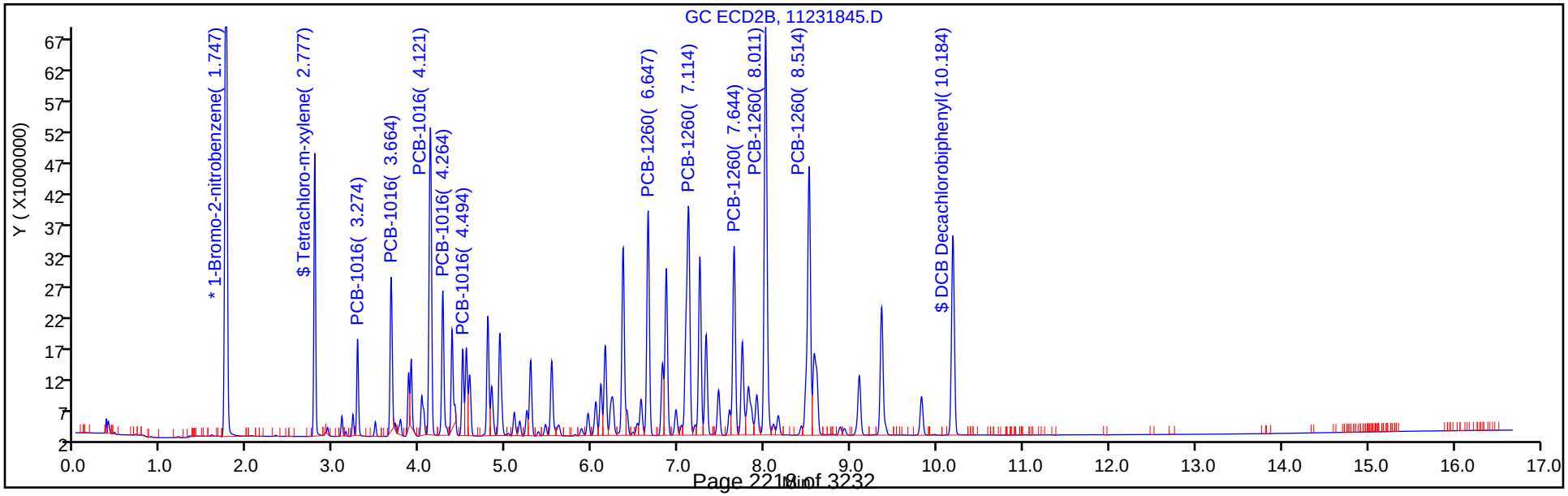
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231845.D

Injection Date:	24-Nov-2018 06:11:15	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	CCV			Worklist Smp#:	45
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	45
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438587/54 Calibration Date: 11/24/2018 09:22

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231854.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.5079		589	500	17.9	20.0
PCB-1016 Peak 2	Lin1		1.140		566	500	13.3	20.0
PCB-1016 Peak 3	Lin1		2.122		571	500	14.2	20.0
PCB-1016 Peak 4	Lin1		0.8913		571	500	14.1	20.0
PCB-1016 Peak 5	Lin1		0.9692		574	500	14.8	20.0
PCB-1260 Peak 1	Lin1		1.325		571	500	14.1	20.0
PCB-1260 Peak 2	Lin1		2.046		570	500	14.0	20.0
PCB-1260 Peak 3	Lin1		1.215		571	500	14.2	20.0
PCB-1260 Peak 4	Lin1		2.759		571	500	14.3	20.0
PCB-1260 Peak 5	Lin1		1.241		564	500	12.8	20.0
Tetrachloro-m-xylene	Lin1		28.65		27.3	25.0	9.1	20.0
DCB Decachlorobiphenyl	Lin1		21.00		26.0	25.0	4.0	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438587/54 Calibration Date: 11/24/2018 09:22

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231854.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.27	3.02	3.52
PCB-1016 Peak 2	3.63	3.38	3.88
PCB-1016 Peak 3	4.12	3.87	4.37
PCB-1016 Peak 4	4.27	4.02	4.52
PCB-1016 Peak 5	4.73	4.48	4.98
PCB-1260 Peak 1	6.25	6.00	6.50
PCB-1260 Peak 2	7.00	6.75	7.25
PCB-1260 Peak 3	7.49	7.24	7.74
PCB-1260 Peak 4	7.94	7.68	8.18
PCB-1260 Peak 5	8.33	8.08	8.58
Tetrachloro-m-xylene	2.88	2.63	3.13
DCB Decachlorobiphenyl	9.92	9.67	10.17

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231854.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Nov-2018 09:22:07 ALS Bottle#: 54 Worklist Smp#: 54
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0076484-054
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 26-Nov-2018 13:48:47 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: patadiab Date: 24-Nov-2018 12:28:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.972	1.968	0.004	32534198	1000.0	1000.0	
2	1.748	1.749	-0.001	170486383	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.882	2.882	0.000	23304113	25.0	27.3	
2	2.778	2.779	-0.001	64184343	25.0	29.4	
						RPD = 7.46	
1 PCB-1016							
1	3.272	3.272	0.000	8262277	500.0	589.5	
1	3.632	3.632	0.000	18541195	500.0	566.3	
1	4.118	4.118	0.000	34519155	500.0	570.9	
1	4.265	4.265	0.000	14499386	500.0	570.6	
1	4.732	4.732	0.000	15765549	500.0	573.8	
		Average of Peak Amounts =				574.2	
2	3.275	3.275	0.000	22306026	500.0	600.3	
2	3.665	3.665	0.000	44358342	500.0	577.3	
2	4.122	4.119	0.003	100148981	500.0	587.9	
2	4.265	4.265	0.000	43010032	500.0	587.0	
2	4.495	4.495	0.000	23901968	500.0	606.7	
		Average of Peak Amounts =				591.8	
						RPD = 3.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.248	6.252	-0.004	21549225	500.0	570.5	
1	6.995	6.995	0.000	33287156	500.0	570.1	
1	7.492	7.492	0.000	19758212	500.0	570.9	
1	7.935	7.932	0.003	44884679	500.0	571.5	
1	8.325	8.325	0.000	20184297	500.0	564.2	
		Average of Peak Amounts =				569.4	
2	6.645	6.648	-0.003	75199809	500.0	597.4	
2	7.115	7.115	0.000	111675032	500.0	598.0	
2	7.645	7.645	0.000	67176126	500.0	599.8	
2	8.012	8.012	0.000	149676508	500.0	596.4	
2	8.515	8.515	0.000	115116579	500.0	599.4	
		Average of Peak Amounts =				598.2	
						RPD = 4.93	
$ 15 DCB Decachlorobiphenyl							
1	9.915	9.915	0.000	17084285	25.0	26.0	
2	10.185	10.185	0.000	74769552	25.0	29.9	
						RPD = 13.99	
S 8 Polychlorinated biphenyls, Total							
1						1143.6	
2						1190.1	
						RPD = 3.98	
19 1260 Res 1							
1	8.325	8.325	0.000	20184297	NR	NR	
16 1260 Res 2							
1	8.385	8.385	0.000	10029598	NR	NR	
18 1260 Res 3							
1	8.445	8.445	0.000	13483590	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

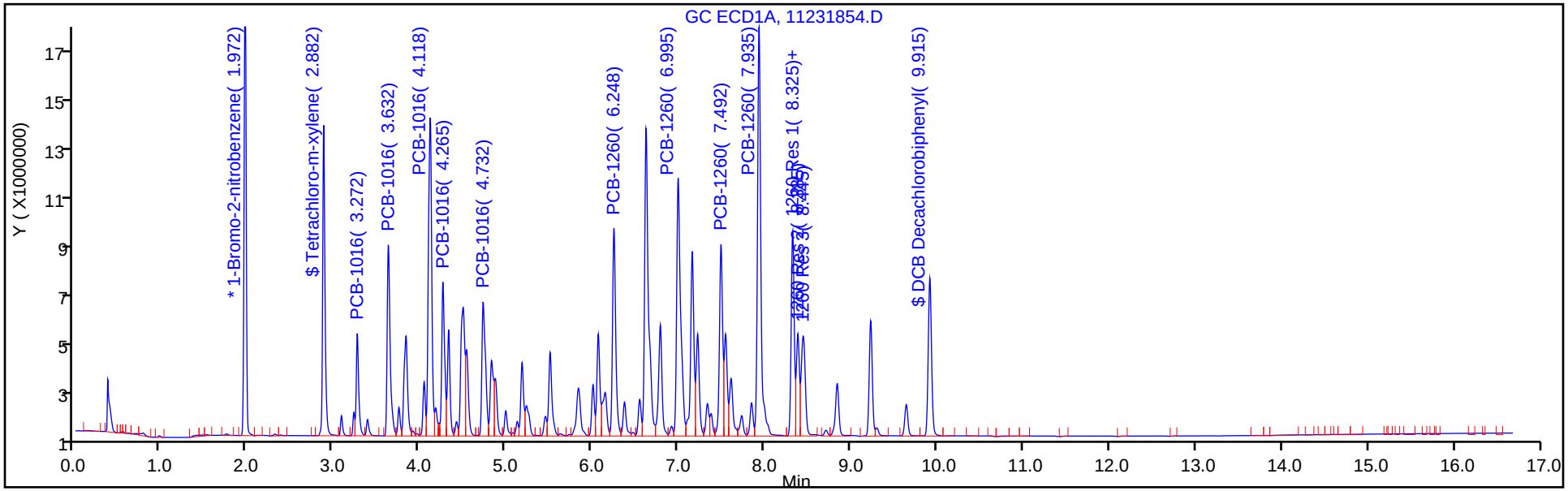
Report Date: 26-Nov-2018 13:48:48 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

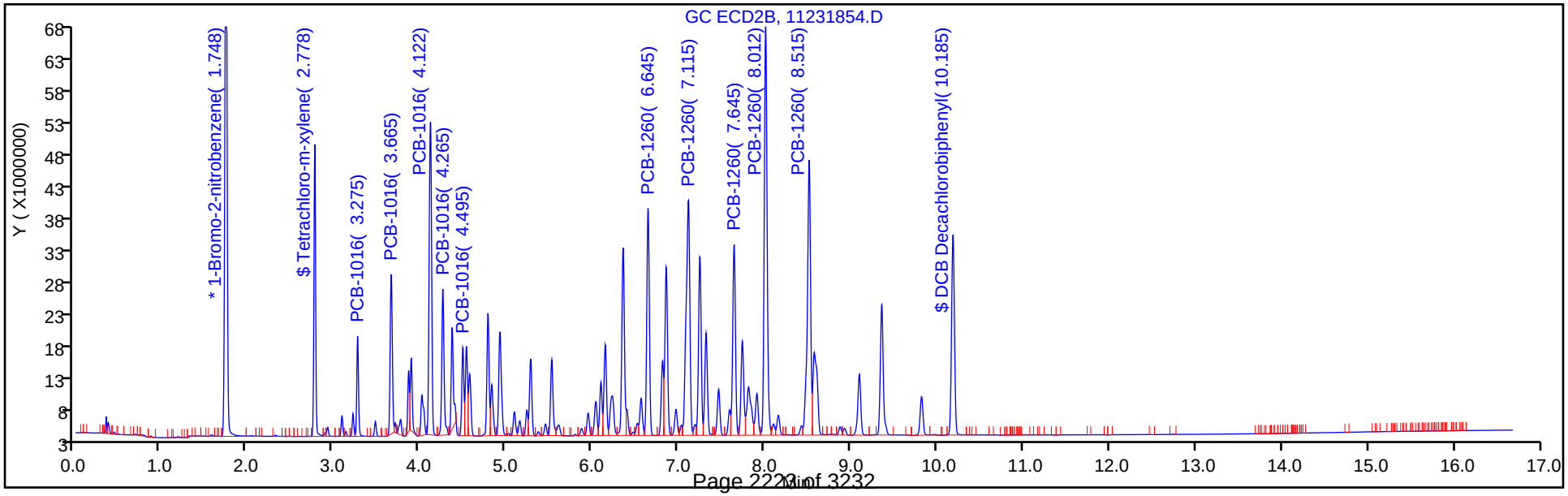
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231854.D

Injection Date:	24-Nov-2018 09:22:07	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	CCV			Worklist Smp#:	54
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	54
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438587/54 Calibration Date: 11/24/2018 09:22

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231854.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.2617		600	500	20.1*	20.0
PCB-1016 Peak 2	Lin1		0.5204		577	500	15.5	20.0
PCB-1016 Peak 3	Lin1		1.175		588	500	17.6	20.0
PCB-1016 Peak 4	Lin1		0.5046		587	500	17.4	20.0
PCB-1016 Peak 5	Lin1		0.2804		607	500	21.3*	20.0
PCB-1260 Peak 1	Lin1		0.8822		597	500	19.5	20.0
PCB-1260 Peak 2	Lin1		1.310		598	500	19.6	20.0
PCB-1260 Peak 3	Lin1		0.7881		600	500	20.0	20.0
PCB-1260 Peak 4	Lin1		1.756		596	500	19.3	20.0
PCB-1260 Peak 5	Lin1		1.350		599	500	19.9	20.0
Tetrachloro-m-xylene	Lin1		15.06		29.4	25.0	17.6	20.0
DCB Decachlorobiphenyl	Lin1		17.54		29.9	25.0	19.6	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-438587/54 Calibration Date: 11/24/2018 09:22

Instrument ID: SGC_J Calib Start Date: 11/21/2018 14:44

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/21/2018 16:51

Lab File ID: 11231854.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.28	3.03	3.53
PCB-1016 Peak 2	3.67	3.42	3.92
PCB-1016 Peak 3	4.12	3.87	4.37
PCB-1016 Peak 4	4.27	4.02	4.52
PCB-1016 Peak 5	4.50	4.25	4.75
PCB-1260 Peak 1	6.65	6.40	6.90
PCB-1260 Peak 2	7.12	6.87	7.37
PCB-1260 Peak 3	7.65	7.40	7.90
PCB-1260 Peak 4	8.01	7.76	8.26
PCB-1260 Peak 5	8.52	8.27	8.77
Tetrachloro-m-xylene	2.78	2.53	3.03
DCB Decachlorobiphenyl	10.19	9.94	10.44

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231854.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Nov-2018 09:22:07 ALS Bottle#: 54 Worklist Smp#: 54
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0076484-054
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 26-Nov-2018 13:48:47 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: patadiab Date: 24-Nov-2018 12:28:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.972	1.968	0.004	32534198	1000.0	1000.0	
2	1.748	1.749	-0.001	170486383	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.882	2.882	0.000	23304113	25.0	27.3	
2	2.778	2.779	-0.001	64184343	25.0	29.4	
						RPD = 7.46	
1 PCB-1016							
1	3.272	3.272	0.000	8262277	500.0	589.5	
1	3.632	3.632	0.000	18541195	500.0	566.3	
1	4.118	4.118	0.000	34519155	500.0	570.9	
1	4.265	4.265	0.000	14499386	500.0	570.6	
1	4.732	4.732	0.000	15765549	500.0	573.8	
		Average of Peak Amounts =				574.2	
2	3.275	3.275	0.000	22306026	500.0	600.3	
2	3.665	3.665	0.000	44358342	500.0	577.3	
2	4.122	4.119	0.003	100148981	500.0	587.9	
2	4.265	4.265	0.000	43010032	500.0	587.0	
2	4.495	4.495	0.000	23901968	500.0	606.7	
		Average of Peak Amounts =				591.8	
						RPD = 3.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.248	6.252	-0.004	21549225	500.0	570.5	
1	6.995	6.995	0.000	33287156	500.0	570.1	
1	7.492	7.492	0.000	19758212	500.0	570.9	
1	7.935	7.932	0.003	44884679	500.0	571.5	
1	8.325	8.325	0.000	20184297	500.0	564.2	
		Average of Peak Amounts =				569.4	
2	6.645	6.648	-0.003	75199809	500.0	597.4	
2	7.115	7.115	0.000	111675032	500.0	598.0	
2	7.645	7.645	0.000	67176126	500.0	599.8	
2	8.012	8.012	0.000	149676508	500.0	596.4	
2	8.515	8.515	0.000	115116579	500.0	599.4	
		Average of Peak Amounts =				598.2	
						RPD = 4.93	
$ 15 DCB Decachlorobiphenyl							
1	9.915	9.915	0.000	17084285	25.0	26.0	
2	10.185	10.185	0.000	74769552	25.0	29.9	
						RPD = 13.99	
S 8 Polychlorinated biphenyls, Total							
1						1143.6	
2						1190.1	
						RPD = 3.98	
19 1260 Res 1							
1	8.325	8.325	0.000	20184297	NR	NR	
16 1260 Res 2							
1	8.385	8.385	0.000	10029598	NR	NR	
18 1260 Res 3							
1	8.445	8.445	0.000	13483590	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

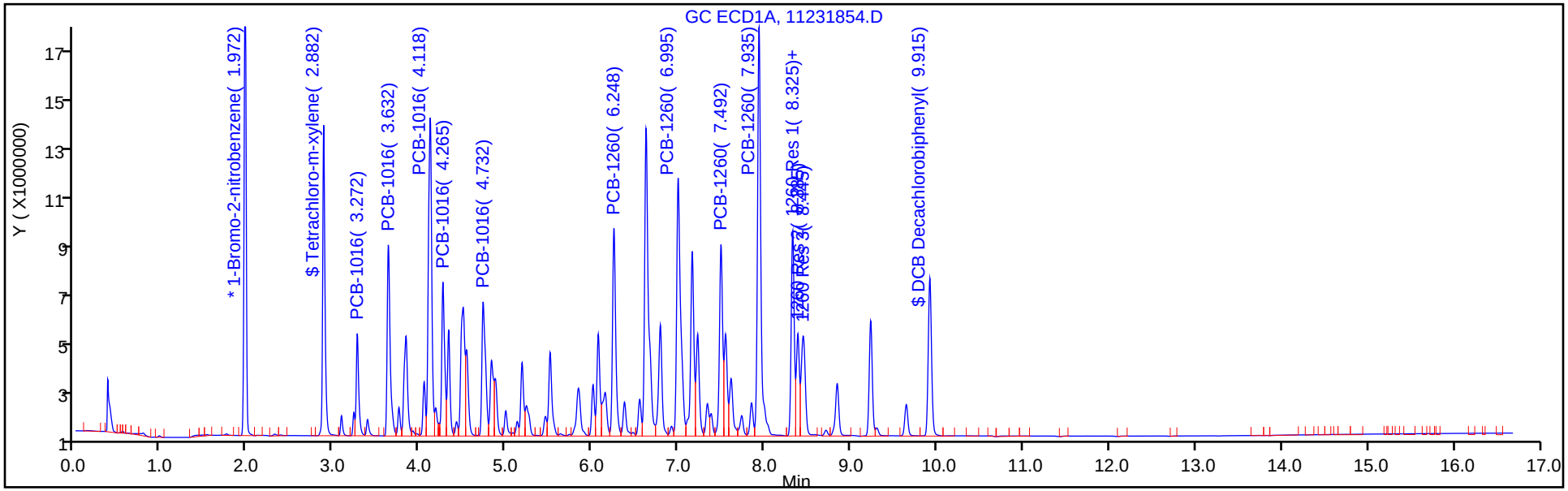
Report Date: 26-Nov-2018 13:48:48 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

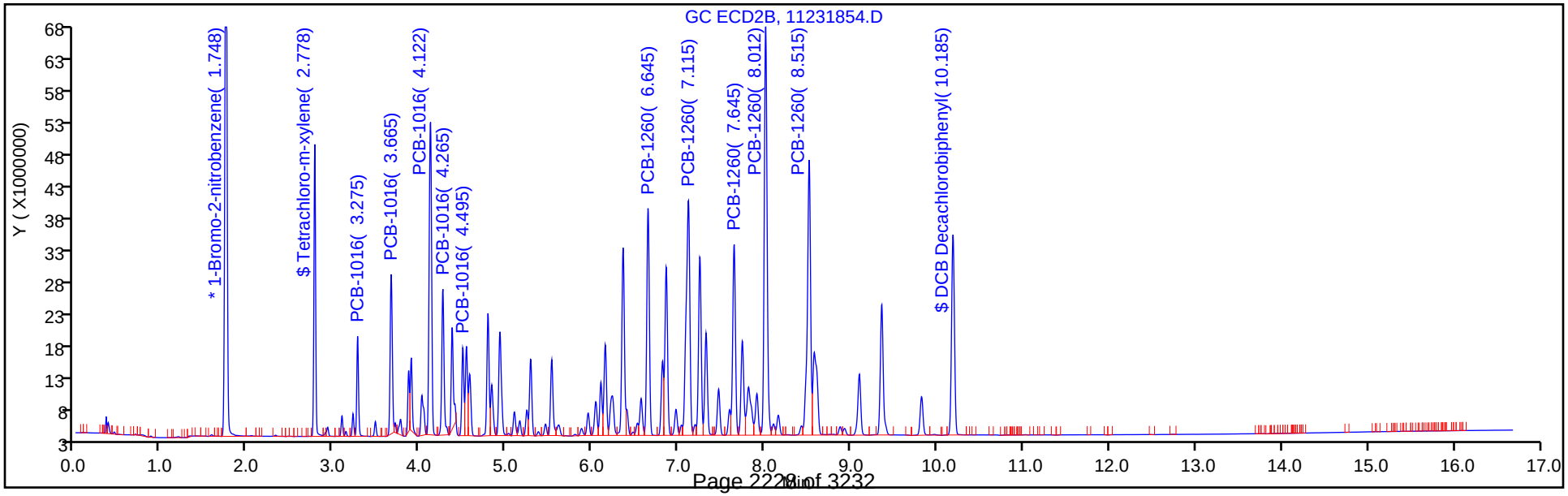
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231854.D

Injection Date:	24-Nov-2018 09:22:07	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	CCV			Worklist Smp#:	54
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	54
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-435616/1-A

Matrix: Water | Lab File ID: 11231842.D

Analysis Method: 8082A | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 1000(mL) | Date Analyzed: 11/24/2018 05:07

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438587 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	0.40	U M	1.0	0.40	0.12
11104-28-2	PCB-1221	0.25	U M	1.0	0.25	0.21
11141-16-5	PCB-1232	0.60	U M	1.0	0.60	0.17
53469-21-9	PCB-1242	0.30	U M	1.0	0.30	0.10
12672-29-6	PCB-1248	0.30	U M	1.0	0.30	0.092
11097-69-1	PCB-1254	0.25	U M	1.0	0.25	0.11
11096-82-5	PCB-1260	0.40	U M	1.0	0.40	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	83		25-120
2051-24-3	DCB Decachlorobiphenyl	88		30-136

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231842.D
Lims ID: MB 280-435616/1-A
Client ID:
Sample Type: MB
Inject. Date: 24-Nov-2018 05:07:39 ALS Bottle#: 42 Worklist Smp#: 42
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-435616/1-
Misc. Info.: 280-0076484-042
Operator ID: ALS Instrument ID: SGC_J

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 26-Nov-2018 13:48:19 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: patadiab Date: 24-Nov-2018 12:22:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.968	0.002	34286325	1000.0	1000.0	
2	1.747	1.749	-0.002	184006761	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.880	2.882	-0.002	12978921	20.0	14.5	
2	2.777	2.779	-0.002	39563607	20.0	16.5	
						RPD = 13.27	
3 PCB-1221							U
1		3.085				ND	
1		3.232					
1		3.269					
2		3.092					
2		3.222					
2		3.276					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
7	PCB-1232						U
1		3.088				ND	
1		3.271					
1		4.118					
1		4.264					
1		4.731					
2		3.275					
2		3.665					
2		4.121					
2		4.265					
2		4.928					
1	PCB-1016						U
1		3.272				ND	
1		3.632					
1		4.118					
1		4.265					
1		4.732					
2		3.275					
2		3.665					
2		4.119					
2		4.265					
2		4.495					
4	PCB-1248						U
1		3.629				ND	
1		4.115					
1		4.729					
1		5.505					
1		6.005					
2		4.119					
2		4.499					
2		4.789					
2		4.929					
2		6.102					
10	PCB-1242						U
1		3.631				ND	
1		4.117					
1		4.264					
1		5.237					
1		5.261					
2		3.664					
2		4.121					
2		4.264					
2		4.788					
2		4.928					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							U
1		5.182				ND	
1		5.509					
1		5.849					
1		6.622					
1		6.995					
2		5.529					
2		5.952					
2		6.402					
2		6.649					
2		7.119					
5 PCB-1262							U
1		6.248				ND	
1		7.154					
1		7.488					
1		7.931					
1		8.321					
2		6.648					
2		7.248					
2		7.645					
2		8.011					
2		8.515					
12 PCB-1260							U
1		6.252				ND	
1		6.995					
1		7.492					
1		7.932					
1		8.325					
2		6.648					
2		7.115					
2		7.645					
2		8.012					
2		8.515					
13 PCB-1268							U
1		8.381				ND	
1		8.434					
1		8.707					
1		9.224					
1		9.637					
2		8.511					
2		8.574					
2		8.928					
2		9.358					
2		9.821					
$ 15 DCB Decachlorobiphenyl							
1	9.913	9.915	-0.002	11405330	20.0	16.2	
2	10.184	10.185	-0.001	48205409	20.0	17.6	
						RPD = 7.83	
S 8 Polychlorinated biphenyls, Total							
1		0.000				ND	
2		0.000					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
2 PCB-5460							
1		0.000				ND	
1		12.739					
1		0.000					
1		13.802					
1		14.259					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
6 PCB-5432							
1		7.063				ND	
1		7.693					
1		8.203					
1		9.029					
1		9.459					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
11 PCB-5442							
1		9.459				ND	
1		9.923					
1		10.079					
1		10.289					
1		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

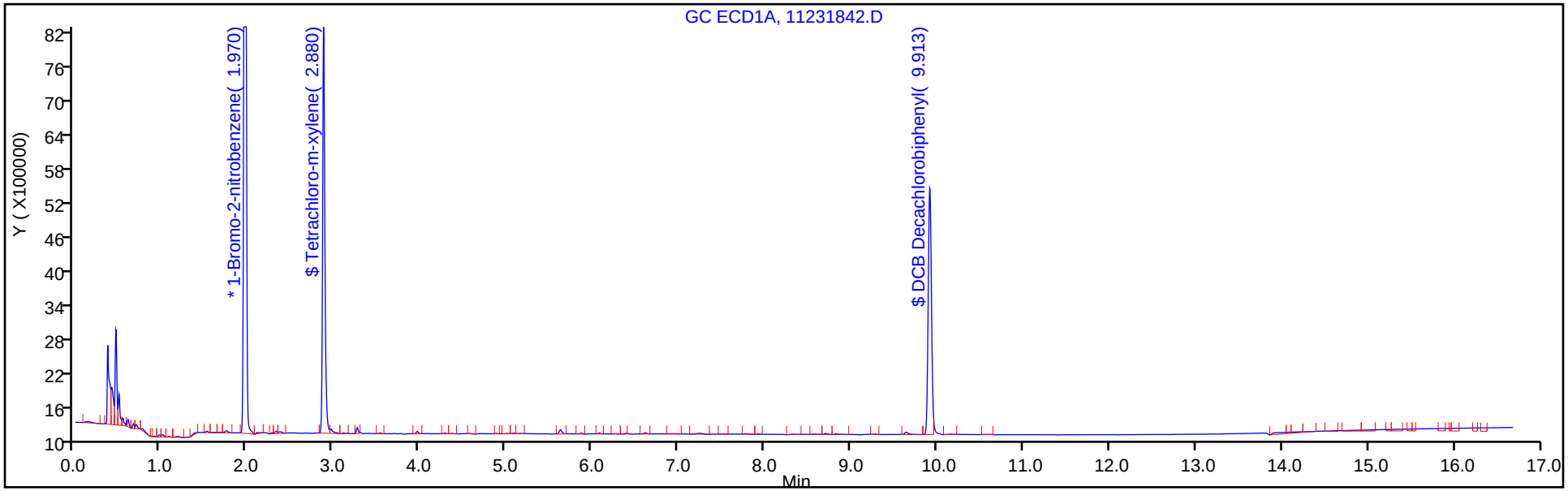
Report Date: 26-Nov-2018 13:48:31 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

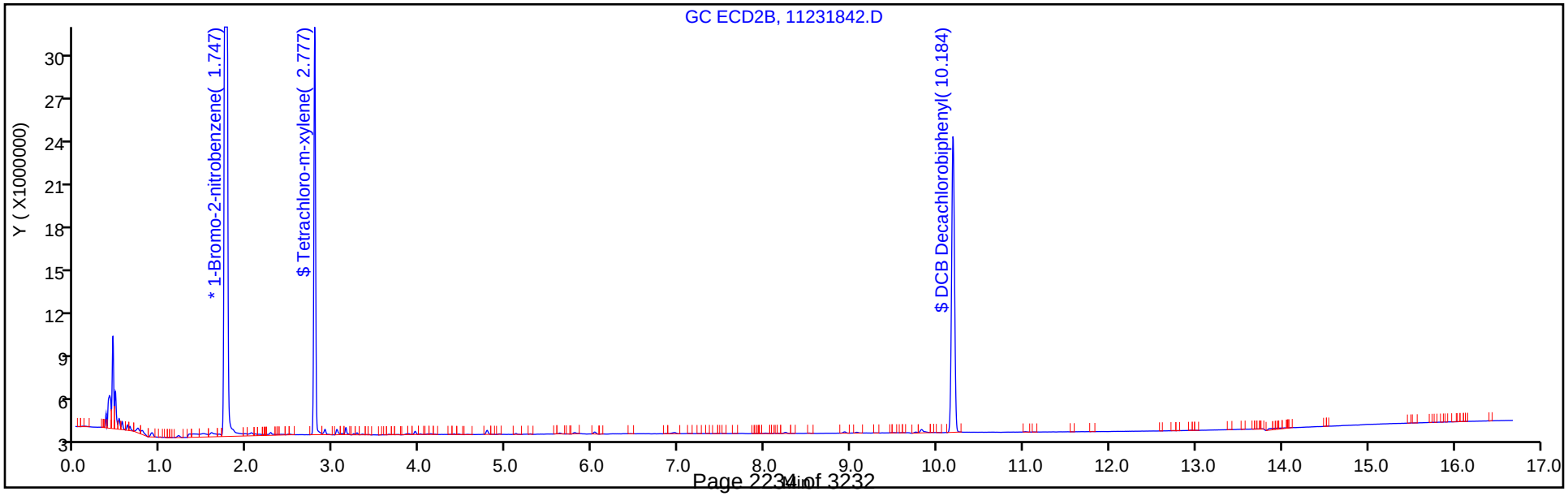
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231842.D

Injection Date:	24-Nov-2018 05:07:39	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	MB 280-435616/1-A			Worklist Smp#:	42
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	42
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231842.D				
Lims ID:	MB 280-435616/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	24-Nov-2018 05:07:39	ALS Bottle#:	42	Worklist Smp#:	42
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB 280-435616/1-				
Misc. Info.:	280-0076484-042				
Operator ID:	ALS	Instrument ID:	SGC_J		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	26-Nov-2018 13:48:19	Calib Date:	21-Nov-2018 21:48:29		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0305				
First Level Reviewer: patadiab		Date:	24-Nov-2018 12:22:16		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	14.5	72.35
$ 15 DCB Decachlorobiphenyl	20.0	16.2	81.25

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	16.5	82.64
$ 15 DCB Decachlorobiphenyl	20.0	17.6	87.87

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-435616/4-A

Matrix: Water | Lab File ID: 11231843.D

Analysis Method: 8082A | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 1000(mL) | Date Analyzed: 11/24/2018 05:28

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438587 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	1.91		1.0	0.40	0.12
11096-82-5	PCB-1260	2.07		1.0	0.40	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	78		25-120
2051-24-3	DCB Decachlorobiphenyl	90		30-136

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231843.D
Lims ID: LCS 280-435616/4-A
Client ID:
Sample Type: LCS
Inject. Date: 24-Nov-2018 05:28:52 ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-435616/4
Misc. Info.: 280-0076484-043
Operator ID: ALS Instrument ID: SGC_J

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 26-Nov-2018 13:48:19 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: patadiab Date: 24-Nov-2018 12:22:46

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.971	1.968	0.003	33578295	1000.0	1000.0	
2	1.748	1.749	-0.001	178530126	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.881	2.882	-0.001	12024878	20.0	13.7	
2	2.778	2.779	-0.001	36311774	20.0	15.6	
						RPD = 13.01	
1 PCB-1016							
1	3.271	3.272	-0.001	3017427	200.0	198.8	
1	3.631	3.632	-0.001	6353413	200.0	178.6	
1	4.118	4.118	0.000	10752252	200.0	170.6	
1	4.264	4.265	-0.001	4968322	200.0	184.0	
1	4.731	4.732	-0.001	5386997	200.0	185.4	
		Average of Peak Amounts =				183.5	
2	3.274	3.275	-0.001	8338987	200.0	203.6	
2	3.664	3.665	-0.001	15773576	200.0	185.1	
2	4.118	4.119	-0.001	35114756	200.0	187.6	
2	4.264	4.265	-0.001	15342317	200.0	189.6	
2	4.494	4.495	-0.001	8204835	200.0	187.3	
		Average of Peak Amounts =				190.6	
						RPD = 3.83	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.251	6.252	-0.001	8447816	200.0	211.4	
1	6.994	6.995	-0.001	13720930	200.0	225.9	
1	7.491	7.492	-0.001	6396011	200.0	174.9	
1	7.931	7.932	-0.001	13677923	200.0	167.2	
1	8.324	8.325	-0.001	6950485	200.0	187.0	
		Average of Peak Amounts =				193.3	
2	6.648	6.648	0.000	31115534	200.0	227.8	
2	7.114	7.115	-0.001	49830653	200.0	247.6	
2	7.644	7.645	-0.001	22753013	200.0	185.5	
2	8.011	8.012	-0.001	51210287	200.0	186.9	
2	8.514	8.515	-0.001	39689174	200.0	189.2	
		Average of Peak Amounts =				207.4	
						RPD = 7.05	
$ 15 DCB Decachlorobiphenyl							
1	9.914	9.915	-0.001	11481302	20.0	16.7	
2	10.184	10.185	-0.001	47837686	20.0	18.0	
						RPD = 7.33	

Reagents:

BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

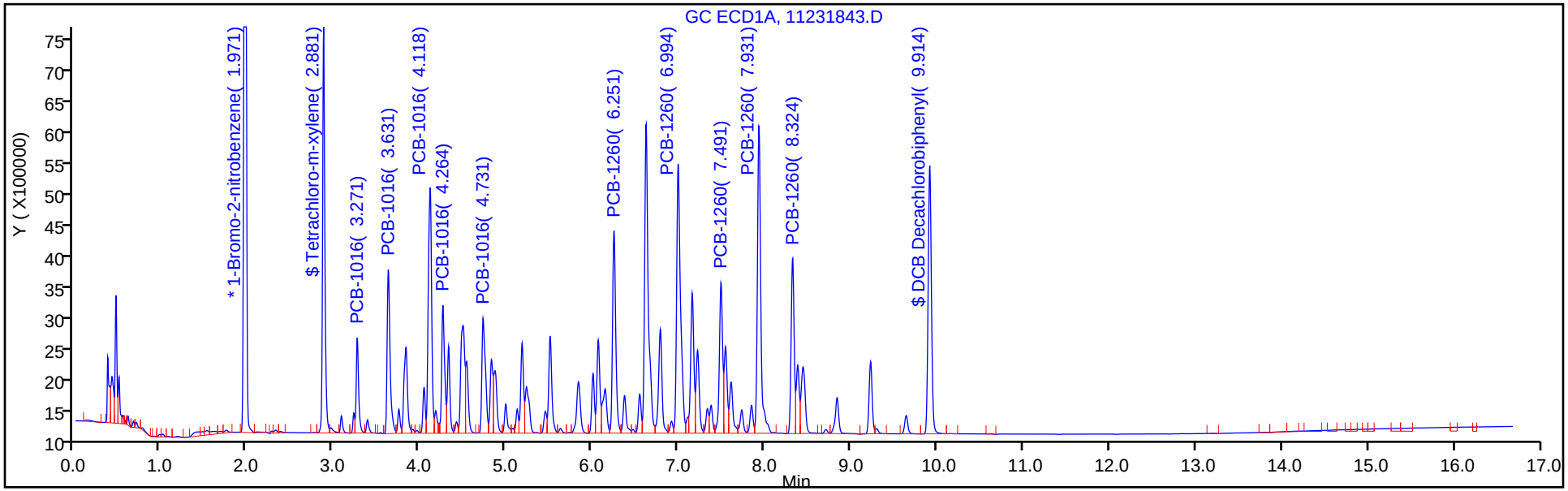
Report Date: 26-Nov-2018 13:48:33 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

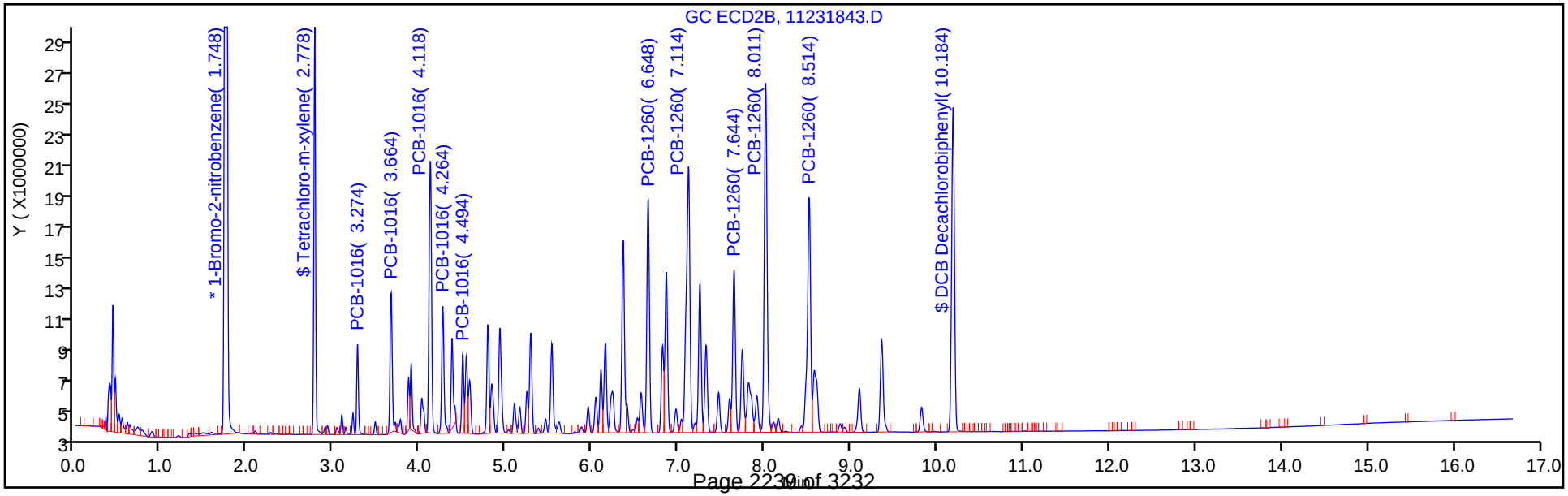
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231843.D

Injection Date:	24-Nov-2018 05:28:52	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	LCS 280-435616/4-A			Worklist Smp#:	43
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	43
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231843.D				
Lims ID:	LCS 280-435616/4-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	24-Nov-2018 05:28:52	ALS Bottle#:	43	Worklist Smp#:	43
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 280-435616/4				
Misc. Info.:	280-0076484-043				
Operator ID:	ALS	Instrument ID:	SGC_J		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	26-Nov-2018 13:48:19	Calib Date:	21-Nov-2018 21:48:29		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0305				
First Level Reviewer: patadiab		Date:	24-Nov-2018 12:22:46		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	13.7	68.48
$ 15 DCB Decachlorobiphenyl	20.0	16.7	83.59

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	15.6	78.01
$ 15 DCB Decachlorobiphenyl	20.0	18.0	89.95

Report Date: 26-Nov-2018 13:48:33 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231843.D

Injection Date: 24-Nov-2018 05:28:52 Instrument ID: SGC_J

Lims ID: LCS 280-435616/4-A

Client ID:

Operator ID: ALS ALS Bottle#: 43 Worklist Smp#: 43

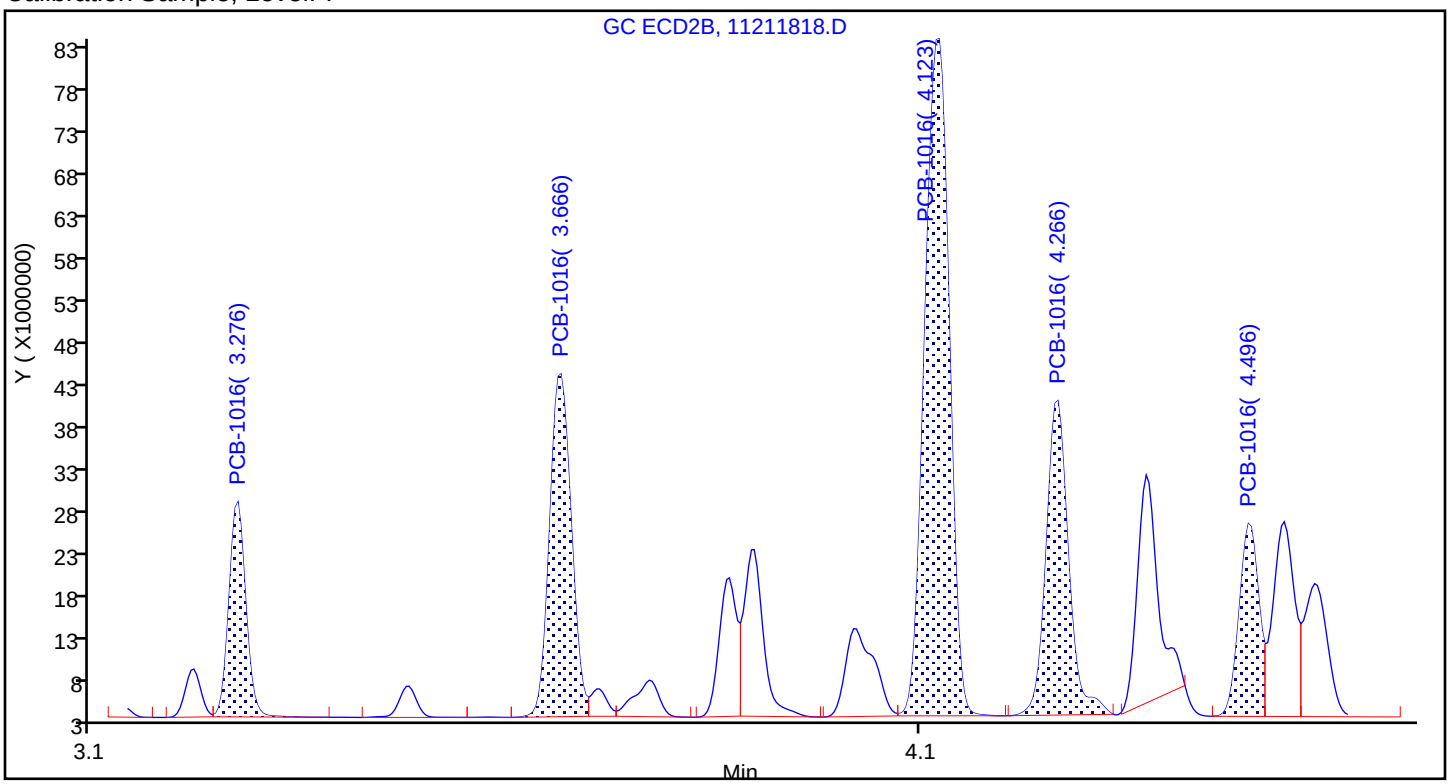
Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

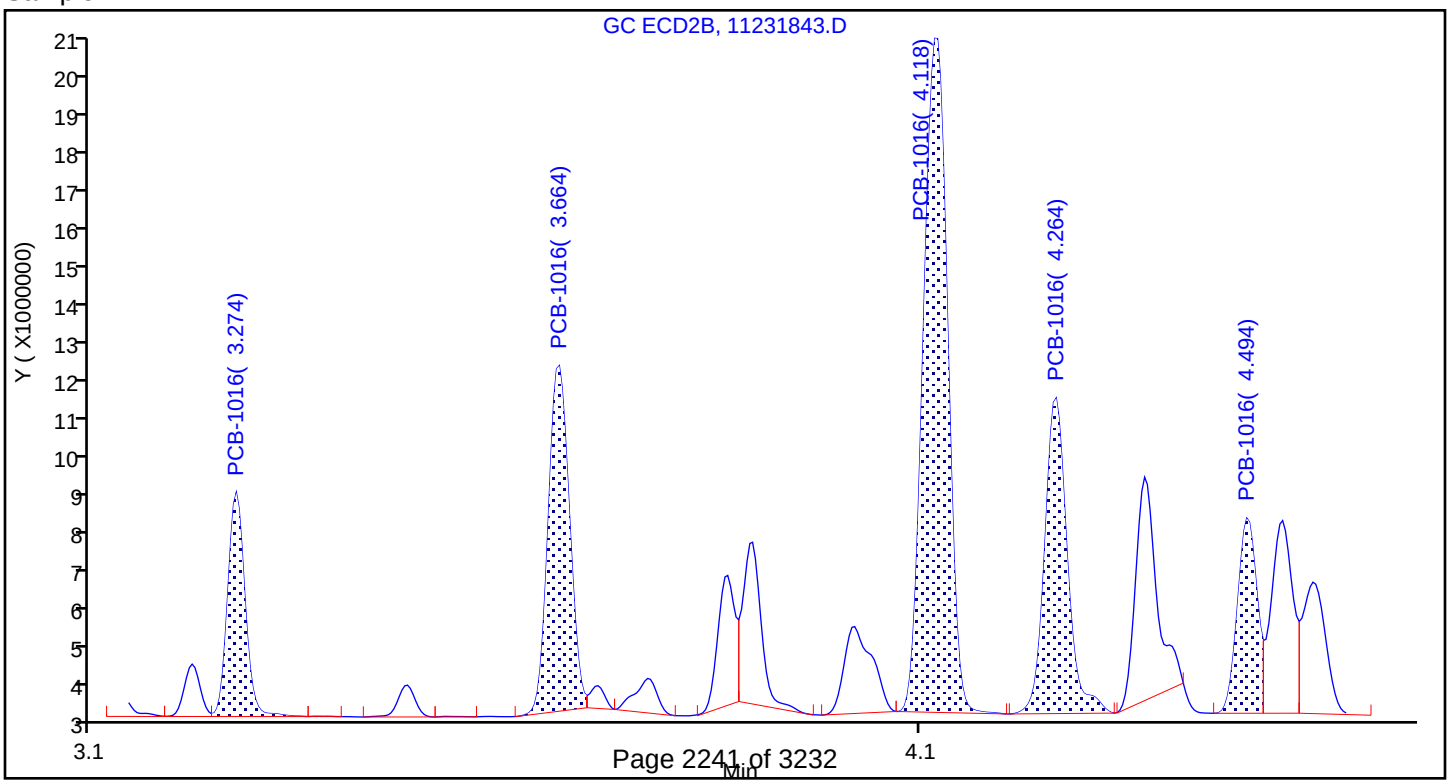
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

1 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7



Sample



Report Date: 26-Nov-2018 13:48:33 Chrom Revision: 2.3 21-Nov-2018 13:56:44

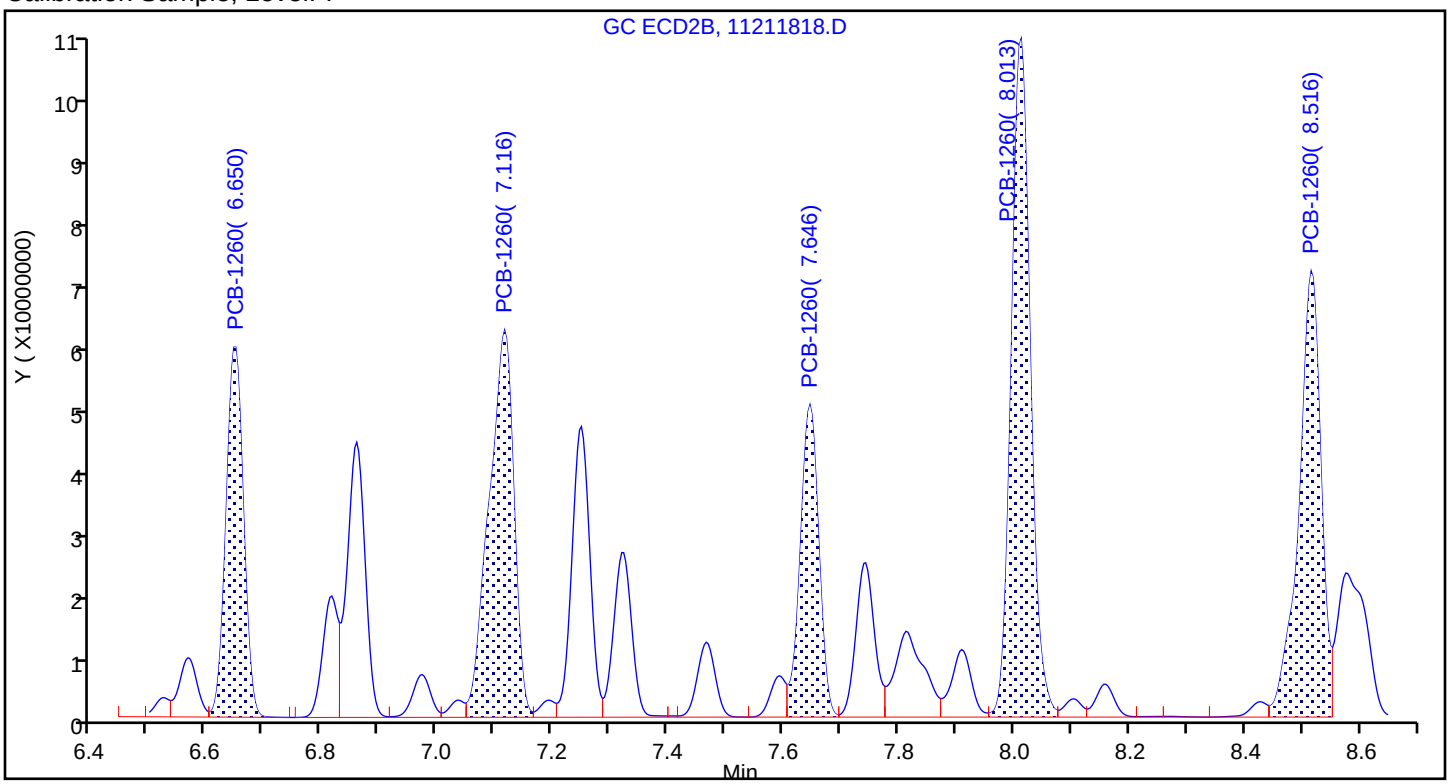
TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231843.D

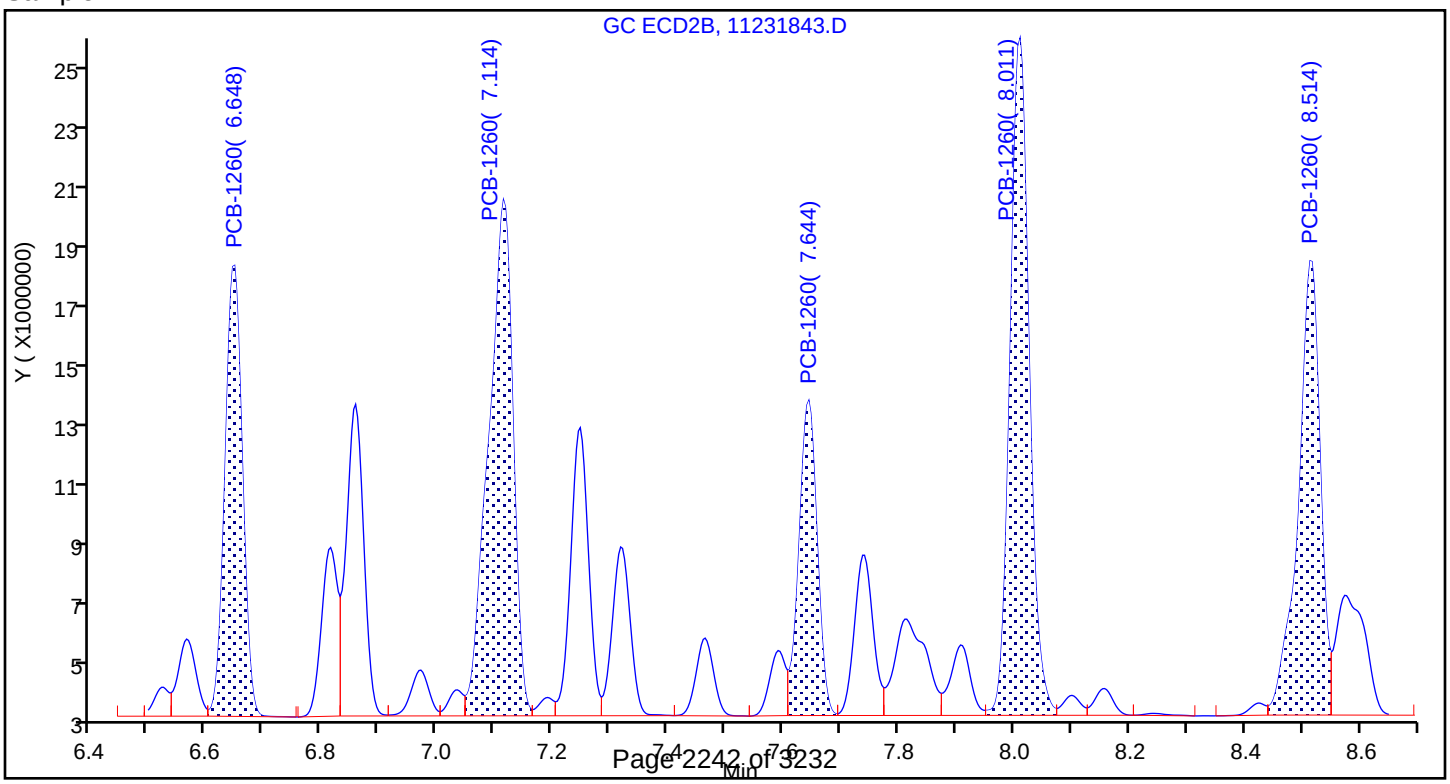
Injection Date:	24-Nov-2018 05:28:52	Instrument ID:	SGC_J		
Lims ID:	LCS 280-435616/4-A				
Client ID:					
Operator ID:	ALS	ALS Bottle#:	43	Worklist Smp#:	43
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		
Column:	CLP2 Pesticides Column 2 (0.32 mm)	Detector	GC ECD2B		

12 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7



Sample



FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-435616/5-A

Matrix: Water | Lab File ID: 11231844.D

Analysis Method: 8082A | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/30/2018 20:52

Sample wt/vol: 1000(mL) | Date Analyzed: 11/24/2018 05:50

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438587 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	1.92		1.0	0.40	0.12
11096-82-5	PCB-1260	2.10		1.0	0.40	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	82		25-120
2051-24-3	DCB Decachlorobiphenyl	93		30-136

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231844.D
Lims ID: LCSD 280-435616/5-A
Client ID:
Sample Type: LCSD
Inject. Date: 24-Nov-2018 05:50:03 ALS Bottle#: 44 Worklist Smp#: 44
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-435616/
Misc. Info.: 280-0076484-044
Operator ID: ALS Instrument ID: SGC_J

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 26-Nov-2018 13:48:19 Calib Date: 21-Nov-2018 21:48:29
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: patadiab Date: 24-Nov-2018 12:23:18

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.970	1.968	0.002	33506217	1000.0	1000.0	
2	1.747	1.749	-0.002	180748777	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.880	2.882	-0.002	12978127	20.0	14.8	
2	2.777	2.779	-0.002	38691825	20.0	16.5	
						RPD = 10.55	
1 PCB-1016							
1	3.270	3.272	-0.002	3068727	200.0	202.9	
1	3.633	3.632	0.001	6503072	200.0	183.6	
1	4.116	4.118	-0.002	10923988	200.0	173.7	
1	4.263	4.265	-0.002	5019751	200.0	186.4	
1	4.730	4.732	-0.002	5436511	200.0	187.6	
		Average of Peak Amounts =				186.8	
2	3.277	3.275	0.002	8342900	200.0	201.0	
2	3.663	3.665	-0.002	15747751	200.0	182.3	
2	4.120	4.119	0.001	36061553	200.0	190.5	
2	4.263	4.265	-0.002	15745819	200.0	192.4	
2	4.497	4.495	0.002	8603566	200.0	194.6	
		Average of Peak Amounts =				192.2	
						RPD = 2.81	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.250	6.252	-0.002	8520375	200.0	213.7	
1	6.993	6.995	-0.002	13872513	200.0	228.9	
1	7.493	7.492	0.001	6453493	200.0	176.9	
1	7.933	7.932	0.001	13949555	200.0	170.9	
1	8.323	8.325	-0.002	7063782	200.0	190.5	
		Average of Peak Amounts =				196.2	
2	6.647	6.648	-0.001	31688934	200.0	229.2	
2	7.113	7.115	-0.002	50821332	200.0	249.5	
2	7.643	7.645	-0.002	23255572	200.0	187.4	
2	8.010	8.012	-0.002	52640806	200.0	190.0	
2	8.517	8.515	0.002	40982056	200.0	193.2	
		Average of Peak Amounts =				209.9	
						RPD = 6.73	
$ 15 DCB Decachlorobiphenyl							
1	9.913	9.915	-0.002	12053767	20.0	17.6	
2	10.183	10.185	-0.002	49849392	20.0	18.5	
						RPD = 5.07	

Reagents:

BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

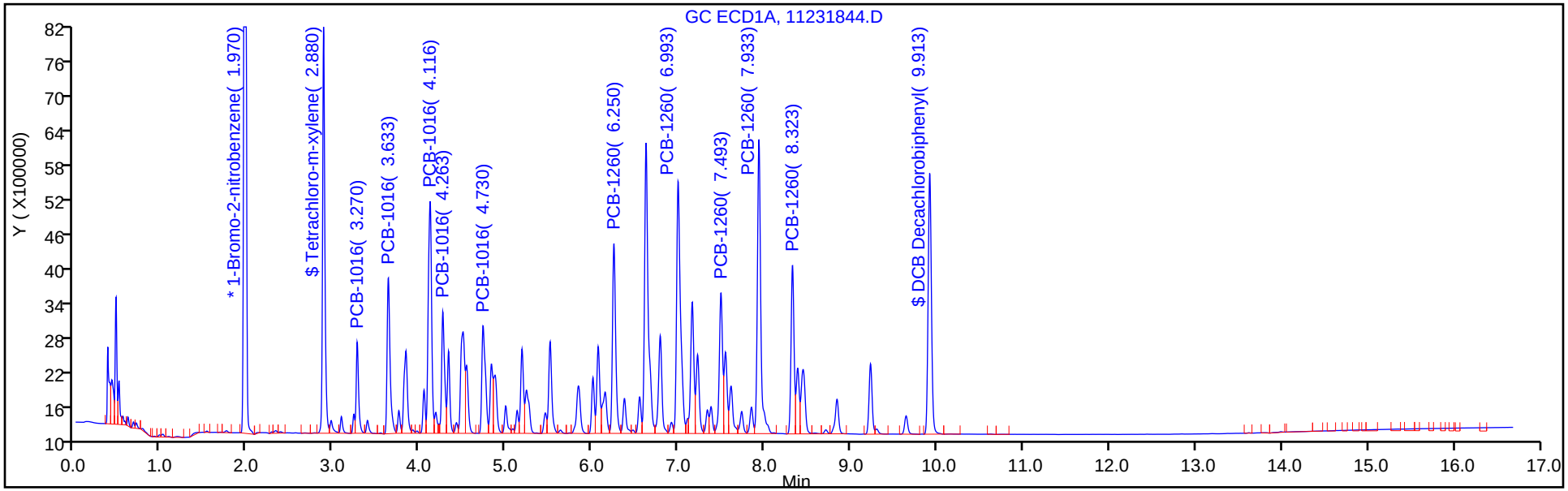
Report Date: 26-Nov-2018 13:48:35 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

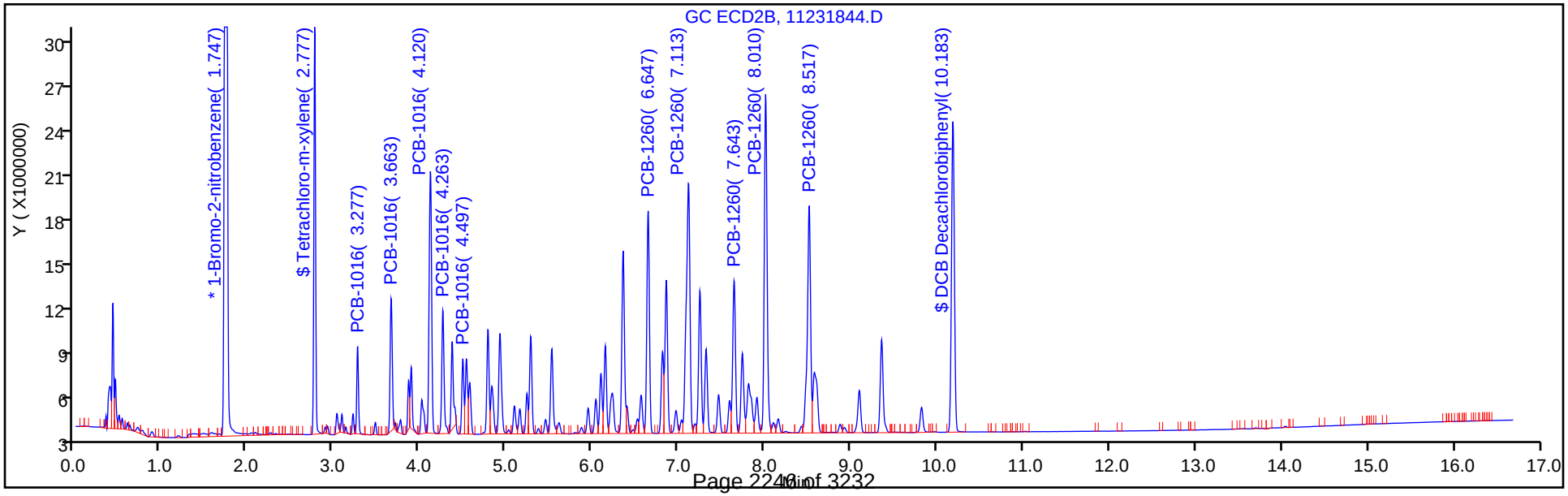
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231844.D

Injection Date:	24-Nov-2018 05:50:03	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	LCSD 280-435616/5-A			Worklist Smp#:	44
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	44
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231844.D				
Lims ID:	LCSD 280-435616/5-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	24-Nov-2018 05:50:03	ALS Bottle#:	44	Worklist Smp#:	44
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCSD 280-435616/				
Misc. Info.:	280-0076484-044				
Operator ID:	ALS	Instrument ID:	SGC_J		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\8082_J.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	26-Nov-2018 13:48:19	Calib Date:	21-Nov-2018 21:48:29		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromdocs2018\q3\Denver\ChromData\SGC_J\20181121-76428.b\11211838.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0305				
First Level Reviewer: patadiab		Date:	24-Nov-2018 12:23:18		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	14.8	74.02
$ 15 DCB Decachlorobiphenyl	20.0	17.6	88.10

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	16.5	82.26
$ 15 DCB Decachlorobiphenyl	20.0	18.5	92.69

Report Date: 26-Nov-2018 13:48:35 Chrom Revision: 2.3 21-Nov-2018 13:56:44

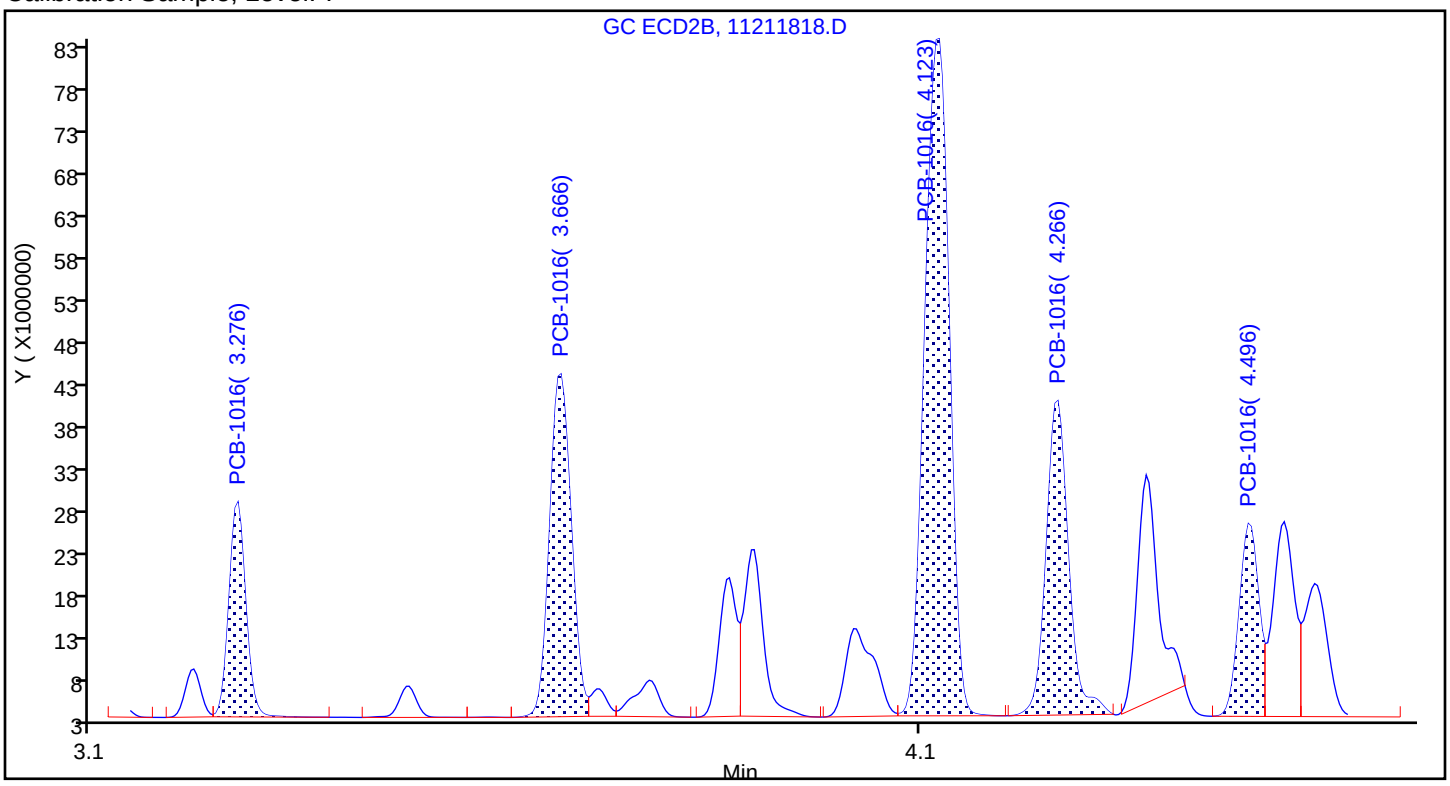
TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231844.D

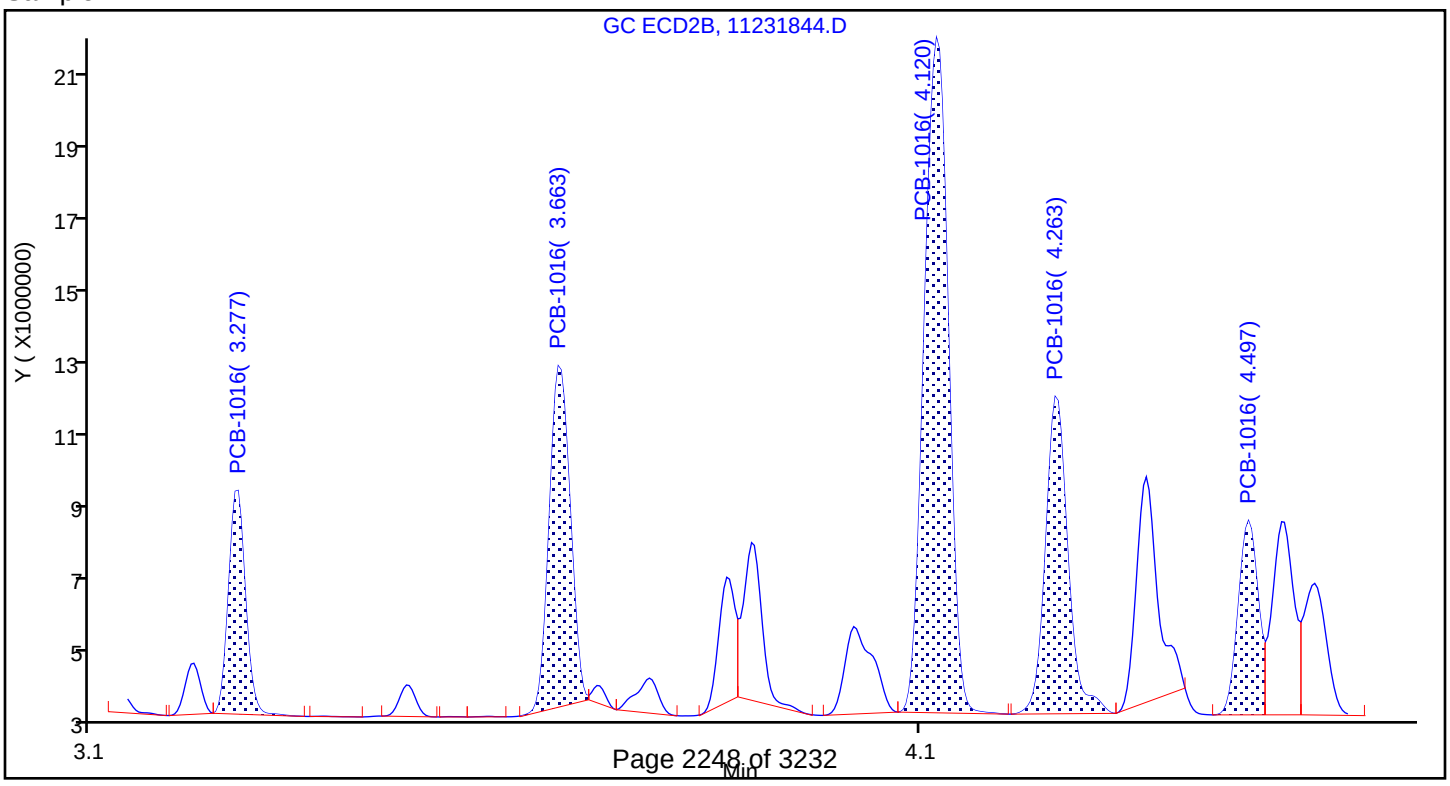
Injection Date:	24-Nov-2018 05:50:03	Instrument ID:	SGC_J		
Lims ID:	LCSD 280-435616/5-A				
Client ID:					
Operator ID:	ALS	ALS Bottle#:	44	Worklist Smp#:	44
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		
Column:	CLP2 Pesticides Column 2 (0.32 mm)	Detector	GC ECD2B		

1 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7



Sample



Report Date: 26-Nov-2018 13:48:35 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_J\20181123-76484.b\11231844.D

Injection Date: 24-Nov-2018 05:50:03 Instrument ID: SGC_J

Lims ID: LCSD 280-435616/5-A

Client ID:

Operator ID: ALS ALS Bottle#: 44 Worklist Smp#: 44

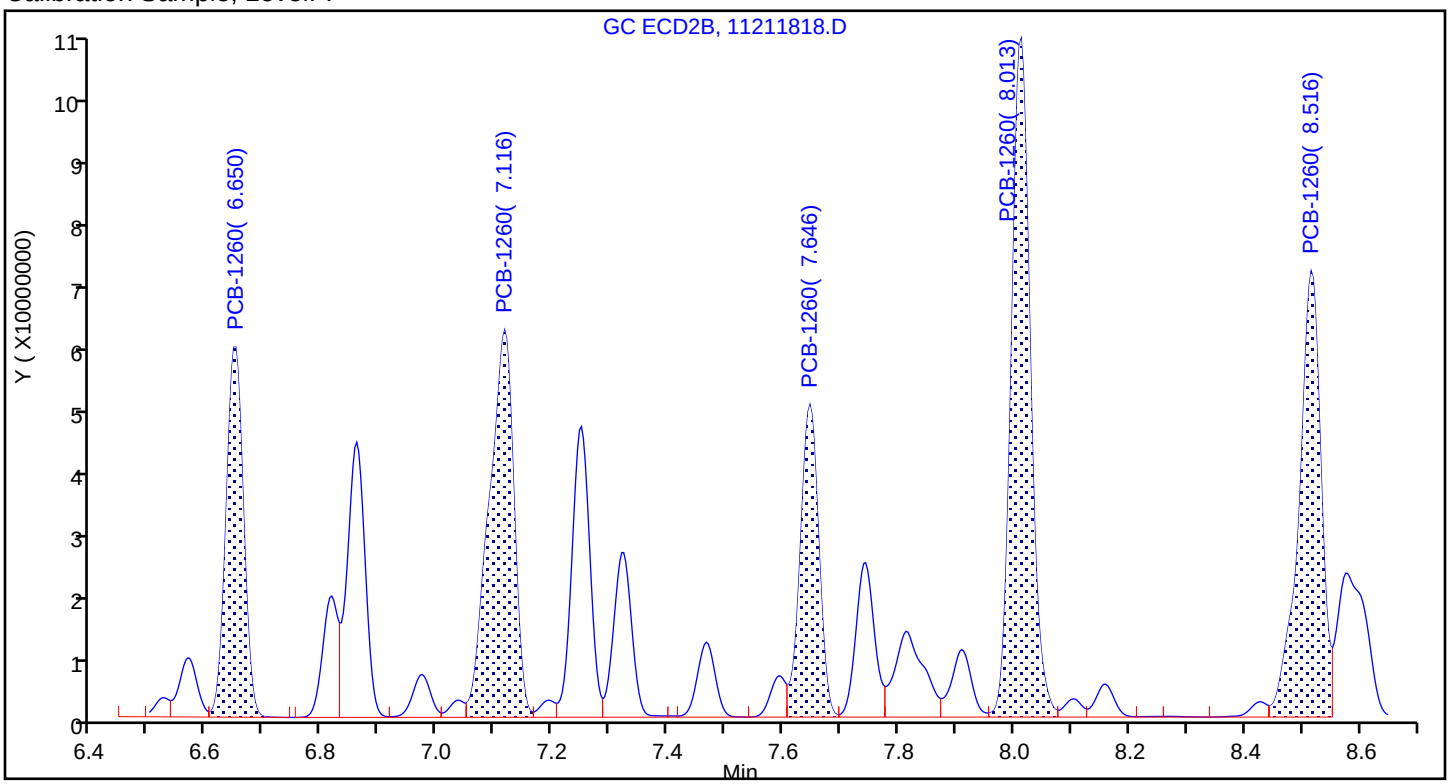
Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

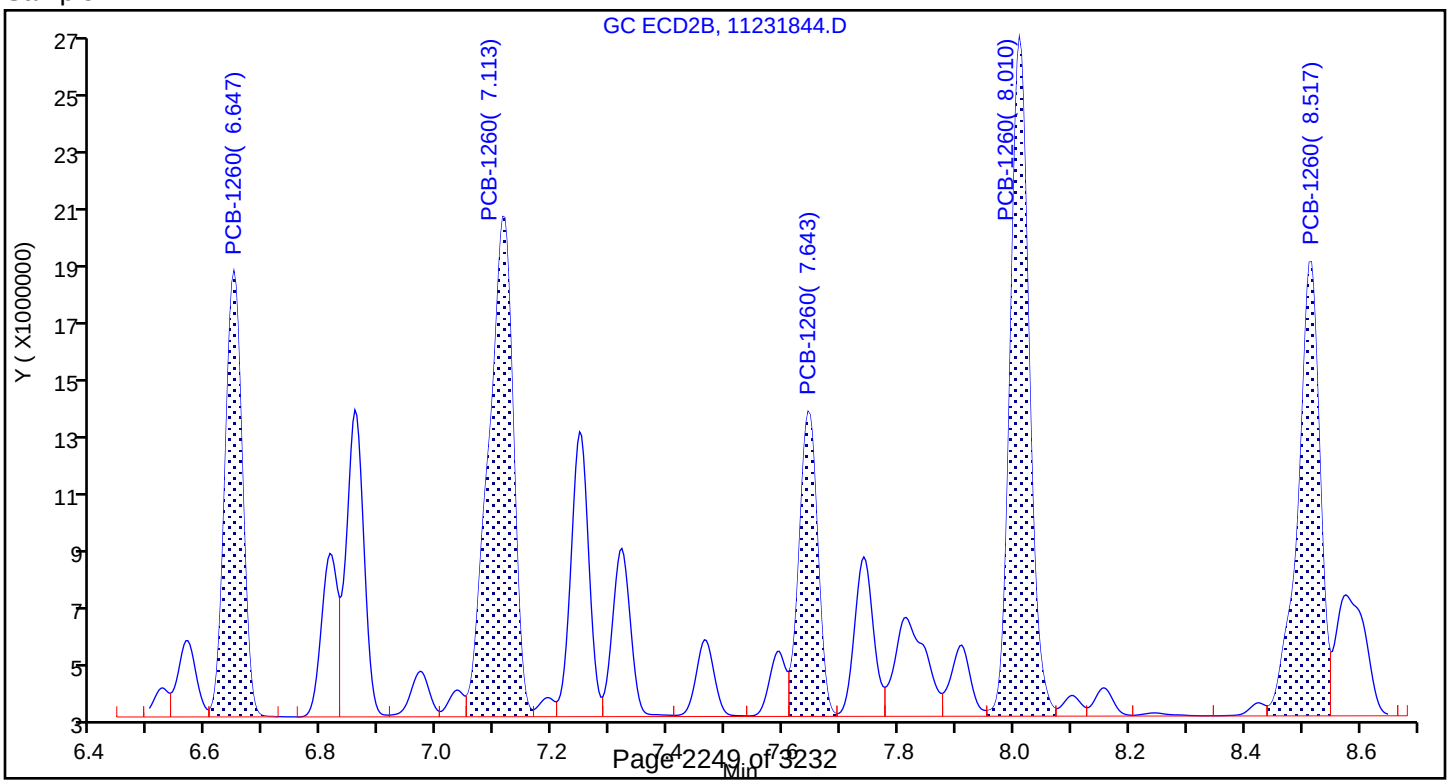
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

12 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7



Sample



PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Start Date: 11/21/2018 09:48

Analysis Batch Number: 438388 End Date: 11/21/2018 23:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STDL71248 280-438388/4 IC		11/21/2018 09:48	1	11211804.D	CLP1 0.32(mm)
STDL71248 280-438388/4 IC		11/21/2018 09:48	1	11211804.D	CLP2 0.32(mm)
STDL61248 280-438388/5 IC		11/21/2018 10:09	1	11211805.D	CLP1 0.32(mm)
STDL61248 280-438388/5 IC		11/21/2018 10:09	1	11211805.D	CLP2 0.32(mm)
STDL51248 280-438388/6 IC		11/21/2018 10:30	1	11211806.D	CLP1 0.32(mm)
STDL51248 280-438388/6 IC		11/21/2018 10:30	1	11211806.D	CLP2 0.32(mm)
STDL41248 280-438388/7 IC		11/21/2018 10:51	1	11211807.D	CLP1 0.32(mm)
STDL41248 280-438388/7 IC		11/21/2018 10:51	1	11211807.D	CLP2 0.32(mm)
STDL31248 280-438388/8 IC		11/21/2018 11:12	1	11211808.D	CLP1 0.32(mm)
STDL31248 280-438388/8 IC		11/21/2018 11:12	1	11211808.D	CLP2 0.32(mm)
STDL21248 280-438388/9 IC		11/21/2018 11:33	1	11211809.D	CLP1 0.32(mm)
STDL21248 280-438388/9 IC		11/21/2018 11:33	1	11211809.D	CLP2 0.32(mm)
STDL11248 280-438388/10 IC		11/21/2018 11:55	1	11211810.D	CLP1 0.32(mm)
STDL11248 280-438388/10 IC		11/21/2018 11:55	1	11211810.D	CLP2 0.32(mm)
STDL72154 280-438388/11 IC		11/21/2018 12:16	1	11211811.D	CLP1 0.32(mm)
STDL72154 280-438388/11 IC		11/21/2018 12:16	1	11211811.D	CLP2 0.32(mm)
STDL62154 280-438388/12 IC		11/21/2018 12:37	1	11211812.D	CLP1 0.32(mm)
STDL62154 280-438388/12 IC		11/21/2018 12:37	1	11211812.D	CLP2 0.32(mm)
STDL52154 280-438388/13 IC		11/21/2018 12:58	1	11211813.D	CLP1 0.32(mm)
STDL52154 280-438388/13 IC		11/21/2018 12:58	1	11211813.D	CLP2 0.32(mm)
STDL42154 280-438388/14 IC		11/21/2018 13:19	1	11211814.D	CLP1 0.32(mm)
STDL42154 280-438388/14 IC		11/21/2018 13:19	1	11211814.D	CLP2 0.32(mm)
STDL32154 280-438388/15 IC		11/21/2018 13:41	1	11211815.D	CLP1 0.32(mm)
STDL32154 280-438388/15 IC		11/21/2018 13:41	1	11211815.D	CLP2 0.32(mm)
STDL22154 280-438388/16 IC		11/21/2018 14:02	1	11211816.D	CLP1 0.32(mm)
STDL22154 280-438388/16 IC		11/21/2018 14:02	1	11211816.D	CLP2 0.32(mm)
STDL12154 280-438388/17 IC		11/21/2018 14:23	1	11211817.D	CLP1 0.32(mm)
STDL12154 280-438388/17 IC		11/21/2018 14:23	1	11211817.D	CLP2 0.32(mm)
STDL71660 280-438388/18 IC		11/21/2018 14:44	1	11211818.D	CLP1 0.32(mm)
STDL71660 280-438388/18 IC		11/21/2018 14:44	1	11211818.D	CLP2 0.32(mm)
STDL61660 280-438388/19 IC		11/21/2018 15:05	1	11211819.D	CLP1 0.32(mm)

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PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Start Date: 11/21/2018 09:48

Analysis Batch Number: 438388 End Date: 11/21/2018 23:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STDL61660 280-438388/19 IC		11/21/2018 15:05	1	11211819.D	CLP2 0.32(mm)
STDL51660 280-438388/20 ICIS		11/21/2018 15:27	1	11211820.D	CLP1 0.32(mm)
STDL51660 280-438388/20 ICIS		11/21/2018 15:27	1	11211820.D	CLP2 0.32(mm)
STDL41660 280-438388/21 IC		11/21/2018 15:48	1	11211821.D	CLP1 0.32(mm)
STDL41660 280-438388/21 IC		11/21/2018 15:48	1	11211821.D	CLP2 0.32(mm)
STDL31660 280-438388/22 IC		11/21/2018 16:09	1	11211822.D	CLP1 0.32(mm)
STDL31660 280-438388/22 IC		11/21/2018 16:09	1	11211822.D	CLP2 0.32(mm)
STDL21660 280-438388/23 IC		11/21/2018 16:30	1	11211823.D	CLP1 0.32(mm)
STDL21660 280-438388/23 IC		11/21/2018 16:30	1	11211823.D	CLP2 0.32(mm)
STDL11660 280-438388/24 IC		11/21/2018 16:51	1	11211824.D	CLP1 0.32(mm)
STDL11660 280-438388/24 IC		11/21/2018 16:51	1	11211824.D	CLP2 0.32(mm)
STDL73262 280-438388/25 IC		11/21/2018 17:13	1	11211825.D	CLP1 0.32(mm)
STDL73262 280-438388/25 IC		11/21/2018 17:13	1	11211825.D	CLP2 0.32(mm)
STDL63262 280-438388/26 IC		11/21/2018 17:34	1	11211826.D	CLP1 0.32(mm)
STDL63262 280-438388/26 IC		11/21/2018 17:34	1	11211826.D	CLP2 0.32(mm)
STDL53262 280-438388/27 IC		11/21/2018 17:55	1	11211827.D	CLP1 0.32(mm)
STDL53262 280-438388/27 IC		11/21/2018 17:55	1	11211827.D	CLP2 0.32(mm)
STDL43262 280-438388/28 IC		11/21/2018 18:16	1	11211828.D	CLP1 0.32(mm)
STDL43262 280-438388/28 IC		11/21/2018 18:16	1	11211828.D	CLP2 0.32(mm)
STDL33262 280-438388/29 IC		11/21/2018 18:37	1	11211829.D	CLP1 0.32(mm)
STDL33262 280-438388/29 IC		11/21/2018 18:37	1	11211829.D	CLP2 0.32(mm)
STDL23262 280-438388/30 IC		11/21/2018 18:59	1	11211830.D	CLP1 0.32(mm)
STDL23262 280-438388/30 IC		11/21/2018 18:59	1	11211830.D	CLP2 0.32(mm)
STDL13262 280-438388/31 IC		11/21/2018 19:20	1	11211831.D	CLP1 0.32(mm)
STDL13262 280-438388/31 IC		11/21/2018 19:20	1	11211831.D	CLP2 0.32(mm)
STDL74268 280-438388/32 IC		11/21/2018 19:41	1	11211832.D	CLP1 0.32(mm)
STDL74268 280-438388/32 IC		11/21/2018 19:41	1	11211832.D	CLP2 0.32(mm)
STDL64268 280-438388/33 IC		11/21/2018 20:02	1	11211833.D	CLP1 0.32(mm)
STDL64268 280-438388/33 IC		11/21/2018 20:02	1	11211833.D	CLP2 0.32(mm)
STDL54268 280-438388/34 IC		11/21/2018 20:23	1	11211834.D	CLP1 0.32(mm)
STDL54268 280-438388/34 IC		11/21/2018 20:23	1	11211834.D	CLP2 0.32(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Start Date: 11/21/2018 09:48

Analysis Batch Number: 438388 End Date: 11/21/2018 23:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STDL44268 280-438388/35 IC		11/21/2018 20:44	1	11211835.D	CLP1 0.32(mm)
STDL44268 280-438388/35 IC		11/21/2018 20:44	1	11211835.D	CLP2 0.32(mm)
STDL34268 280-438388/36 IC		11/21/2018 21:06	1	11211836.D	CLP1 0.32(mm)
STDL34268 280-438388/36 IC		11/21/2018 21:06	1	11211836.D	CLP2 0.32(mm)
STDL24268 280-438388/37 IC		11/21/2018 21:27	1	11211837.D	CLP1 0.32(mm)
STDL24268 280-438388/37 IC		11/21/2018 21:27	1	11211837.D	CLP2 0.32(mm)
STDL14268 280-438388/38 IC		11/21/2018 21:48	1	11211838.D	CLP1 0.32(mm)
STDL14268 280-438388/38 IC		11/21/2018 21:48	1	11211838.D	CLP2 0.32(mm)
ICV 280-438388/39		11/21/2018 22:09	1	11211839.D	CLP1 0.32(mm)
ICV 280-438388/39		11/21/2018 22:09	1	11211839.D	CLP2 0.32(mm)
ICV 280-438388/40		11/21/2018 22:30	1	11211840.D	CLP1 0.32(mm)
ICV 280-438388/40		11/21/2018 22:30	1	11211840.D	CLP2 0.32(mm)
ICV 280-438388/41		11/21/2018 22:51	1	11211841.D	CLP1 0.32(mm)
ICV 280-438388/41		11/21/2018 22:51	1	11211841.D	CLP2 0.32(mm)
ICV 280-438388/42		11/21/2018 23:13	1	11211842.D	CLP1 0.32(mm)
ICV 280-438388/42		11/21/2018 23:13	1	11211842.D	CLP2 0.32(mm)
ICV 280-438388/43		11/21/2018 23:34	1	11211843.D	CLP1 0.32(mm)
ICV 280-438388/43		11/21/2018 23:34	1	11211843.D	CLP2 0.32(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Start Date: 11/23/2018 15:21

Analysis Batch Number: 438587 End Date: 11/24/2018 09:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVIS 280-438587/3		11/23/2018 15:21	1	11231803.D	CLP1 0.32(mm)
CCVIS 280-438587/3		11/23/2018 15:21	1	11231803.D	CLP2 0.32(mm)
CCV 280-438587/7		11/23/2018 16:46	1		CLP1 0.32(mm)
CCV 280-438587/7		11/23/2018 16:46	1		CLP2 0.32(mm)
ZZZZZ		11/23/2018 17:07	1000		CLP1 0.32(mm)
ZZZZZ		11/23/2018 17:07	1000		CLP2 0.32(mm)
ZZZZZ		11/23/2018 17:28	1		CLP1 0.32(mm)
ZZZZZ		11/23/2018 17:28	1		CLP2 0.32(mm)
ZZZZZ		11/23/2018 17:49	1		CLP1 0.32(mm)
ZZZZZ		11/23/2018 17:49	1		CLP2 0.32(mm)
ZZZZZ		11/23/2018 18:10	1		CLP1 0.32(mm)
ZZZZZ		11/23/2018 18:10	1		CLP2 0.32(mm)
ZZZZZ		11/23/2018 18:32	1		CLP1 0.32(mm)
ZZZZZ		11/23/2018 18:32	1		CLP2 0.32(mm)
ZZZZZ		11/23/2018 18:53	1		CLP1 0.32(mm)
ZZZZZ		11/23/2018 18:53	1		CLP2 0.32(mm)
ZZZZZ		11/23/2018 19:14	1		CLP1 0.32(mm)
ZZZZZ		11/23/2018 19:14	1		CLP2 0.32(mm)
ZZZZZ		11/23/2018 19:35	10		CLP1 0.32(mm)
ZZZZZ		11/23/2018 19:35	10		CLP2 0.32(mm)
ZZZZZ		11/23/2018 19:56	10		CLP1 0.32(mm)
ZZZZZ		11/23/2018 19:56	10		CLP2 0.32(mm)
ZZZZZ		11/23/2018 20:17	1		CLP1 0.32(mm)
ZZZZZ		11/23/2018 20:17	1		CLP2 0.32(mm)
ZZZZZ		11/23/2018 20:39	1		CLP1 0.32(mm)
ZZZZZ		11/23/2018 20:39	1		CLP2 0.32(mm)
ZZZZZ		11/23/2018 21:00	1		CLP1 0.32(mm)
ZZZZZ		11/23/2018 21:00	1		CLP2 0.32(mm)
CCV 280-438587/20		11/23/2018 21:21	1		CLP1 0.32(mm)
CCV 280-438587/20		11/23/2018 21:21	1		CLP2 0.32(mm)
ZZZZZ		11/23/2018 21:42	1		CLP1 0.32(mm)
ZZZZZ		11/23/2018 21:42	1		CLP2 0.32(mm)
ZZZZZ		11/23/2018 22:04	20		CLP1 0.32(mm)
ZZZZZ		11/23/2018 22:04	20		CLP2 0.32(mm)
ZZZZZ		11/23/2018 22:25	20		CLP1 0.32(mm)
ZZZZZ		11/23/2018 22:25	20		CLP2 0.32(mm)
ZZZZZ		11/23/2018 22:46	1		CLP1 0.32(mm)
ZZZZZ		11/23/2018 22:46	1		CLP2 0.32(mm)
ZZZZZ		11/23/2018 23:07	1		CLP1 0.32(mm)
ZZZZZ		11/23/2018 23:07	1		CLP2 0.32(mm)
ZZZZZ		11/23/2018 23:28	1		CLP1 0.32(mm)
ZZZZZ		11/23/2018 23:28	1		CLP2 0.32(mm)
ZZZZZ		11/23/2018 23:50	1		CLP1 0.32(mm)
ZZZZZ		11/23/2018 23:50	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 00:11	20		CLP1 0.32(mm)

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PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: SGC_J Start Date: 11/23/2018 15:21

Analysis Batch Number: 438587 End Date: 11/24/2018 09:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		11/24/2018 00:11	20		CLP2 0.32(mm)
ZZZZZ		11/24/2018 00:32	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 00:32	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 00:53	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 00:53	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 01:14	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 01:14	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 01:35	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 01:35	1		CLP2 0.32(mm)
CCV 280-438587/33		11/24/2018 01:57	1	11231833.D	CLP1 0.32(mm)
CCV 280-438587/33		11/24/2018 01:57	1	11231833.D	CLP2 0.32(mm)
ZZZZZ		11/24/2018 02:18	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 02:18	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 02:39	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 02:39	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 03:00	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 03:00	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 03:21	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 03:21	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 03:42	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 03:42	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 04:04	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 04:04	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 04:25	10		CLP1 0.32(mm)
ZZZZZ		11/24/2018 04:25	10		CLP2 0.32(mm)
ZZZZZ		11/24/2018 04:46	10		CLP1 0.32(mm)
ZZZZZ		11/24/2018 04:46	10		CLP2 0.32(mm)
MB 280-435616/1-A		11/24/2018 05:07	1	11231842.D	CLP1 0.32(mm)
MB 280-435616/1-A		11/24/2018 05:07	1	11231842.D	CLP2 0.32(mm)
LCS 280-435616/4-A		11/24/2018 05:28	1	11231843.D	CLP1 0.32(mm)
LCS 280-435616/4-A		11/24/2018 05:28	1	11231843.D	CLP2 0.32(mm)
LCSD 280-435616/5-A		11/24/2018 05:50	1	11231844.D	CLP1 0.32(mm)
LCSD 280-435616/5-A		11/24/2018 05:50	1	11231844.D	CLP2 0.32(mm)
CCV 280-438587/45		11/24/2018 06:11	1	11231845.D	CLP1 0.32(mm)
CCV 280-438587/45		11/24/2018 06:11	1	11231845.D	CLP2 0.32(mm)
280-116020-1		11/24/2018 07:57	1	11231850.D	CLP1 0.32(mm)
280-116020-1		11/24/2018 07:57	1	11231850.D	CLP2 0.32(mm)
280-116020-2		11/24/2018 08:18	1	11231851.D	CLP1 0.32(mm)
280-116020-2		11/24/2018 08:18	1	11231851.D	CLP2 0.32(mm)
280-116020-12		11/24/2018 08:39	1	11231852.D	CLP1 0.32(mm)
280-116020-12		11/24/2018 08:39	1	11231852.D	CLP2 0.32(mm)
ZZZZZ		11/24/2018 09:00	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 09:00	1		CLP2 0.32(mm)
CCV 280-438587/54		11/24/2018 09:22	1	11231854.D	CLP1 0.32(mm)
CCV 280-438587/54		11/24/2018 09:22	1	11231854.D	CLP2 0.32(mm)

8082A

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435616 Batch Start Date: 10/30/18 20:52 Batch Analyst: Exstrum, Adam J

Batch Method: 3510C Batch End Date: 11/06/18 13:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	8081/82 Surr 00105
MB 280-435616/1		3510C, 8082A				1000 mL	10 mL	7 SU	1 mL
LCS 280-435616/4		3510C, 8082A				1000 mL	10 mL	7 SU	1 mL
LCSD 280-435616/5		3510C, 8082A				1000 mL	10 mL	7 SU	1 mL
280-116020-B-1	DET-003-181001-GW	3510C, 8082A	T	1474.2 g	498.2 g	976 mL	10 mL	7 SU	1 mL
280-116020-A-2	DET-003-181002-GW	3510C, 8082A	T	1511.7 g	498.5 g	1013.2 mL	10 mL	7 SU	1 mL
280-116020-A-12	DET-004-181001-GW	3510C, 8082A	T	1428.2 g	497.7 g	930.5 mL	10 mL	7 SU	1 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	8082 LCS 00049	AnalysisComment				
MB 280-435616/1		3510C, 8082A							
LCS 280-435616/4		3510C, 8082A		1 mL	8082				
LCSD 280-435616/5		3510C, 8082A		1 mL	8082				
280-116020-B-1	DET-003-181001-GW	3510C, 8082A	T						
280-116020-A-2	DET-003-181002-GW	3510C, 8082A	T						
280-116020-A-12	DET-004-181001-GW	3510C, 8082A	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435616 Batch Start Date: 10/30/18 20:52 Batch Analyst: Exstrum, Adam J

Batch Method: 3510C Batch End Date: 11/06/18 13:10

Batch Notes	
Balance ID	24750399
Batch Comment	DV-OP-0006/0007/BB8@10.00mL
Analyst ID - Concentration	MF/AAG
Concentration 1 Corrected Temperature	88/88 Degrees C
Equipment ID - Concentration 1	A/B
Exchange Solvent ID	Hexane_cycl_00053
Analyst ID - Extraction	AE
Method/Fraction	3510C/608/8081/8082
Na2SO4 ID	0000205461_00006
NaCl ID	181957
Pipette/Syringe/Dispenser ID	1n2s
Prep Solvent ID	MeCl2_Cycl_00410/411
Prep Solvent Volume Used	180 mL
Analyst ID - Spike Analyst	AE
Analyst ID - Spike Witness Analyst	Reviewer: DC
Sufficient Volume for Batch QC	No
Concentration 1 Uncorrected Temperature	89/87 Degrees C
Reagent Water ID	S. ELGA

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8330B_DOD5

Nitroaromatics and Nitramines (HPLC)

FORM II
HPLC/IC SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): UltraCarb5u ID: 4.6 (mm) GC Column (2): Luna-phenyl 4.6 (mm)

Client Sample ID	Lab Sample ID	12DNB1 #	12DNB2 #
DET-003-181001-GW	280-116020-1	101	
WBGmw-009-181001-GW	280-116020-4	71 Q	
WBGmw-009-181001-GW RE	280-116020-4 RE		89
WBGmw-009-181001-GW RE	280-116020-4 RE	103	
LL1mw-083-181001-GW	280-116020-5		87
LL1mw-083-181001-GW	280-116020-5	118 M	
LL1mw-084-181001-GW	280-116020-6		84
LL1mw-084-181001-GW	280-116020-6	118 M	
DA2mw-115-181001-GW	280-116020-8	104	
DA2mw-115-181002-GW	280-116020-9	94	
DET-004-181001-GW	280-116020-12	111	
	MB 280-435346/1-A	81 Q	
	MB 280-435504/1-A	103	
	MB 280-436019/1-A	99	
	LCS 280-435346/2-A	78 Q	
	LCS 280-435504/2-A	102	
	LCS 280-436019/2-A	102	
DA2mw-115-181001-GW MS	280-116020-8 MS	103	
DA2mw-115-181001-GW MSD	280-116020-8 MSD	105	

	QC LIMITS
12DNB = 1,2-Dinitrobenzene	83-119

Column to be used to flag recovery values

FORM II 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 10300015.D

Lab ID: LCS 280-435346/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,3,5-Trinitrobenzene	2.00	1.66	83	73-125	Q
1,3-Dinitrobenzene	2.00	1.53	77	78-120	Q
2,4,6-Trinitrotoluene	2.00	1.49	74	71-123	Q
2,4-Dinitrotoluene	2.00	1.40	70	78-120	Q
2,6-Dinitrotoluene	2.00	1.41	71	77-127	Q
2-Amino-4,6-dinitrotoluene	2.00	1.31	65	79-120	Q
2-Nitrotoluene	2.00	1.21	61	70-127	Q
3-Nitrotoluene	2.00	1.10	55	73-125	Q
4-Amino-2,6-dinitrotoluene	2.00	1.22	61	76-125	Q
4-Nitrotoluene	2.00	1.37	69	71-127	Q
HMX	2.00	1.60	80	65-135	Q
Nitrobenzene	2.00	1.32	66	65-134	Q
Nitroglycerin	20.0	17.1	85	74-127	Q
PETN	20.0	15.9	79	73-127	Q
RDX	2.00	1.70	85	68-130	Q
Tetryl	2.00	1.64	82	64-128	Q

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11010014.D

Lab ID: LCS 280-435504/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,3,5-Trinitrobenzene	2.00	2.16	108	73-125	
1,3-Dinitrobenzene	2.00	2.07	103	78-120	
2,4,6-Trinitrotoluene	2.00	1.97	99	71-123	
2,4-Dinitrotoluene	2.00	1.95	98	78-120	
2,6-Dinitrotoluene	2.00	1.97	99	77-127	
2-Amino-4,6-dinitrotoluene	2.00	1.93	97	79-120	
2-Nitrotoluene	2.00	1.63	82	70-127	
3-Nitrotoluene	2.00	1.68	84	73-125	
4-Amino-2,6-dinitrotoluene	2.00	1.79	90	76-125	
4-Nitrotoluene	2.00	1.84	92	71-127	
HMX	2.00	1.97	98	65-135	
Nitrobenzene	2.00	1.84	92	65-134	
Nitroglycerin	20.0	20.6	103	74-127	
PETN	20.0	20.3	101	73-127	
RDX	2.00	2.10	105	68-130	
Tetryl	2.00	2.12	106	64-128	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11050010.D

Lab ID: LCS 280-436019/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,3,5-Trinitrobenzene	2.00	2.10	105	73-125	
1,3-Dinitrobenzene	2.00	2.01	100	78-120	
2,4,6-Trinitrotoluene	2.00	1.94	97	71-123	
2,4-Dinitrotoluene	2.00	1.91	96	78-120	
2,6-Dinitrotoluene	2.00	1.92	96	77-127	
2-Amino-4,6-dinitrotoluene	2.00	1.82	91	79-120	
2-Nitrotoluene	2.00	2.09	105	70-127	
3-Nitrotoluene	2.00	1.69	84	73-125	
4-Amino-2,6-dinitrotoluene	2.00	1.72	86	76-125	
4-Nitrotoluene	2.00	1.70	85	71-127	M
HMX	2.00	2.05	102	65-135	
Nitrobenzene	2.00	1.88	94	65-134	
Nitroglycerin	20.0	20.2	101	74-127	
PETN	20.0	19.6	98	73-127	
RDX	2.00	2.06	103	68-130	
Tetryl	2.00	2.03	102	64-128	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11010021.D

Lab ID: 280-116020-8 MS Client ID: DA2mw-115-181001-GW MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,3,5-Trinitrobenzene	2.09	0.44 U	2.32	111	73-125	
1,3-Dinitrobenzene	2.09	0.22 U	2.17	104	78-120	
2,4,6-Trinitrotoluene	2.09	0.22 U	2.07	99	71-123	
2,4-Dinitrotoluene	2.09	0.22 U	2.07	99	78-120	
2,6-Dinitrotoluene	2.09	0.22 U	2.03	97	77-127	
2-Amino-4,6-dinitrotoluene	2.09	0.13 U	2.05	98	79-120	
2-Nitrotoluene	2.09	0.22 U	1.61	77	70-127	
3-Nitrotoluene	2.09	0.22 U	1.66	79	73-125	
4-Amino-2,6-dinitrotoluene	2.09	0.13 U	1.90	91	76-125	
4-Nitrotoluene	2.09	0.44 U	1.90	91	71-127	
HMX	2.09	0.22 U	2.41	115	65-135	
Nitrobenzene	2.09	0.22 U	1.82	87	65-134	
Nitroglycerin	20.9	2.2 U	21.7	104	74-127	
PETN	20.9	1.3 U	21.1	101	73-127	
RDX	2.09	0.13 U	2.20	105	68-130	
Tetryl	2.09	0.22 U	2.30	110	64-128	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11010022.D

Lab ID: 280-116020-8 MSD Client ID: DA2mw-115-181001-GW MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,3,5-Trinitrobenzene	2.10	2.29	109	1	20	73-125	
1,3-Dinitrobenzene	2.10	2.13	101	2	20	78-120	
2,4,6-Trinitrotoluene	2.10	2.04	97	2	20	71-123	
2,4-Dinitrotoluene	2.10	2.04	97	2	20	78-120	
2,6-Dinitrotoluene	2.10	2.01	95	1	20	77-127	
2-Amino-4,6-dinitrotoluene	2.10	1.97	94	4	20	79-120	
2-Nitrotoluene	2.10	1.62	77	1	20	70-127	
3-Nitrotoluene	2.10	1.65	79	1	20	73-125	
4-Amino-2,6-dinitrotoluene	2.10	1.83	87	3	20	76-125	
4-Nitrotoluene	2.10	1.91	91	1	20	71-127	
HMX	2.10	2.22	105	8	20	65-135	
Nitrobenzene	2.10	0.846	40	73	20	65-134	J1
Nitroglycerin	21.0	21.3	101	2	20	74-127	
PETN	21.0	20.8	99	1	20	73-127	
RDX	2.10	2.17	103	1	20	68-130	
Tetryl	2.10	2.26	108	2	20	64-128	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: MB 280-435346/1-A

Matrix: Water Date Extracted: 10/29/2018 12:30

Lab File ID:(1) 10300014.D Lab File ID:(2)

Date Analyzed:(1) 10/30/2018 14:04 Date Analyzed:(2)

Instrument ID:(1) CHHPLC_X3 Instrument ID:(2) CHHPLC_G2_LUNA

GC Column:(1) UltraCarb5uO ID: 4.6(mm) GC Column:(2) Luna-phenylh ID: 4.6(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-435346/2-A	10/30/2018 14:27	
WBGmw-009-181001-GW	280-116020-4	10/30/2018 16:44	10/31/2018 23:20

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: MB 280-435504/1-A

Matrix: Water Date Extracted: 10/30/2018 13:24

Lab File ID:(1) 11010013.D Lab File ID:(2)

Date Analyzed:(1) 11/01/2018 17:58 Date Analyzed:(2)

Instrument ID:(1) CHHPLC_X3 Instrument ID:(2) CHHPLC_G2_LUNA

GC Column:(1) UltraCarb5uO ID: 4.6(mm) GC Column:(2) Luna-phenylh ID: 4.6(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-435504/2-A	11/01/2018 18:21	
DET-003-181001-GW	280-116020-1	11/01/2018 18:44	
LL1mw-083-181001-GW	280-116020-5	11/01/2018 19:07	11/02/2018 23:00
LL1mw-084-181001-GW	280-116020-6	11/01/2018 19:30	11/02/2018 23:35
DA2mw-115-181001-GW	280-116020-8	11/01/2018 20:39	
DA2mw-115-181001-GW MS	280-116020-8 MS	11/01/2018 21:02	
DA2mw-115-181001-GW MSD	280-116020-8 MSD	11/01/2018 21:25	
DA2mw-115-181002-GW	280-116020-9	11/01/2018 21:47	
DET-004-181001-GW	280-116020-12	11/01/2018 22:10	11/03/2018 00:10

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: MB 280-436019/1-A

Matrix: Water Date Extracted: 11/02/2018 12:09

Lab File ID:(1) 11050009.D Lab File ID:(2)

Date Analyzed:(1) 11/05/2018 17:34 Date Analyzed:(2)

Instrument ID:(1) CHHPLC_X3 Instrument ID:(2) CHHPLC_G2_LUNA

GC Column:(1) UltraCarb5uO ID: 4.6(mm) GC Column:(2) Luna-phenylh ID: 4.6(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-436019/2-A	11/05/2018 17:57	
WBGmw-009-181001-GW RE	280-116020-4 RE	11/05/2018 22:33	11/06/2018 23:20

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: WBGmw-009-181001-GW Lab Sample ID: 280-116020-4

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_G2_LUNA

Date Analyzed (1): 10/30/2018 16:44 Date Analyzed (2): 10/31/2018 23:20

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
HMX	1		6.66	6.52	6.82	0.94		14.8
	2		7.10	6.98	7.28	0.81		
RDX	1		7.77	7.63	7.93	2.8		16.9
	2		9.17	9.05	9.35	2.3		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: WBGmw-009-181001-GW RE Lab Sample ID: 280-116020-4 RE

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_G2_LUNA

Date Analyzed (1): 11/05/2018 22:33 Date Analyzed (2): 11/06/2018 23:20

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
HMX	1		6.67	6.51	6.81	1.5		13.4
	2		7.14	7.01	7.31	1.3		
RDX	1		7.78	7.62	7.92	4.1		15.2
	2		9.20	9.09	9.39	3.5		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: LL1mw-083-181001-GW Lab Sample ID: 280-116020-5

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_G2_LUNA

Date Analyzed (1): 11/01/2018 19:07 Date Analyzed (2): 11/02/2018 23:00

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
HMX	1		6.69	6.52	6.82	1.3		141.8
	2		7.15	7.02	7.32	0.23		
RDX	1		7.77	7.63	7.93	2.1		115.0
	2		9.24	9.11	9.41	0.56		
1,3,5-Trinitrobenzene	1		8.93	8.79	9.09	7.2		15.6
	2		19.04	18.92	19.22	6.2		
2,4,6-Trinitrotoluene	1		11.27	11.18	11.38	3.4		6.7
	2		24.76	24.62	24.92	3.2		
4-Amino-2,6-dinitrotoluene	1		11.46	11.36	11.56	17		2.8
	2		17.24	17.13	17.43	17		
2-Amino-4,6-dinitrotoluene	1		11.75	11.65	11.85	14		19.7
	2		18.28	18.17	18.47	11		
2,6-Dinitrotoluene	1		11.86	11.79	11.99	3.6		4.7
	2		19.85	19.74	20.04	3.7		
2,4-Dinitrotoluene	1		12.09	11.99	12.19	5.6		3.8
	2		20.42	20.31	20.61	5.4		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: LL1mw-084-181001-GW Lab Sample ID: 280-116020-6

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_G2_LUNA

Date Analyzed (1): 11/01/2018 19:30 Date Analyzed (2): 11/02/2018 23:35

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
HMX	1		6.69	6.52	6.82	2.4		117.6
	2		7.14	7.02	7.32	0.62		
RDX	1		7.83	7.63	7.93	5.2		131.1
	2		9.19	9.11	9.41	1.1		
1,3,5-Trinitrobenzene	1		8.93	8.79	9.09	2.0		0.5
	2		19.03	18.92	19.22	2.0		
1,3-Dinitrobenzene	1		9.58	9.45	9.75	1.2		76.3
	2		15.70	15.62	15.92	0.53		
2,4,6-Trinitrotoluene	1		11.27	11.18	11.38	4.6		4.5
	2		24.74	24.62	24.92	4.4		
4-Amino-2,6-dinitrotoluene	1		11.46	11.36	11.56	19		5.3
	2		17.23	17.13	17.43	20		
2-Amino-4,6-dinitrotoluene	1		11.75	11.65	11.85	9.6		25.5
	2		18.26	18.17	18.47	7.5		
2,4-Dinitrotoluene	1		12.09	11.99	12.19	1.8		1.0
	2		20.41	20.31	20.61	1.8		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-004-181001-GW Lab Sample ID: 280-116020-12

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_G2_LUNA

Date Analyzed (1): 11/01/2018 22:10 Date Analyzed (2): 11/03/2018 00:10

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
HMX	1		6.66	6.52	6.82	2.1		3.2
	2		7.14	7.02	7.32	2.1		
RDX	1		7.78	7.63	7.93	0.67		7.6
	2		9.21	9.11	9.41	0.72		

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-003-181001-GW | Lab Sample ID: 280-116020-1

Matrix: Water | Lab File ID: 11010015.D

Analysis Method: 8330B | Date Collected: 10/24/2018 10:05

Extraction Method: 3535 | Date Extracted: 10/30/2018 13:24

Sample wt/vol: 470.5(mL) | Date Analyzed: 11/01/2018 18:44

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435886 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.43	U	1.1	0.43	0.21
99-65-0	1,3-Dinitrobenzene	0.21	U	0.43	0.21	0.094
118-96-7	2,4,6-Trinitrotoluene	0.21	U	0.43	0.21	0.077
121-14-2	2,4-Dinitrotoluene	0.21	U	0.43	0.21	0.089
606-20-2	2,6-Dinitrotoluene	0.21	U	0.21	0.21	0.069
35572-78-2	2-Amino-4,6-dinitrotoluene	0.13	U	0.21	0.13	0.054
88-72-2	2-Nitrotoluene	0.21	U	0.43	0.21	0.091
99-08-1	3-Nitrotoluene	0.21	U	0.43	0.21	0.089
19406-51-0	4-Amino-2,6-dinitrotoluene	0.13	U	0.21	0.13	0.061
99-99-0	4-Nitrotoluene	0.43	U	1.1	0.43	0.21
2691-41-0	HMX	0.21	U M	0.43	0.21	0.093
98-95-3	Nitrobenzene	0.21	U	0.43	0.21	0.097
55-63-0	Nitroglycerin	2.1	U	3.2	2.1	0.98
78-11-5	PETN	1.3	U	2.1	1.3	0.44
121-82-4	RDX	0.13	U	0.21	0.13	0.056
479-45-8	Tetryl	0.21	U	0.26	0.21	0.084

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	101		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010015.D
Lims ID: 280-116020-F-1-A
Client ID: DET-003-181001-GW
Sample Type: Client
Inject. Date: 01-Nov-2018 18:44:20 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-F-1-A
Misc. Info.: 280-0075718-015
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 02-Nov-2018 16:14:18 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0315

First Level Reviewer: fiedlerh Date: 02-Nov-2018 15:03:54

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 HMX	1		6.669			ND	U
	5 RDX	1		7.782			ND	
$	7 1,2-Dinitrobenzene	1	8.774	8.769	0.005	26099	0.2027	
	8 1,3,5-Trinitrobenzene	1		8.935			ND	
	9 1,3-Dinitrobenzene	1		9.595			ND	
	11 Nitrobenzene	1		9.982			ND	
	12 Tetryl	1		10.308			ND	
	13 Nitroglycerin	2		10.815			ND	
	14 2,4,6-Trinitrotoluene	1		11.275			ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.462			ND	
	16 2-Amino-4,6-dinitrotoluene	1		11.748			ND	
	17 2,6-Dinitrotoluene	1		11.888			ND	
	18 2,4-Dinitrotoluene	1		12.088			ND	
	19 o-Nitrotoluene	1		12.935			ND	
	20 p-Nitrotoluene	1		13.382			ND	
	21 m-Nitrotoluene	1		13.982			ND	
	22 PETN	2		15.102			ND	

QC Flag Legend

Review Flags
U - Marked Undetected

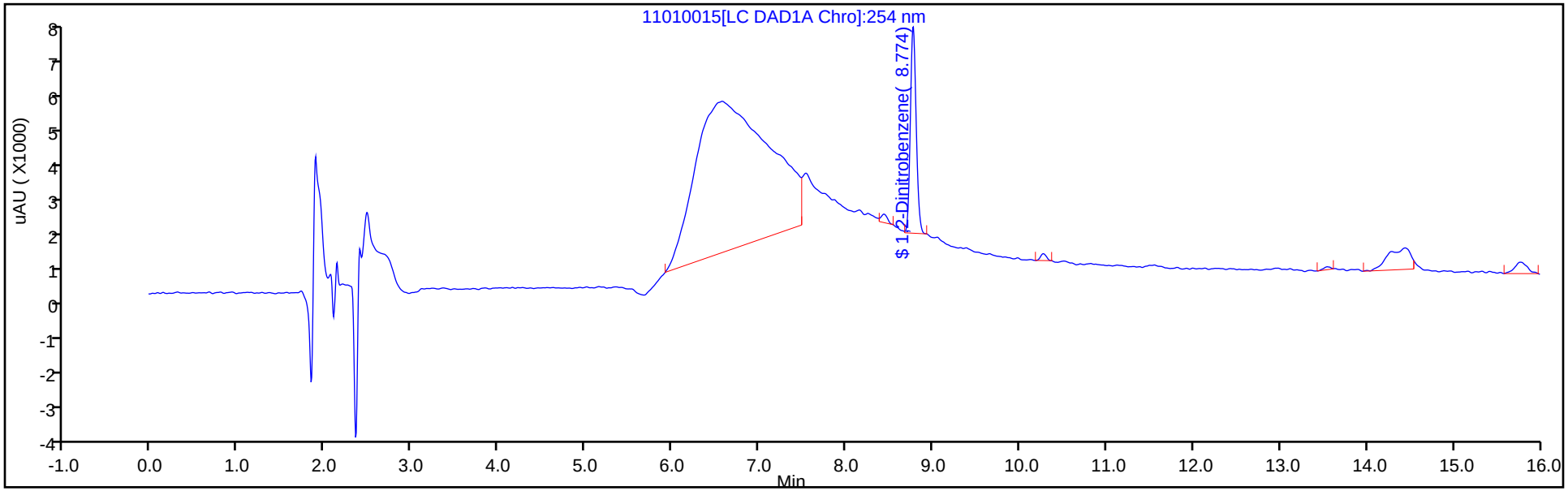
Report Date: 02-Nov-2018 16:14:24 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

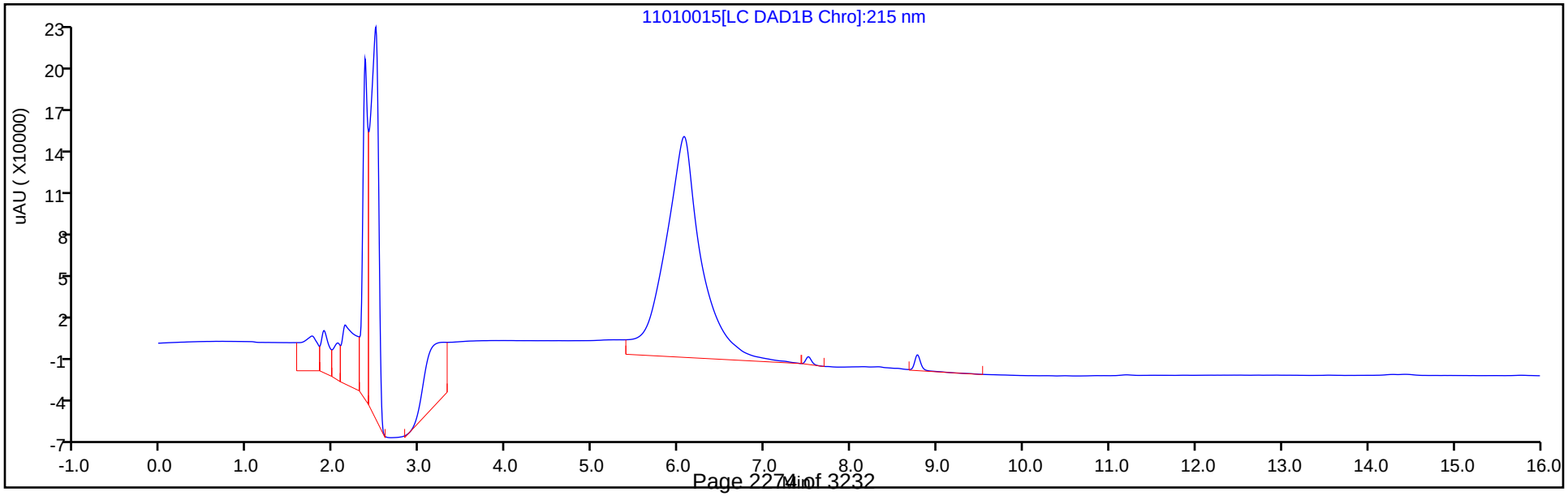
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010015.D

Injection Date:	01-Nov-2018 18:44:20	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-116020-F-1-A	Lab Sample ID:	280-116020-1	Worklist Smp#:	15
Client ID:	DET-003-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010015.D				
Lims ID:	280-116020-F-1-A				
Client ID:	DET-003-181001-GW				
Sample Type:	Client				
Inject. Date:	01-Nov-2018 18:44:20	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-F-1-A				
Misc. Info.:	280-0075718-015				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	02-Nov-2018 16:14:18	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX0315				
First Level Reviewer: fiedlerh		Date:	02-Nov-2018 15:03:54		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2027	101.37

User Disabled Compound Report

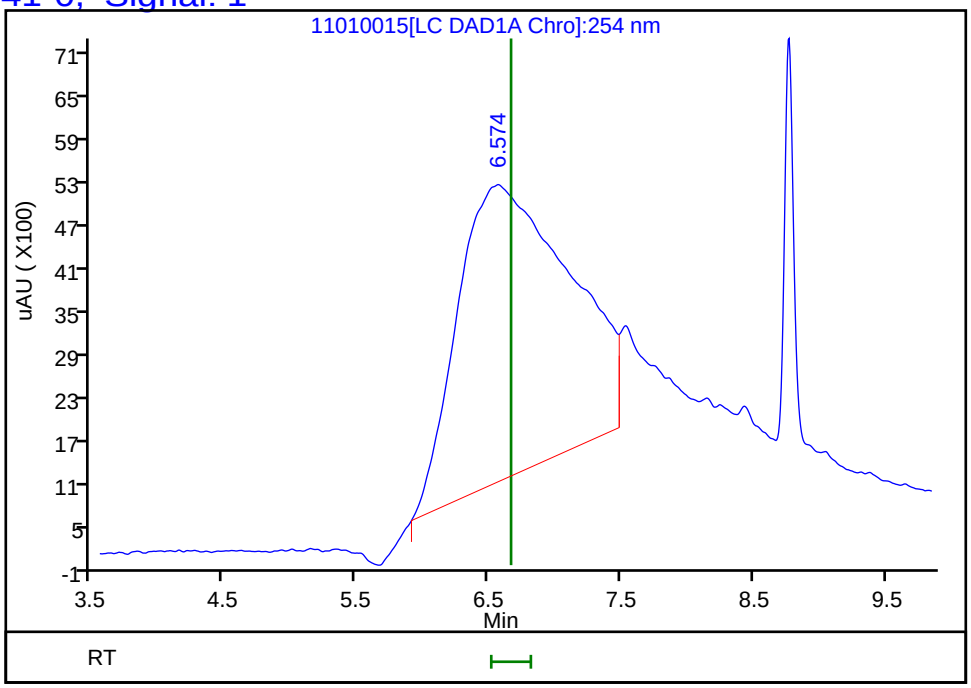
TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010015.D

Injection Date:	01-Nov-2018 18:44:20	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-F-1-A	Lab Sample ID:	280-116020-1		
Client ID:	DET-003-181001-GW				
Operator ID:	hkf	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 HMX, CAS: 2691-41-0, Signal: 1

RT: 6.57
Response: 237881
Amount: 2.800393



Reviewer: fiedlerh, 02-Nov-2018 15:03:54

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: WBGmw-009-181001-GW | Lab Sample ID: 280-116020-4

Matrix: Water | Lab File ID: 10300021.D

Analysis Method: 8330B | Date Collected: 10/23/2018 14:35

Extraction Method: 3535 | Date Extracted: 10/29/2018 12:30

Sample wt/vol: 501.8(mL) | Date Analyzed: 10/30/2018 16:44

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435517 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.40	U Q	1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	0.20	U Q	0.40	0.20	0.088
118-96-7	2,4,6-Trinitrotoluene	0.20	U Q	0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	0.20	U Q	0.40	0.20	0.083
606-20-2	2,6-Dinitrotoluene	0.20	U Q	0.20	0.20	0.064
35572-78-2	2-Amino-4,6-dinitrotoluene	0.12	U Q	0.20	0.12	0.051
88-72-2	2-Nitrotoluene	0.20	U Q	0.40	0.20	0.085
99-08-1	3-Nitrotoluene	0.20	U Q	0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	0.12	U Q	0.20	0.12	0.057
99-99-0	4-Nitrotoluene	0.40	U Q M	1.0	0.40	0.20
2691-41-0	HMX	0.94	Q M	0.40	0.20	0.087
98-95-3	Nitrobenzene	0.20	U Q	0.40	0.20	0.091
55-63-0	Nitroglycerin	2.0	U Q	3.0	2.0	0.92
78-11-5	PETN	1.2	U Q	2.0	1.2	0.41
121-82-4	RDX	2.8	Q M	0.20	0.12	0.052
479-45-8	Tetryl	0.20	U Q	0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	71	Q	83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300021.D
Lims ID: 280-116020-C-4-A
Client ID: WBGmw-009-181001-GW
Sample Type: Client
Inject. Date: 30-Oct-2018 16:44:49 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-C-4-A
Misc. Info.: 280-0075621-021
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 31-Oct-2018 13:37:44 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0316

First Level Reviewer: fiedlerh Date: 31-Oct-2018 13:31:56

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 HMX	1	6.660	6.666	-0.006	7976	0.0939	M
	5 RDX	1	7.766	7.779	-0.013	28933	0.2767	M
$	7 1,2-Dinitrobenzene	1	8.746	8.759	-0.013	18310	0.1422	
	8 1,3,5-Trinitrobenzene	1		8.919			ND	
	9 1,3-Dinitrobenzene	1		9.585			ND	
	11 Nitrobenzene	1		9.972			ND	
	12 Tetryl	1		10.292			ND	
	13 Nitroglycerin	2		10.799			ND	
	14 2,4,6-Trinitrotoluene	1		11.252			ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.439			ND	
	16 2-Amino-4,6-dinitrotoluene	1		11.725			ND	
	17 2,6-Dinitrotoluene	1		11.865			ND	
	18 2,4-Dinitrotoluene	1		12.065			ND	
	19 o-Nitrotoluene	1		12.912			ND	
	20 p-Nitrotoluene	1		13.359			ND	U
	21 m-Nitrotoluene	1		13.959			ND	
	22 PETN	2		15.059			ND	

QC Flag Legend

Review Flags
M - Manually Integrated
U - Marked Undetected

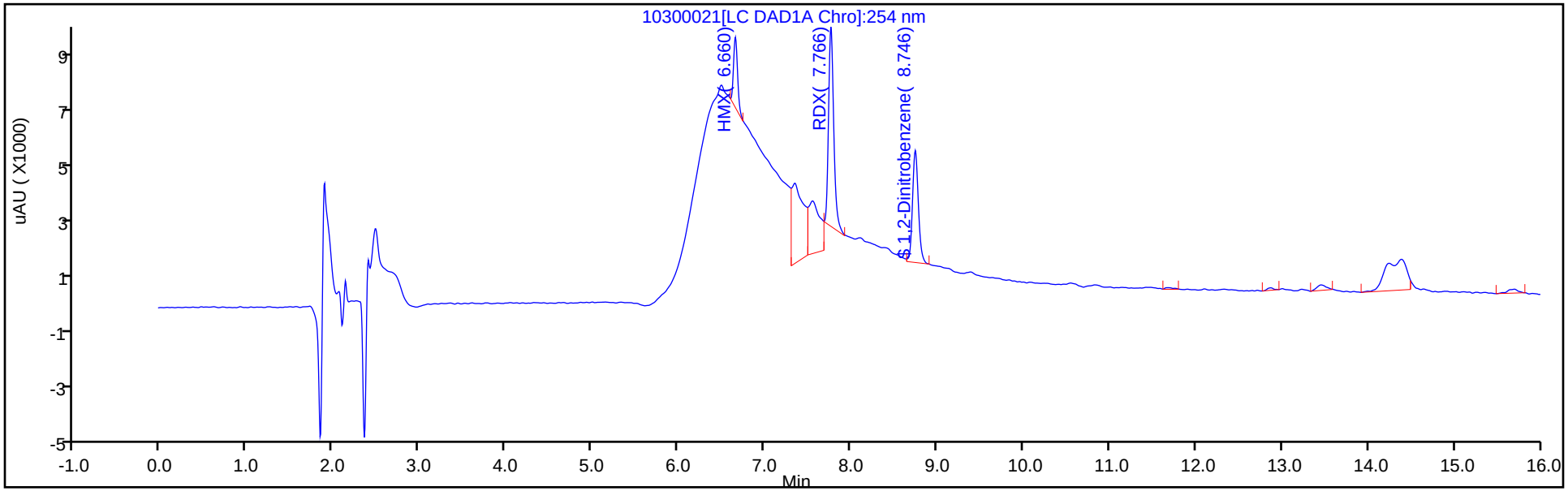
Report Date: 31-Oct-2018 13:54:40 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

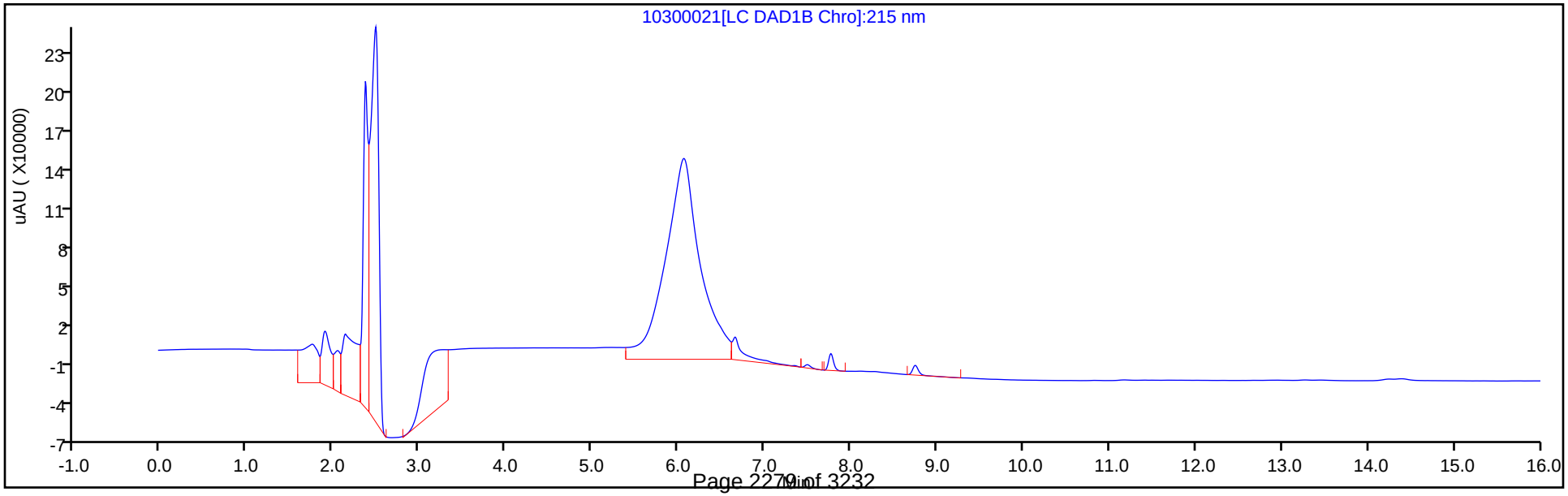
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300021.D

Injection Date:	30-Oct-2018 16:44:49	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-116020-C-4-A	Lab Sample ID:	280-116020-4	Worklist Smp#:	21
Client ID:	WBGmw-009-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300021.D				
Lims ID:	280-116020-C-4-A				
Client ID:	WBGmw-009-181001-GW				
Sample Type:	Client				
Inject. Date:	30-Oct-2018 16:44:49	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-C-4-A				
Misc. Info.:	280-0075621-021				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	31-Oct-2018 13:37:44	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX0316				
First Level Reviewer: fiedlerh		Date:	31-Oct-2018 13:31:56		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.1422	71.12

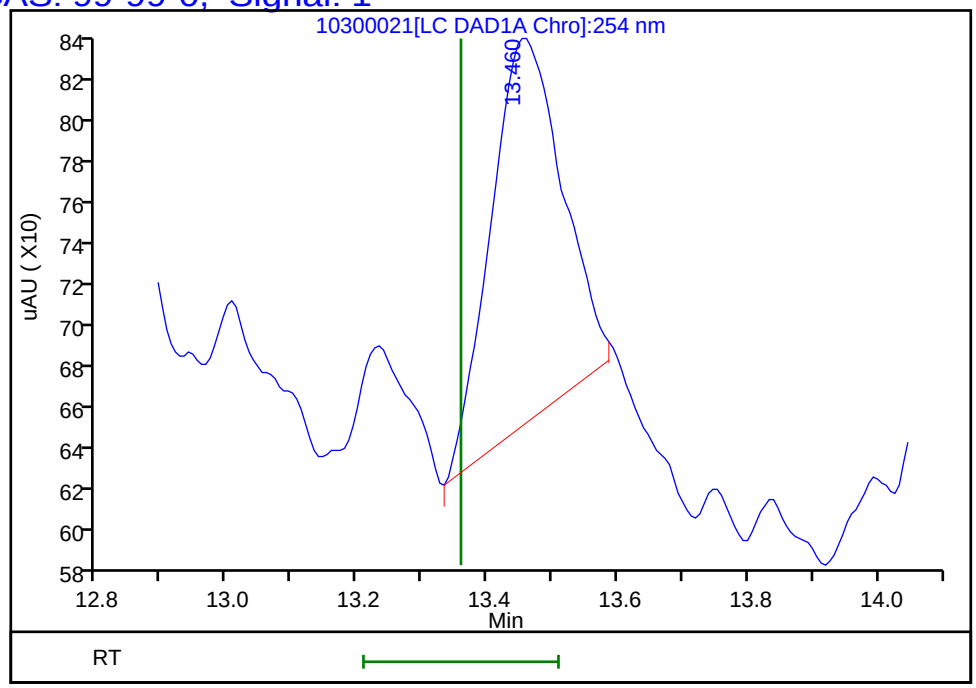
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300021.D				
Injection Date:	30-Oct-2018 16:44:49	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-C-4-A	Lab Sample ID:	280-116020-4		
Client ID:	WBGmw-009-181001-GW				
Operator ID:	hkf	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

20 p-Nitrotoluene, CAS: 99-99-0, Signal: 1

RT: 13.46
Response: 1444
Amount: 0.012705



Reviewer: fiedlerh, 31-Oct-2018 13:31:56
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

TestAmerica Denver

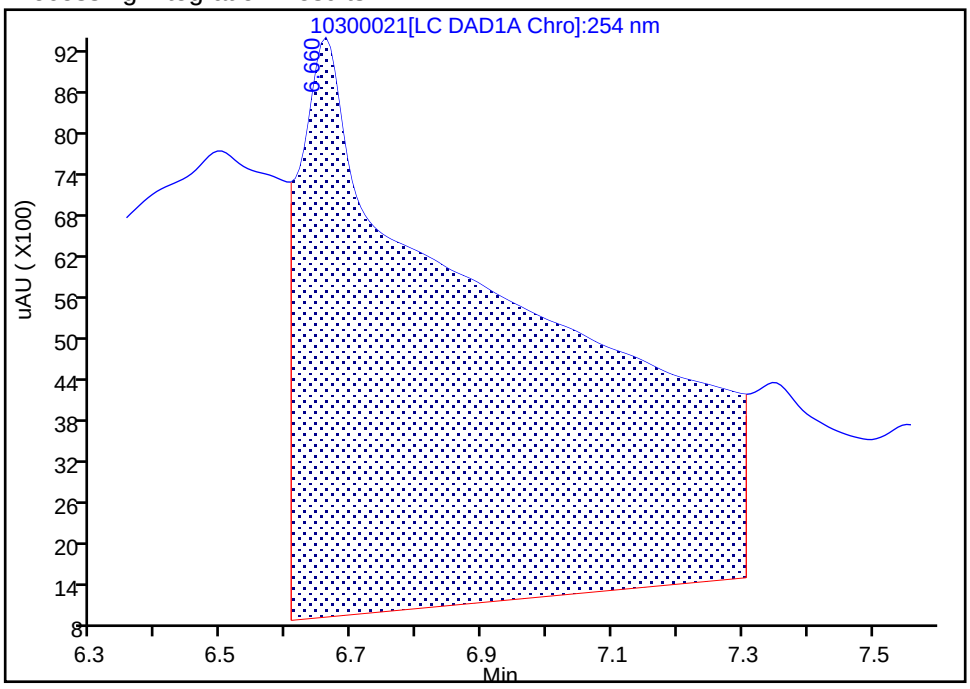
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300021.D				
Injection Date:	30-Oct-2018 16:44:49	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-C-4-A	Lab Sample ID:	280-116020-4		
Client ID:	WBGmw-009-181001-GW				
Operator ID:	hkf	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 HMX, CAS: 2691-41-0

Signal: 1

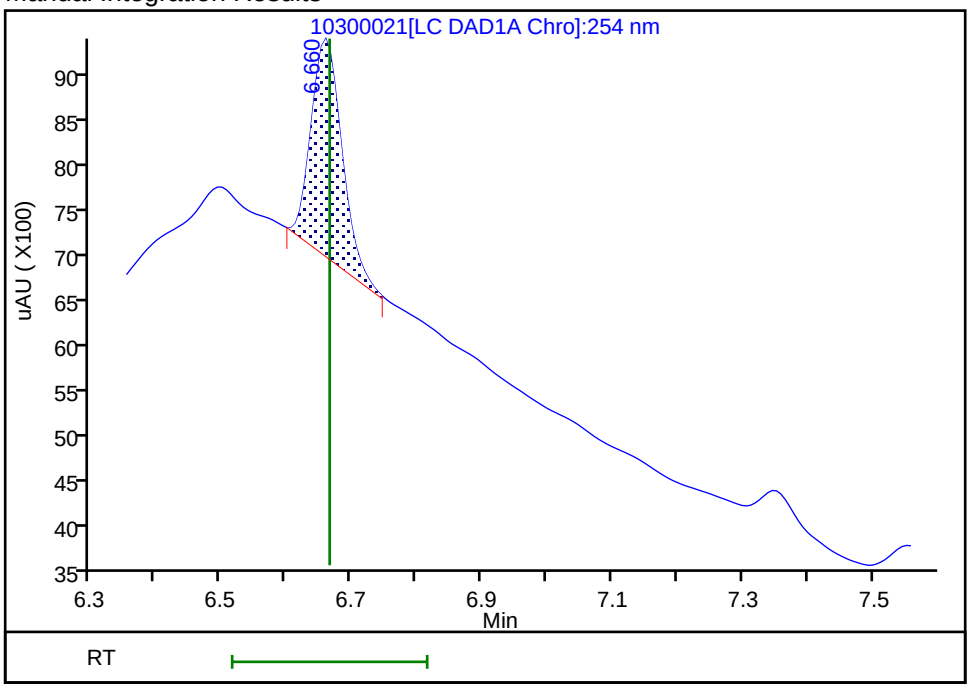
Processing Integration Results

RT: 6.66
Area: 190899
Amount: 2.247310
Amount Units: ug/mL



Manual Integration Results

RT: 6.66
Area: 7976
Amount: 0.093895
Amount Units: ug/mL



Reviewer: fiedlerh, 31-Oct-2018 13:31:54

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

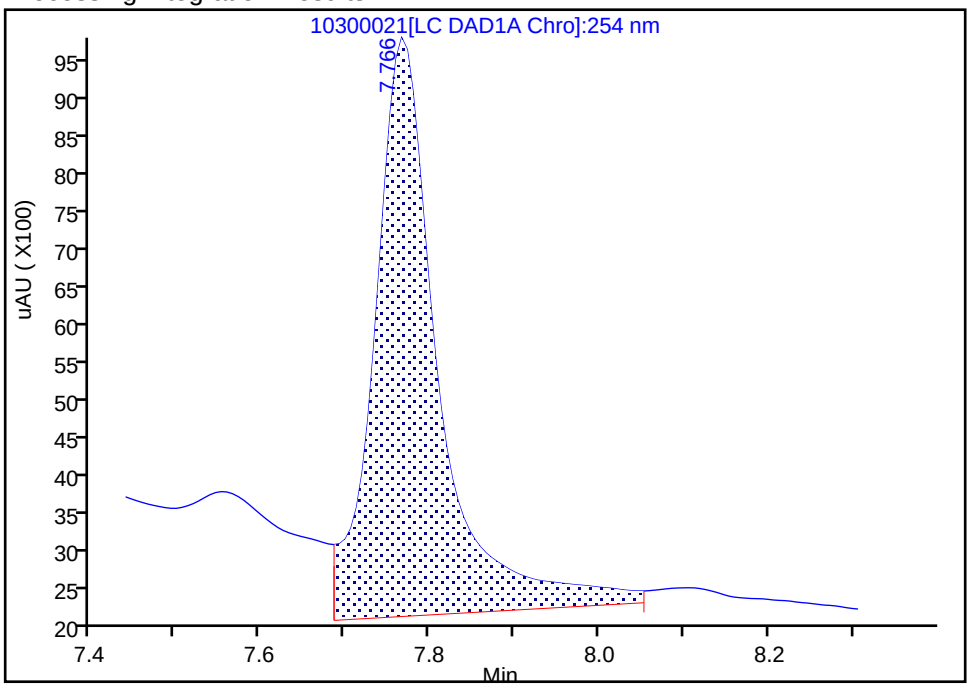
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300021.D				
Injection Date:	30-Oct-2018 16:44:49	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-C-4-A	Lab Sample ID:	280-116020-4		
Client ID:	WBGmw-009-181001-GW				
Operator ID:	hkf	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 RDX, CAS: 121-82-4

Signal: 1

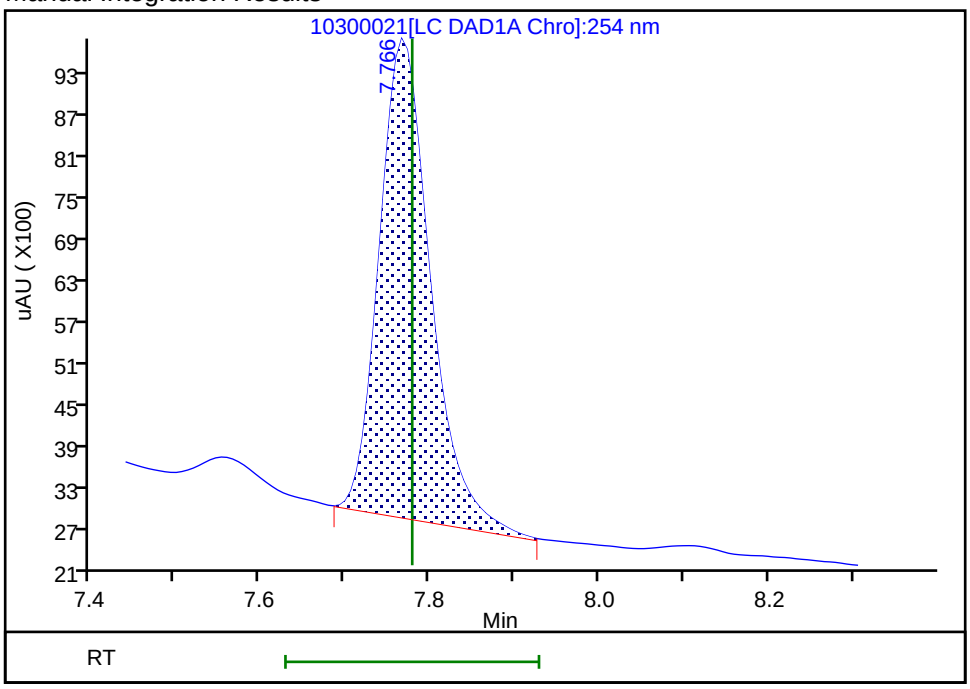
Processing Integration Results

RT: 7.77
Area: 40543
Amount: 0.387684
Amount Units: ug/mL



Manual Integration Results

RT: 7.77
Area: 28933
Amount: 0.276666
Amount Units: ug/mL



Reviewer: fiedlerh, 31-Oct-2018 13:31:50

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: WBGmw-009-181001-GW RE | Lab Sample ID: 280-116020-4 RE

Matrix: Water | Lab File ID: 11050022.D

Analysis Method: 8330B | Date Collected: 10/23/2018 14:35

Extraction Method: 3535 | Date Extracted: 11/02/2018 12:09

Sample wt/vol: 357.2(mL) | Date Analyzed: 11/05/2018 22:33

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436368 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	*1,3,5-Trinitrobenzene*	*0.56*	*U H*	*1.4*	0.56	*0.28*
99-65-0	*1,3-Dinitrobenzene*	*0.28*	*U H*	*0.56*	0.28	*0.12*
118-96-7	*2,4,6-Trinitrotoluene*	*0.28*	*U H*	*0.56*	0.28	*0.10*
121-14-2	*2,4-Dinitrotoluene*	*0.28*	*U H*	*0.56*	0.28	*0.12*
606-20-2	*2,6-Dinitrotoluene*	*0.28*	*U H*	*0.28*	0.28	*0.090*
35572-78-2	*2-Amino-4,6-dinitrotoluene*	*0.17*	*U H M*	*0.28*	0.17	*0.071*
99-08-1	*3-Nitrotoluene*	*0.28*	*U H*	*0.56*	0.28	*0.12*
19406-51-0	*4-Amino-2,6-dinitrotoluene*	*0.17*	*U H*	*0.28*	0.17	*0.081*
99-99-0	*4-Nitrotoluene*	*0.56*	*U H*	*1.4*	0.56	*0.28*
2691-41-0	*HMX*	*1.5*	*H M*	*0.56*	0.28	*0.12*
98-95-3	*Nitrobenzene*	*0.28*	*U H*	*0.56*	0.28	*0.13*
55-63-0	*Nitroglycerin*	*2.8*	*U H*	*4.2*	2.8	*1.3*
78-11-5	*PETN*	*1.7*	*U H*	*2.8*	1.7	*0.58*
121-82-4	*RDX*	*4.1*	*H M*	*0.28*	0.17	*0.073*
479-45-8	*Tetryl*	*0.28*	*U H*	*0.34*	0.28	*0.11*

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	103		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050022.D
Lims ID: 280-116020-B-4-A
Client ID: WBGmw-009-181001-GW
Sample Type: Client
Inject. Date: 05-Nov-2018 22:33:09 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-B-4-A
Misc. Info.: 280-0075851-022
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Nov-2018 10:00:43 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0320

First Level Reviewer: fiedlerh Date: 06-Nov-2018 07:52:57

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 HMX	1	6.666	6.656	0.010	9000	0.1060	M
	5 RDX	1	7.779	7.769	0.010	30573	0.2923	M
$	7 1,2-Dinitrobenzene	1	8.773	8.756	0.017	26427	0.2053	
	8 1,3,5-Trinitrobenzene	1		8.916			ND	
	9 1,3-Dinitrobenzene	1		9.576			ND	
	11 Nitrobenzene	1		9.969			ND	
	12 Tetryl	1		10.296			ND	
	13 Nitroglycerin	2		10.796			ND	
	14 2,4,6-Trinitrotoluene	1		11.256			ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.442			ND	
	16 2-Amino-4,6-dinitrotoluene	1	11.759	11.729	0.030	632	0.003168	7M
	17 2,6-Dinitrotoluene	1		11.869			ND	
	18 2,4-Dinitrotoluene	1		12.069			ND	
	19 o-Nitrotoluene	1	12.952	12.916	0.036	3066	0.0232	
	20 p-Nitrotoluene	1		13.356			ND	
	21 m-Nitrotoluene	1		13.956			ND	
	22 PETN	2		15.062			ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection
Review Flags
M - Manually Integrated

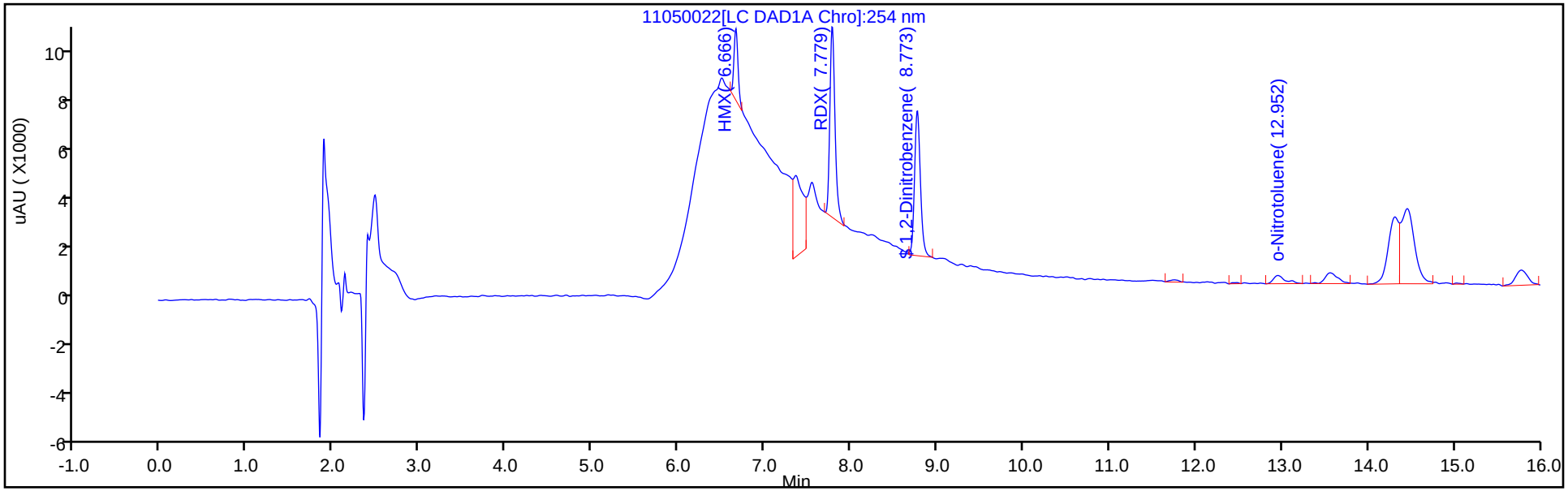
Report Date: 06-Nov-2018 10:01:05 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

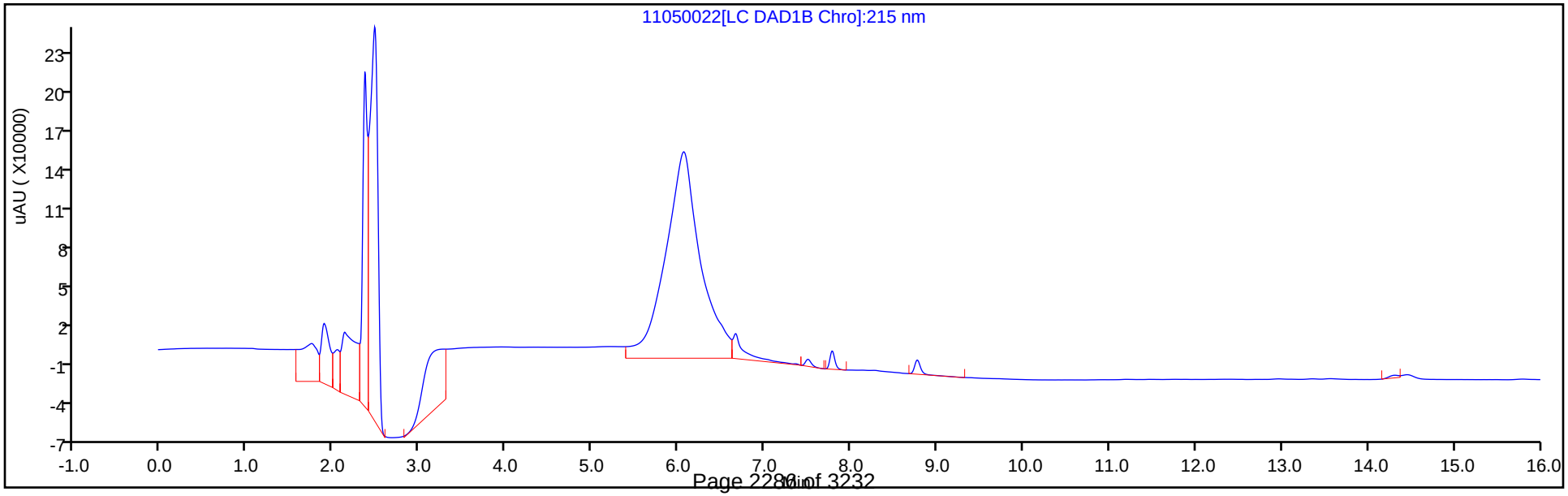
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050022.D

Injection Date:	05-Nov-2018 22:33:09	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-116020-B-4-A	Lab Sample ID:	280-116020-4	Worklist Smp#:	22
Client ID:	WBGmw-009-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050022.D				
Lims ID:	280-116020-B-4-A				
Client ID:	WBGmw-009-181001-GW				
Sample Type:	Client				
Inject. Date:	05-Nov-2018 22:33:09	ALS Bottle#:	22	Worklist Smp#:	22
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-B-4-A				
Misc. Info.:	280-0075851-022				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	06-Nov-2018 10:00:43	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX0320				
First Level Reviewer: fiedlerh		Date:	06-Nov-2018 07:52:57		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2053	102.65

Manual Integration/User Assign Peak Report

TestAmerica Denver

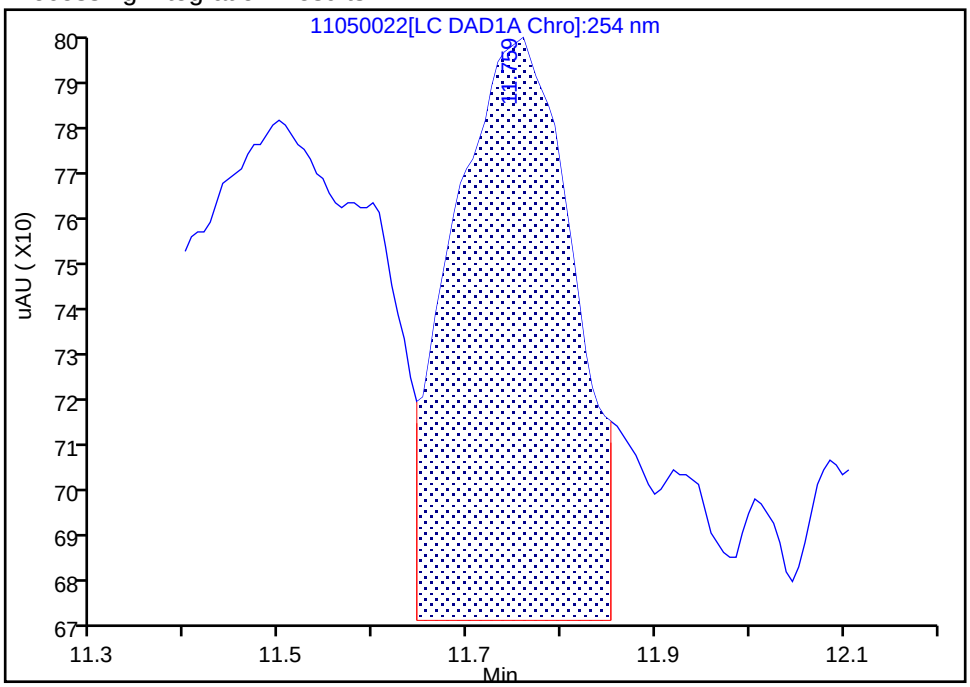
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050022.D				
Injection Date:	05-Nov-2018 22:33:09	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-B-4-A	Lab Sample ID:	280-116020-4		
Client ID:	WBGmw-009-181001-GW				
Operator ID:	hkf	ALS Bottle#:	22	Worklist Smp#:	22
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

16 2-Amino-4,6-dinitrotoluene, CAS: 35572-78-2

Signal: 1

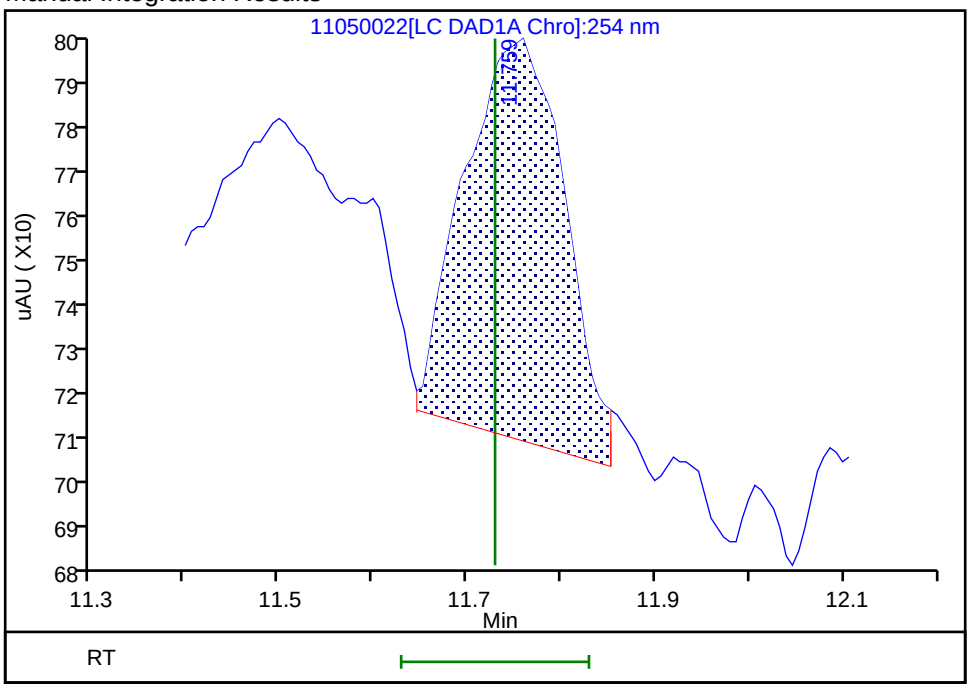
Processing Integration Results

RT: 11.76
Area: 1066
Amount: 0.005344
Amount Units: ug/mL



Manual Integration Results

RT: 11.76
Area: 632
Amount: 0.003168
Amount Units: ug/mL



Reviewer: fiedlerh, 06-Nov-2018 07:50:56
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

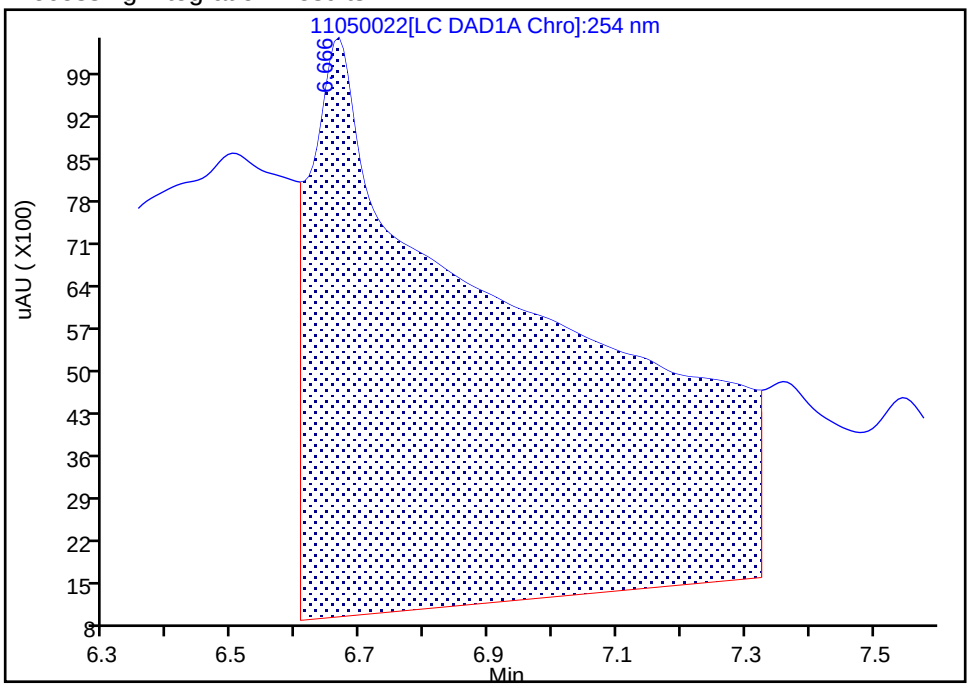
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050022.D				
Injection Date:	05-Nov-2018 22:33:09	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-B-4-A	Lab Sample ID:	280-116020-4		
Client ID:	WBGmw-009-181001-GW				
Operator ID:	hkf	ALS Bottle#:	22	Worklist Smp#:	22
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 HMX, CAS: 2691-41-0

Signal: 1

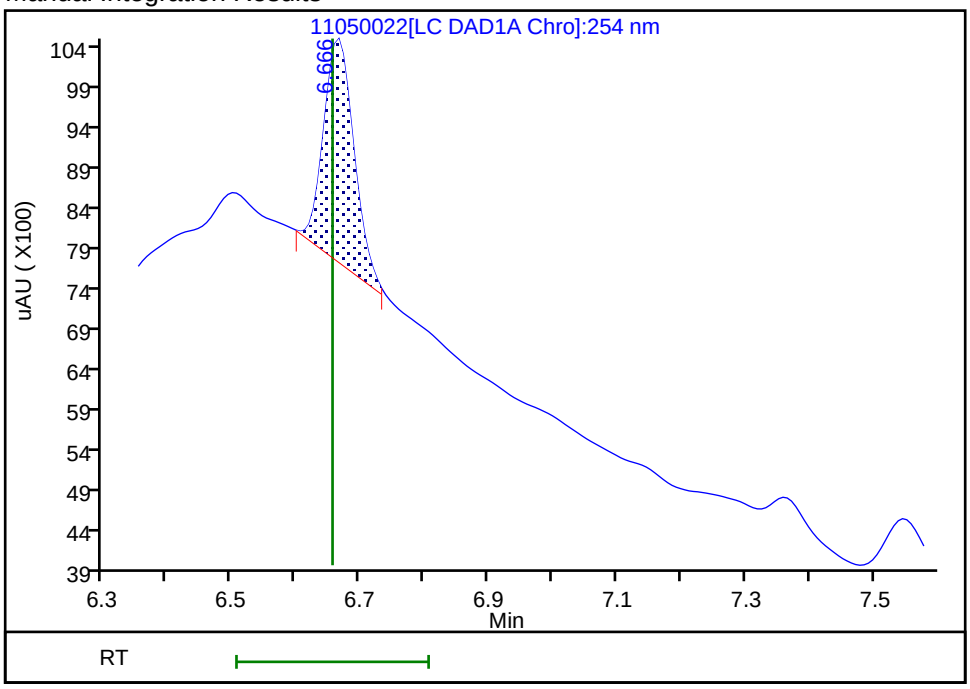
Processing Integration Results

RT: 6.67
Area: 216953
Amount: 2.554024
Amount Units: ug/mL



Manual Integration Results

RT: 6.67
Area: 9000
Amount: 0.105950
Amount Units: ug/mL



Reviewer: fiedlerh, 06-Nov-2018 07:50:39

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

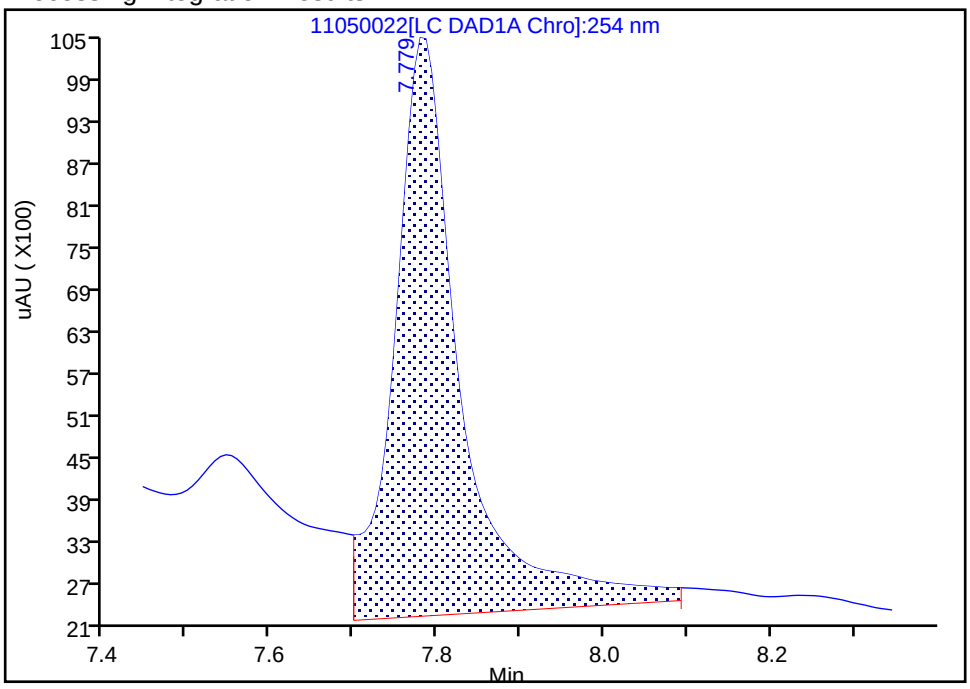
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050022.D				
Injection Date:	05-Nov-2018 22:33:09	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-B-4-A	Lab Sample ID:	280-116020-4		
Client ID:	WBGmw-009-181001-GW				
Operator ID:	hkf	ALS Bottle#:	22	Worklist Smp#:	22
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 RDX, CAS: 121-82-4

Signal: 1

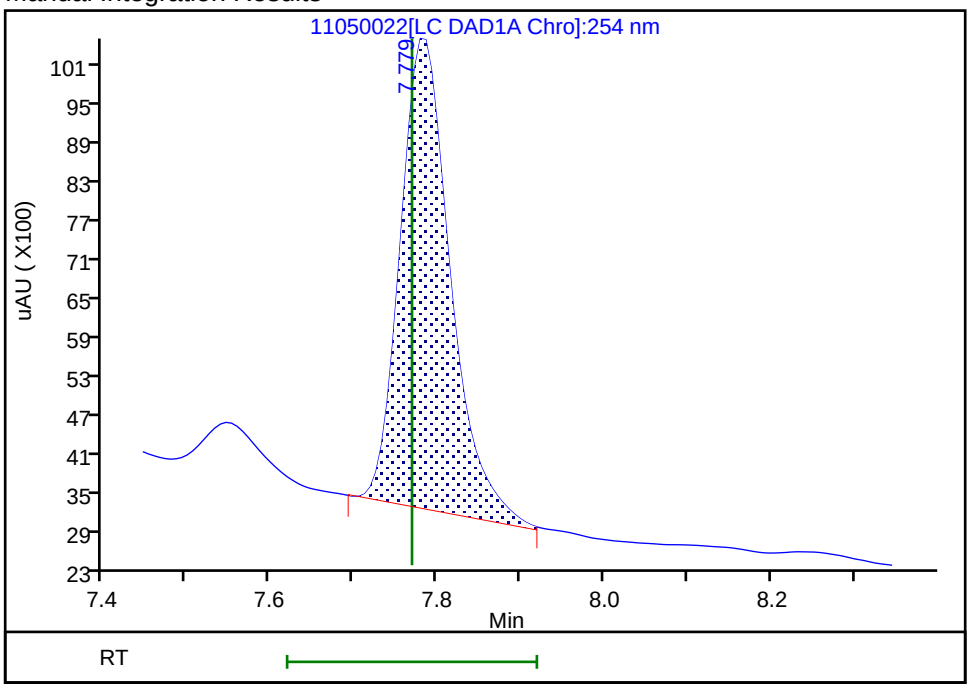
Processing Integration Results

RT: 7.78
Area: 45778
Amount: 0.437743
Amount Units: ug/mL



Manual Integration Results

RT: 7.78
Area: 30573
Amount: 0.292348
Amount Units: ug/mL



Reviewer: fiedlerh, 06-Nov-2018 07:50:44

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: WBGmw-009-181001-GW RE | Lab Sample ID: 280-116020-4 RE

Matrix: Water | Lab File ID: 11060019.D

Analysis Method: 8330B | Date Collected: 10/23/2018 14:35

Extraction Method: 3535 | Date Extracted: 11/02/2018 12:09

Sample wt/vol: 357.2(mL) | Date Analyzed: 11/06/2018 23:20

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436505 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
88-72-2	*2-Nitrotoluene*	*0.28*	*U H*	*0.56*	0.28	*0.12*

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	89		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181106-75890.b\11060019.D
Lims ID: 280-116020-B-4-A
Client ID: WBGmw-009-181001-GW
Sample Type: Client
Inject. Date: 06-Nov-2018 23:20:21 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-B-4-A
Misc. Info.: 280-0075890-019
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181106-75890.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 07-Nov-2018 08:47:45 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0317

First Level Reviewer: fiedlerh Date: 07-Nov-2018 08:15:54

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
5 HMX	1	7.139	7.161	-0.022	17690	0.0927	
7 RDX	1	9.199	9.241	-0.042	60417	0.2511	
8 Nitrobenzene	1		12.194			ND	
$ 9 1,2-Dinitrobenzene	1	13.159	13.207	-0.048	55067	0.1783	
12 Nitroglycerin	2		15.687			ND	
11 1,3-Dinitrobenzene	1		15.754			ND	
13 o-Nitrotoluene	1		16.514			ND	
14 p-Nitrotoluene	1		16.847			ND	U
15 4-Amino-2,6-dinitrotoluene	1		17.267			ND	
16 m-Nitrotoluene	1	17.706	17.761	-0.055	8785	0.0281	M
17 2-Amino-4,6-dinitrotoluene	1		18.314			ND	
18 1,3,5-Trinitrobenzene	1		19.061			ND	
19 2,6-Dinitrotoluene	1		19.874			ND	
20 2,4-Dinitrotoluene	1		20.441			ND	
21 Tetryl	1		23.761			ND	
22 2,4,6-Trinitrotoluene	1		24.768			ND	
23 PETN	2	25.133	25.154	-0.021	51380	0.3650	M

QC Flag Legend

Review Flags
M - Manually Integrated
U - Marked Undetected

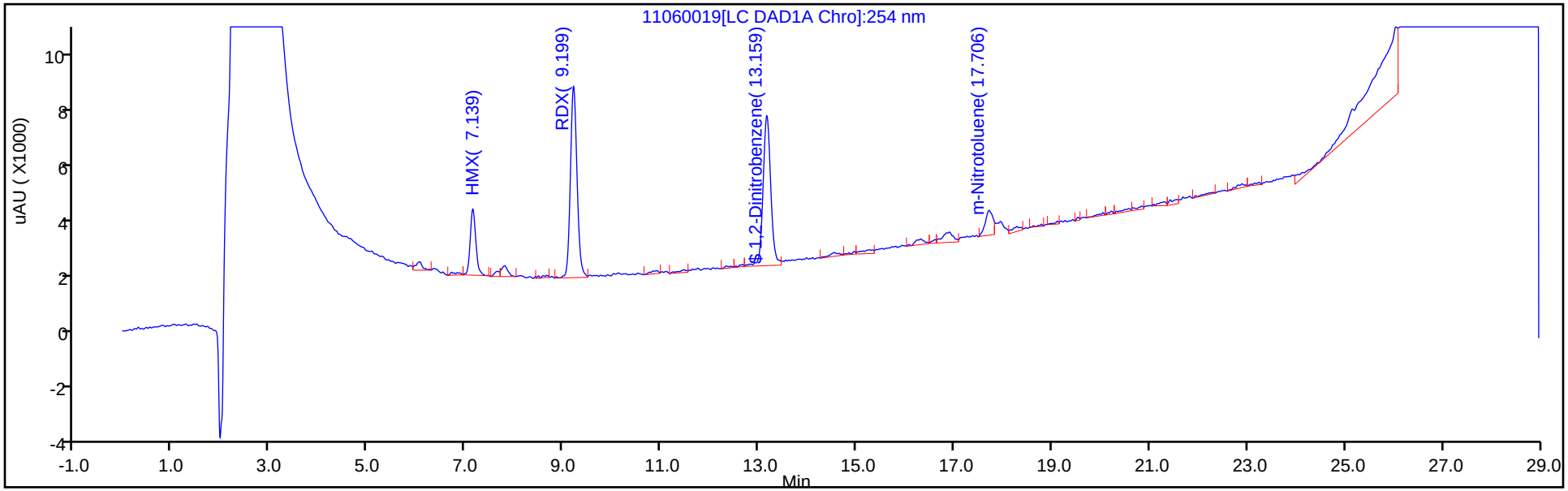
Report Date: 07-Nov-2018 08:47:48 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

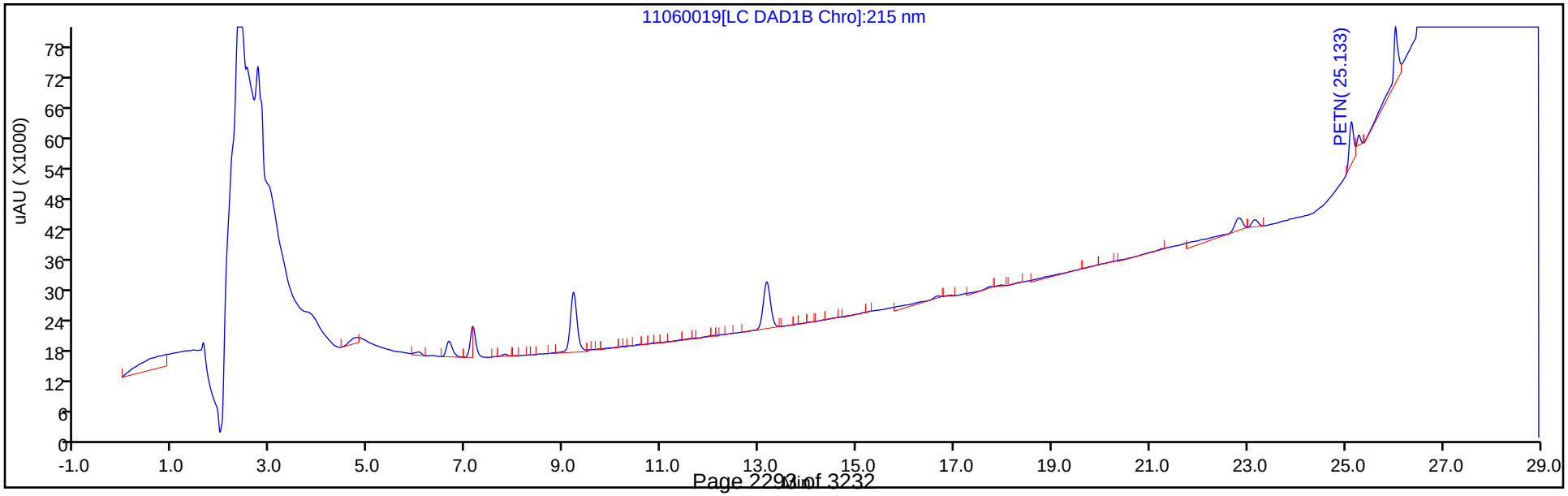
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181106-75890.b\11060019.D

Injection Date:	06-Nov-2018 23:20:21	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	280-116020-B-4-A	Lab Sample ID:	280-116020-4	Worklist Smp#:	19
Client ID:	WBGmw-009-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181106-75890.b\11060019.D				
Lims ID:	280-116020-B-4-A				
Client ID:	WBGmw-009-181001-GW				
Sample Type:	Client				
Inject. Date:	06-Nov-2018 23:20:21	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-B-4-A				
Misc. Info.:	280-0075890-019				
Operator ID:	HKF	Instrument ID:	CHHPLC_G2_LUNA		
Method:	\\ChromNA\Denver\ChromData\G2_LUNA\20181106-75890.b\G2_8330_Luna.m				
Limit Group:	GCSV - 8330				
Last Update:	07-Nov-2018 08:47:45	Calib Date:	14-Oct-2018 01:43:13		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D				
Column 1 :	Luna-Phenyl hexyl (4.60 mm)		Det: LC DAD1A, 254 nm		
Process Host:	CTX0317				
First Level Reviewer: fiedlerh		Date:	07-Nov-2018 08:15:54		

Compound	Amount Added	Amount Recovered	% Rec.
$ 9 1,2-Dinitrobenzene	0.2000	0.1783	89.14

Manual Integration/User Assign Peak Report

TestAmerica Denver

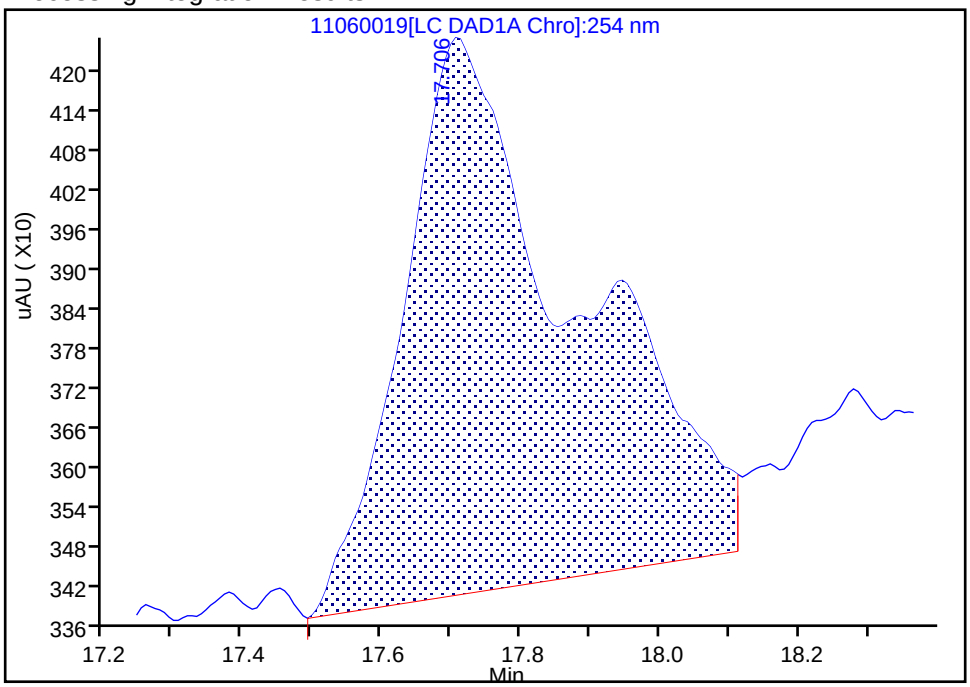
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181106-75890.b\11060019.D				
Injection Date:	06-Nov-2018 23:20:21	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	280-116020-B-4-A	Lab Sample ID:	280-116020-4		
Client ID:	WBGmw-009-181001-GW				
Operator ID:	HKF	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

16 m-Nitrotoluene, CAS: 99-08-1

Signal: 1

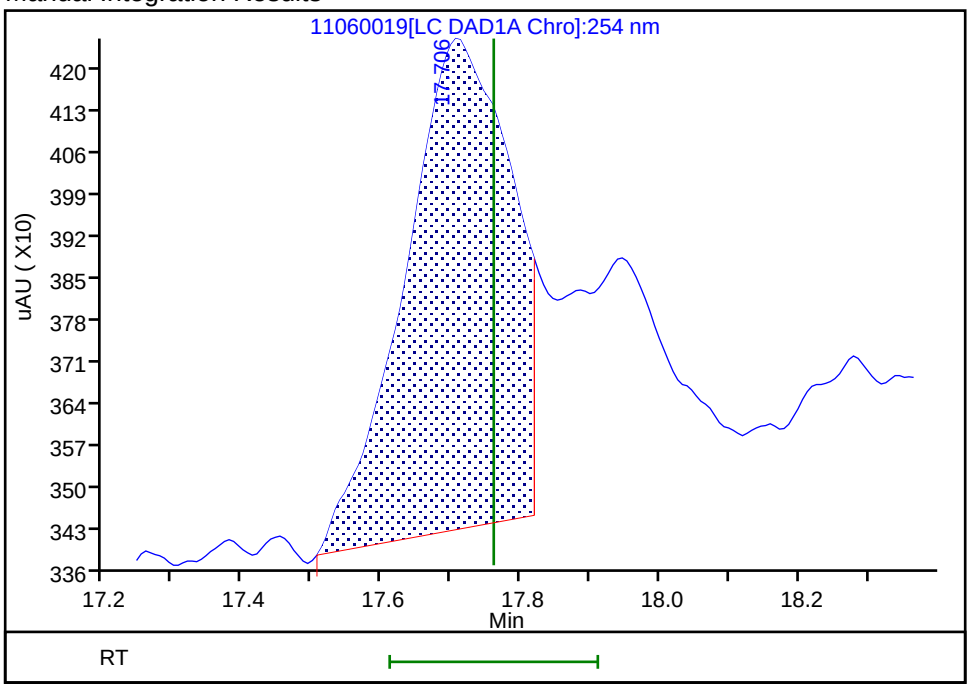
Processing Integration Results

RT: 17.71
Area: 14719
Amount: 0.047052
Amount Units: ug/ml



Manual Integration Results

RT: 17.71
Area: 8785
Amount: 0.028083
Amount Units: ug/ml



Reviewer: fiedlerh, 07-Nov-2018 08:14:20

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

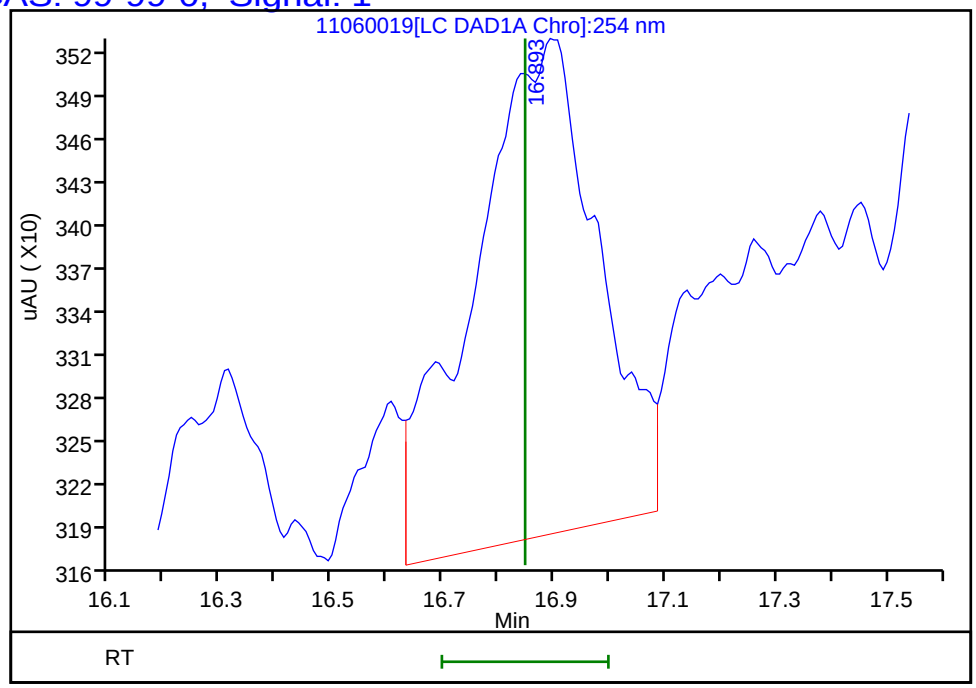
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181106-75890.b\11060019.D				
Injection Date:	06-Nov-2018 23:20:21	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	280-116020-B-4-A	Lab Sample ID:	280-116020-4		
Client ID:	WBGmw-009-181001-GW				
Operator ID:	HKF	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

14 p-Nitrotoluene, CAS: 99-99-0, Signal: 1

RT: 16.89
Response: 5351
Amount: 0.022691



Reviewer: fiedlerh, 07-Nov-2018 08:15:54
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

TestAmerica Denver

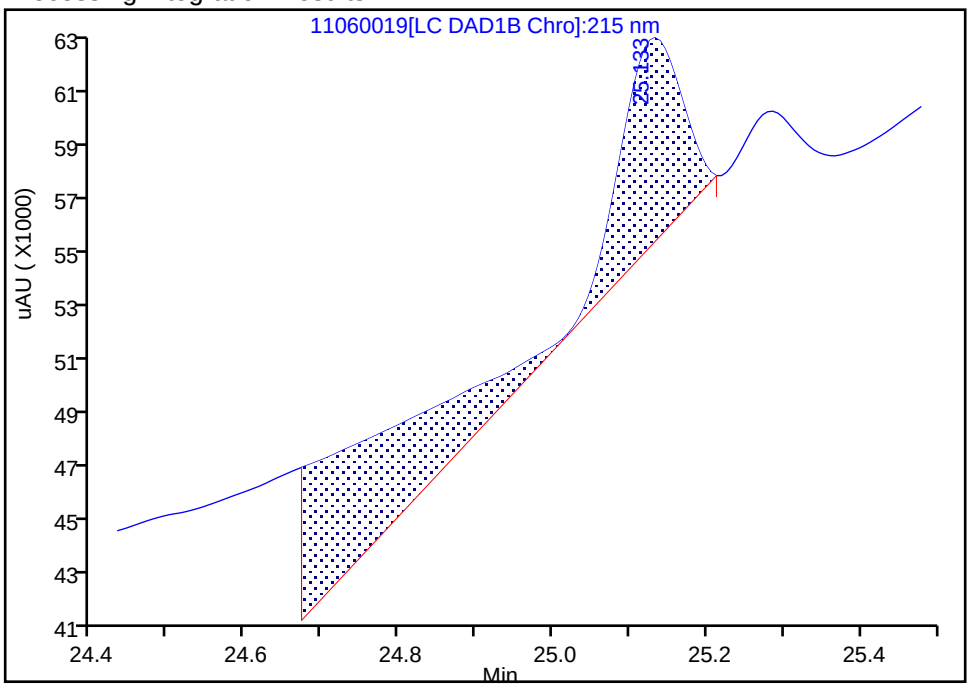
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181106-75890.b\11060019.D				
Injection Date:	06-Nov-2018 23:20:21	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	280-116020-B-4-A	Lab Sample ID:	280-116020-4		
Client ID:	WBGmw-009-181001-GW				
Operator ID:	HKF	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:		Detector	LC DAD1B, 215 nm		

23 PETN, CAS: 78-11-5

Signal: 1

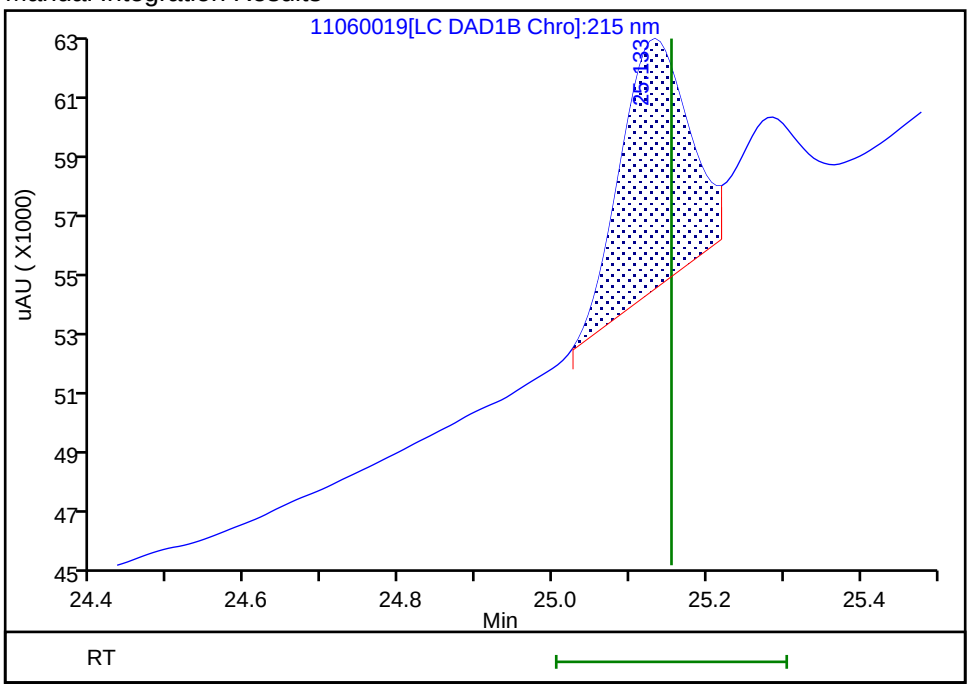
RT: 25.13
Area: 92680
Amount: 0.658373
Amount Units: ug/ml

Processing Integration Results



RT: 25.13
Area: 51380
Amount: 0.364989
Amount Units: ug/ml

Manual Integration Results



Reviewer: fiedlerh, 07-Nov-2018 08:14:26

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: LL1mw-083-181001-GW | Lab Sample ID: 280-116020-5

Matrix: Water | Lab File ID: 11010016.D

Analysis Method: 8330B | Date Collected: 10/24/2018 13:25

Extraction Method: 3535 | Date Extracted: 10/30/2018 13:24

Sample wt/vol: 421.7(mL) | Date Analyzed: 11/01/2018 19:07

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435886 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	7.2	M	1.2	0.47	0.24
118-96-7	2,4,6-Trinitrotoluene	3.4		0.47	0.24	0.086
121-14-2	2,4-Dinitrotoluene	5.6	M	0.47	0.24	0.099
606-20-2	2,6-Dinitrotoluene	3.6	M	0.24	0.24	0.076
35572-78-2	2-Amino-4,6-dinitrotoluene	14	M	0.24	0.14	0.060
88-72-2	2-Nitrotoluene	0.24	U	0.47	0.24	0.10
99-08-1	3-Nitrotoluene	0.24	U	0.47	0.24	0.099
19406-51-0	4-Amino-2,6-dinitrotoluene	17		0.24	0.14	0.068
99-99-0	4-Nitrotoluene	0.47	U	1.2	0.47	0.24
2691-41-0	HMX	1.3	M J1	0.47	0.24	0.10
55-63-0	Nitroglycerin	2.4	U	3.6	2.4	1.1
78-11-5	PETN	1.4	U	2.4	1.4	0.49
121-82-4	RDX	2.1	J1	0.24	0.14	0.062

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	118	M	83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010016.D
Lims ID: 280-116020-F-5-A
Client ID: LL1mw-083-181001-GW
Sample Type: Client
Inject. Date: 01-Nov-2018 19:07:18 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-F-5-A
Misc. Info.: 280-0075718-016
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 02-Nov-2018 16:14:18 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0315

First Level Reviewer: fiedlerh Date: 02-Nov-2018 15:05:18

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 HMX	1	6.687	6.669	0.018	9639	0.1135	M
	5 RDX	1	7.767	7.782	-0.015	18343	0.1754	
$	7 1,2-Dinitrobenzene	1	8.767	8.769	-0.002	30425	0.2364	M
	8 1,3,5-Trinitrobenzene	1	8.934	8.935	-0.001	139277	0.6098	M
	9 1,3-Dinitrobenzene	1	9.561	9.595	-0.034	31735	0.1054	
	11 Nitrobenzene	1	10.001	9.982	0.019	3736	0.0188	
	12 Tetryl	1	10.227	10.308	-0.081	69520	0.4253	
	13 Nitroglycerin	2		10.815			ND	
	14 2,4,6-Trinitrotoluene	1	11.274	11.275	-0.001	61582	0.2871	
	15 4-Amino-2,6-dinitrotoluene	1	11.461	11.462	-0.001	236844	1.43	
	16 2-Amino-4,6-dinitrotoluene	1	11.747	11.748	-0.001	231393	1.16	M
	17 2,6-Dinitrotoluene	1	11.861	11.888	-0.027	45834	0.2994	M
	18 2,4-Dinitrotoluene	1	12.087	12.088	-0.001	140472	0.4710	M
	19 o-Nitrotoluene	1		12.935			ND	
	20 p-Nitrotoluene	1		13.382			ND	
	21 m-Nitrotoluene	1		13.982			ND	
	22 PETN	2		15.102			ND	

QC Flag Legend

Review Flags
M - Manually Integrated

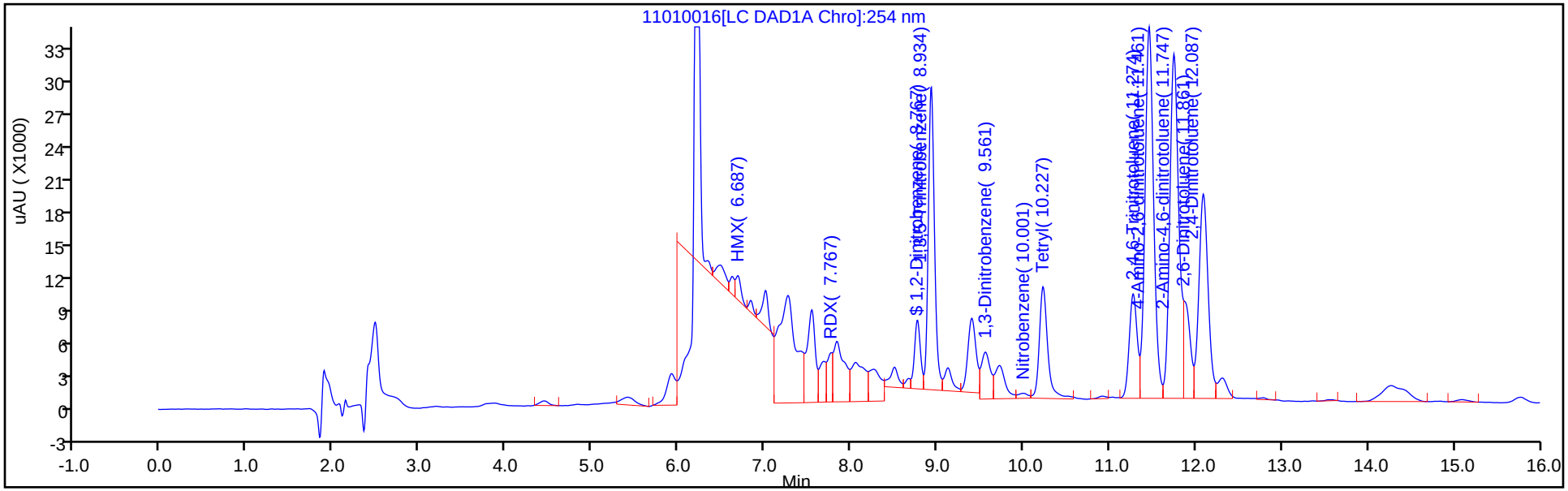
Report Date: 02-Nov-2018 16:14:25 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

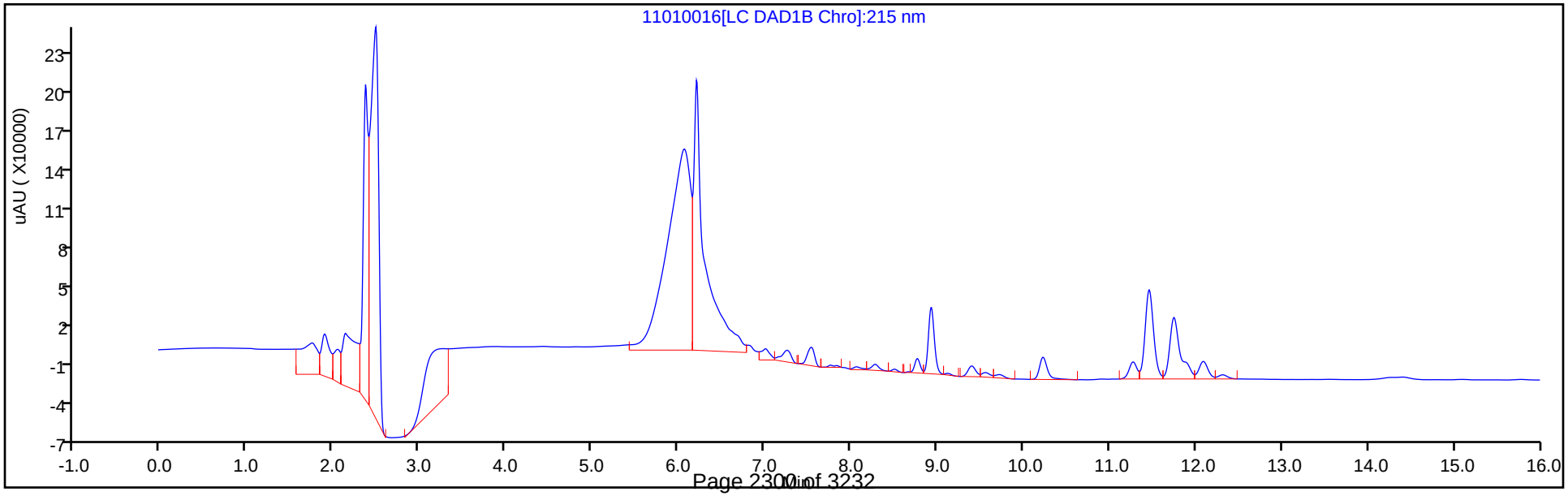
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010016.D

Injection Date:	01-Nov-2018 19:07:18	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-116020-F-5-A	Lab Sample ID:	280-116020-5	Worklist Smp#:	16
Client ID:	LL1mw-083-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010016.D				
Lims ID:	280-116020-F-5-A				
Client ID:	LL1mw-083-181001-GW				
Sample Type:	Client				
Inject. Date:	01-Nov-2018 19:07:18	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-F-5-A				
Misc. Info.:	280-0075718-016				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	02-Nov-2018 16:14:18	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX0315				
First Level Reviewer: fiedlerh		Date:	02-Nov-2018 15:05:18		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2364	118.18

Manual Integration/User Assign Peak Report

TestAmerica Denver

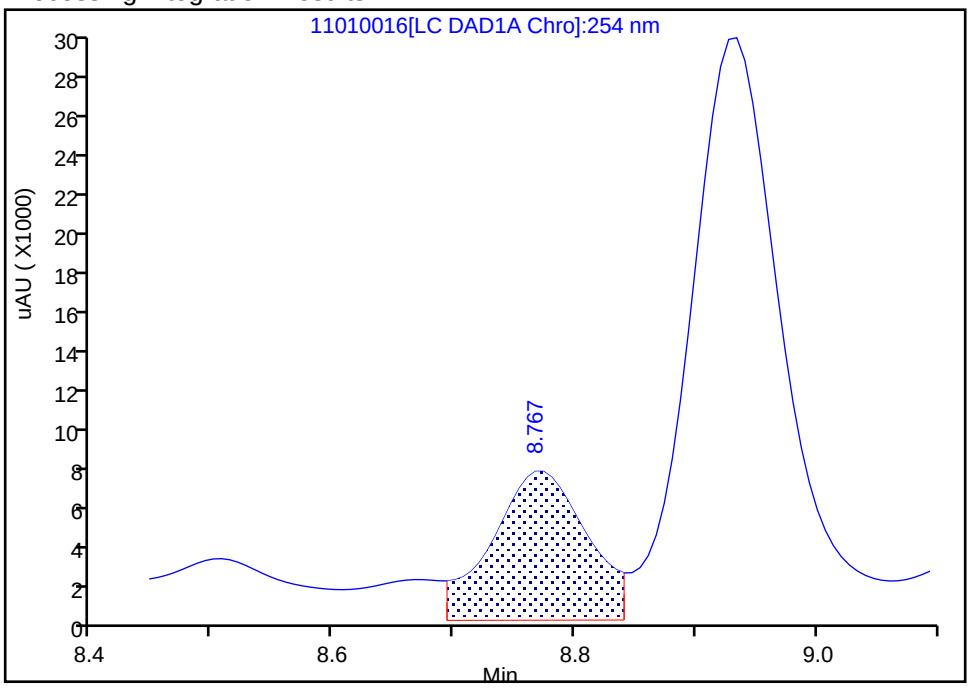
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010016.D				
Injection Date:	01-Nov-2018 19:07:18	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-F-5-A	Lab Sample ID:	280-116020-5		
Client ID:	LL1mw-083-181001-GW				
Operator ID:	hkf	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

$ 7 1,2-Dinitrobenzene, CAS: 528-29-0

Signal: 1

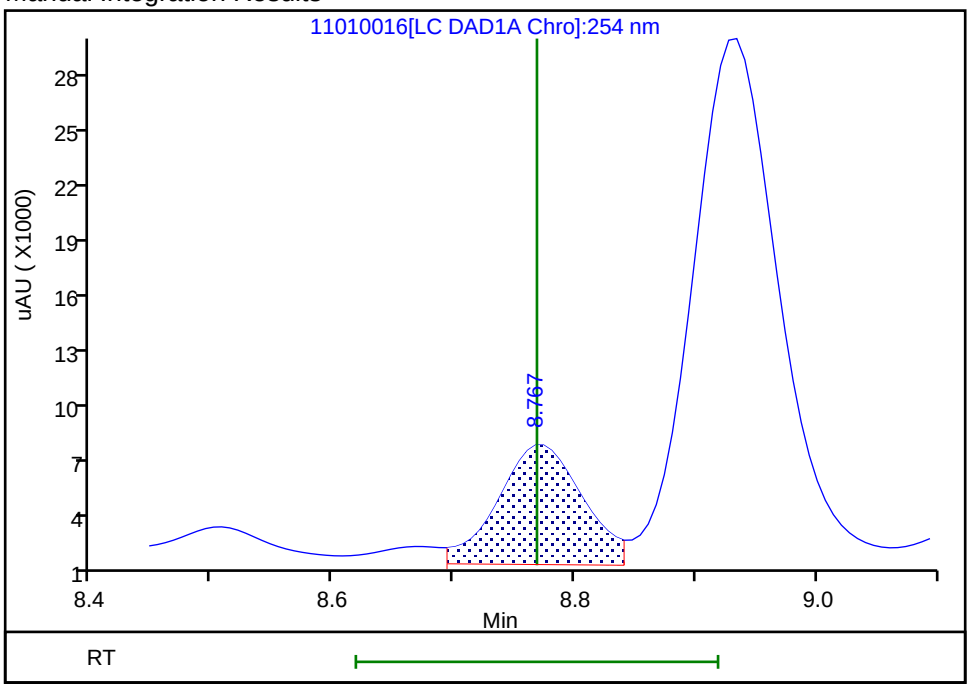
Processing Integration Results

RT: 8.77
Area: 39647
Amount: 0.307992
Amount Units: ug/mL



Manual Integration Results

RT: 8.77
Area: 30425
Amount: 0.236352
Amount Units: ug/mL



Reviewer: fiedlerh, 02-Nov-2018 15:04:37

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

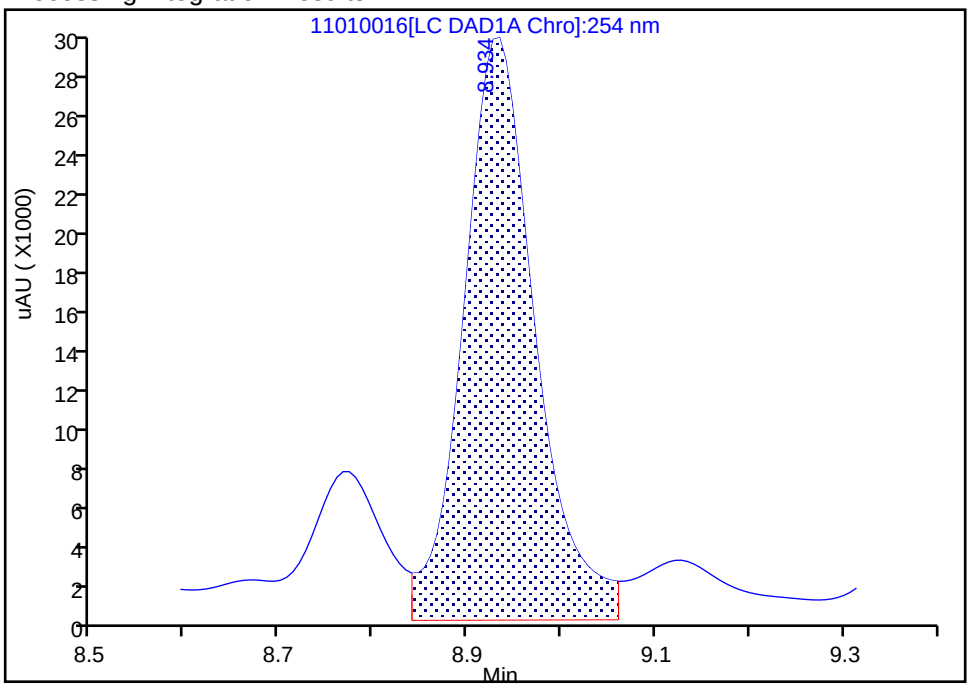
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010016.D				
Injection Date:	01-Nov-2018 19:07:18	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-F-5-A	Lab Sample ID:	280-116020-5		
Client ID:	LL1mw-083-181001-GW				
Operator ID:	hkf	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

8 1,3,5-Trinitrobenzene, CAS: 99-35-4

Signal: 1

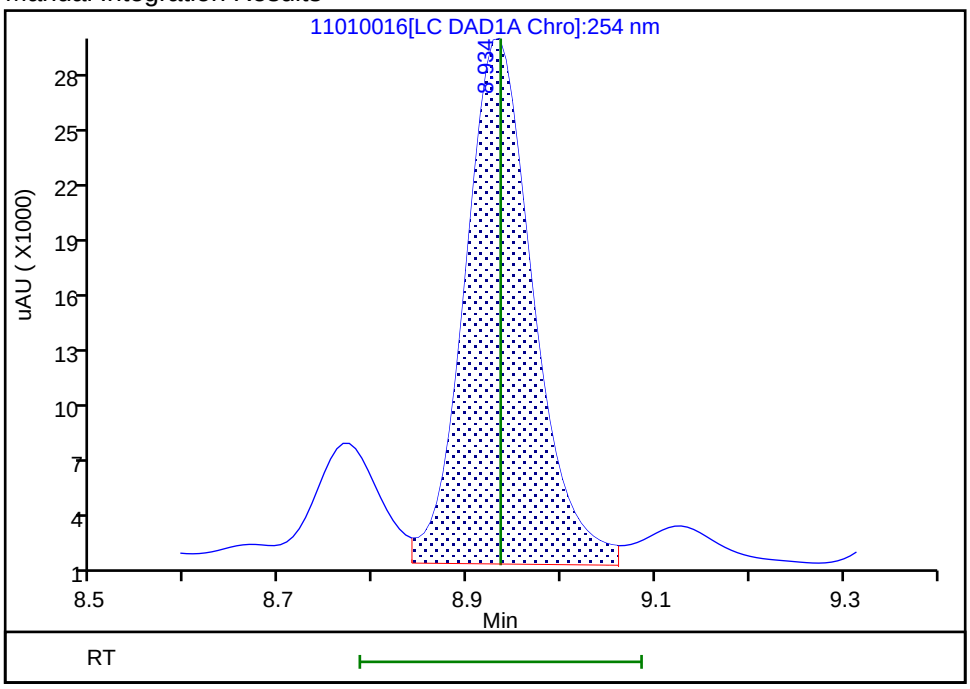
Processing Integration Results

RT: 8.93
Area: 151547
Amount: 0.663492
Amount Units: ug/mL



Manual Integration Results

RT: 8.93
Area: 139277
Amount: 0.609772
Amount Units: ug/mL



Reviewer: fiedlerh, 02-Nov-2018 15:04:37

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

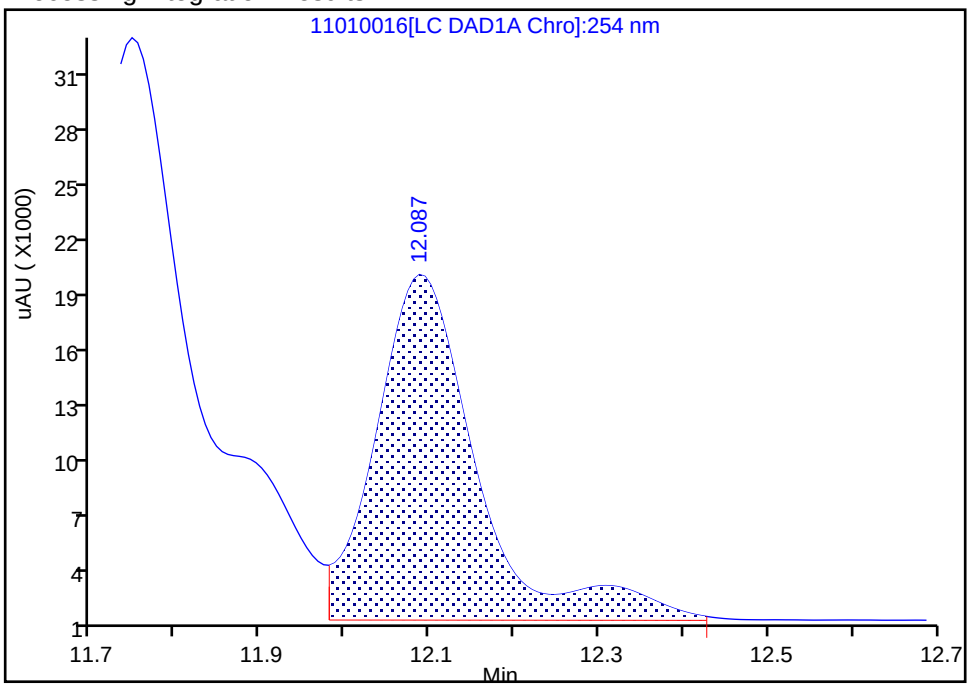
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010016.D				
Injection Date:	01-Nov-2018 19:07:18	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-F-5-A	Lab Sample ID:	280-116020-5		
Client ID:	LL1mw-083-181001-GW				
Operator ID:	hkf	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

18 2,4-Dinitrotoluene, CAS: 121-14-2

Signal: 1

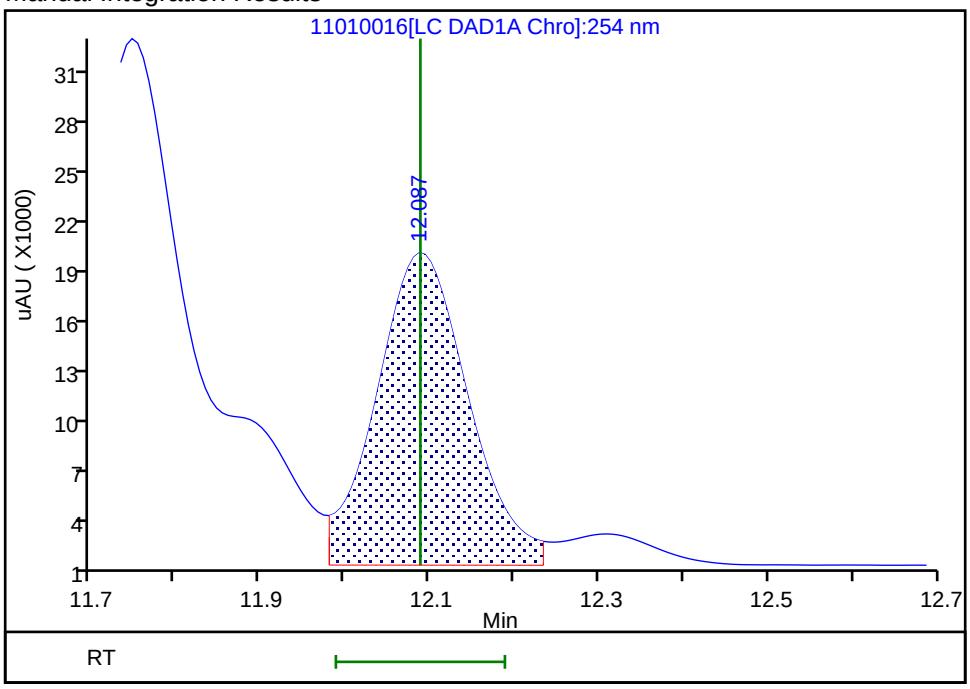
Processing Integration Results

RT: 12.09
Area: 155092
Amount: 0.519974
Amount Units: ug/mL



Manual Integration Results

RT: 12.09
Area: 140472
Amount: 0.470958
Amount Units: ug/mL



Reviewer: fiedlerh, 02-Nov-2018 15:05:14
Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

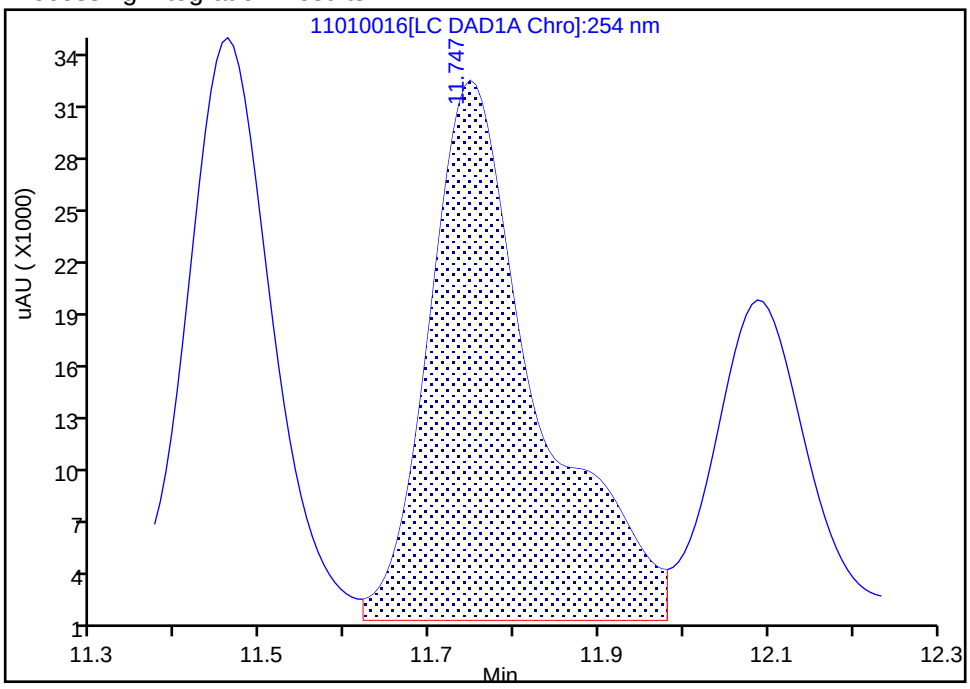
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010016.D				
Injection Date:	01-Nov-2018 19:07:18	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-F-5-A	Lab Sample ID:	280-116020-5		
Client ID:	LL1mw-083-181001-GW				
Operator ID:	hkf	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

16 2-Amino-4,6-dinitrotoluene, CAS: 35572-78-2

Signal: 1

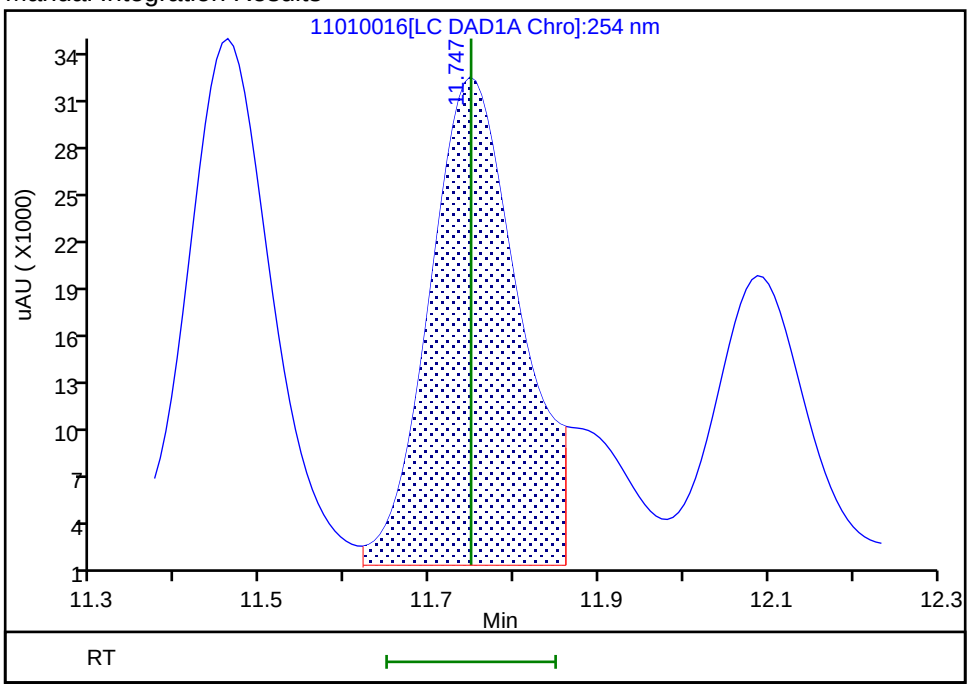
Processing Integration Results

RT: 11.75
Area: 277232
Amount: 1.389871
Amount Units: ug/mL



Manual Integration Results

RT: 11.75
Area: 231393
Amount: 1.160063
Amount Units: ug/mL



Reviewer: fiedlerh, 02-Nov-2018 15:05:07

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

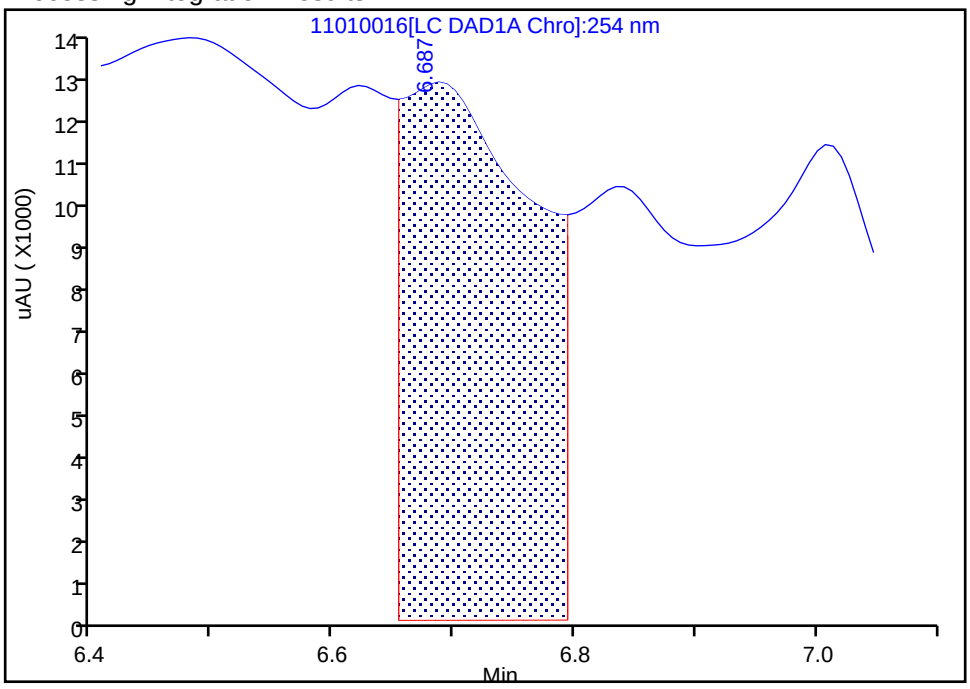
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010016.D				
Injection Date:	01-Nov-2018 19:07:18	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-F-5-A	Lab Sample ID:	280-116020-5		
Client ID:	LL1mw-083-181001-GW				
Operator ID:	hkf	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 HMX, CAS: 2691-41-0

Signal: 1

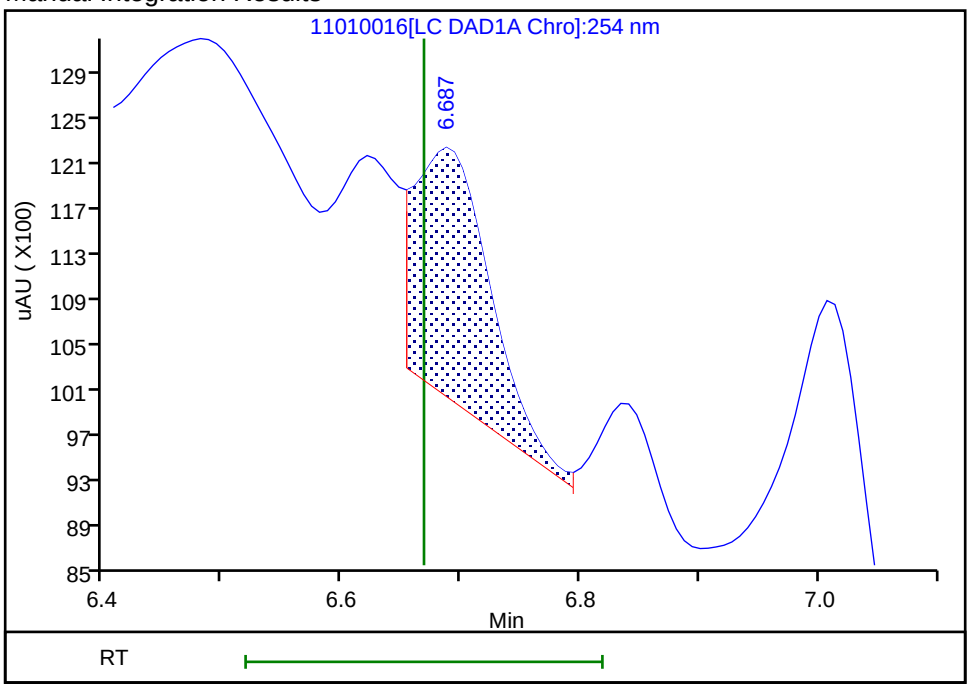
Processing Integration Results

RT: 6.69
Area: 86990
Amount: 1.024068
Amount Units: ug/mL



Manual Integration Results

RT: 6.69
Area: 9639
Amount: 0.113473
Amount Units: ug/mL



Reviewer: fiedlerh, 02-Nov-2018 15:04:30
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: LL1mw-083-181001-GW | Lab Sample ID: 280-116020-5

Matrix: Water | Lab File ID: 11020015.D

Analysis Method: 8330B | Date Collected: 10/24/2018 13:25

Extraction Method: 3535 | Date Extracted: 10/30/2018 13:24

Sample wt/vol: 421.7(mL) | Date Analyzed: 11/02/2018 23:00

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436120 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	0.24	U M	0.47	0.24	0.11
2691-41-0	*HMX*	*0.23*	*J J1*	*0.47*	0.24	*0.10*
98-95-3	Nitrobenzene	0.24	U	0.47	0.24	0.11
121-82-4	*RDX*	*0.56*	*J1*	*0.24*	0.14	*0.062*
479-45-8	Tetryl	0.24	U	0.28	0.24	0.094

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	87		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\11020015.D
Lims ID: 280-116020-F-5-A
Client ID: LL1mw-083-181001-GW
Sample Type: Client
Inject. Date: 02-Nov-2018 23:00:16 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-F-5-A
Misc. Info.: 280-0075779-015
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 05-Nov-2018 11:34:27 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 05-Nov-2018 11:28:51

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	5 HMX	1	7.151	7.171	-0.020	3689	0.0193	
	7 RDX	1	9.237	9.264	-0.027	11382	0.0473	
	8 Nitrobenzene	1		12.224			ND	
$	9 1,2-Dinitrobenzene	1	13.184	13.231	-0.047	53623	0.1736	
	12 Nitroglycerin	2	15.651	15.724	-0.073	9616	0.0492	
	11 1,3-Dinitrobenzene	1		15.771			ND	U
	13 o-Nitrotoluene	1	16.431	16.544	-0.113	32715	0.1191	
	14 p-Nitrotoluene	1		16.878			ND	
	15 4-Amino-2,6-dinitrotoluene	1	17.237	17.284	-0.047	480877	1.47	
	16 m-Nitrotoluene	1	17.764	17.784	-0.020	7037	0.0225	
	17 2-Amino-4,6-dinitrotoluene	1	18.277	18.324	-0.047	459168	0.9521	
	18 1,3,5-Trinitrobenzene	1	19.037	19.071	-0.034	265380	0.5217	
	19 2,6-Dinitrotoluene	1	19.851	19.891	-0.040	103224	0.3138	
	20 2,4-Dinitrotoluene	1	20.417	20.458	-0.041	285398	0.4533	M
	21 Tetryl	1		23.758			ND	
	22 2,4,6-Trinitrotoluene	1	24.757	24.771	-0.014	120366	0.2686	
	23 PETN	2	25.184	25.178	0.006	15275	0.1085	

QC Flag Legend

Review Flags
M - Manually Integrated
U - Marked Undetected

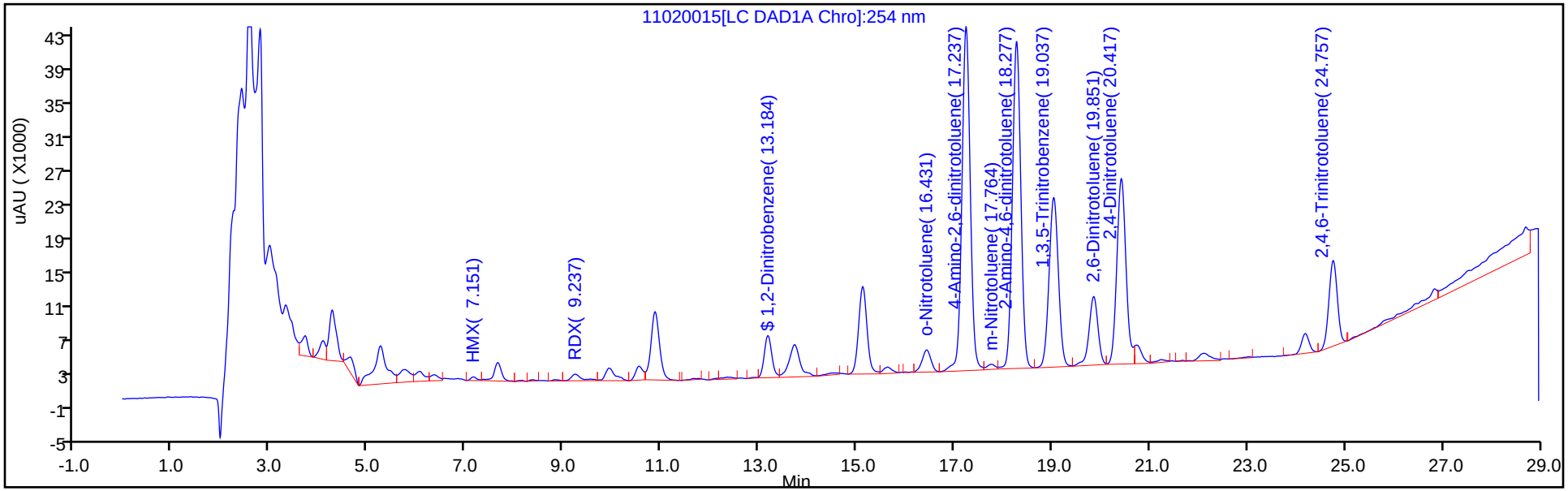
Report Date: 05-Nov-2018 11:34:36 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

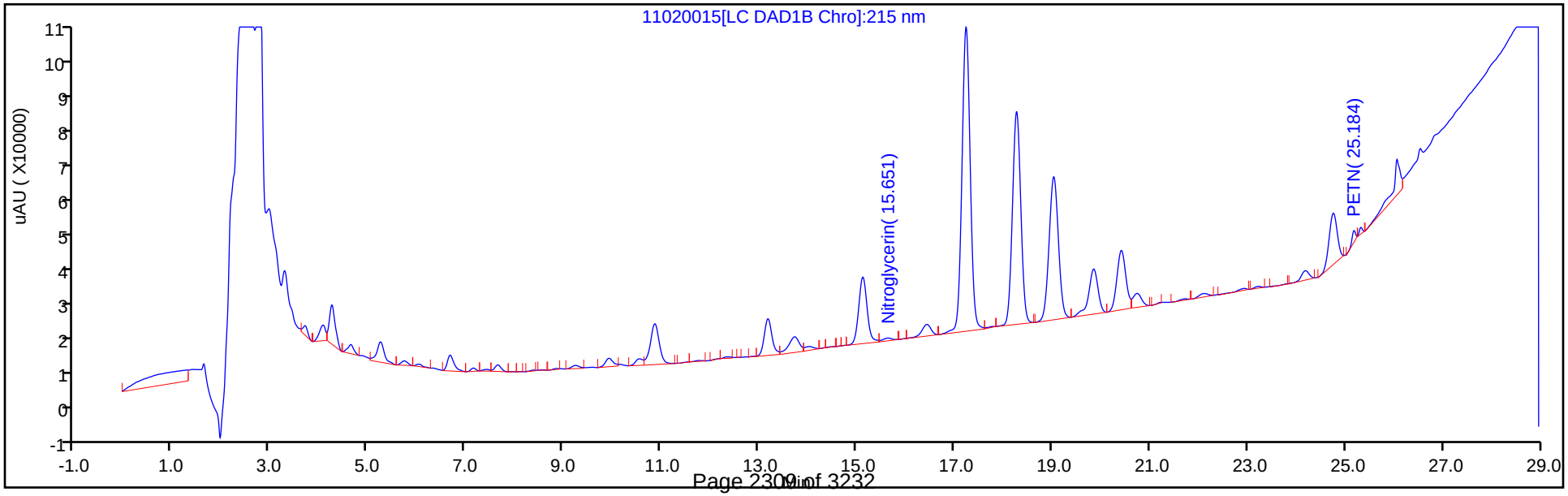
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\11020015.D

Injection Date:	02-Nov-2018 23:00:16	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	280-116020-F-5-A	Lab Sample ID:	280-116020-5	Worklist Smp#:	15
Client ID:	LL1mw-083-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\11020015.D				
Lims ID:	280-116020-F-5-A				
Client ID:	LL1mw-083-181001-GW				
Sample Type:	Client				
Inject. Date:	02-Nov-2018 23:00:16	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-F-5-A				
Misc. Info.:	280-0075779-015				
Operator ID:	HKF	Instrument ID:	CHHPLC_G2_LUNA		
Method:	\\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\G2_8330_Luna.m				
Limit Group:	GCSV - 8330				
Last Update:	05-Nov-2018 11:34:27	Calib Date:	14-Oct-2018 01:43:13		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D				
Column 1 :	Luna-Phenyl hexyl (4.60 mm)		Det: LC DAD1A, 254 nm		
Process Host:	CTX0304				
First Level Reviewer: fiedlerh		Date:	05-Nov-2018 11:28:51		

Compound	Amount Added	Amount Recovered	% Rec.
$ 9 1,2-Dinitrobenzene	0.2000	0.1736	86.80

User Disabled Compound Report

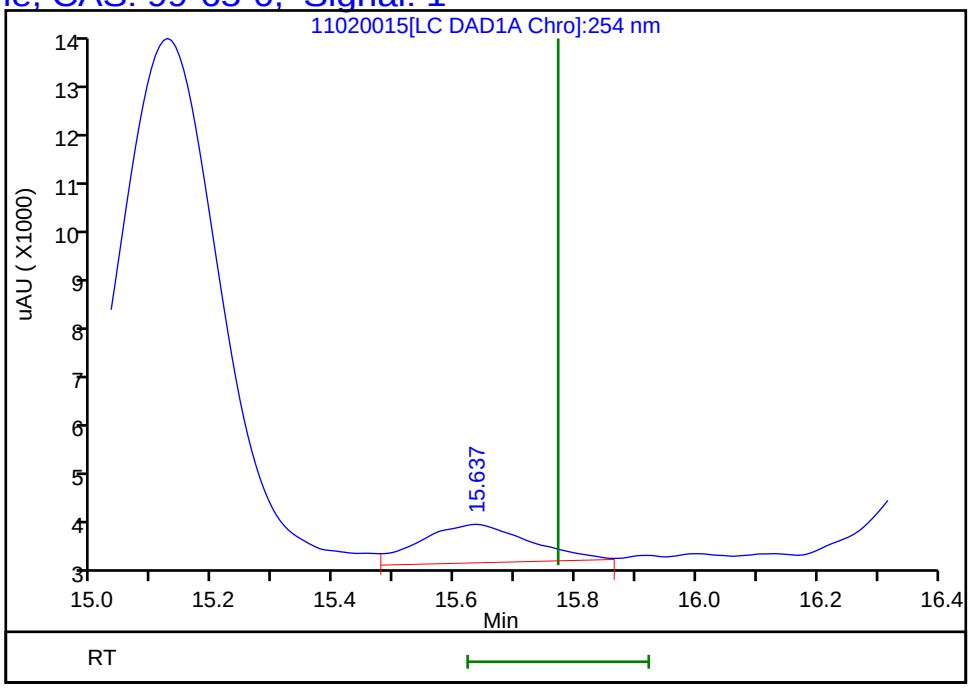
TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\11020015.D

Injection Date:	02-Nov-2018 23:00:16	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	280-116020-F-5-A	Lab Sample ID:	280-116020-5		
Client ID:	LL1mw-083-181001-GW				
Operator ID:	HKF	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

11 1,3-Dinitrobenzene, CAS: 99-65-0, Signal: 1

RT: 15.64
Response: 9328
Amount: 0.013370



Reviewer: fiedlerh, 05-Nov-2018 11:28:51
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

TestAmerica Denver

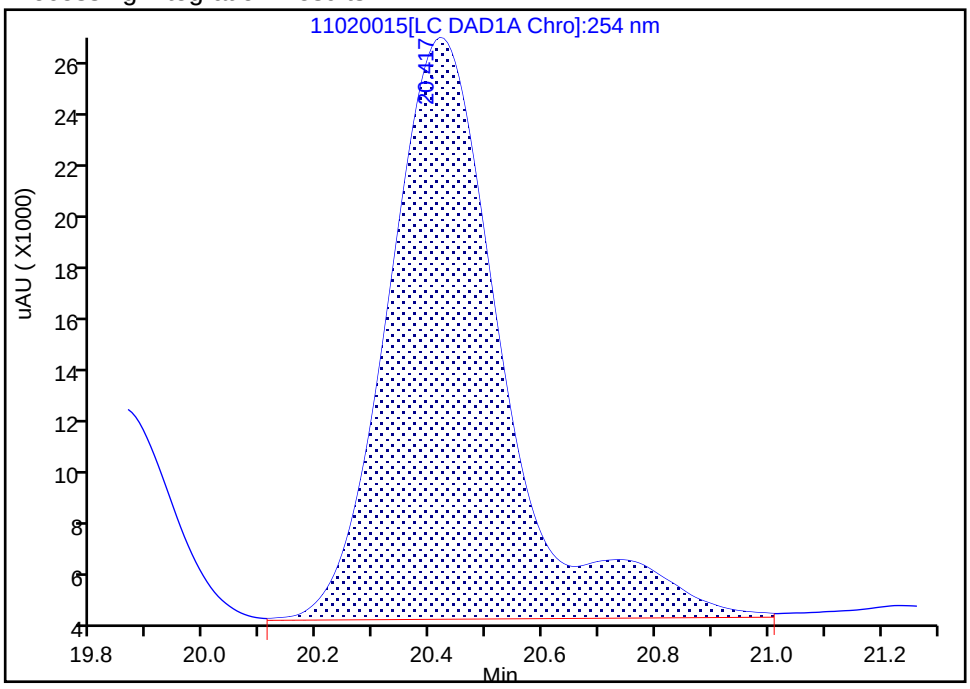
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\11020015.D				
Injection Date:	02-Nov-2018 23:00:16	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	280-116020-F-5-A	Lab Sample ID:	280-116020-5		
Client ID:	LL1mw-083-181001-GW				
Operator ID:	HKF	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

20 2,4-Dinitrotoluene, CAS: 121-14-2

Signal: 1

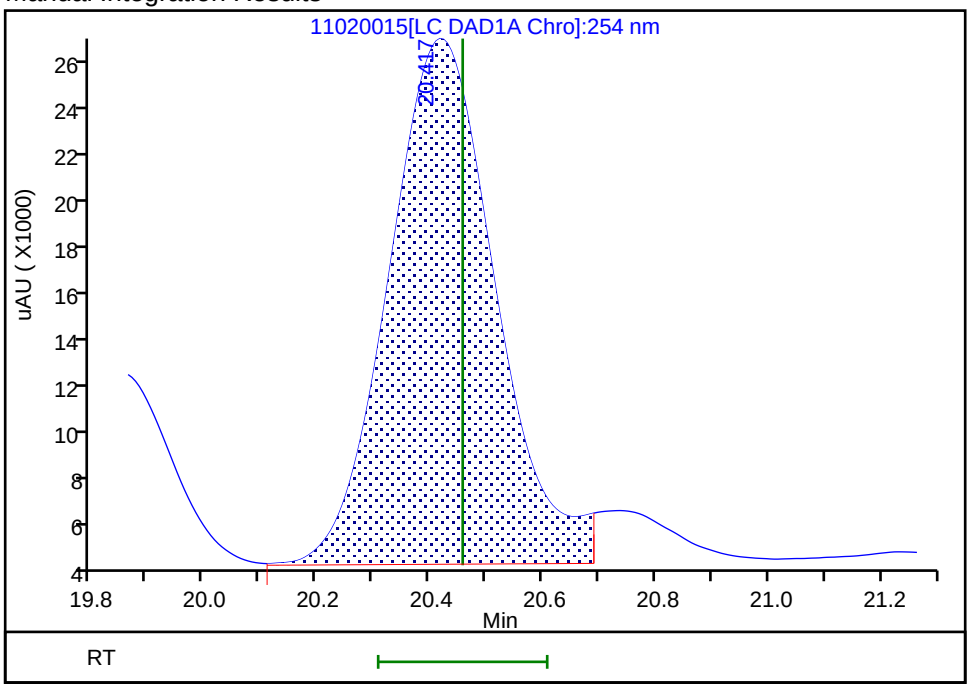
Processing Integration Results

RT: 20.42
Area: 306957
Amount: 0.487526
Amount Units: ug/ml



Manual Integration Results

RT: 20.42
Area: 285398
Amount: 0.453285
Amount Units: ug/ml



Reviewer: fiedlerh, 05-Nov-2018 11:28:45

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: LL1mw-084-181001-GW | Lab Sample ID: 280-116020-6

Matrix: Water | Lab File ID: 11010017.D

Analysis Method: 8330B | Date Collected: 10/24/2018 09:30

Extraction Method: 3535 | Date Extracted: 10/30/2018 13:24

Sample wt/vol: 475.6(mL) | Date Analyzed: 11/01/2018 19:30

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435886 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	2.0	M	1.1	0.42	0.21
99-65-0	1,3-Dinitrobenzene	1.2	M J1	0.42	0.21	0.093
118-96-7	2,4,6-Trinitrotoluene	4.6		0.42	0.21	0.076
121-14-2	2,4-Dinitrotoluene	1.8		0.42	0.21	0.088
606-20-2	2,6-Dinitrotoluene	0.21	U	0.21	0.21	0.068
35572-78-2	2-Amino-4,6-dinitrotoluene	9.6		0.21	0.13	0.053
88-72-2	2-Nitrotoluene	0.21	U	0.42	0.21	0.090
99-08-1	3-Nitrotoluene	0.21	U	0.42	0.21	0.088
19406-51-0	4-Amino-2,6-dinitrotoluene	19		0.21	0.13	0.061
99-99-0	4-Nitrotoluene	0.42	U M	1.1	0.42	0.21
2691-41-0	HMX	2.4	M J1	0.42	0.21	0.092
98-95-3	Nitrobenzene	0.21	U	0.42	0.21	0.096
55-63-0	Nitroglycerin	2.1	U	3.2	2.1	0.97
78-11-5	PETN	1.3	U	2.1	1.3	0.44
121-82-4	RDX	5.2	M J1	0.21	0.13	0.055
479-45-8	Tetryl	0.21	U M	0.25	0.21	0.083

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	118	M	83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010017.D
Lims ID: 280-116020-E-6-A
Client ID: LL1mw-084-181001-GW
Sample Type: Client
Inject. Date: 01-Nov-2018 19:30:14 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-E-6-A
Misc. Info.: 280-0075718-017
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 02-Nov-2018 16:14:18 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0315

First Level Reviewer: fiedlerh Date: 02-Nov-2018 16:06:43

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
2	HMX	1	6.693	6.669	0.024	19426	0.2287	M
5	RDX	1	7.827	7.782	0.045	51455	0.4920	M
$ 7	1,2-Dinitrobenzene	1	8.767	8.769	-0.002	30468	0.2367	M
8	1,3,5-Trinitrobenzene	1	8.933	8.935	-0.002	43236	0.1893	M
9	1,3-Dinitrobenzene	1	9.580	9.595	-0.015	34124	0.1134	M
11	Nitrobenzene	1		9.982			ND	
12	Tetryl	1		10.308			ND	U
13	Nitroglycerin	2		10.815			ND	
14	2,4,6-Trinitrotoluene	1	11.273	11.275	-0.002	94598	0.4411	
15	4-Amino-2,6-dinitrotoluene	1	11.460	11.462	-0.002	294740	1.78	
16	2-Amino-4,6-dinitrotoluene	1	11.747	11.748	-0.001	182787	0.9164	
17	2,6-Dinitrotoluene	1		11.888			ND	
18	2,4-Dinitrotoluene	1	12.087	12.088	-0.001	50673	0.1699	
19	o-Nitrotoluene	1		12.935			ND	
20	p-Nitrotoluene	1		13.382			ND	U
21	m-Nitrotoluene	1		13.982			ND	
22	PETN	2		15.102			ND	

QC Flag Legend

Review Flags
M - Manually Integrated
U - Marked Undetected

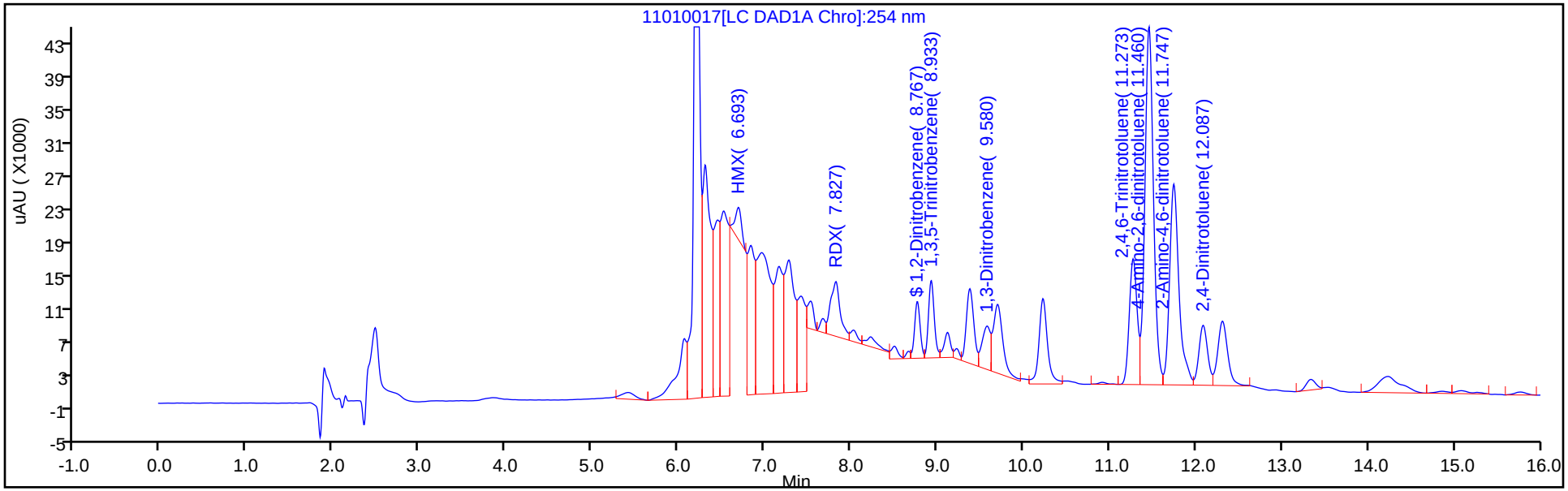
Report Date: 02-Nov-2018 16:14:26 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

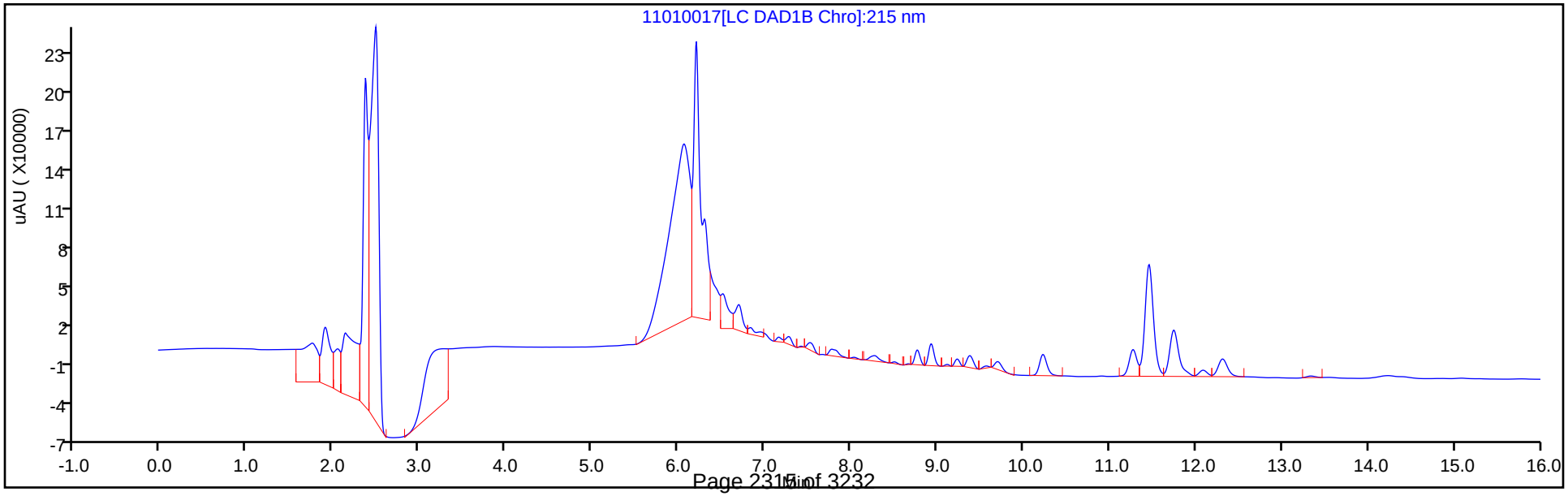
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010017.D

Injection Date:	01-Nov-2018 19:30:14	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-116020-E-6-A	Lab Sample ID:	280-116020-6	Worklist Smp#:	17
Client ID:	LL1mw-084-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010017.D				
Lims ID:	280-116020-E-6-A				
Client ID:	LL1mw-084-181001-GW				
Sample Type:	Client				
Inject. Date:	01-Nov-2018 19:30:14	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-E-6-A				
Misc. Info.:	280-0075718-017				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	02-Nov-2018 16:14:18	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX0315				
First Level Reviewer: fiedlerh		Date:	02-Nov-2018 16:06:43		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2367	118.34

Manual Integration/User Assign Peak Report

TestAmerica Denver

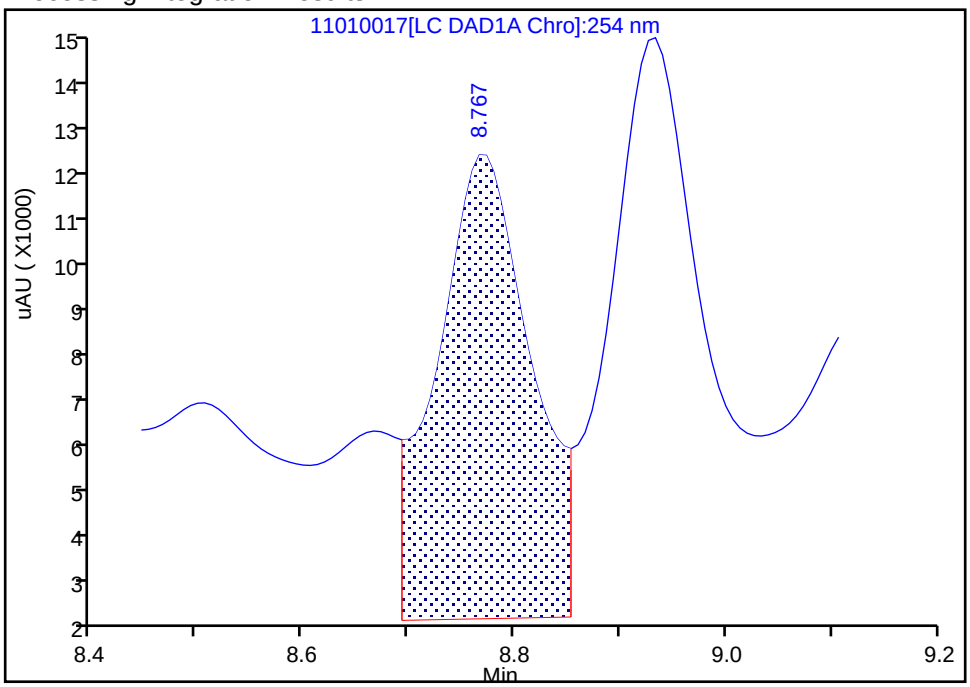
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010017.D				
Injection Date:	01-Nov-2018 19:30:14	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-E-6-A	Lab Sample ID:	280-116020-6		
Client ID:	LL1mw-084-181001-GW				
Operator ID:	hkf	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

$ 7 1,2-Dinitrobenzene, CAS: 528-29-0

Signal: 1

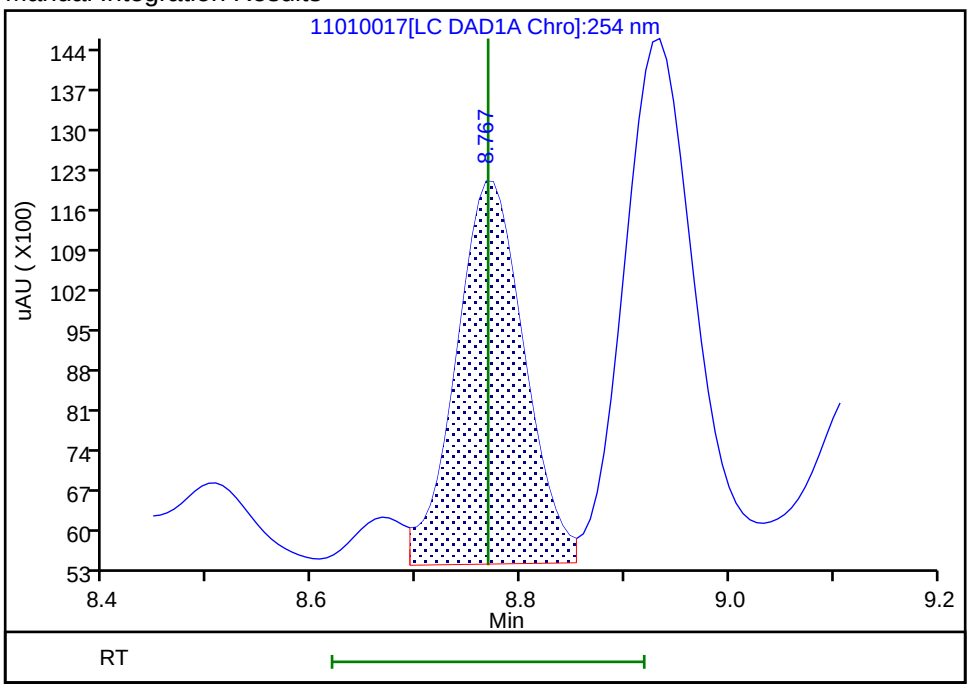
Processing Integration Results

RT: 8.77
Area: 60895
Amount: 0.473054
Amount Units: ug/mL



Manual Integration Results

RT: 8.77
Area: 30468
Amount: 0.236686
Amount Units: ug/mL



Reviewer: fiedlerh, 02-Nov-2018 16:06:23
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

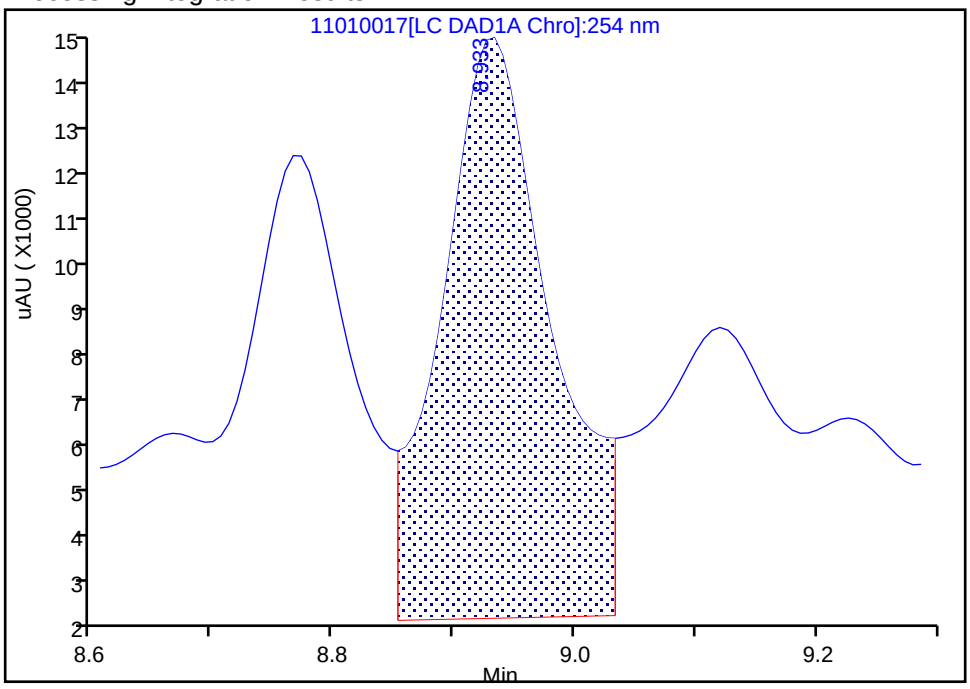
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010017.D				
Injection Date:	01-Nov-2018 19:30:14	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-E-6-A	Lab Sample ID:	280-116020-6		
Client ID:	LL1mw-084-181001-GW				
Operator ID:	hkf	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

8 1,3,5-Trinitrobenzene, CAS: 99-35-4

Signal: 1

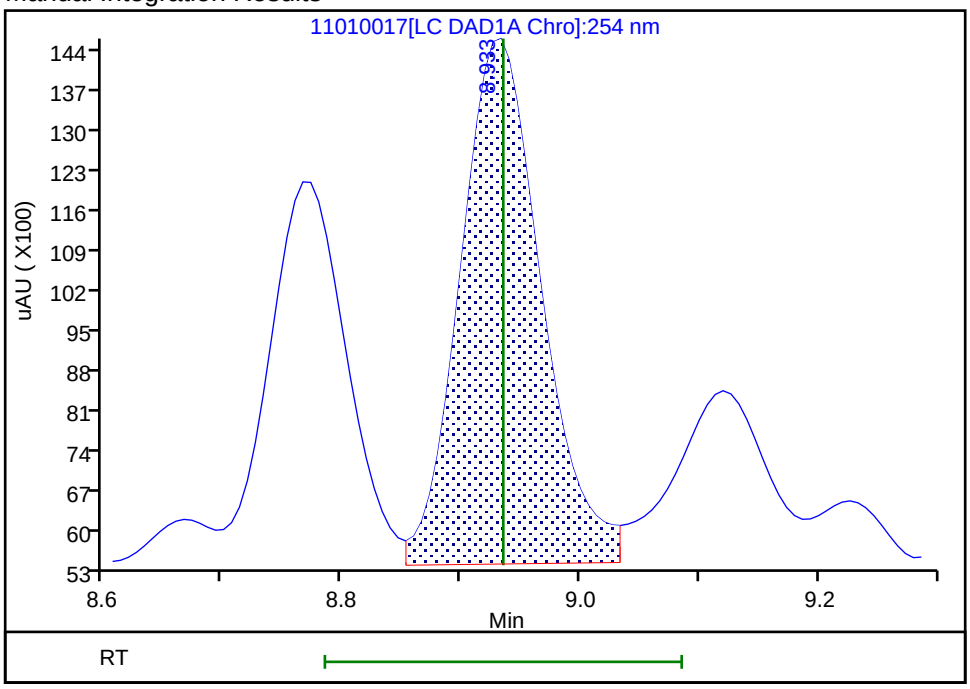
Processing Integration Results

RT: 8.93
Area: 77023
Amount: 0.337216
Amount Units: ug/mL



Manual Integration Results

RT: 8.93
Area: 43236
Amount: 0.189293
Amount Units: ug/mL



Reviewer: fiedlerh, 02-Nov-2018 16:06:23

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

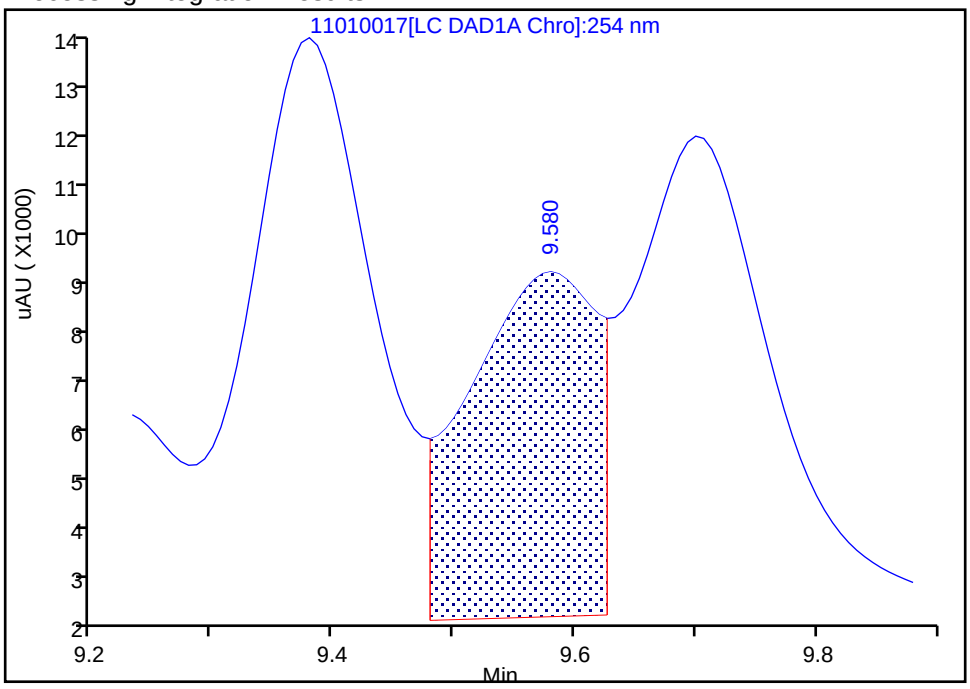
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010017.D				
Injection Date:	01-Nov-2018 19:30:14	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-E-6-A	Lab Sample ID:	280-116020-6		
Client ID:	LL1mw-084-181001-GW				
Operator ID:	hkf	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

9 1,3-Dinitrobenzene, CAS: 99-65-0

Signal: 1

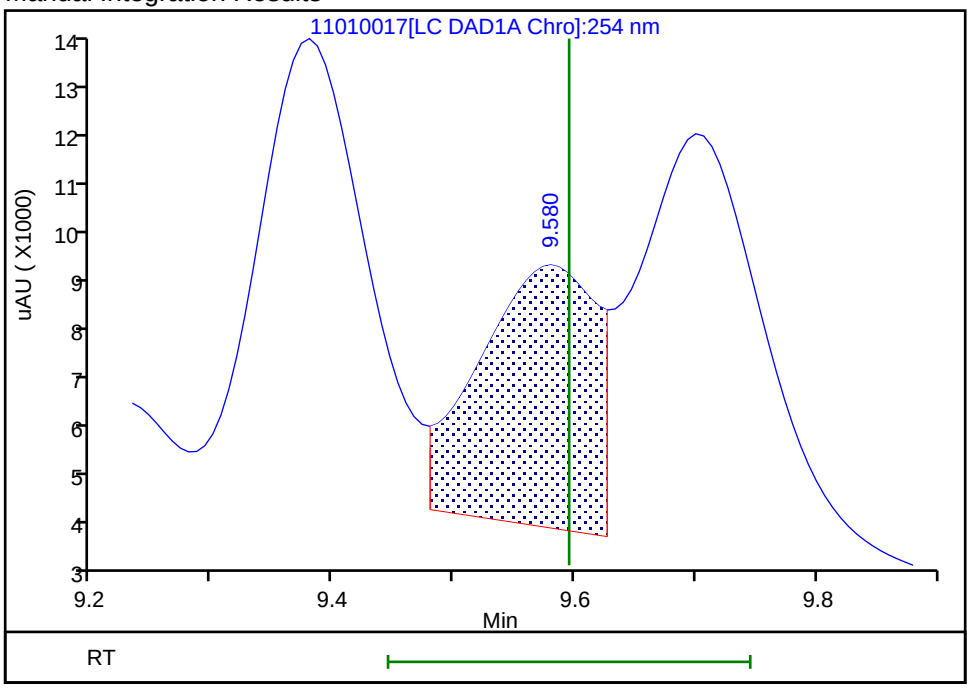
Processing Integration Results

RT: 9.58
Area: 47209
Amount: 0.156828
Amount Units: ug/mL



Manual Integration Results

RT: 9.58
Area: 34124
Amount: 0.113360
Amount Units: ug/mL



Reviewer: fiedlerh, 02-Nov-2018 16:06:29

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

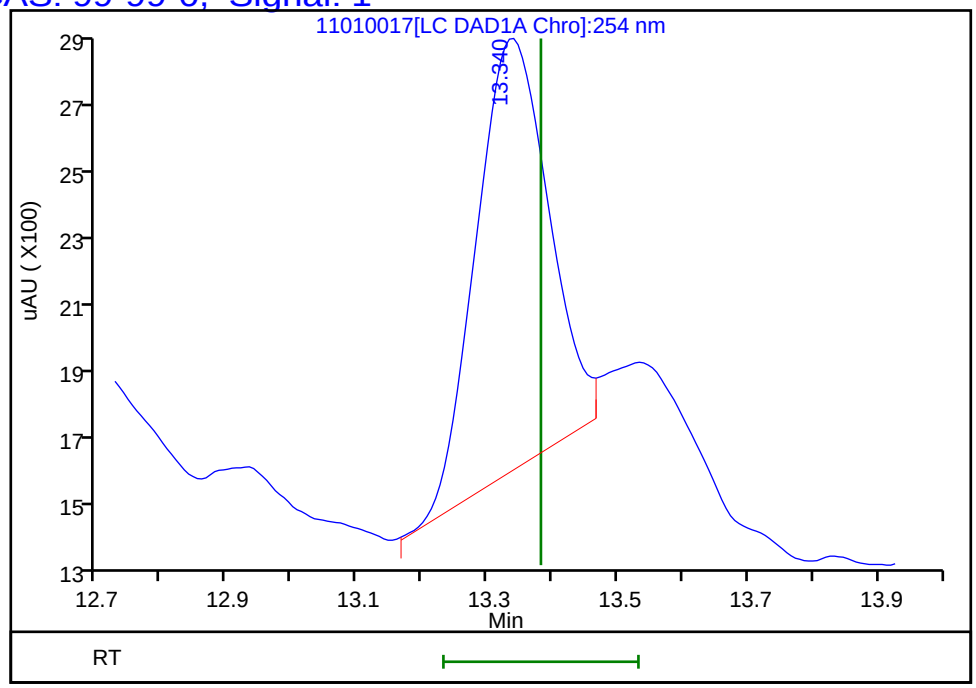
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010017.D				
Injection Date:	01-Nov-2018 19:30:14	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-E-6-A	Lab Sample ID:	280-116020-6		
Client ID:	LL1mw-084-181001-GW				
Operator ID:	hkf	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

20 p-Nitrotoluene, CAS: 99-99-0, Signal: 1

RT: 13.34
Response: 9730
Amount: 0.085611



Reviewer: fiedlerh, 02-Nov-2018 16:06:43
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

TestAmerica Denver

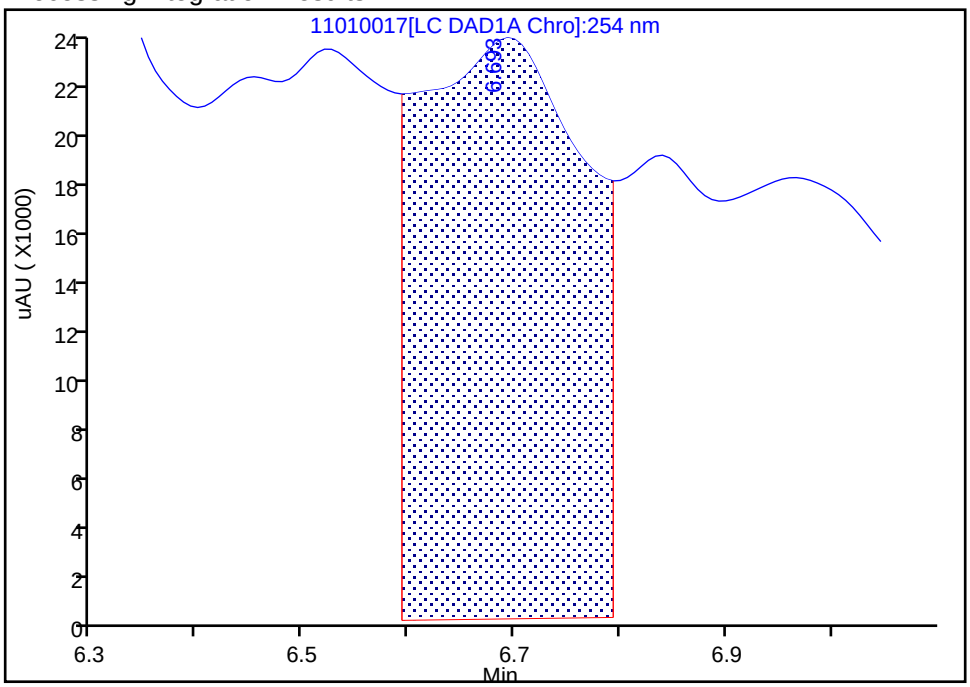
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010017.D				
Injection Date:	01-Nov-2018 19:30:14	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-E-6-A	Lab Sample ID:	280-116020-6		
Client ID:	LL1mw-084-181001-GW				
Operator ID:	hkf	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 HMX, CAS: 2691-41-0

Signal: 1

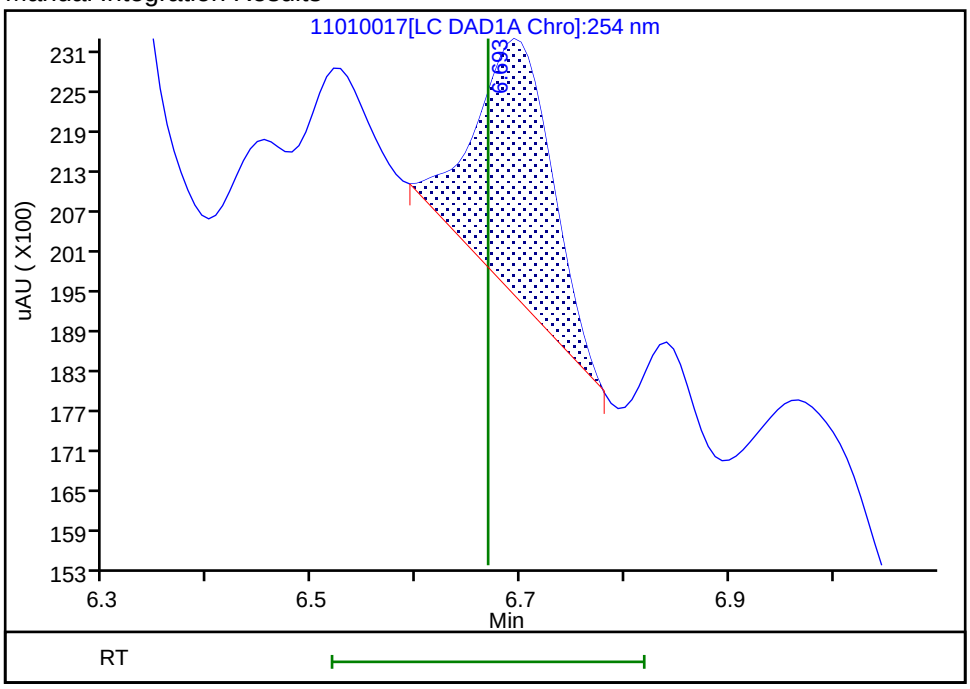
Processing Integration Results

RT: 6.69
Area: 240883
Amount: 2.835733
Amount Units: ug/mL



Manual Integration Results

RT: 6.69
Area: 19426
Amount: 0.228688
Amount Units: ug/mL



Reviewer: fiedlerh, 02-Nov-2018 16:06:14
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

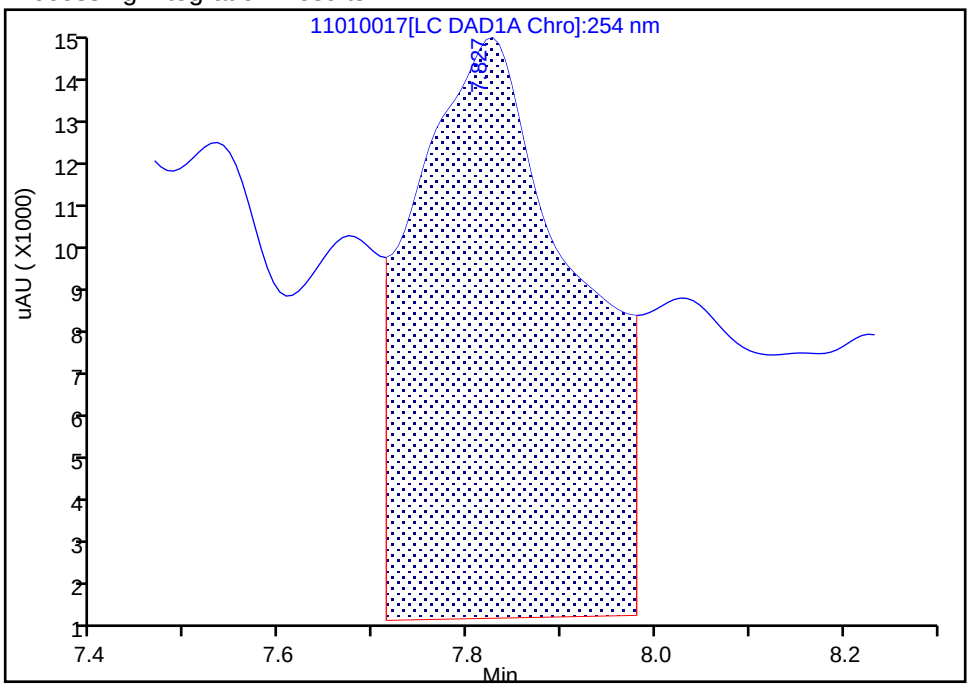
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010017.D				
Injection Date:	01-Nov-2018 19:30:14	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-E-6-A	Lab Sample ID:	280-116020-6		
Client ID:	LL1mw-084-181001-GW				
Operator ID:	hkf	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 RDX, CAS: 121-82-4

Signal: 1

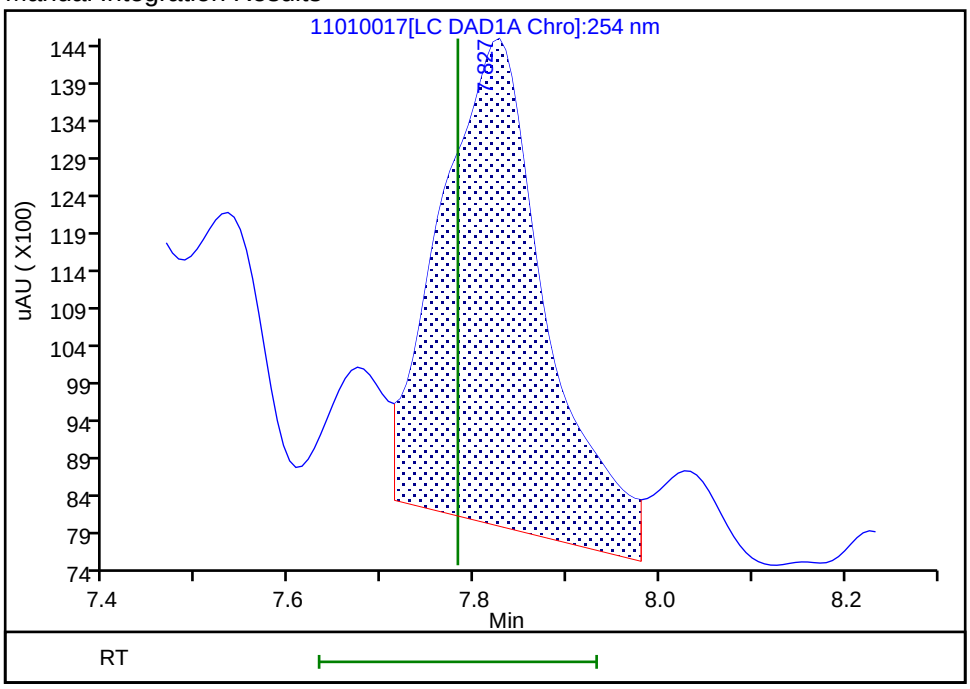
Processing Integration Results

RT: 7.83
Area: 151575
Amount: 1.449406
Amount Units: ug/mL



Manual Integration Results

RT: 7.83
Area: 51455
Amount: 0.492028
Amount Units: ug/mL



Reviewer: fiedlerh, 02-Nov-2018 16:06:19

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

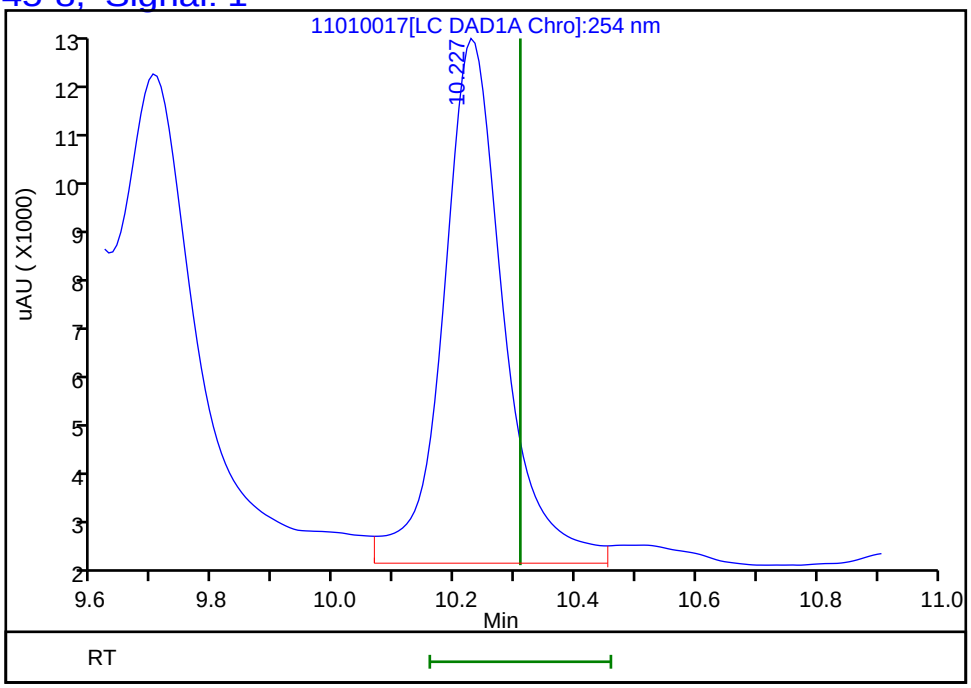
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010017.D				
Injection Date:	01-Nov-2018 19:30:14	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-E-6-A	Lab Sample ID:	280-116020-6		
Client ID:	LL1mw-084-181001-GW				
Operator ID:	hkf	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

12 Tetryl, CAS: 479-45-8, Signal: 1

RT: 10.23
Response: 70235
Amount: 0.429707



Reviewer: fiedlerh, 02-Nov-2018 16:06:43
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: LL1mw-084-181001-GW | Lab Sample ID: 280-116020-6

Matrix: Water | Lab File ID: 11020016.D

Analysis Method: 8330B | Date Collected: 10/24/2018 09:30

Extraction Method: 3535 | Date Extracted: 10/30/2018 13:24

Sample wt/vol: 475.6(mL) | Date Analyzed: 11/02/2018 23:35

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436120 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	*1,3-Dinitrobenzene*	*0.53*	*J1*	*0.42*	0.21	*0.093*
2691-41-0	*HMX*	*0.62*	*J1*	*0.42*	0.21	*0.092*
121-82-4	*RDX*	*1.1*	*J1*	*0.21*	0.13	*0.055*

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	84		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\11020016.D
Lims ID: 280-116020-E-6-A
Client ID: LL1mw-084-181001-GW
Sample Type: Client
Inject. Date: 02-Nov-2018 23:35:16 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-E-6-A
Misc. Info.: 280-0075779-016
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 05-Nov-2018 11:34:27 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 05-Nov-2018 11:29:25

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
5 HMX	1	7.136	7.171	-0.035	11318	0.0593	
7 RDX	1	9.189	9.264	-0.075	24650	0.1025	
8 Nitrobenzene	1		12.224			ND	
$ 9 1,2-Dinitrobenzene	1	13.169	13.231	-0.062	51927	0.1681	
12 Nitroglycerin	2	15.702	15.724	-0.022	37450	0.1918	
11 1,3-Dinitrobenzene	1	15.702	15.771	-0.069	35390	0.0507	
13 o-Nitrotoluene	1		16.544			ND	U
14 p-Nitrotoluene	1		16.878			ND	
15 4-Amino-2,6-dinitrotoluene	1	17.229	17.284	-0.055	613699	1.88	
16 m-Nitrotoluene	1		17.784			ND	
17 2-Amino-4,6-dinitrotoluene	1	18.262	18.324	-0.062	341832	0.7088	
18 1,3,5-Trinitrobenzene	1	19.029	19.071	-0.042	96725	0.1902	
19 2,6-Dinitrotoluene	1	19.849	19.891	-0.042	23315	0.0709	
20 2,4-Dinitrotoluene	1	20.409	20.458	-0.049	108049	0.1716	M
21 Tetryl	1		23.758			ND	
22 2,4,6-Trinitrotoluene	1	24.742	24.771	-0.029	188884	0.4215	
23 PETN	2		25.178			ND	

QC Flag Legend

Review Flags
M - Manually Integrated
U - Marked Undetected

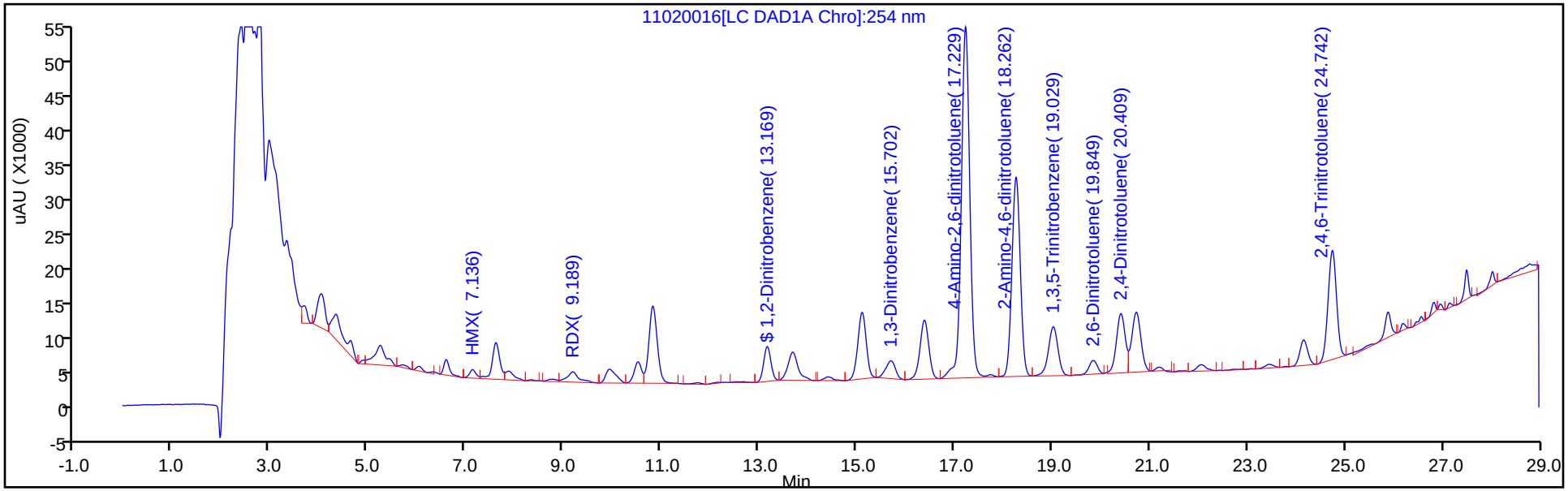
Report Date: 05-Nov-2018 11:34:39 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

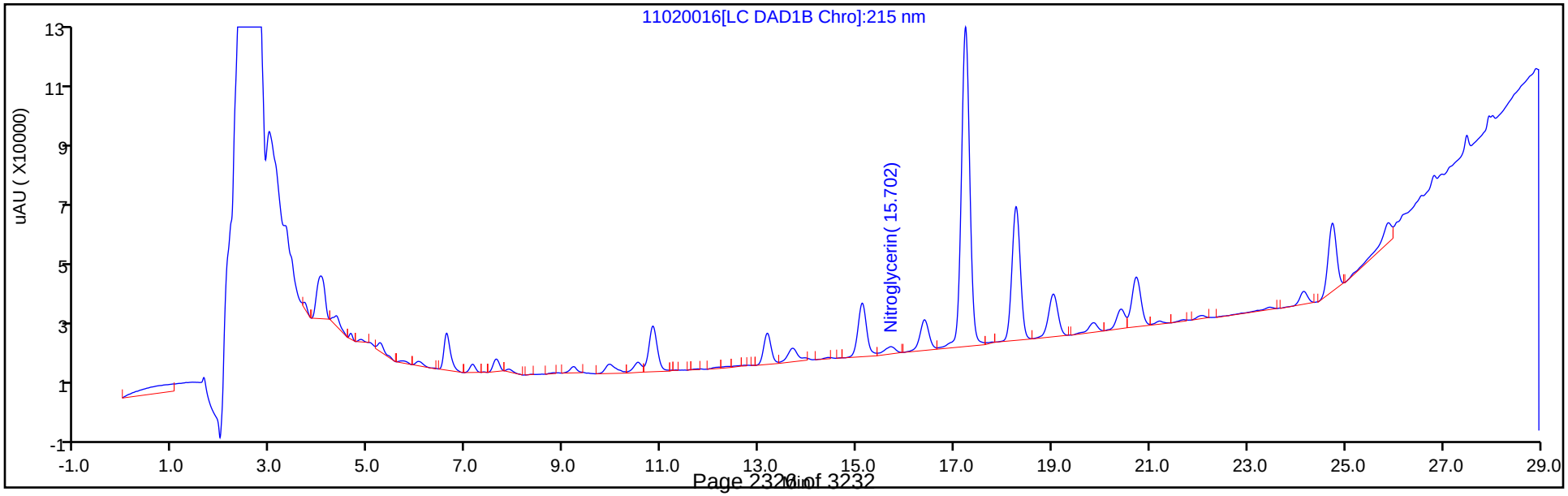
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\11020016.D

Injection Date:	02-Nov-2018 23:35:16	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	280-116020-E-6-A	Lab Sample ID:	280-116020-6	Worklist Smp#:	16
Client ID:	LL1mw-084-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\11020016.D				
Lims ID:	280-116020-E-6-A				
Client ID:	LL1mw-084-181001-GW				
Sample Type:	Client				
Inject. Date:	02-Nov-2018 23:35:16	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-E-6-A				
Misc. Info.:	280-0075779-016				
Operator ID:	HKF	Instrument ID:	CHHPLC_G2_LUNA		
Method:	\\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\G2_8330_Luna.m				
Limit Group:	GCSV - 8330				
Last Update:	05-Nov-2018 11:34:27	Calib Date:	14-Oct-2018 01:43:13		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D				
Column 1 :	Luna-Phenyl hexyl (4.60 mm)		Det: LC DAD1A, 254 nm		
Process Host:	CTX0304				
First Level Reviewer: fiedlerh		Date:	05-Nov-2018 11:29:25		

Compound	Amount Added	Amount Recovered	% Rec.
$ 9 1,2-Dinitrobenzene	0.2000	0.1681	84.06

Manual Integration/User Assign Peak Report

TestAmerica Denver

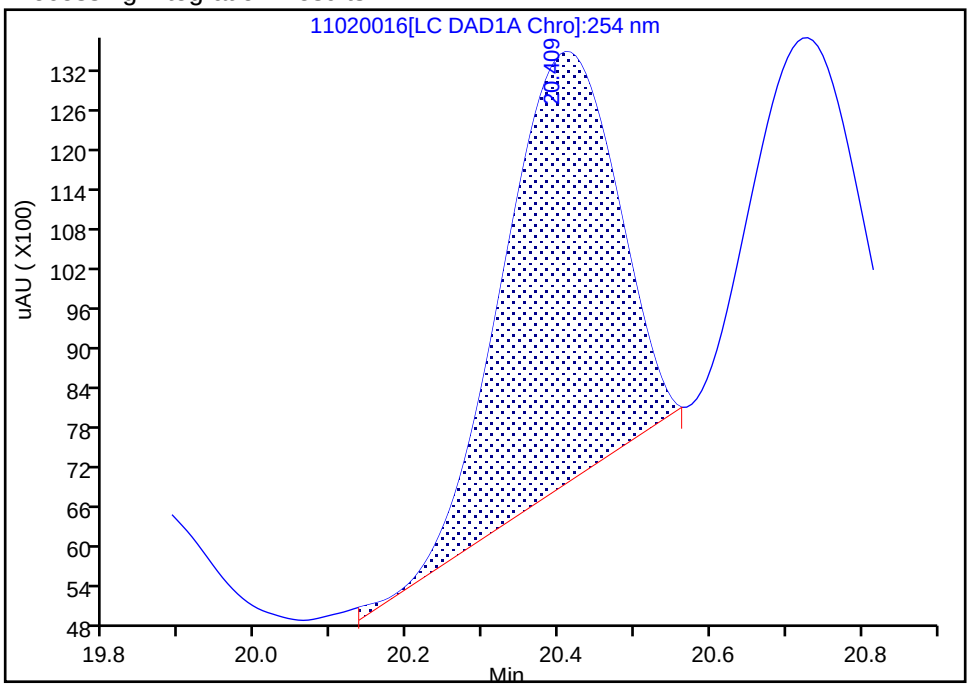
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\11020016.D				
Injection Date:	02-Nov-2018 23:35:16	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	280-116020-E-6-A	Lab Sample ID:	280-116020-6		
Client ID:	LL1mw-084-181001-GW				
Operator ID:	HKF	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

20 2,4-Dinitrotoluene, CAS: 121-14-2

Signal: 1

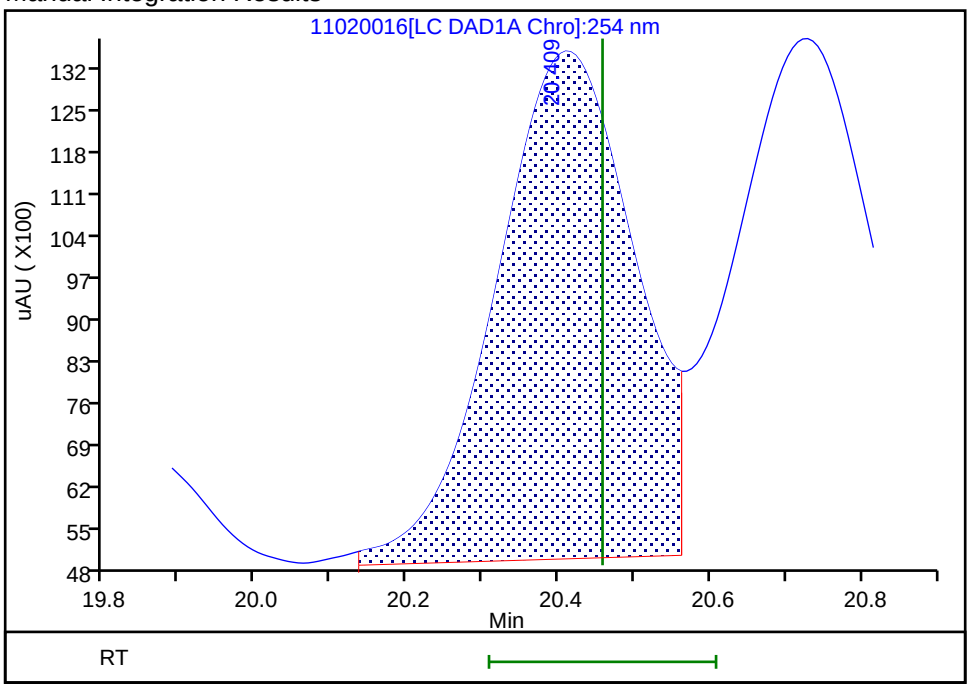
Processing Integration Results

RT: 20.41
Area: 68266
Amount: 0.108424
Amount Units: ug/ml



Manual Integration Results

RT: 20.41
Area: 108049
Amount: 0.171609
Amount Units: ug/ml



Reviewer: fiedlerh, 05-Nov-2018 11:29:23

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

User Disabled Compound Report

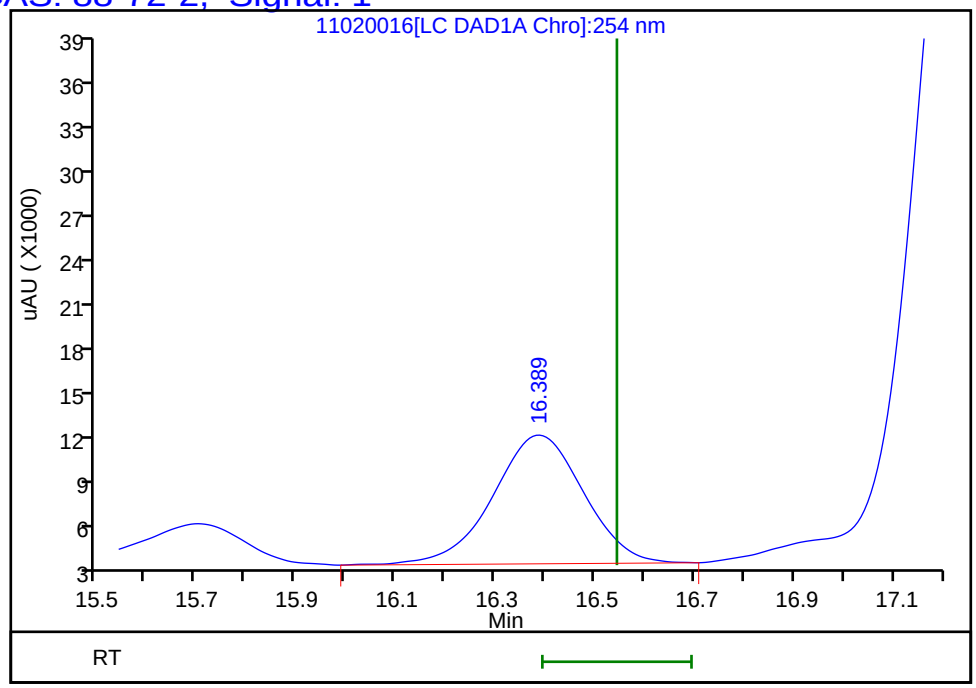
TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\11020016.D

Injection Date:	02-Nov-2018 23:35:16	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	280-116020-E-6-A	Lab Sample ID:	280-116020-6		
Client ID:	LL1mw-084-181001-GW				
Operator ID:	HKF	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

13 o-Nitrotoluene, CAS: 88-72-2, Signal: 1

RT: 16.39
Response: 107319
Amount: 0.390713



Reviewer: fiedlerh, 05-Nov-2018 11:29:25
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DA2mw-115-181001-GW | Lab Sample ID: 280-116020-8

Matrix: Water | Lab File ID: 11010020.D

Analysis Method: 8330B | Date Collected: 10/24/2018 12:45

Extraction Method: 3535 | Date Extracted: 10/30/2018 13:24

Sample wt/vol: 452.4(mL) | Date Analyzed: 11/01/2018 20:39

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435886 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.44	U M	1.1	0.44	0.22
99-65-0	1,3-Dinitrobenzene	0.22	U	0.44	0.22	0.098
118-96-7	2,4,6-Trinitrotoluene	0.22	U	0.44	0.22	0.080
121-14-2	2,4-Dinitrotoluene	0.22	U	0.44	0.22	0.093
606-20-2	2,6-Dinitrotoluene	0.22	U	0.22	0.22	0.071
35572-78-2	2-Amino-4,6-dinitrotoluene	0.13	U	0.22	0.13	0.056
88-72-2	2-Nitrotoluene	0.22	U	0.44	0.22	0.094
99-08-1	3-Nitrotoluene	0.22	U	0.44	0.22	0.092
19406-51-0	4-Amino-2,6-dinitrotoluene	0.13	U	0.22	0.13	0.064
99-99-0	4-Nitrotoluene	0.44	U	1.1	0.44	0.22
2691-41-0	HMX	0.22	U	0.44	0.22	0.097
98-95-3	Nitrobenzene	0.22	U J1	0.44	0.22	0.10
55-63-0	Nitroglycerin	2.2	U	3.3	2.2	1.0
78-11-5	PETN	1.3	U	2.2	1.3	0.46
121-82-4	RDX	0.13	U	0.22	0.13	0.058
479-45-8	Tetryl	0.22	U	0.27	0.22	0.088

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	104		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010020.D
Lims ID: 280-116020-C-8-E
Client ID: DA2mw-115-181001-GW
Sample Type: Client
Inject. Date: 01-Nov-2018 20:39:05 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-C-8-E
Misc. Info.: 280-0075718-020
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 02-Nov-2018 16:14:28 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0315

First Level Reviewer: fiedlerh Date: 02-Nov-2018 15:05:55

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	1 2,6-diamino-4-nitrotoluene	1		6.513			ND	
	25 TNX	1	6.582	6.546	0.036	44300	0.2076	
	2 HMX	1		6.669			ND	
	3 2,4-diamino-6-nitrotoluene	1		6.700			ND	
	24 DNX	1		6.866			ND	
	4 MNX	1		7.326			ND	
	5 RDX	1		7.782			ND	
	6 2,4,6-Trinitrophenol	1		8.095			ND	
$	7 1,2-Dinitrobenzene	1	8.769	8.769	0.000	26872	0.2088	
	8 1,3,5-Trinitrobenzene	1		8.935			ND	U
	9 1,3-Dinitrobenzene	1		9.595			ND	
	11 Nitrobenzene	1		9.982			ND	
	10 3,5-Dinitroaniline	1		10.227			ND	
	12 Tetryl	1	10.275	10.308	-0.033	1113	0.006809	
	13 Nitroglycerin	2		10.815			ND	
	14 2,4,6-Trinitrotoluene	1		11.275			ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.462			ND	
	16 2-Amino-4,6-dinitrotoluene	1		11.748			ND	
	17 2,6-Dinitrotoluene	1		11.888			ND	
	18 2,4-Dinitrotoluene	1		12.088			ND	
	19 o-Nitrotoluene	1		12.935			ND	
	20 p-Nitrotoluene	1		13.382			ND	
	21 m-Nitrotoluene	1		13.982			ND	
	22 PETN	2		15.102			ND	
	23 Ammonium Picrate	1		0.000			ND	

QC Flag Legend

Review Flags

U - Marked Undetected

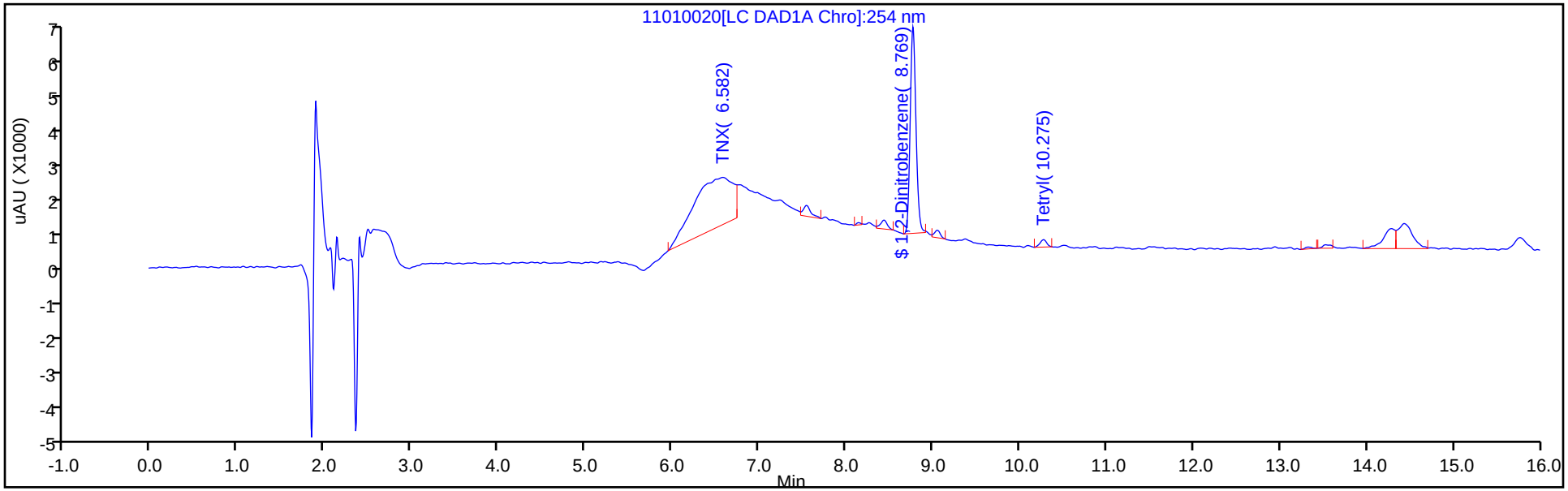
Report Date: 02-Nov-2018 16:14:29 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

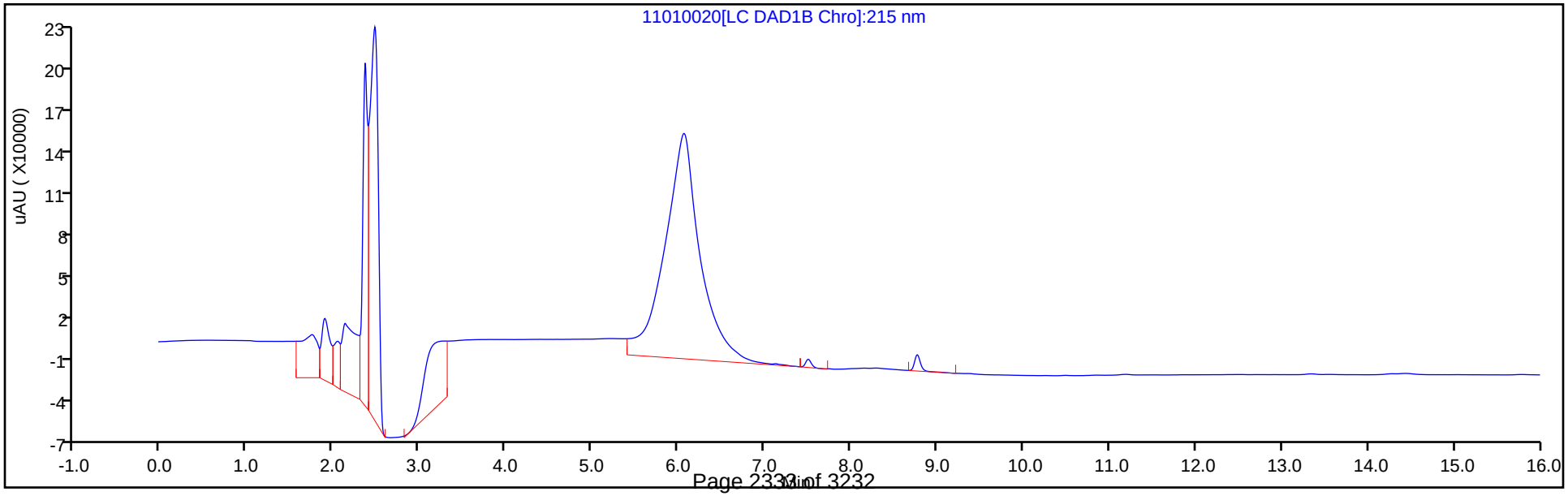
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010020.D

Injection Date:	01-Nov-2018 20:39:05	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-116020-C-8-E	Lab Sample ID:	280-116020-8	Worklist Smp#:	20
Client ID:	DA2mw-115-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010020.D				
Lims ID:	280-116020-C-8-E				
Client ID:	DA2mw-115-181001-GW				
Sample Type:	Client				
Inject. Date:	01-Nov-2018 20:39:05	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-C-8-E				
Misc. Info.:	280-0075718-020				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	02-Nov-2018 16:14:28	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX0315				
First Level Reviewer: fiedlerh		Date:	02-Nov-2018 15:05:55		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2088	104.38

User Disabled Compound Report

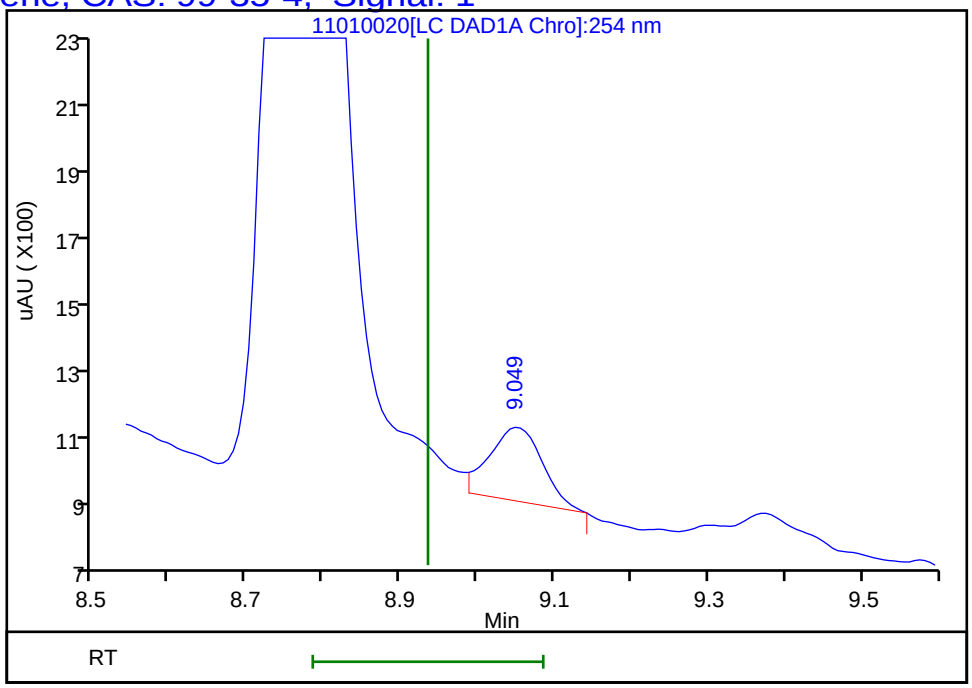
TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010020.D

Injection Date:	01-Nov-2018 20:39:05	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-C-8-E	Lab Sample ID:	280-116020-8		
Client ID:	DA2mw-115-181001-GW				
Operator ID:	hkf	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

8 1,3,5-Trinitrobenzene, CAS: 99-35-4, Signal: 1

RT: 9.05
Response: 993
Amount: 0.004347



Reviewer: fiedlerh, 02-Nov-2018 15:05:55
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DA2mw-115-181002-GW | Lab Sample ID: 280-116020-9

Matrix: Water | Lab File ID: 11010023.D

Analysis Method: 8330B | Date Collected: 10/24/2018 12:45

Extraction Method: 3535 | Date Extracted: 10/30/2018 13:24

Sample wt/vol: 453.7(mL) | Date Analyzed: 11/01/2018 21:47

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435886 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.44	U	1.1	0.44	0.22
99-65-0	1,3-Dinitrobenzene	0.22	U	0.44	0.22	0.098
118-96-7	2,4,6-Trinitrotoluene	0.22	U	0.44	0.22	0.080
121-14-2	2,4-Dinitrotoluene	0.22	U	0.44	0.22	0.092
606-20-2	2,6-Dinitrotoluene	0.22	U	0.22	0.22	0.071
35572-78-2	2-Amino-4,6-dinitrotoluene	0.13	U	0.22	0.13	0.056
88-72-2	2-Nitrotoluene	0.22	U	0.44	0.22	0.094
99-08-1	3-Nitrotoluene	0.22	U	0.44	0.22	0.092
19406-51-0	4-Amino-2,6-dinitrotoluene	0.13	U	0.22	0.13	0.064
99-99-0	4-Nitrotoluene	0.44	U	1.1	0.44	0.22
2691-41-0	HMX	0.22	U	0.44	0.22	0.097
98-95-3	Nitrobenzene	0.22	U	0.44	0.22	0.10
55-63-0	Nitroglycerin	2.2	U	3.3	2.2	1.0
78-11-5	PETN	1.3	U	2.2	1.3	0.46
121-82-4	RDX	0.13	U	0.22	0.13	0.058
479-45-8	Tetryl	0.22	U	0.26	0.22	0.087

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	94		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010023.D
Lims ID: 280-116020-B-9-A
Client ID: DA2mw-115-181002-GW
Sample Type: Client
Inject. Date: 01-Nov-2018 21:47:58 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-B-9-A
Misc. Info.: 280-0075718-023
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 02-Nov-2018 16:14:28 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0315

First Level Reviewer: fiedlerh Date: 02-Nov-2018 16:07:01

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
2 HMX	1		6.669			ND	
5 RDX	1		7.782			ND	
$ 7 1,2-Dinitrobenzene	1	8.771	8.769	0.002	24226	0.1882	
8 1,3,5-Trinitrobenzene	1		8.935			ND	
9 1,3-Dinitrobenzene	1		9.595			ND	
11 Nitrobenzene	1		9.982			ND	
12 Tetryl	1	10.271	10.308	-0.037	1070	0.006546	
13 Nitroglycerin	2		10.815			ND	
14 2,4,6-Trinitrotoluene	1		11.275			ND	
15 4-Amino-2,6-dinitrotoluene	1		11.462			ND	
16 2-Amino-4,6-dinitrotoluene	1		11.748			ND	
17 2,6-Dinitrotoluene	1		11.888			ND	
18 2,4-Dinitrotoluene	1		12.088			ND	
19 o-Nitrotoluene	1		12.935			ND	
20 p-Nitrotoluene	1		13.382			ND	
21 m-Nitrotoluene	1		13.982			ND	
22 PETN	2		15.102			ND	

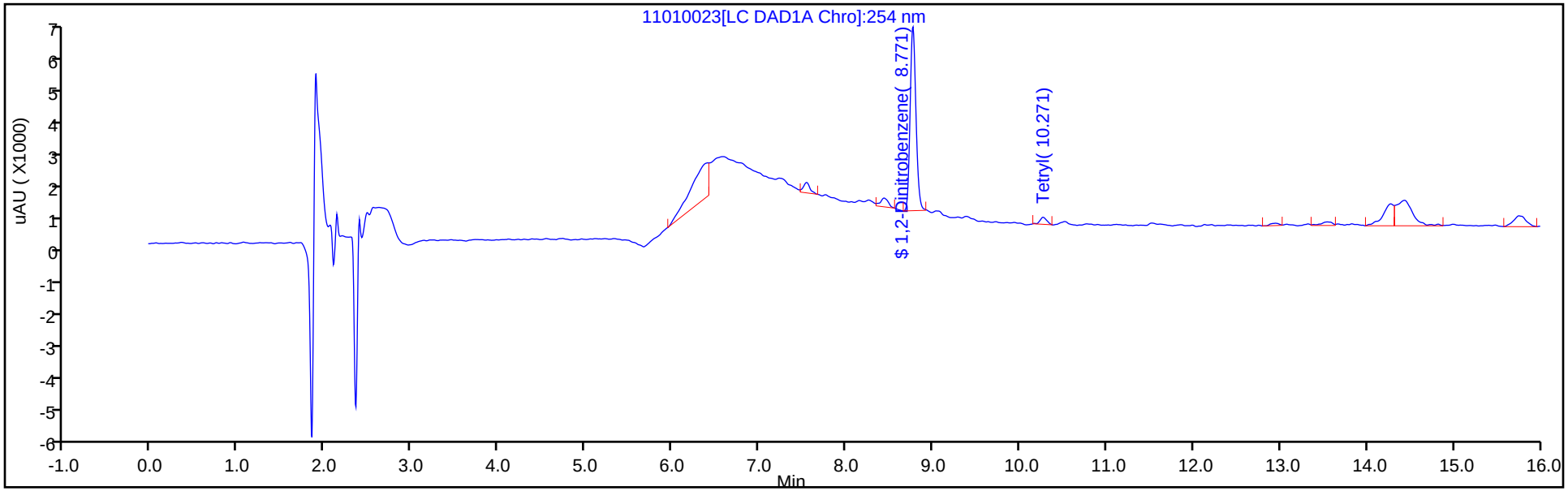
Report Date: 02-Nov-2018 16:14:31 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

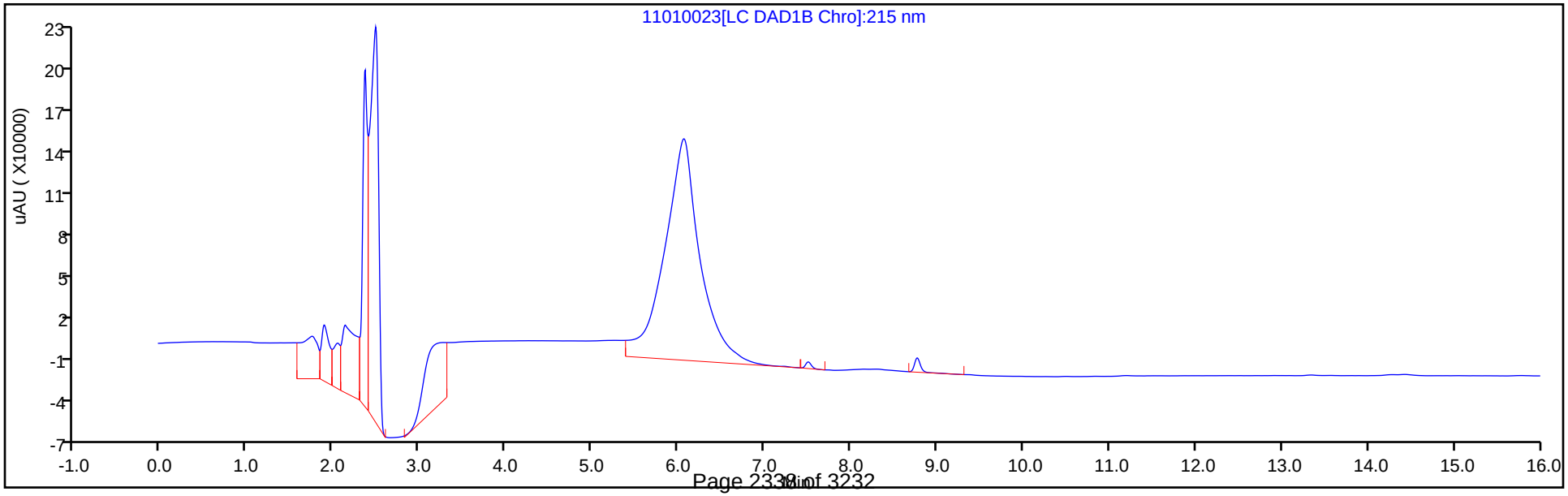
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010023.D

Injection Date:	01-Nov-2018 21:47:58	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-116020-B-9-A	Lab Sample ID:	280-116020-9	Worklist Smp#:	23
Client ID:	DA2mw-115-181002-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010023.D				
Lims ID:	280-116020-B-9-A				
Client ID:	DA2mw-115-181002-GW				
Sample Type:	Client				
Inject. Date:	01-Nov-2018 21:47:58	ALS Bottle#:	23	Worklist Smp#:	23
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-B-9-A				
Misc. Info.:	280-0075718-023				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	02-Nov-2018 16:14:28	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX0315				
First Level Reviewer: fiedlerh		Date:	02-Nov-2018 16:07:01		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.1882	94.10

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DET-004-181001-GW | Lab Sample ID: 280-116020-12

Matrix: Water | Lab File ID: 11010024.D

Analysis Method: 8330B | Date Collected: 10/24/2018 11:20

Extraction Method: 3535 | Date Extracted: 10/30/2018 13:24

Sample wt/vol: 445.4(mL) | Date Analyzed: 11/01/2018 22:10

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435886 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.45	U	1.1	0.45	0.22
99-65-0	1,3-Dinitrobenzene	0.22	U	0.45	0.22	0.10
118-96-7	2,4,6-Trinitrotoluene	0.22	U	0.45	0.22	0.081
121-14-2	2,4-Dinitrotoluene	0.22	U	0.45	0.22	0.094
606-20-2	2,6-Dinitrotoluene	0.22	U	0.22	0.22	0.072
35572-78-2	2-Amino-4,6-dinitrotoluene	0.13	U	0.22	0.13	0.057
88-72-2	2-Nitrotoluene	0.22	U	0.45	0.22	0.096
99-08-1	3-Nitrotoluene	0.22	U	0.45	0.22	0.094
19406-51-0	4-Amino-2,6-dinitrotoluene	0.13	U	0.22	0.13	0.065
99-99-0	4-Nitrotoluene	0.45	U	1.1	0.45	0.22
2691-41-0	HMX	2.1	M	0.45	0.22	0.098
98-95-3	Nitrobenzene	0.22	U	0.45	0.22	0.10
55-63-0	Nitroglycerin	2.2	U	3.4	2.2	1.0
78-11-5	PETN	1.3	U	2.2	1.3	0.47
121-82-4	RDX	0.67	M	0.22	0.13	0.059
479-45-8	Tetryl	0.22	U	0.27	0.22	0.089

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	111		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010024.D
Lims ID: 280-116020-E-12-A
Client ID: DET-004-181001-GW
Sample Type: Client
Inject. Date: 01-Nov-2018 22:10:55 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-E-12-
Misc. Info.: 280-0075718-024
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 02-Nov-2018 16:14:28 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0315

First Level Reviewer: fiedlerh Date: 02-Nov-2018 15:07:01

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 HMX	1	6.662	6.669	-0.007	15676	0.1845	M
	5 RDX	1	7.775	7.782	-0.007	6215	0.0594	M
$	7 1,2-Dinitrobenzene	1	8.768	8.769	-0.001	28599	0.2222	
	8 1,3,5-Trinitrobenzene	1		8.935			ND	
	9 1,3-Dinitrobenzene	1		9.595			ND	
	11 Nitrobenzene	1		9.982			ND	
	12 Tetryl	1		10.308			ND	
	13 Nitroglycerin	2		10.815			ND	
	14 2,4,6-Trinitrotoluene	1		11.275			ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.462			ND	
	16 2-Amino-4,6-dinitrotoluene	1		11.748			ND	
	17 2,6-Dinitrotoluene	1		11.888			ND	
	18 2,4-Dinitrotoluene	1		12.088			ND	
	19 o-Nitrotoluene	1		12.935			ND	
	20 p-Nitrotoluene	1		13.382			ND	
	21 m-Nitrotoluene	1		13.982			ND	
	22 PETN	2		15.102			ND	

QC Flag Legend

Review Flags
M - Manually Integrated

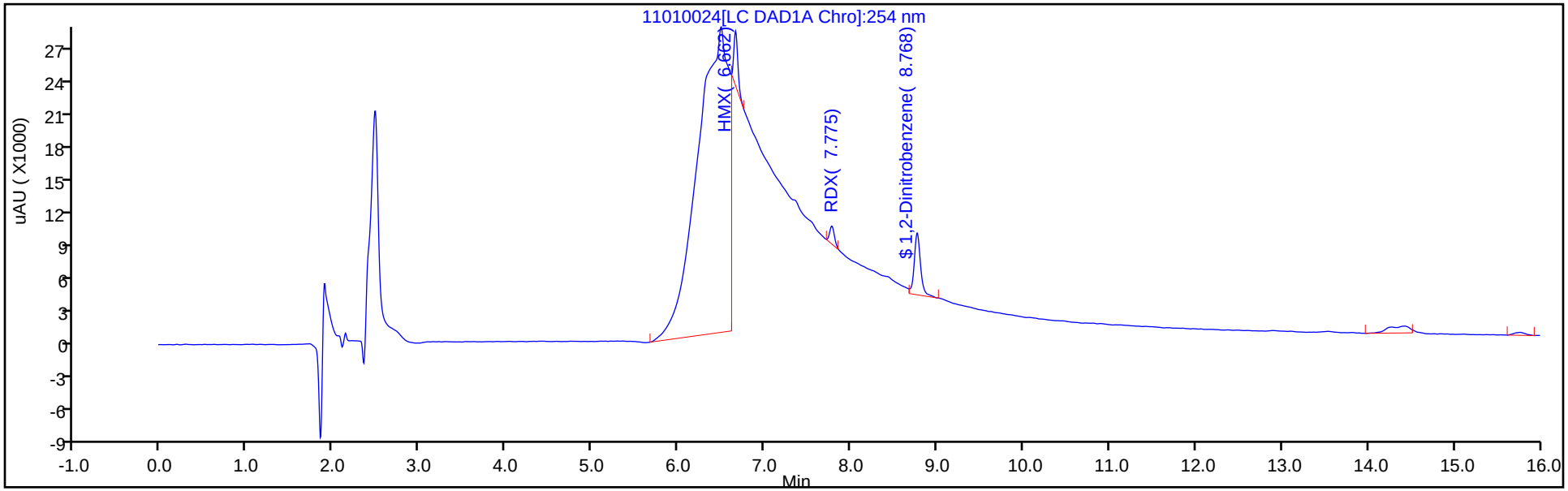
Report Date: 02-Nov-2018 16:14:32 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

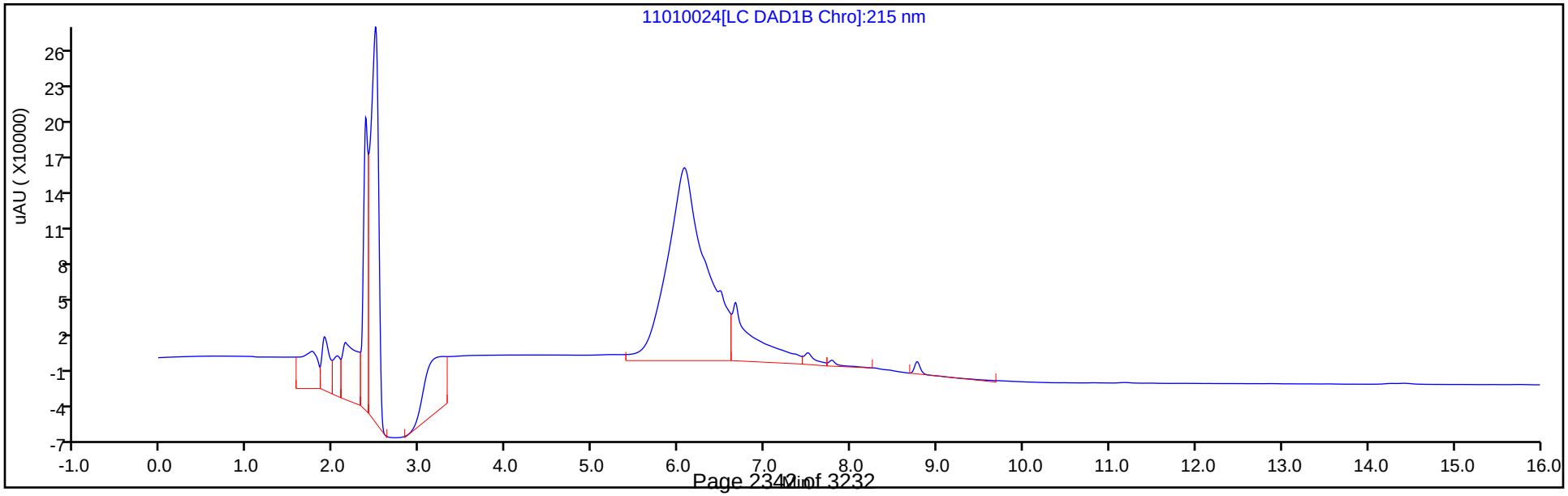
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010024.D

Injection Date:	01-Nov-2018 22:10:55	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-116020-E-12-A	Lab Sample ID:	280-116020-12	Worklist Smp#:	24
Client ID:	DET-004-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010024.D				
Lims ID:	280-116020-E-12-A				
Client ID:	DET-004-181001-GW				
Sample Type:	Client				
Inject. Date:	01-Nov-2018 22:10:55	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-E-12-				
Misc. Info.:	280-0075718-024				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	02-Nov-2018 16:14:28	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX0315				
First Level Reviewer: fiedlerh		Date:	02-Nov-2018 15:07:01		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2222	111.08

Manual Integration/User Assign Peak Report

TestAmerica Denver

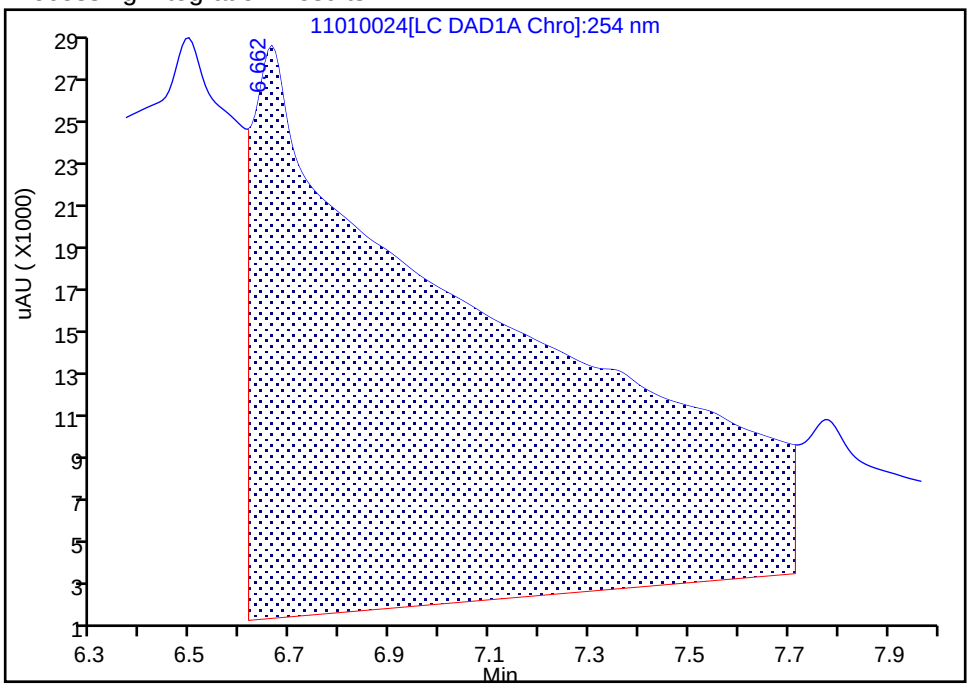
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010024.D				
Injection Date:	01-Nov-2018 22:10:55	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-E-12-A	Lab Sample ID:	280-116020-12		
Client ID:	DET-004-181001-GW				
Operator ID:	hkf	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 HMX, CAS: 2691-41-0

Signal: 1

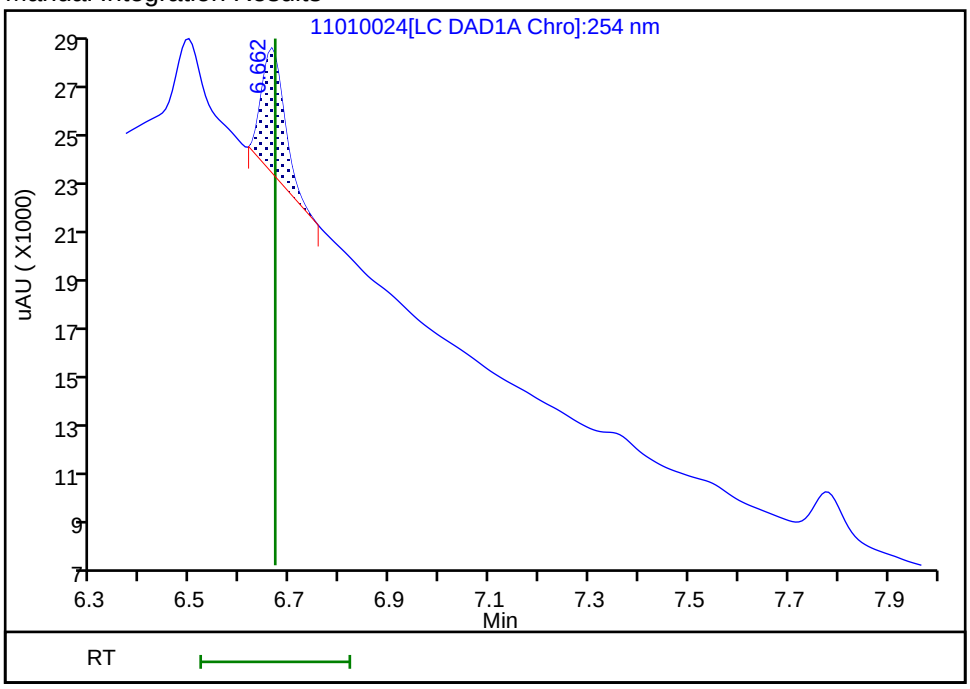
Processing Integration Results

RT: 6.66
Area: 879896
Amount: 10.358350
Amount Units: ug/mL



Manual Integration Results

RT: 6.66
Area: 15676
Amount: 0.184542
Amount Units: ug/mL



Reviewer: fiedlerh, 02-Nov-2018 15:06:55

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

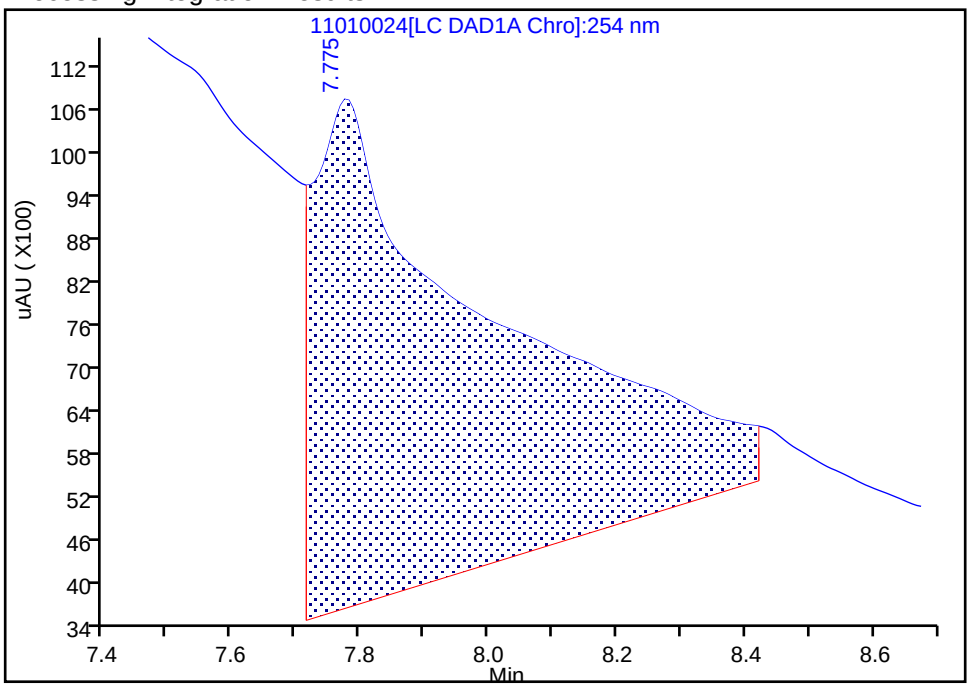
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010024.D				
Injection Date:	01-Nov-2018 22:10:55	Instrument ID:	CHHPLC_X3		
Lims ID:	280-116020-E-12-A	Lab Sample ID:	280-116020-12		
Client ID:	DET-004-181001-GW				
Operator ID:	hkf	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 RDX, CAS: 121-82-4

Signal: 1

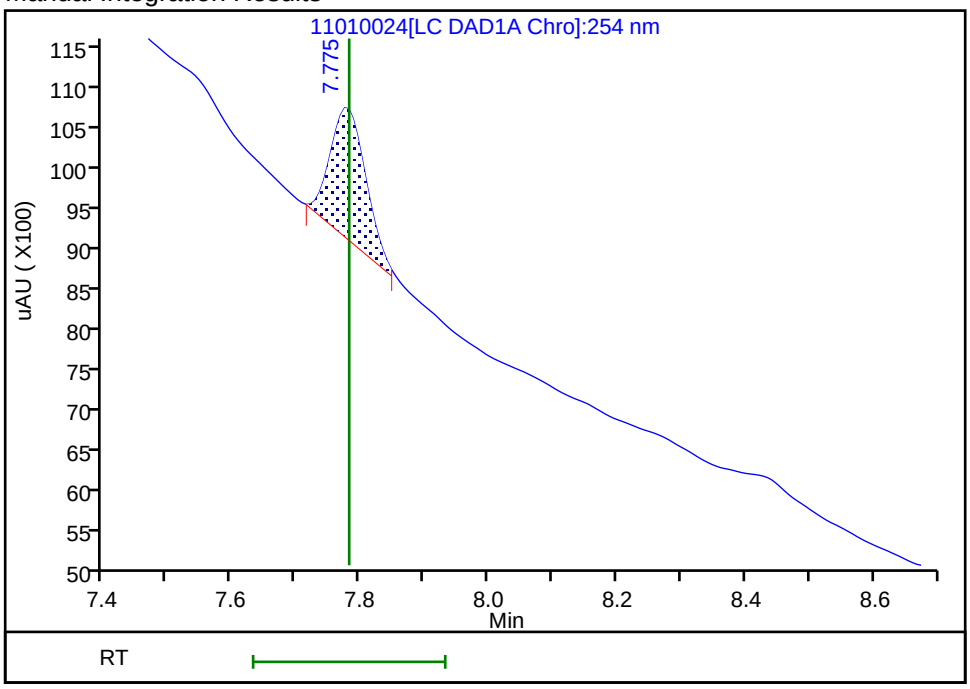
Processing Integration Results

RT: 7.77
Area: 137305
Amount: 1.312952
Amount Units: ug/mL



Manual Integration Results

RT: 7.77
Area: 6215
Amount: 0.059430
Amount Units: ug/mL



Reviewer: fiedlerh, 02-Nov-2018 15:06:59
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433312

SDG No.:

Instrument ID: CHHPLC_G2_LUNA GC Column: Luna-phenyl ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:23 Calibration End Date: 10/13/2018 20:28 Calibration ID: 33987

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-433312/14	10130014.D
Level 2	IC 280-433312/13	10130013.D
Level 3	IC 280-433312/12	10130012.D
Level 4	IC 280-433312/11	10130011.D
Level 5	IC 280-433312/10	10130010.D
Level 6	IC 280-433312/9	10130009.D
Level 7	IC 280-433312/8	10130008.D
Level 8	IC 280-433312/7	10130007.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8			RT WINDOW	AVG RT
Picric acid	6.216	6.184	6.146	6.109	6.081	6.046	6.016	5.925			5.931 - 6.231	6.090
HMX	7.143	7.151	7.146	7.149	7.148	7.146	7.142	7.112			6.998 - 7.298	7.142
RDX	9.223	9.224	9.219	9.222	9.221	9.219	9.209	9.165			9.071 - 9.371	9.213
Nitrobenzene	12.156	12.164	12.152	12.155	12.161	12.159	12.156	12.105			12.011 - 12.311	12.151
3,5-Dinitroaniline	15.123	15.124	15.106	15.115	15.114	15.119	15.102	15.065			14.964 - 15.264	15.109
Nitroglycerin	15.676	15.671	15.652	15.662	15.667	15.672	15.662	15.639			15.517 - 15.817	15.663
1,3-Dinitrobenzene	15.723	15.717	15.699	15.708	15.707	15.712	15.702	15.672			15.557 - 15.857	15.705
2-Nitrotoluene	16.496	16.477	16.472	16.475	16.474	16.486	16.469	16.445			16.324 - 16.624	16.474
4-Nitrotoluene	16.816	16.817	16.799	16.808	16.814	16.819	16.802	16.779			16.664 - 16.964	16.807
4-Amino-2,6-dinitrotoluene	17.223	17.224	17.212	17.215	17.221	17.232	17.209	17.185			17.071 - 17.371	17.215
3-Nitrotoluene	17.736	17.717	17.712	17.715	17.721	17.732	17.709	17.692			17.571 - 17.871	17.717
2-Amino-4,6-dinitrotoluene	18.263	18.257	18.246	18.255	18.254	18.266	18.242	18.219			18.104 - 18.404	18.250
1,3,5-Trinitrobenzene	19.029	19.004	19.006	19.015	19.021	19.026	19.009	18.999			18.871 - 19.171	19.014
2,6-Dinitrotoluene	19.843	19.831	19.826	19.828	19.834	19.839	19.816	19.805			19.684 - 19.984	19.828
2,4-Dinitrotoluene	20.403	20.391	20.386	20.388	20.394	20.406	20.382	20.372			20.244 - 20.544	20.390
Tetryl	23.723	23.717	23.712	23.722	23.721	23.733	23.716	23.705			23.571 - 23.871	23.719
2,4,6-Trinitrotoluene	24.749	24.737	24.726	24.735	24.734	24.746	24.729	24.719			24.584 - 24.884	24.734
PETN	25.149	25.137	25.132	25.142	25.141	25.153	25.142	25.145			24.991 - 25.291	25.143
1,2-Dinitrobenzene	13.163	13.171	13.152	13.162	13.161	13.166	13.162	13.119			13.011 - 13.311	13.157

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433312

SDG No.:

Instrument ID: CHHPLC_G2_LUNA GC Column: Luna-phenyl ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:23 Calibration End Date: 10/13/2018 20:28 Calibration ID: 33987

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-433312/14	10130014.D
Level 2	IC 280-433312/13	10130013.D
Level 3	IC 280-433312/12	10130012.D
Level 4	IC 280-433312/11	10130011.D
Level 5	IC 280-433312/10	10130010.D
Level 6	IC 280-433312/9	10130009.D
Level 7	IC 280-433312/8	10130008.D
Level 8	IC 280-433312/7	10130007.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Picric acid	171900 183938	166760 179361	172570 177638	172416 179654	Ave		175529.616				3.2		20.0			
HMX	199500 189950	198220 188601	192540 186821	182328 189027	Ave		190873.454				3.0		20.0			
RDX	251100 237575	260020 230794	253530 228937	229536 233050	Ave		240567.786				5.2		20.0			
Nitrobenzene	470010 422997	477285 422314	440908 419976	409361 429277	Ave		436516.002				5.6		20.0			
3,5-Dinitroaniline	477750 504128	602240 488930	510910 487326	497264 503471	Lin2	103.308102	507848.792							0.9920		0.9900
Nitroglycerin	200635 199362	190858 195888	192800 194216	189582 198979	Ave		195289.833				2.1		20.0			
1,3-Dinitrobenzene	704895 694755	785275 682920	685225 676187	665459 686642	Ave		697669.613				5.3		20.0			
2-Nitrotoluene	274526 272378	304786 269873	264068 267766	268439 275564	Ave		274674.932				4.6		20.0			
4-Nitrotoluene	251594 237627	241474 235252	221205 233701	227833 237861	Ave		235818.321				3.8		20.0			
4-Amino-2,6-dinitrotoluene	306331 332395	357707 326268	319641 322613	320431 329183	Ave		326821.167				4.5		20.0			
3-Nitrotoluene	340139 306315	347390 302886	304044 299820	296247 305753	Ave		312824.221				6.2		20.0			
2-Amino-4,6-dinitrotoluene	501645 481209	534158 470825	468325 464267	464726 473093	Ave		482280.863				5.0		20.0			
1,3,5-Trinitrobenzene	501150 508803	577980 497797	504350 487319	495332 496662	Ave		508674.030				5.6		20.0			
2,6-Dinitrotoluene	316152 323447	395135 317916	337358 309942	314357 317060	Ave		328920.875				8.5		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433312

SDG No.:

Instrument ID: CHHPLC_G2_LUNA GC Column: Luna-phenyl ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:23 Calibration End Date: 10/13/2018 20:28 Calibration ID: 33987

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
2,4-Dinitrotoluene	639870 631008	681557 619394	624820 608339	610575 621414	Ave		629622.213				3.7		20.0			
Tetryl	410800 393685	375200 385803	396050 399636	373136 386502	Ave		390101.482				3.2		20.0			
2,4,6-Trinitrotoluene	412849 471564	418426 465556	437380 461238	446526 471262	Ave		448100.146				5.2		20.0			
PETN	126430 148941	134988 146351	138138 145351	140480 145491	Ave		140771.306				5.3		20.0			
1,2-Dinitrobenzene	324000 308248	313640 300927	311970 299781	306840 305599	Ave		308875.605				2.5		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433312

SDG No.:

Instrument ID: CHHPLC_G2_LUNA GC Column: Luna-phenyl ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:23 Calibration End Date: 10/13/2018 20:28 Calibration ID: 33987

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-433312/14	10130014.D
Level 2	IC 280-433312/13	10130013.D
Level 3	IC 280-433312/12	10130012.D
Level 4	IC 280-433312/11	10130011.D
Level 5	IC 280-433312/10	10130010.D
Level 6	IC 280-433312/9	10130009.D
Level 7	IC 280-433312/8	10130008.D
Level 8	IC 280-433312/7	10130007.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Picric acid	Ave	3438 125553	8338 177638	17257 449135	43104	73575	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
HMX	Ave	3990 132021	9911 186821	19254 472568	45582	75980	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
RDX	Ave	5022 161556	13001 228937	25353 582625	57384	95030	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
Nitrobenzene	Ave	9419 296211	23912 420816	44179 1075338	102545	169537	0.0200 0.701	0.0501 1.00	0.100 2.51	0.251	0.401
3,5-Dinitroaniline	Lin2	9555 342251	30112 487326	51091 1258678	124316	201651	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
Nitroglycerin	Ave	40127 1371216	95429 1942160	192800 4974464	473954	797446	0.200 7.00	0.500 10.0	1.00 25.0	2.50	4.00
1,3-Dinitrobenzene	Ave	14112 478522	39303 676863	68591 1718321	166531	278180	0.0200 0.701	0.0501 1.00	0.100 2.50	0.250	0.400
2-Nitrotoluene	Ave	5507 189478	15285 268569	26486 690977	67311	109278	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
4-Nitrotoluene	Ave	5052 165335	12122 234636	22209 597031	57186	95431	0.0201 0.703	0.0502 1.00	0.100 2.51	0.251	0.402
4-Amino-2,6-dinitrotoluene	Ave	6145 229073	17939 323581	32060 825426	80348	133357	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
3-Nitrotoluene	Ave	6830 212868	17439 301019	30526 767440	74358	123016	0.0201 0.703	0.0502 1.00	0.100 2.51	0.251	0.402
2-Amino-4,6-dinitrotoluene	Ave	10063 330566	26788 465660	46973 1186280	116530	193061	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
1,3,5-Trinitrobenzene	Ave	10023 348458	28899 487319	50435 1241654	123833	203521	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
2,6-Dinitrotoluene	Ave	6342 223209	19816 310872	33837 795029	78825	129767	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
2,4-Dinitrotoluene	Ave	12823 434443	34146 609556	62607 1556642	152949	252908	0.0200 0.701	0.0501 1.00	0.100 2.51	0.251	0.401

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 433312

SDG No.:

Instrument ID: CHHPLC_G2_LUNA GC Column: Luna-phenyl ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:23 Calibration End Date: 10/13/2018 20:28 Calibration ID: 33987

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Tetryl	Ave	8216 270062	18760 399636	39605 966255	93284	157474	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
2,4,6-Trinitrotoluene	Ave	8290 327193	21005 463083	43913 1182867	112078	189380	0.0201 0.703	0.0502 1.00	0.100 2.51	0.251	0.402
PETN	Ave	25286 1024457	67494 1453506	138138 3637280	351201	595765	0.200 7.00	0.500 10.0	1.00 25.0	2.50	4.00
1,2-Dinitrobenzene	Ave	6480 210649	15682 299781	31197 763998	76710	123299	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400

Curve Type Legend:

Ave = Average
Lin2 = Linear 1/conc^2

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130007.D
Lims ID: IC FULL LV 8
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 13-Oct-2018 16:23:32 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 8
Misc. Info.: 280-0075057-007
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:02:54 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 13-Oct-2018 17:35:45

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.412	4.401	0.011	1237396	2.50	2.83	
3 2,4-diamino-6-nitrotoluene	1	4.992	4.954	0.038	537898	2.50	1.94	
4 2,4,6-Trinitrophenol	1	5.925	6.081	-0.156	449135	2.50	2.56	
5 HMX	1	7.112	7.148	-0.036	472568	2.50	2.48	
7 RDX	1	9.165	9.221	-0.056	582625	2.50	2.42	
8 Nitrobenzene	1	12.105	12.161	-0.056	1075338	2.51	2.46	
$ 9 1,2-Dinitrobenzene	1	13.119	13.161	-0.042	763998	2.50	2.47	
10 3,5-Dinitroaniline	1	15.065	15.114	-0.049	1258678	2.50	2.48	
12 Nitroglycerin	2	15.639	15.667	-0.028	4974464	25.0	25.5	
11 1,3-Dinitrobenzene	1	15.672	15.707	-0.035	1718321	2.50	2.46	
13 o-Nitrotoluene	1	16.445	16.474	-0.029	690977	2.51	2.52	
14 p-Nitrotoluene	1	16.779	16.814	-0.035	597031	2.51	2.53	
15 4-Amino-2,6-dinitrotoluene	1	17.185	17.221	-0.036	825426	2.51	2.53	
16 m-Nitrotoluene	1	17.692	17.721	-0.029	767440	2.51	2.45	
17 2-Amino-4,6-dinitrotoluene	1	18.219	18.254	-0.035	1186280	2.51	2.46	
18 1,3,5-Trinitrobenzene	1	18.999	19.021	-0.022	1241654	2.50	2.44	
19 2,6-Dinitrotoluene	1	19.805	19.834	-0.029	795029	2.51	2.42	
20 2,4-Dinitrotoluene	1	20.372	20.394	-0.022	1556642	2.51	2.47	
21 Tetryl	1	23.705	23.721	-0.016	966255	2.50	2.48	
22 2,4,6-Trinitrotoluene	1	24.719	24.734	-0.015	1182867	2.51	2.64	
23 PETN	2	25.145	25.141	0.004	3637280	25.0	25.8	

Reagents:

8330IntermStk_00056 Amount Added: 125.00 Units: uL
8330_ADDs_00017 Amount Added: 125.00 Units: uL

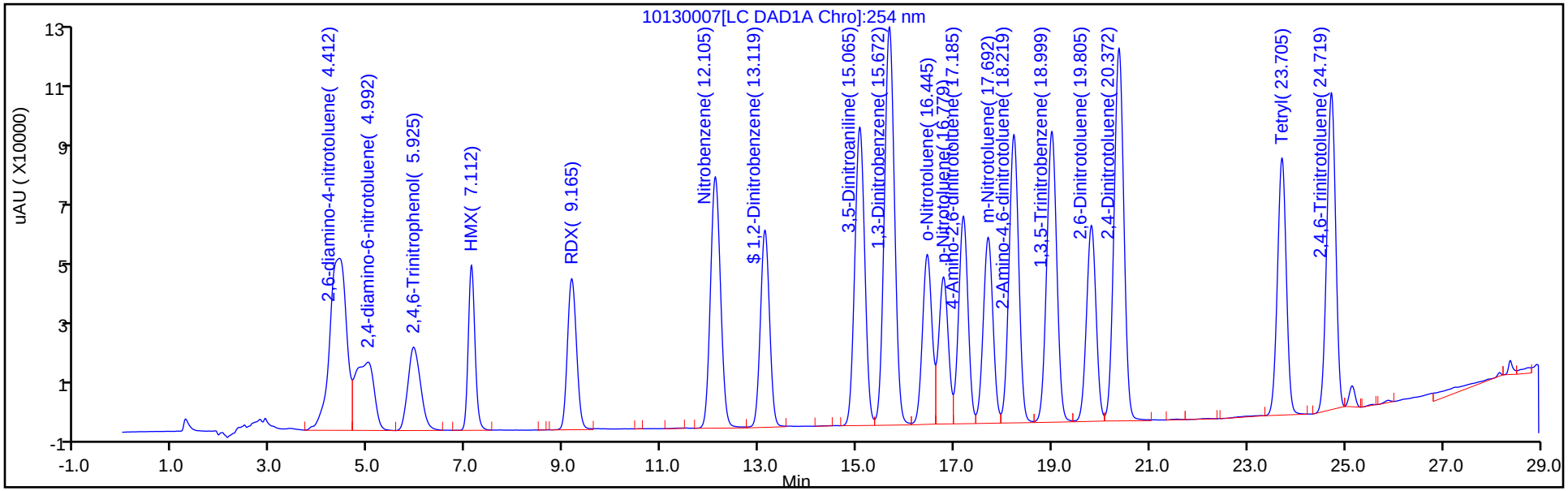
Report Date: 14-Oct-2018 14:02:55 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

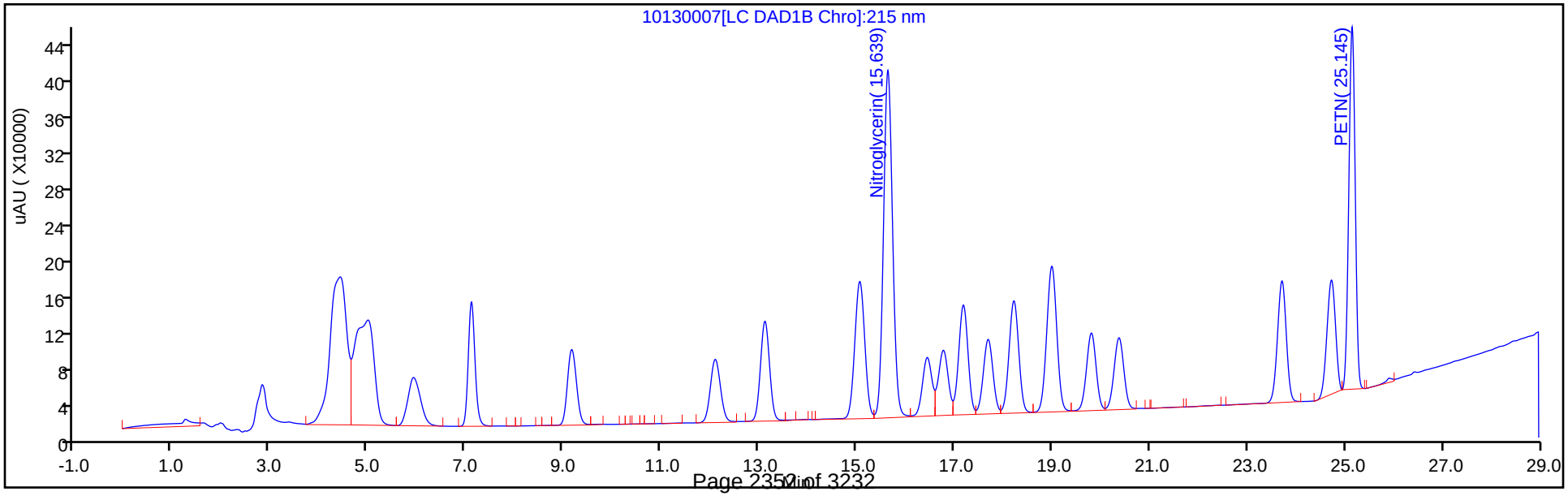
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130007.D

Injection Date:	13-Oct-2018 16:23:32	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 8			Worklist Smp#:	7
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130008.D
Lims ID: IC FULL LV 7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 13-Oct-2018 16:58:36 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 7
Misc. Info.: 280-0075057-008
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:02:56 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 13-Oct-2018 17:35:58

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.382	4.401	-0.019	425871	1.00	0.9729	
3 2,4-diamino-6-nitrotoluene	1	4.989	4.954	0.035	257257	1.00	0.9265	M
4 2,4,6-Trinitrophenol	1	6.016	6.081	-0.065	177638	1.00	1.01	
5 HMX	1	7.142	7.148	-0.006	186821	1.00	0.9788	
7 RDX	1	9.209	9.221	-0.012	228937	1.00	0.9517	
8 Nitrobenzene	1	12.156	12.161	-0.005	420816	1.00	0.9640	
$ 9 1,2-Dinitrobenzene	1	13.162	13.161	0.001	299781	1.00	0.9706	
10 3,5-Dinitroaniline	1	15.102	15.114	-0.012	487326	1.00	0.9594	
12 Nitroglycerin	2	15.662	15.667	-0.005	1942160	10.0	9.95	
11 1,3-Dinitrobenzene	1	15.702	15.707	-0.005	676863	1.00	0.9702	
13 o-Nitrotoluene	1	16.469	16.474	-0.005	268569	1.00	0.9778	
14 p-Nitrotoluene	1	16.802	16.814	-0.012	234636	1.00	0.99	
15 4-Amino-2,6-dinitrotoluene	1	17.209	17.221	-0.012	323581	1.00	0.99	
16 m-Nitrotoluene	1	17.709	17.721	-0.012	301019	1.00	0.9623	
17 2-Amino-4,6-dinitrotoluene	1	18.242	18.254	-0.012	465660	1.00	0.9655	
18 1,3,5-Trinitrobenzene	1	19.009	19.021	-0.012	487319	1.00	0.9580	
19 2,6-Dinitrotoluene	1	19.816	19.834	-0.018	310872	1.00	0.9451	
20 2,4-Dinitrotoluene	1	20.382	20.394	-0.012	609556	1.00	0.9681	
21 Tetryl	1	23.716	23.721	-0.005	399636	1.00	1.02	
22 2,4,6-Trinitrotoluene	1	24.729	24.734	-0.005	463083	1.00	1.03	
23 PETN	2	25.142	25.141	0.001	1453506	10.0	10.3	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00056	Amount Added:	50.00	Units: uL
8330_ADDs_00017	Amount Added:	50.00	Units: uL

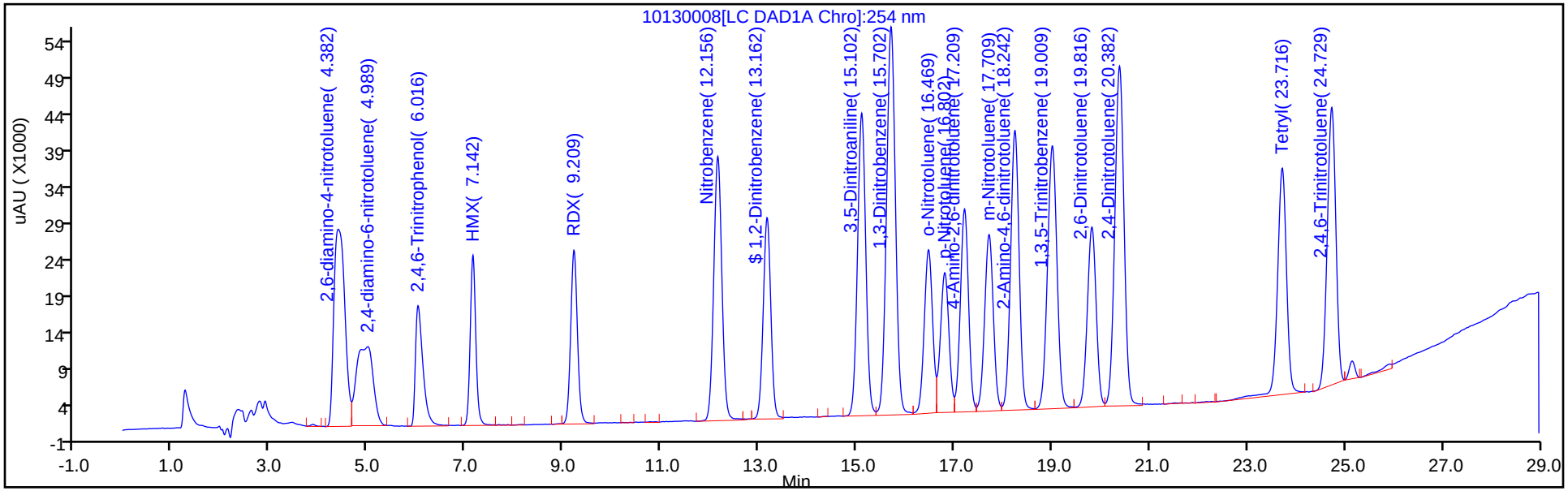
Report Date: 14-Oct-2018 14:02:56 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

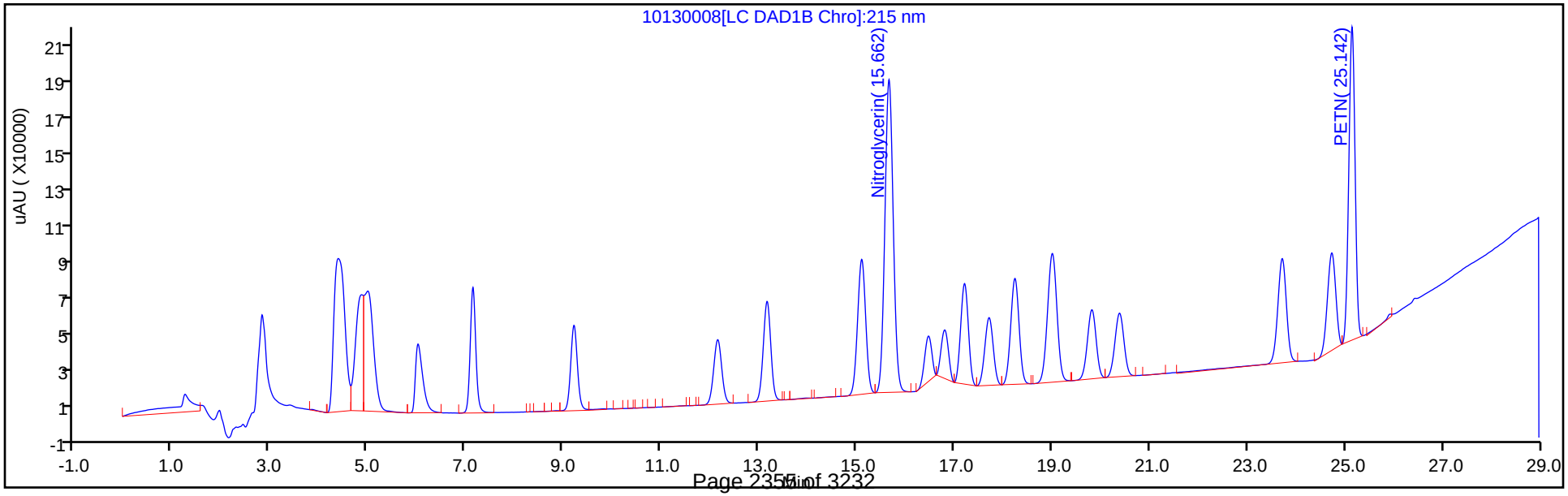
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130008.D

Injection Date:	13-Oct-2018 16:58:36	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 7			Worklist Smp#:	8
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130009.D
Lims ID: IC FULL LV 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Oct-2018 17:33:35 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 6
Misc. Info.: 280-0075057-009
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:02:58 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 14-Oct-2018 13:54:06

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.393	4.401	-0.008	298705	0.7000	0.6824	
3 2,4-diamino-6-nitrotoluene	1	4.986	4.954	0.032	184732	0.7000	0.6653	M
4 2,4,6-Trinitrophenol	1	6.046	6.081	-0.035	125553	0.7000	0.7153	
5 HMX	1	7.146	7.148	-0.002	132021	0.7000	0.6917	
7 RDX	1	9.219	9.221	-0.002	161556	0.7000	0.6716	
8 Nitrobenzene	1	12.159	12.161	-0.002	296211	0.7014	0.6786	
$ 9 1,2-Dinitrobenzene	1	13.166	13.161	0.005	210649	0.7000	0.6820	
10 3,5-Dinitroaniline	1	15.119	15.114	0.005	342251	0.7000	0.6737	
12 Nitroglycerin	2	15.672	15.667	0.005	1371216	7.00	7.02	
11 1,3-Dinitrobenzene	1	15.712	15.707	0.005	478522	0.7007	0.6859	
13 o-Nitrotoluene	1	16.486	16.474	0.012	189478	0.7021	0.6898	
14 p-Nitrotoluene	1	16.819	16.814	0.005	165335	0.7028	0.7011	
15 4-Amino-2,6-dinitrotoluene	1	17.232	17.221	0.011	229073	0.7021	0.7009	
16 m-Nitrotoluene	1	17.732	17.721	0.011	212868	0.7028	0.6805	
17 2-Amino-4,6-dinitrotoluene	1	18.266	18.254	0.012	330566	0.7021	0.6854	
18 1,3,5-Trinitrobenzene	1	19.026	19.021	0.005	348458	0.7000	0.6850	
19 2,6-Dinitrotoluene	1	19.839	19.834	0.005	223209	0.7021	0.6786	
20 2,4-Dinitrotoluene	1	20.406	20.394	0.012	434443	0.7014	0.6900	
21 Tetryl	1	23.733	23.721	0.012	270062	0.7000	0.6923	
22 2,4,6-Trinitrotoluene	1	24.746	24.734	0.012	327193	0.7028	0.7302	
23 PETN	2	25.153	25.141	0.012	1024457	7.00	7.28	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00056	Amount Added:	35.00	Units: uL
8330_ADDs_00017	Amount Added:	35.00	Units: uL

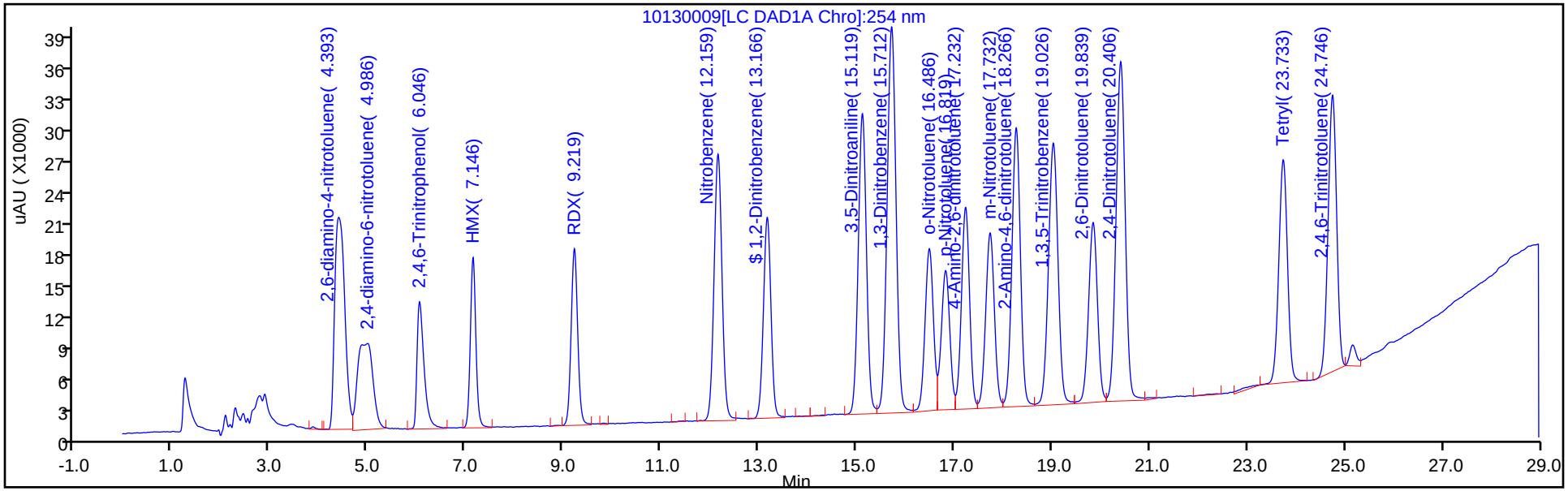
Report Date: 14-Oct-2018 14:02:58 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

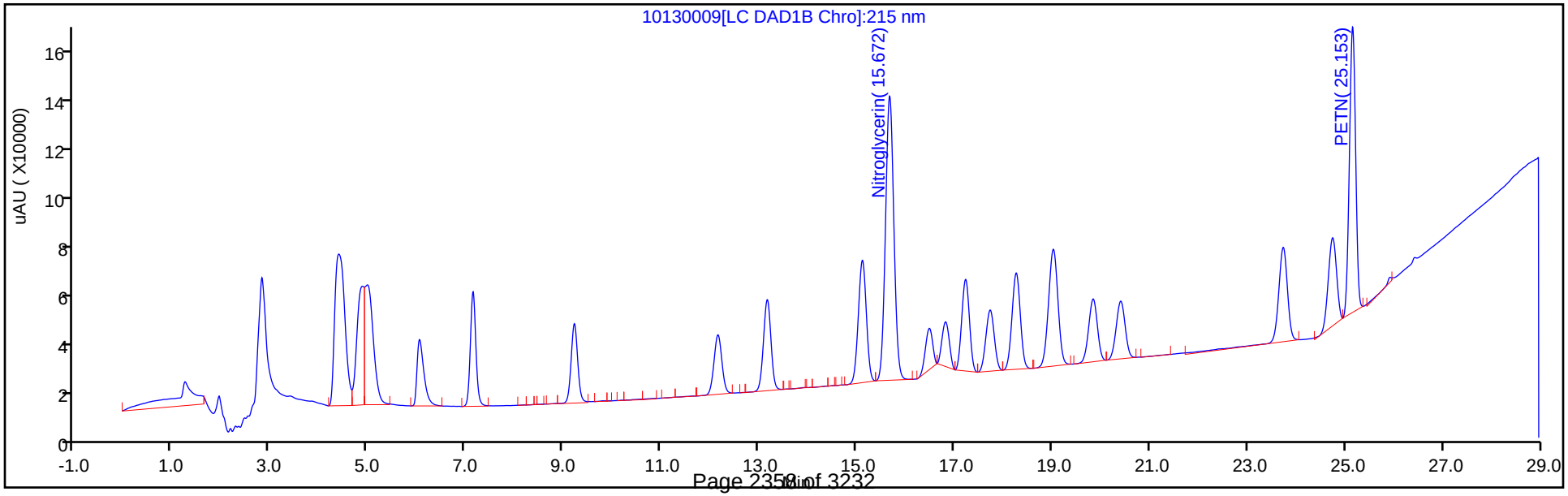
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130009.D

Injection Date:	13-Oct-2018 17:33:35	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 6			Worklist Smp#:	9
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Report Date: 14-Oct-2018 14:02:59 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130010.D
Lims ID: IC FULL LV 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Oct-2018 18:08:37 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 5
Misc. Info.: 280-0075057-010
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:02:59 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 14-Oct-2018 13:52:11

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.401	4.401	0.000	175386	0.4000	0.4007	
3 2,4-diamino-6-nitrotoluene	1	4.954	4.954	0.000	108740	0.4000	0.3916	
4 2,4,6-Trinitrophenol	1	6.081	6.081	0.000	73575	0.4000	0.4192	
5 HMX	1	7.148	7.148	0.000	75980	0.4000	0.3981	
7 RDX	1	9.221	9.221	0.000	95030	0.4000	0.3950	
8 Nitrobenzene	1	12.161	12.161	0.000	169537	0.4008	0.3884	
$ 9 1,2-Dinitrobenzene	1	13.161	13.161	0.000	123299	0.4000	0.3992	
10 3,5-Dinitroaniline	1	15.114	15.114	0.000	201651	0.4000	0.3969	
12 Nitroglycerin	2	15.667	15.667	0.000	797446	4.00	4.08	
11 1,3-Dinitrobenzene	1	15.707	15.707	0.000	278180	0.4004	0.3987	
13 o-Nitrotoluene	1	16.474	16.474	0.000	109278	0.4012	0.3978	
14 p-Nitrotoluene	1	16.814	16.814	0.000	95431	0.4016	0.4047	
15 4-Amino-2,6-dinitrotoluene	1	17.221	17.221	0.000	133357	0.4012	0.4080	
16 m-Nitrotoluene	1	17.721	17.721	0.000	123016	0.4016	0.3932	
17 2-Amino-4,6-dinitrotoluene	1	18.254	18.254	0.000	193061	0.4012	0.4003	
18 1,3,5-Trinitrobenzene	1	19.021	19.021	0.000	203521	0.4000	0.4001	
19 2,6-Dinitrotoluene	1	19.834	19.834	0.000	129767	0.4012	0.3945	
20 2,4-Dinitrotoluene	1	20.394	20.394	0.000	252908	0.4008	0.4017	
21 Tetryl	1	23.721	23.721	0.000	157474	0.4000	0.4037	M
22 2,4,6-Trinitrotoluene	1	24.734	24.734	0.000	189380	0.4016	0.4226	
23 PETN	2	25.141	25.141	0.000	595765	4.00	4.23	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00056	Amount Added:	20.00	Units: uL
8330_ADDs_00017	Amount Added:	20.00	Units: uL

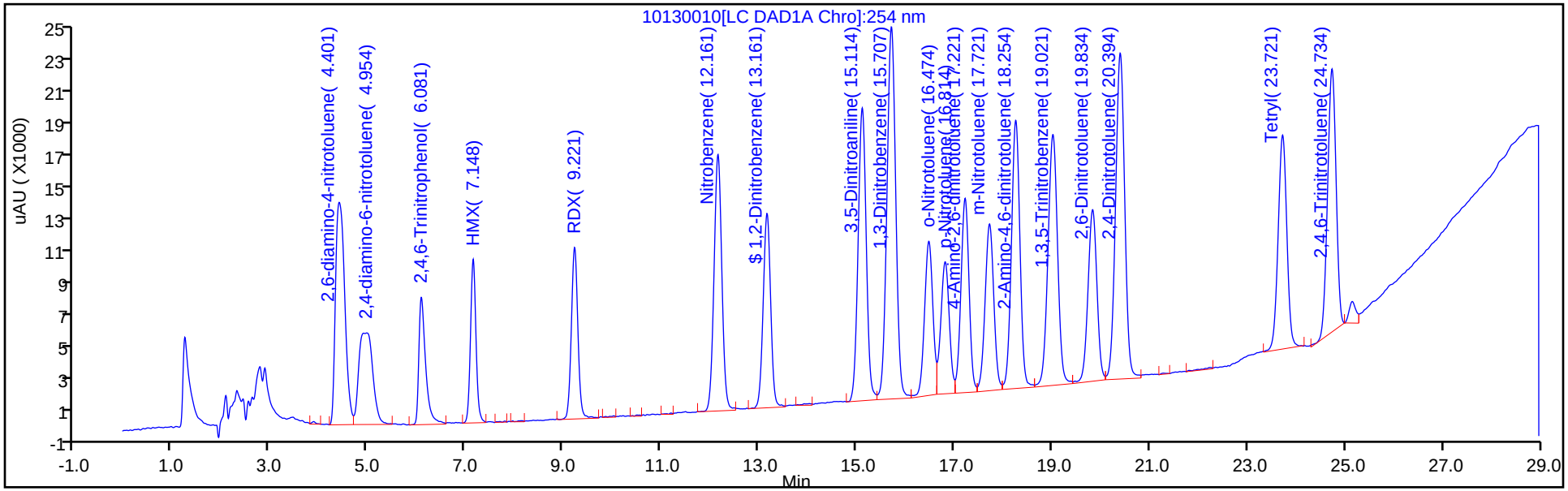
Report Date: 14-Oct-2018 14:02:59 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

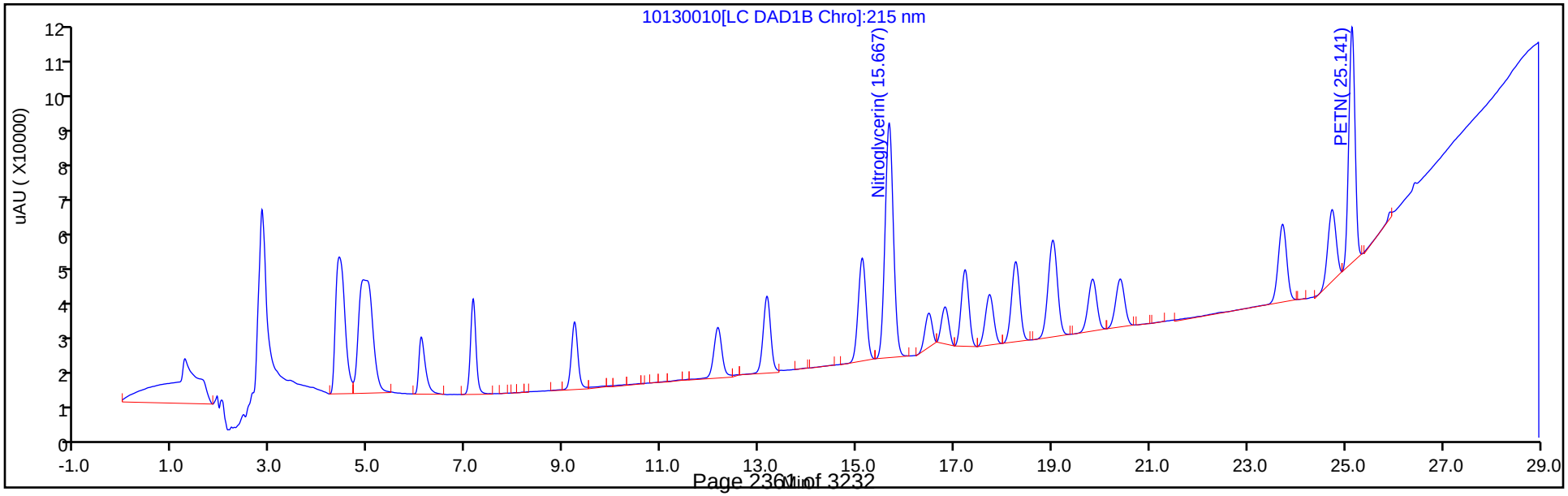
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130010.D

Injection Date:	13-Oct-2018 18:08:37	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 5			Worklist Smp#:	10
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

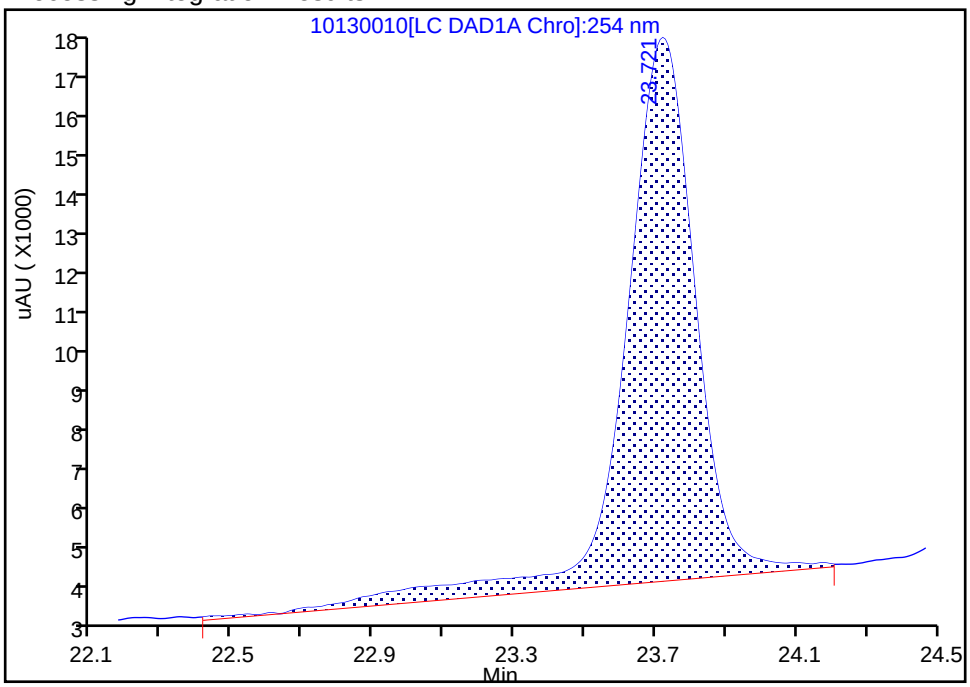
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130010.D
Injection Date: 13-Oct-2018 18:08:37 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 5
Client ID:
Operator ID: HKF ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

21 Tetryl, CAS: 479-45-8

Signal: 1

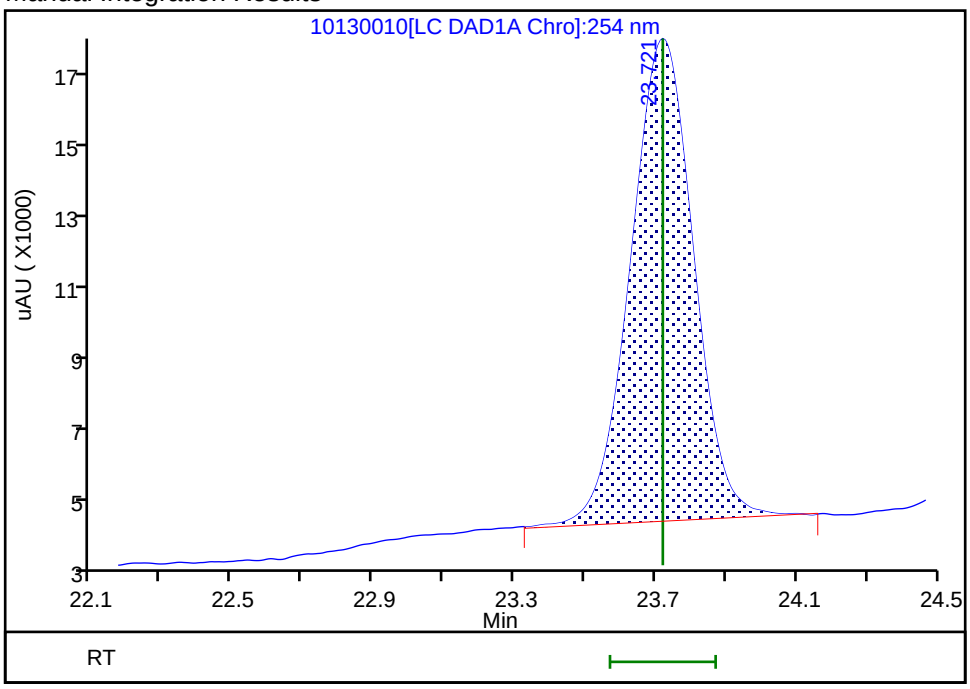
Processing Integration Results

RT: 23.72
Area: 180826
Amount: 0.437266
Amount Units: ug/ml



Manual Integration Results

RT: 23.72
Area: 157474
Amount: 0.403674
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:52:09
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130011.D
Lims ID: IC FULL LV 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 13-Oct-2018 18:43:36 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 4
Misc. Info.: 280-0075057-011
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:03:00 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 14-Oct-2018 13:51:39

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.409	4.401	0.008	106496	0.2500	0.2433	
3 2,4-diamino-6-nitrotoluene	1	4.955	4.954	0.001	67339	0.2500	0.2425	
4 2,4,6-Trinitrophenol	1	6.109	6.081	0.028	43104	0.2500	0.2456	
5 HMX	1	7.149	7.148	0.001	45582	0.2500	0.2388	
7 RDX	1	9.222	9.221	0.001	57384	0.2500	0.2385	
8 Nitrobenzene	1	12.155	12.161	-0.006	102545	0.2505	0.2349	
$ 9 1,2-Dinitrobenzene	1	13.162	13.161	0.001	76710	0.2500	0.2484	
10 3,5-Dinitroaniline	1	15.115	15.114	0.001	124316	0.2500	0.2446	
12 Nitroglycerin	2	15.662	15.667	-0.005	473954	2.50	2.43	
11 1,3-Dinitrobenzene	1	15.708	15.707	0.001	166531	0.2503	0.2387	
13 o-Nitrotoluene	1	16.475	16.474	0.001	67311	0.2508	0.2451	
14 p-Nitrotoluene	1	16.808	16.814	-0.006	57186	0.2510	0.2425	
15 4-Amino-2,6-dinitrotoluene	1	17.215	17.221	-0.006	80348	0.2508	0.2458	
16 m-Nitrotoluene	1	17.715	17.721	-0.006	74358	0.2510	0.2377	
17 2-Amino-4,6-dinitrotoluene	1	18.255	18.254	0.001	116530	0.2508	0.2416	
18 1,3,5-Trinitrobenzene	1	19.015	19.021	-0.006	123833	0.2500	0.2434	
19 2,6-Dinitrotoluene	1	19.828	19.834	-0.006	78825	0.2508	0.2396	
20 2,4-Dinitrotoluene	1	20.388	20.394	-0.006	152949	0.2505	0.2429	
21 Tetryl	1	23.722	23.721	0.001	93284	0.2500	0.2391	M
22 2,4,6-Trinitrotoluene	1	24.735	24.734	0.001	112078	0.2510	0.2501	
23 PETN	2	25.142	25.141	0.001	351201	2.50	2.49	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00056	Amount Added:	12.50	Units: uL
8330_ADDs_00017	Amount Added:	12.50	Units: uL

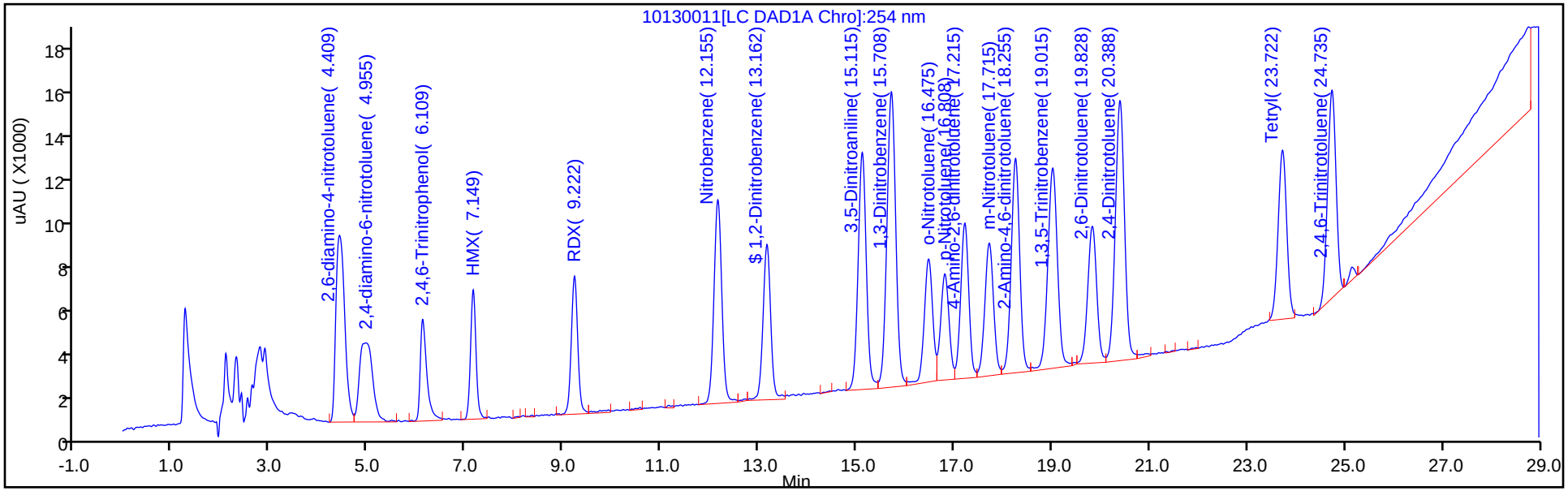
Report Date: 14-Oct-2018 14:03:01 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

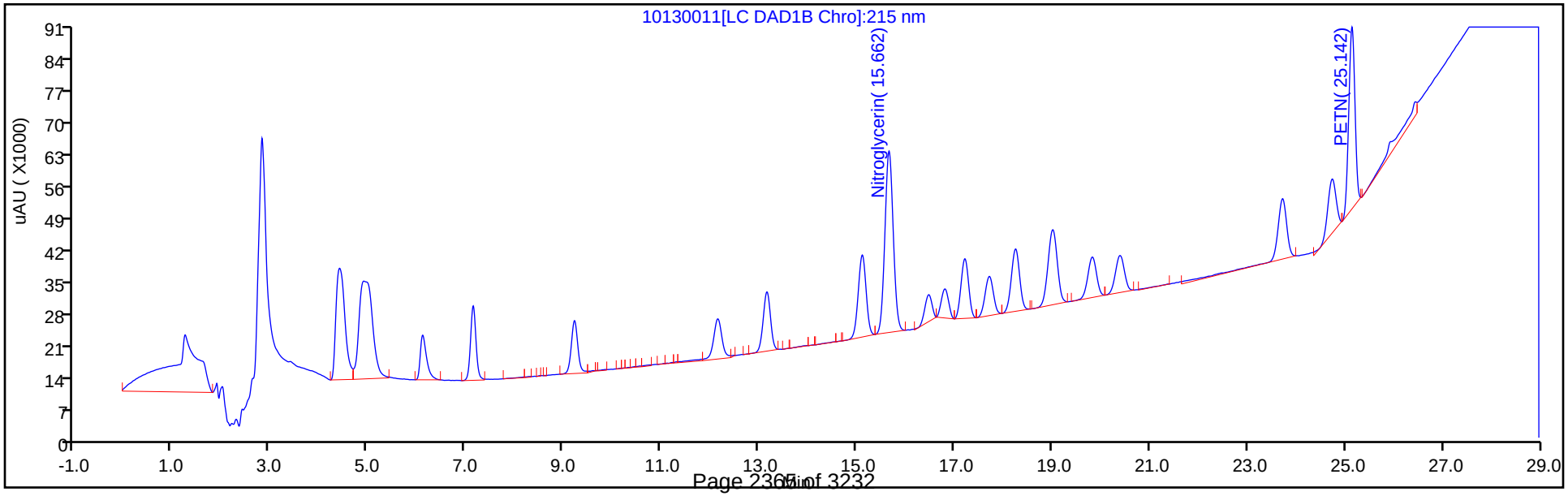
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130011.D

Injection Date:	13-Oct-2018 18:43:36	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 4			Worklist Smp#:	11
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

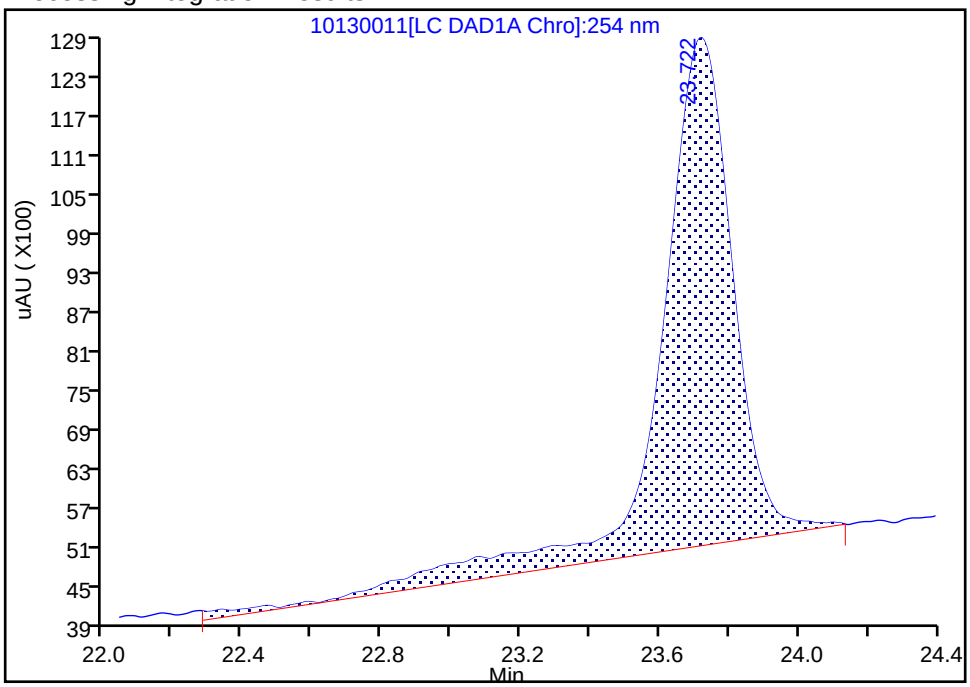
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130011.D
Injection Date: 13-Oct-2018 18:43:36 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 4
Client ID:
Operator ID: HKF ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

21 Tetryl, CAS: 479-45-8

Signal: 1

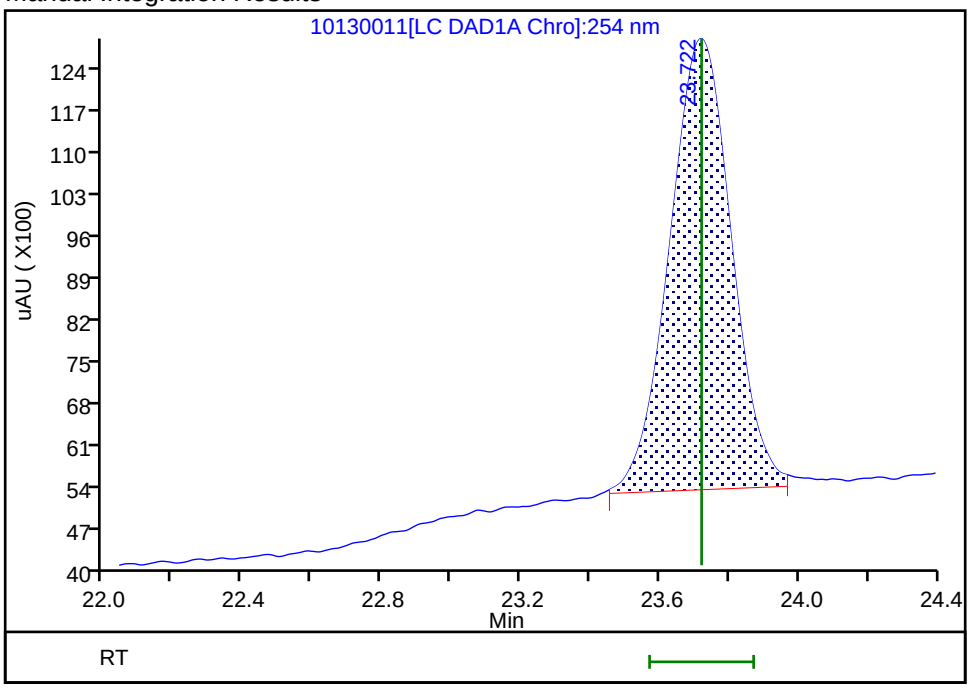
Processing Integration Results

RT: 23.72
Area: 112926
Amount: 0.252081
Amount Units: ug/ml



Manual Integration Results

RT: 23.72
Area: 93284
Amount: 0.239128
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:51:56
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130012.D
Lims ID: IC FULL LV 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Oct-2018 19:18:34 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 3
Misc. Info.: 280-0075057-012
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:03:02 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 14-Oct-2018 13:58:31

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.412	4.401	0.011	42512	0.1000	0.0971	
3 2,4-diamino-6-nitrotoluene	1	4.952	4.954	-0.002	27847	0.1000	0.1003	
4 2,4,6-Trinitrophenol	1	6.146	6.081	0.065	17257	0.1000	0.0983	
5 HMX	1	7.146	7.148	-0.002	19254	0.1000	0.1009	
7 RDX	1	9.219	9.221	-0.002	25353	0.1000	0.1054	
8 Nitrobenzene	1	12.152	12.161	-0.009	44179	0.1002	0.1012	
$ 9 1,2-Dinitrobenzene	1	13.152	13.161	-0.009	31197	0.1000	0.1010	
10 3,5-Dinitroaniline	1	15.106	15.114	-0.008	51091	0.1000	0.1004	
12 Nitroglycerin	2	15.652	15.667	-0.015	192800	1.00	0.9873	
11 1,3-Dinitrobenzene	1	15.699	15.707	-0.008	68591	0.1001	0.0983	
13 o-Nitrotoluene	1	16.472	16.474	-0.002	26486	0.1003	0.0964	
14 p-Nitrotoluene	1	16.799	16.814	-0.015	22209	0.1004	0.0942	
15 4-Amino-2,6-dinitrotoluene	1	17.212	17.221	-0.009	32060	0.1003	0.0981	
16 m-Nitrotoluene	1	17.712	17.721	-0.009	30526	0.1004	0.0976	
17 2-Amino-4,6-dinitrotoluene	1	18.246	18.254	-0.008	46973	0.1003	0.0974	
18 1,3,5-Trinitrobenzene	1	19.006	19.021	-0.015	50435	0.1000	0.0991	
19 2,6-Dinitrotoluene	1	19.826	19.834	-0.008	33837	0.1003	0.1029	
20 2,4-Dinitrotoluene	1	20.386	20.394	-0.008	62607	0.1002	0.0994	
21 Tetryl	1	23.712	23.721	-0.009	39605	0.1000	0.1015	
22 2,4,6-Trinitrotoluene	1	24.726	24.734	-0.008	43913	0.1004	0.0980	
23 PETN	2	25.132	25.141	-0.009	138138	1.00	0.9813	

Reagents:

8330IntermStk_00056 Amount Added: 5.00 Units: uL
8330_ADDs_00017 Amount Added: 5.00 Units: uL

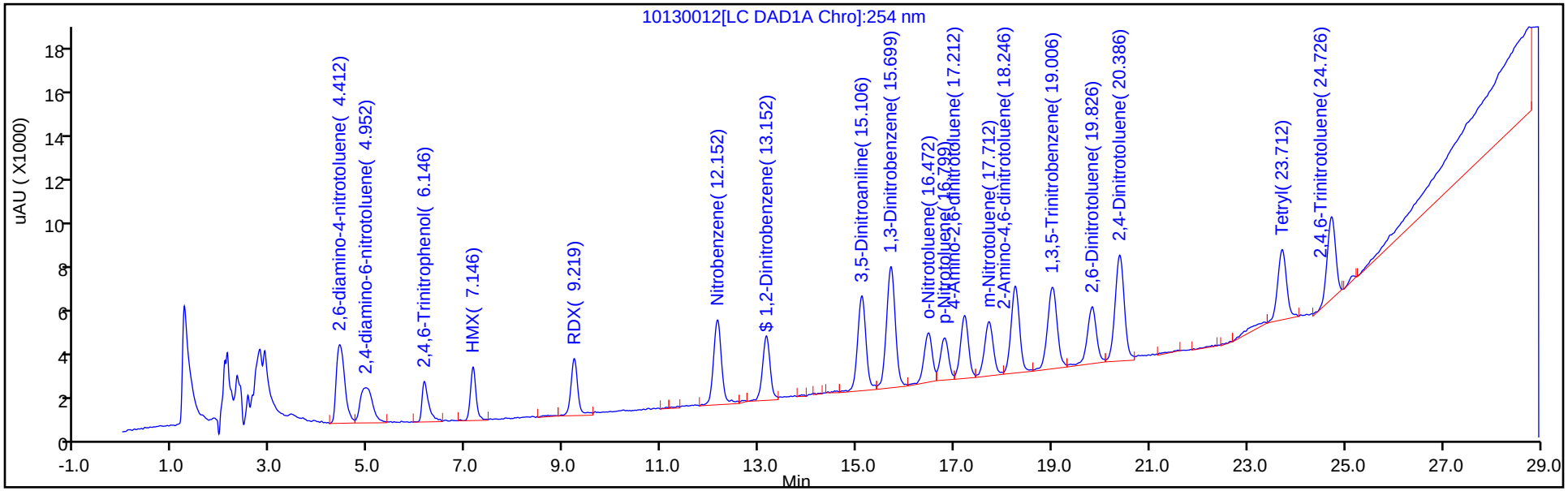
Report Date: 14-Oct-2018 14:03:02 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

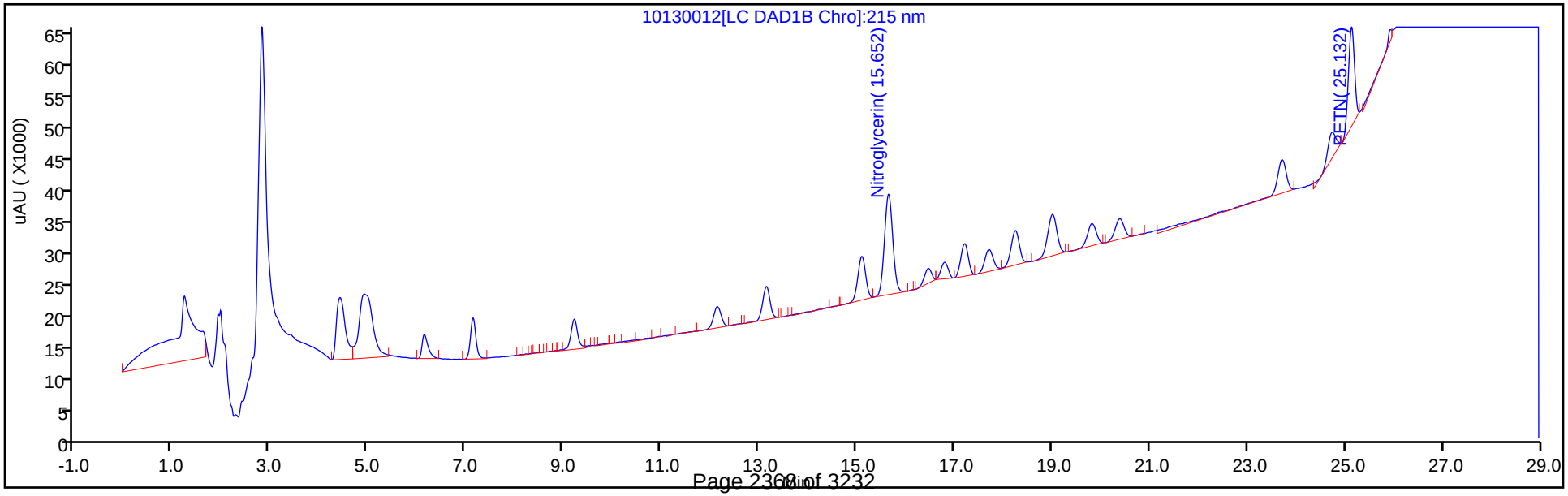
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130012.D

Injection Date:	13-Oct-2018 19:18:34	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 3			Worklist Smp#:	12
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130013.D
Lims ID: IC FULL LV 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Oct-2018 19:53:30 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 2
Misc. Info.: 280-0075057-013
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:03:03 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 14-Oct-2018 13:52:44

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.411	4.401	0.010	20884	0.0500	0.0477	
3 2,4-diamino-6-nitrotoluene	1	4.924	4.954	-0.030	15317	0.0500	0.0552	
4 2,4,6-Trinitrophenol	1	6.184	6.081	0.103	8338	0.0500	0.0475	
5 HMX	1	7.151	7.148	0.003	9911	0.0500	0.0519	
7 RDX	1	9.224	9.221	0.003	13001	0.0500	0.0540	
8 Nitrobenzene	1	12.164	12.161	0.003	23912	0.0501	0.0548	
$ 9 1,2-Dinitrobenzene	1	13.171	13.161	0.010	15682	0.0500	0.0508	
10 3,5-Dinitroaniline	1	15.124	15.114	0.010	30112	0.0500	0.0591	
12 Nitroglycerin	2	15.671	15.667	0.004	95429	0.5000	0.4887	
11 1,3-Dinitrobenzene	1	15.717	15.707	0.010	39303	0.0501	0.0563	
13 o-Nitrotoluene	1	16.477	16.474	0.003	15285	0.0502	0.0556	
14 p-Nitrotoluene	1	16.817	16.814	0.003	12122	0.0502	0.0514	
15 4-Amino-2,6-dinitrotoluene	1	17.224	17.221	0.003	17939	0.0502	0.0549	
16 m-Nitrotoluene	1	17.717	17.721	-0.004	17439	0.0502	0.0557	
17 2-Amino-4,6-dinitrotoluene	1	18.257	18.254	0.003	26788	0.0502	0.0555	
18 1,3,5-Trinitrobenzene	1	19.004	19.021	-0.017	28899	0.0500	0.0568	
19 2,6-Dinitrotoluene	1	19.831	19.834	-0.003	19816	0.0502	0.0602	
20 2,4-Dinitrotoluene	1	20.391	20.394	-0.003	34146	0.0501	0.0542	
21 Tetryl	1	23.717	23.721	-0.004	18760	0.0500	0.0481	M
22 2,4,6-Trinitrotoluene	1	24.737	24.734	0.003	21005	0.0502	0.0469	M
23 PETN	2	25.137	25.141	-0.004	67494	0.5000	0.4795	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00056	Amount Added:	2.50	Units: uL
8330_ADDs_00017	Amount Added:	2.50	Units: uL

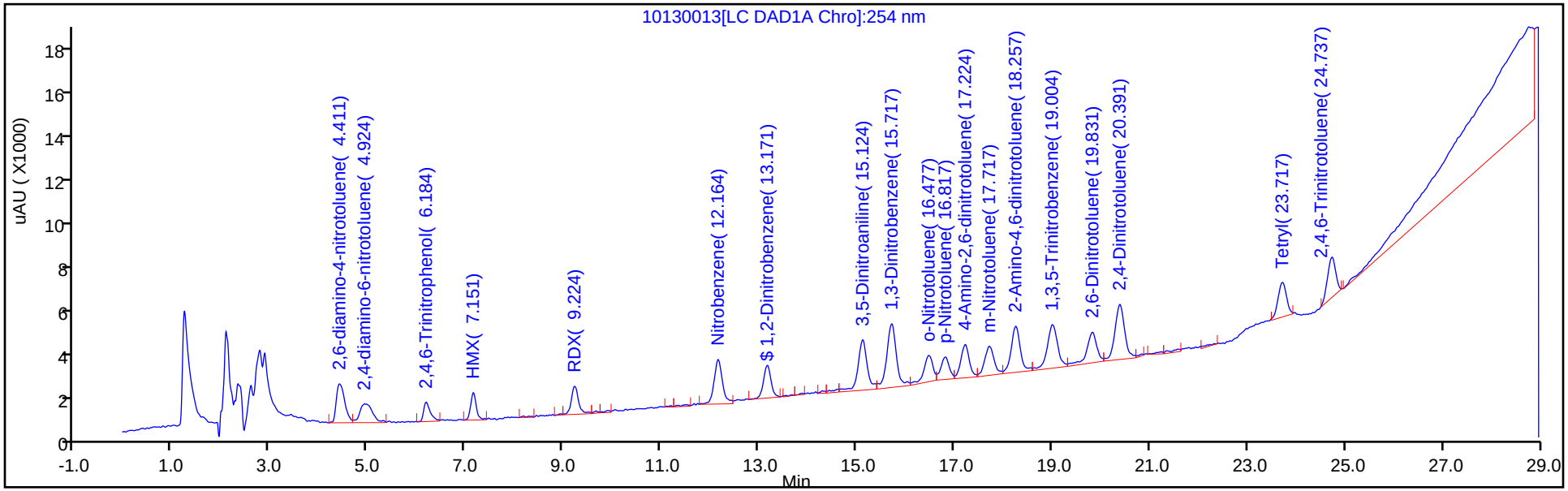
Report Date: 14-Oct-2018 14:03:04 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

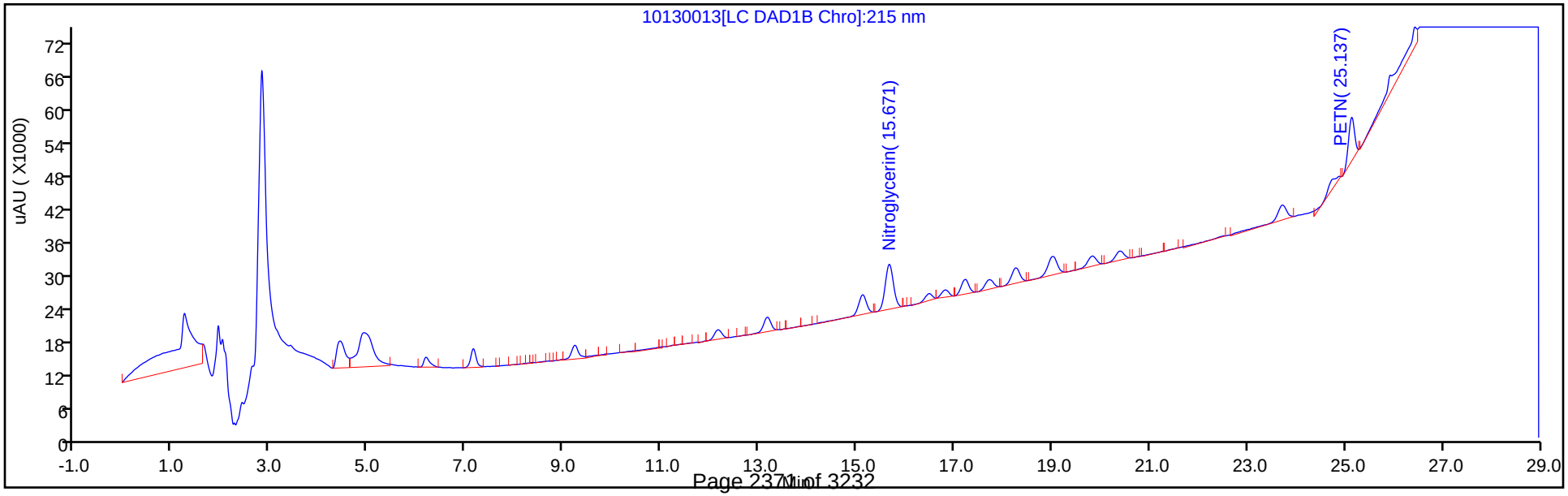
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130013.D

Injection Date:	13-Oct-2018 19:53:30	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 2			Worklist Smp#:	13
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

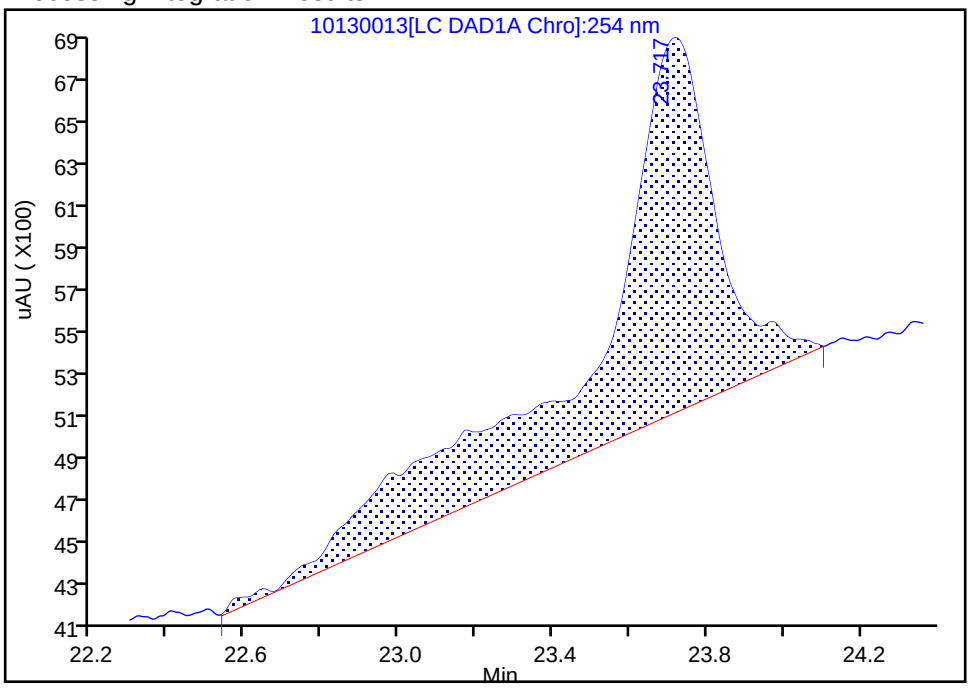
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130013.D
Injection Date: 13-Oct-2018 19:53:30 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 2
Client ID:
Operator ID: HKF ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

21 Tetryl, CAS: 479-45-8

Signal: 1

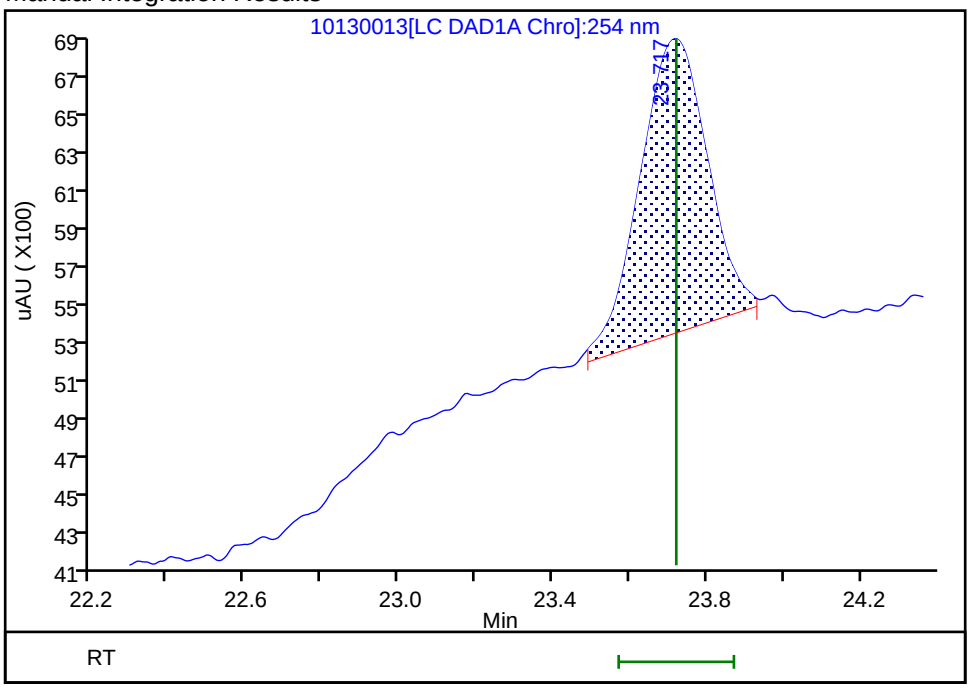
Processing Integration Results

RT: 23.72
Area: 38693
Amount: 0.058611
Amount Units: ug/ml



Manual Integration Results

RT: 23.72
Area: 18760
Amount: 0.048090
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:58:23
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

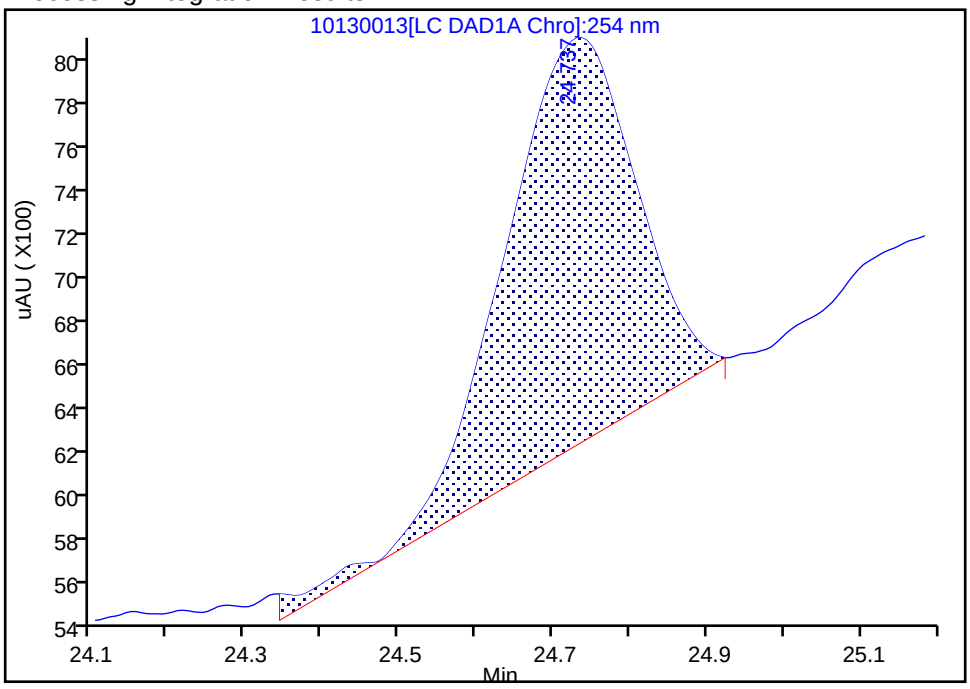
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130013.D				
Injection Date:	13-Oct-2018 19:53:30	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	IC FULL LV 2				
Client ID:					
Operator ID:	HKF	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

22 2,4,6-Trinitrotoluene, CAS: 118-96-7

Signal: 1

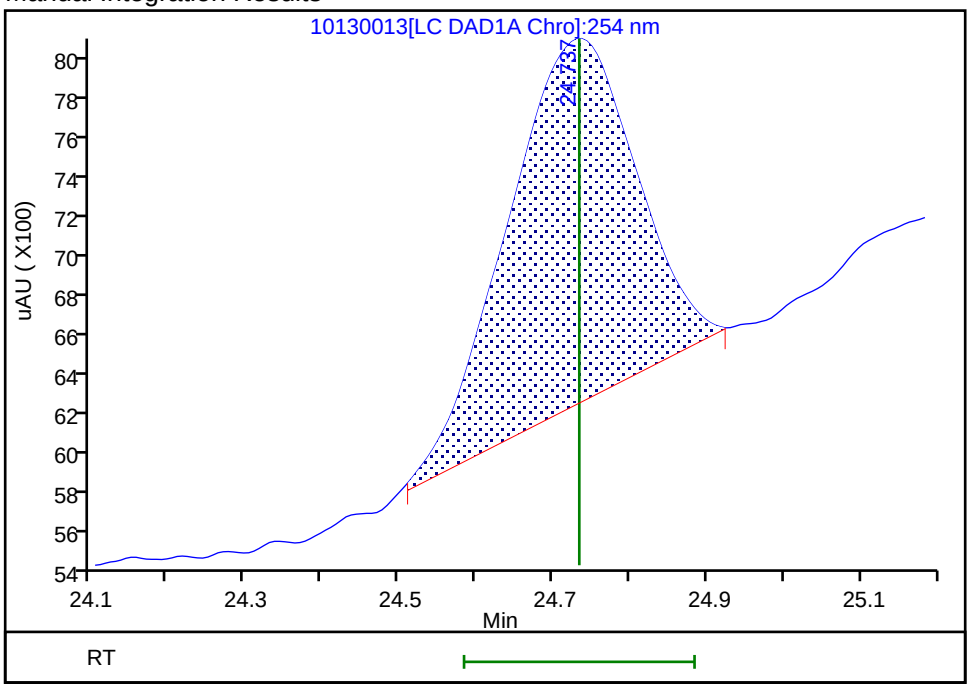
Processing Integration Results

RT: 24.74
Area: 21827
Amount: 0.048489
Amount Units: ug/ml



Manual Integration Results

RT: 24.74
Area: 21005
Amount: 0.046876
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:58:16

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Lims ID: IC FULL LV 1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 13-Oct-2018 20:28:27 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 1
Misc. Info.: 280-0075057-014
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:03:04 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 14-Oct-2018 13:53:15

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.409	4.401	0.008	8941	0.0200	0.0204	
3 2,4-diamino-6-nitrotoluene	1	4.923	4.954	-0.031	7182	0.0200	0.0259	
4 2,4,6-Trinitrophenol	1	6.216	6.081	0.135	3438	0.0200	0.0196	
5 HMX	1	7.143	7.148	-0.005	3990	0.0200	0.0209	M
7 RDX	1	9.223	9.221	0.002	5022	0.0200	0.0209	M
8 Nitrobenzene	1	12.156	12.161	-0.005	9419	0.0200	0.0216	M
$ 9 1,2-Dinitrobenzene	1	13.163	13.161	0.002	6480	0.0200	0.0210	M
10 3,5-Dinitroaniline	1	15.123	15.114	0.009	9555	0.0200	0.0186	M
12 Nitroglycerin	2	15.676	15.667	0.009	40127	0.2000	0.2055	
11 1,3-Dinitrobenzene	1	15.723	15.707	0.016	14112	0.0200	0.0202	M
13 o-Nitrotoluene	1	16.496	16.474	0.022	5507	0.0201	0.0200	M
14 p-Nitrotoluene	1	16.816	16.814	0.002	5052	0.0201	0.0214	M
15 4-Amino-2,6-dinitrotoluene	1	17.223	17.221	0.002	6145	0.0201	0.0188	M
16 m-Nitrotoluene	1	17.736	17.721	0.015	6830	0.0201	0.0218	M
17 2-Amino-4,6-dinitrotoluene	1	18.263	18.254	0.009	10063	0.0201	0.0209	M
18 1,3,5-Trinitrobenzene	1	19.029	19.021	0.008	10023	0.0200	0.0197	
19 2,6-Dinitrotoluene	1	19.843	19.834	0.009	6342	0.0201	0.0193	M
20 2,4-Dinitrotoluene	1	20.403	20.394	0.009	12823	0.0200	0.0204	
21 Tetryl	1	23.723	23.721	0.002	8216	0.0200	0.0211	M
22 2,4,6-Trinitrotoluene	1	24.749	24.734	0.015	8290	0.0201	0.0185	M
23 PETN	2	25.149	25.141	0.008	25286	0.2000	0.1796	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00056	Amount Added:	1.00	Units: uL
8330_ADDs_00017	Amount Added:	1.00	Units: uL

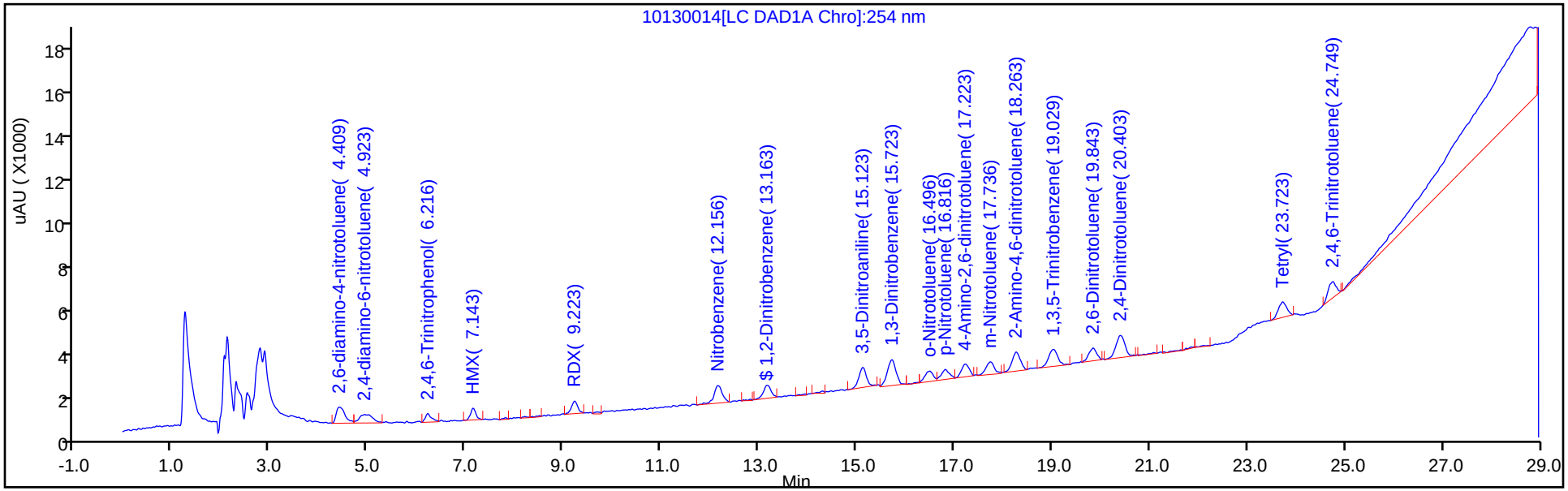
Report Date: 14-Oct-2018 14:03:05 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

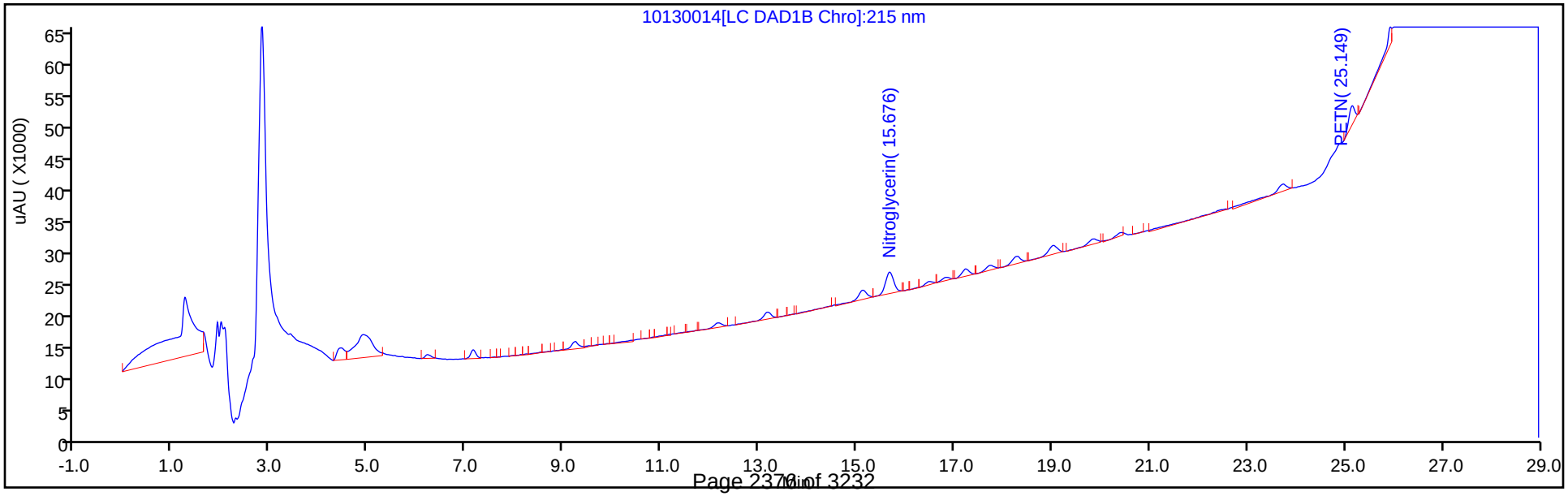
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D

Injection Date:	13-Oct-2018 20:28:27	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 1			Worklist Smp#:	14
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

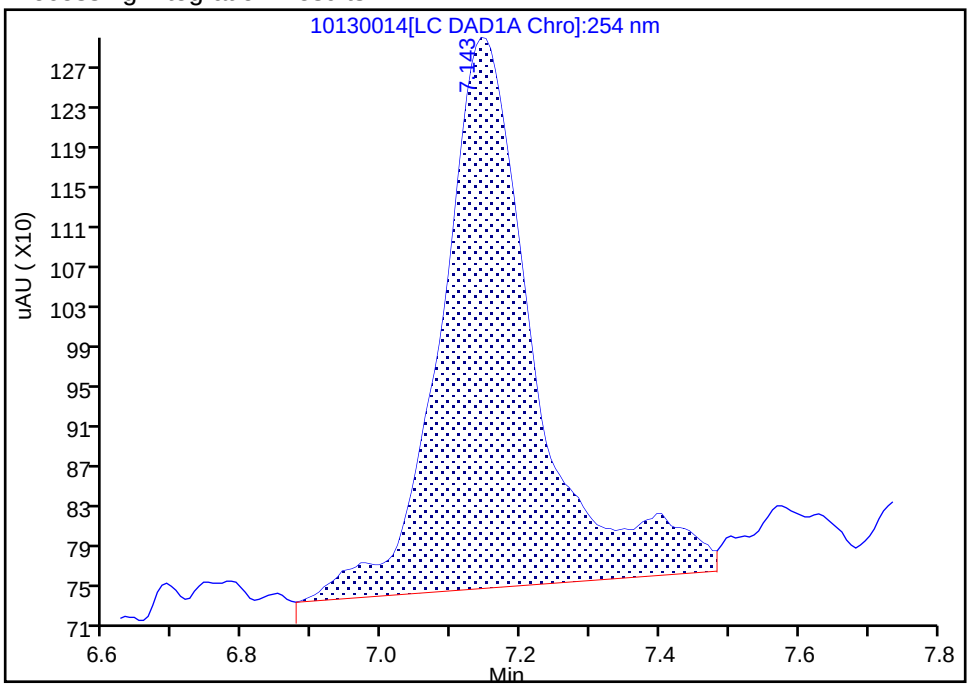
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D				
Injection Date:	13-Oct-2018 20:28:27	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	IC FULL LV 1				
Client ID:					
Operator ID:	HKF	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

5 HMX, CAS: 2691-41-0

Signal: 1

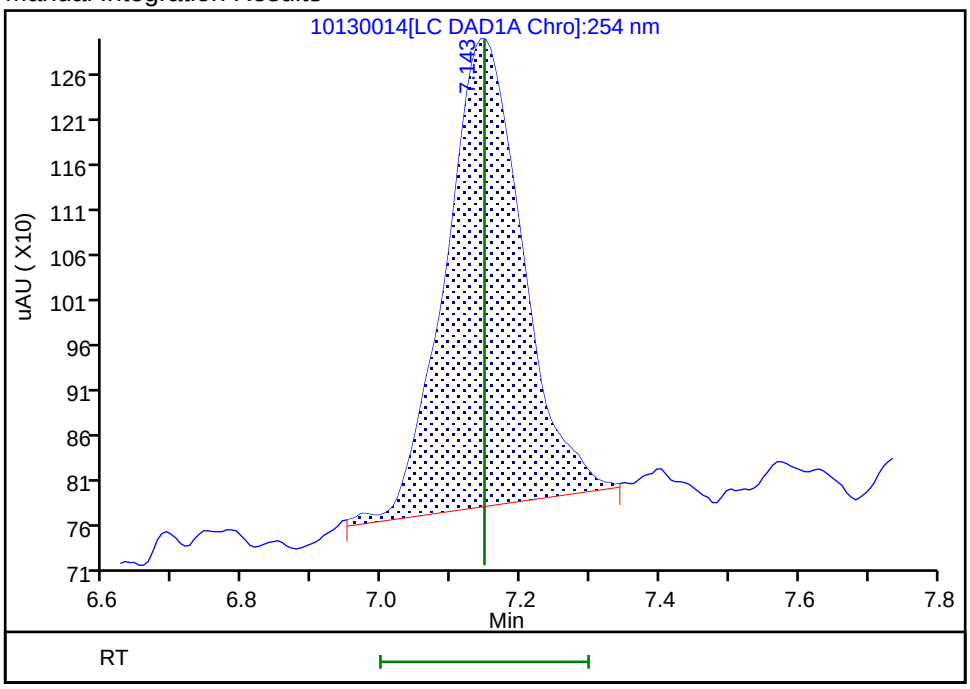
Processing Integration Results

RT: 7.14
Area: 5193
Amount: 0.026175
Amount Units: ug/ml



Manual Integration Results

RT: 7.14
Area: 3990
Amount: 0.020904
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:55:04

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

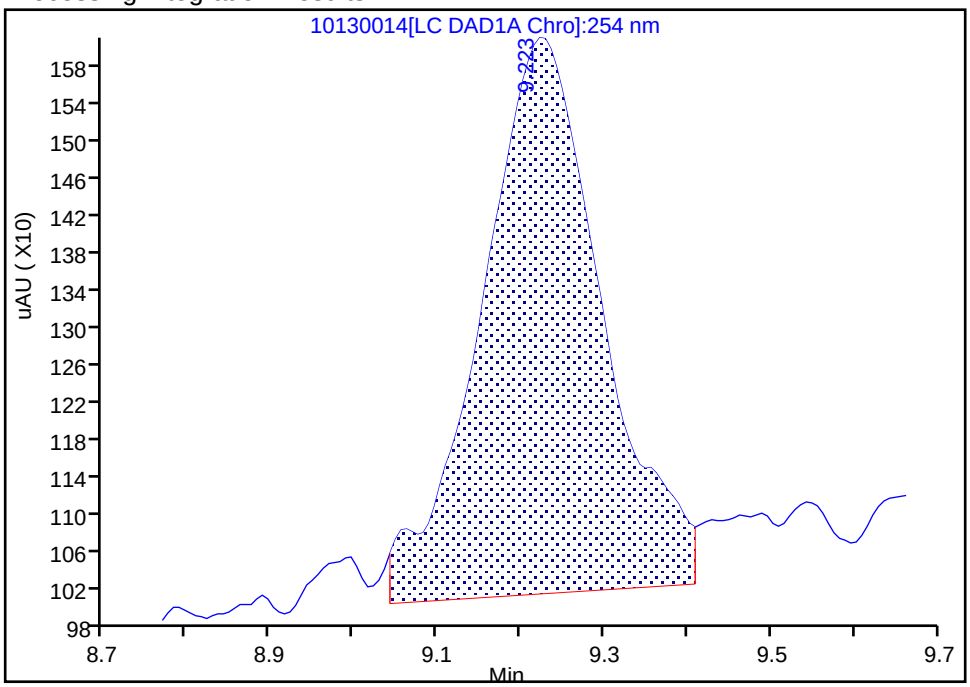
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

7 RDX, CAS: 121-82-4

Signal: 1

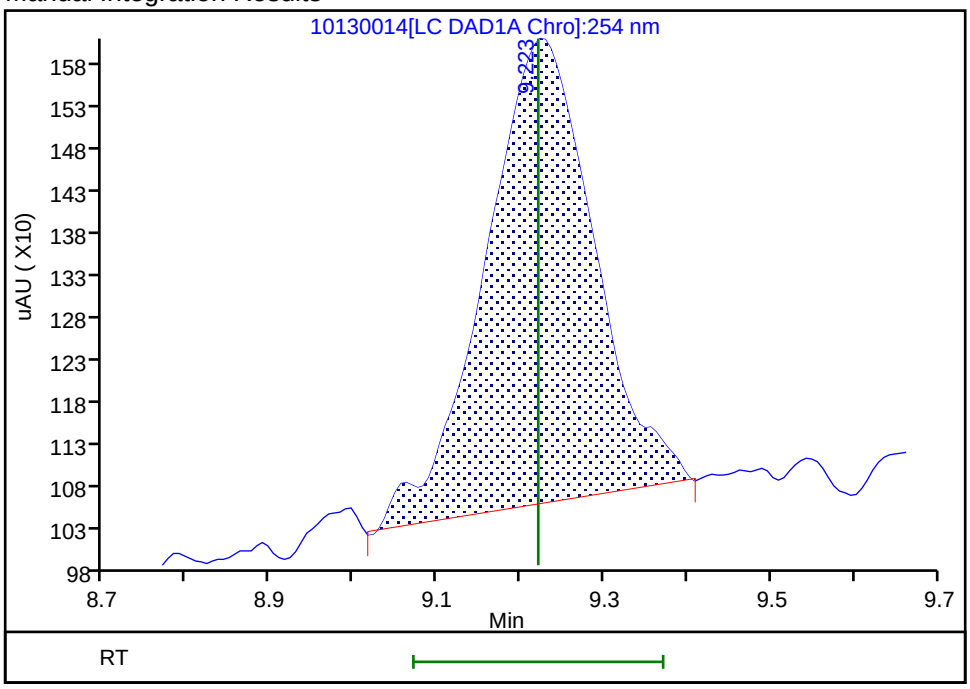
Processing Integration Results

RT: 9.22
Area: 6007
Amount: 0.024347
Amount Units: ug/ml



Manual Integration Results

RT: 9.22
Area: 5022
Amount: 0.020876
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:56:29
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

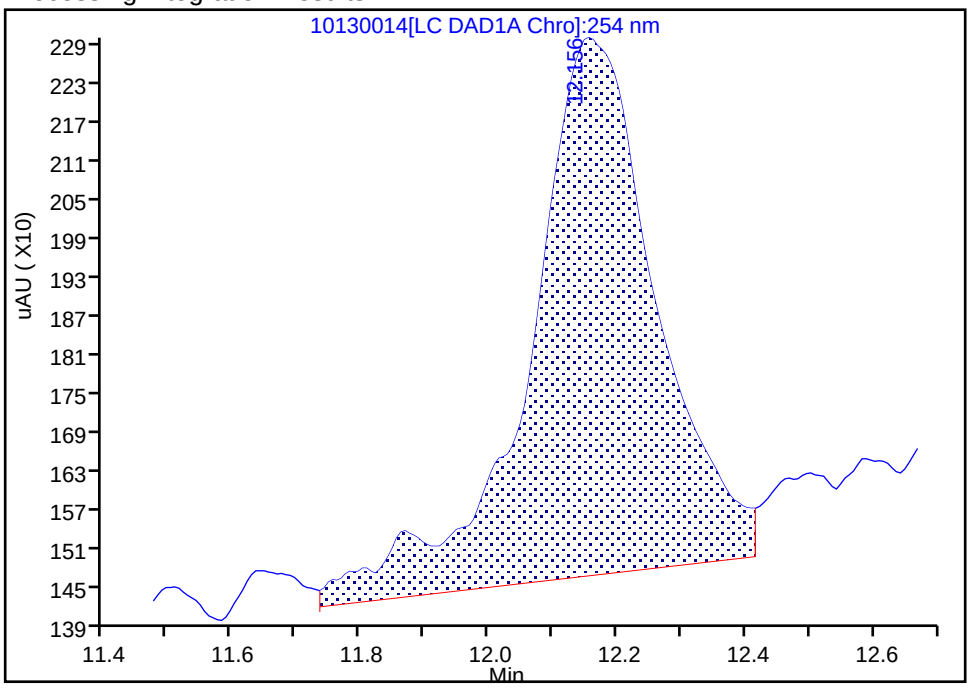
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D				
Injection Date:	13-Oct-2018 20:28:27	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	IC FULL LV 1				
Client ID:					
Operator ID:	HKF	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

8 Nitrobenzene, CAS: 98-95-3

Signal: 1

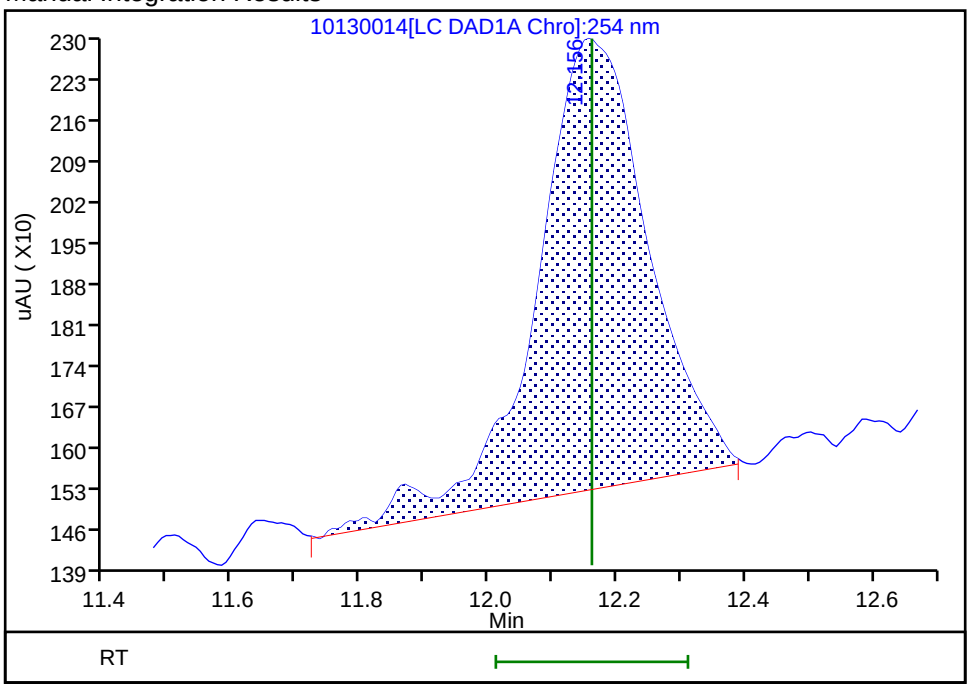
Processing Integration Results

RT: 12.16
Area: 11615
Amount: 0.025799
Amount Units: ug/ml



Manual Integration Results

RT: 12.16
Area: 9419
Amount: 0.021578
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:56:37

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

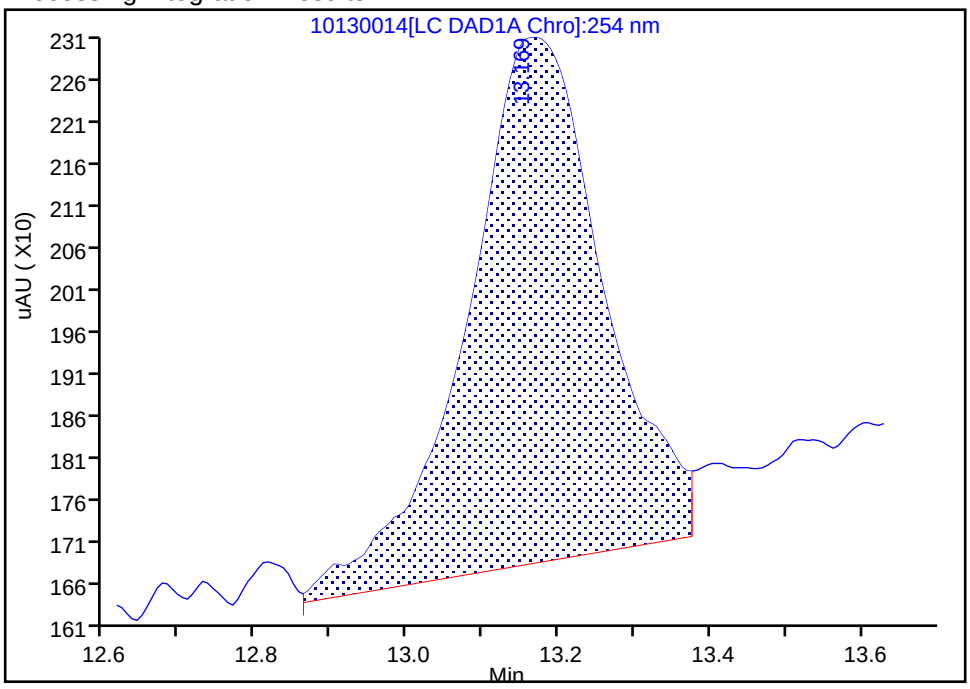
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D				
Injection Date:	13-Oct-2018 20:28:27	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	IC FULL LV 1				
Client ID:					
Operator ID:	HKF	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

$ 9 1,2-Dinitrobenzene, CAS: 528-29-0

Signal: 1

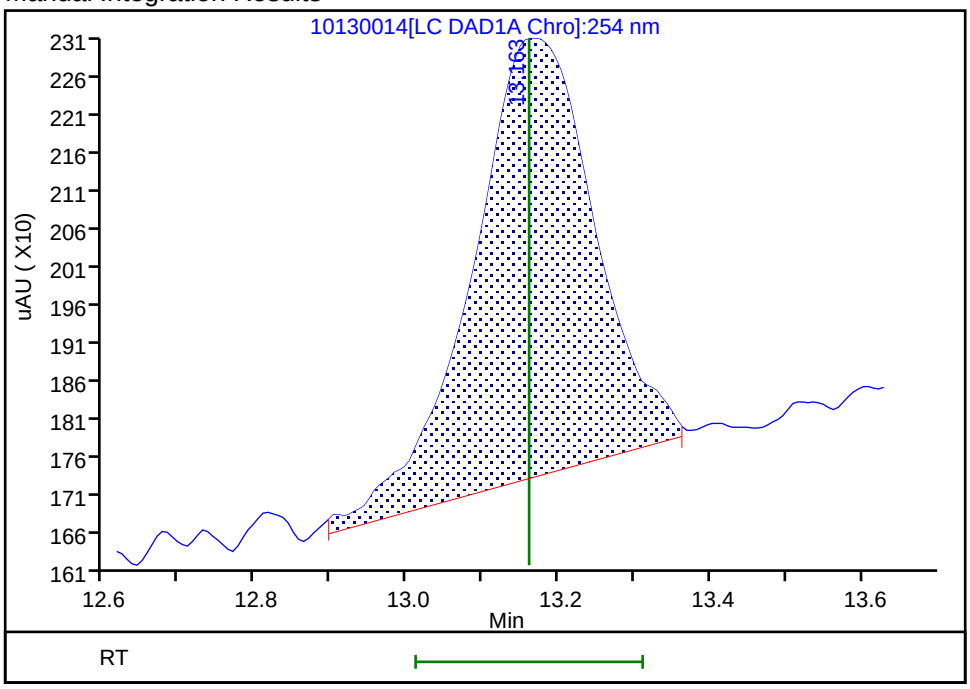
Processing Integration Results

RT: 13.17
Area: 7789
Amount: 0.024567
Amount Units: ug/ml



Manual Integration Results

RT: 13.16
Area: 6480
Amount: 0.020979
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:58:03

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

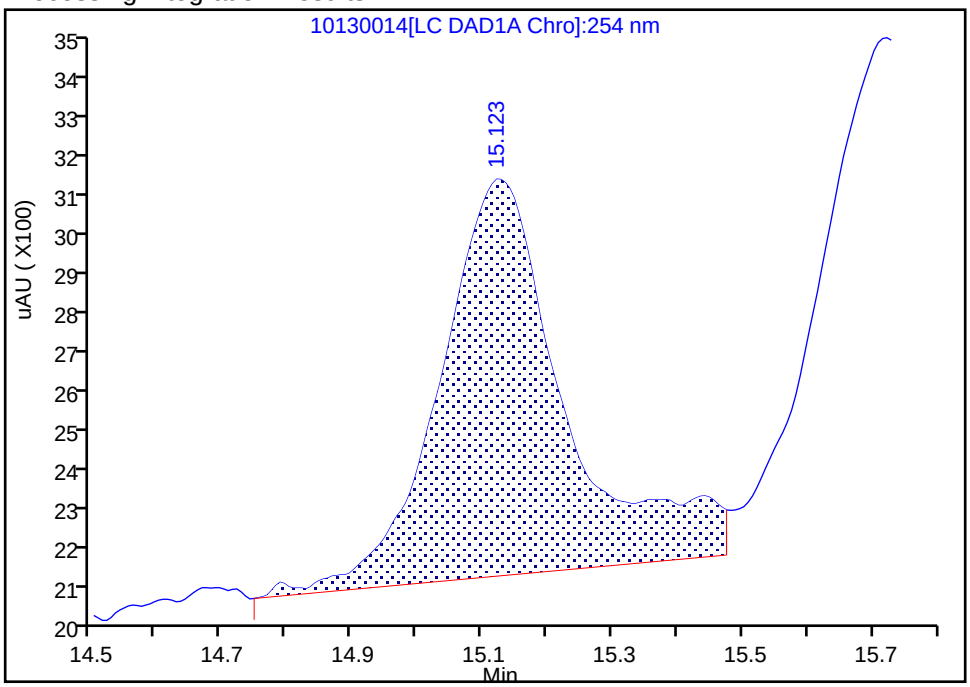
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D				
Injection Date:	13-Oct-2018 20:28:27	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	IC FULL LV 1				
Client ID:					
Operator ID:	HKF	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

10 3,5-Dinitroaniline, CAS: 618-87-1

Signal: 1

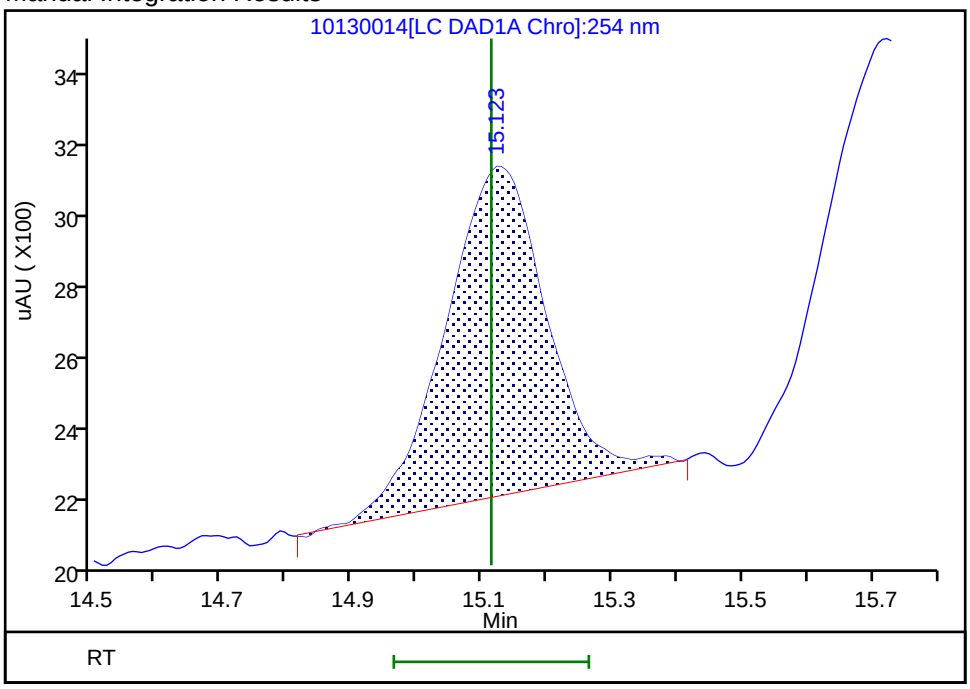
Processing Integration Results

RT: 15.12
Area: 12844
Amount: 0.019446
Amount Units: ug/ml



Manual Integration Results

RT: 15.12
Area: 9555
Amount: 0.018611
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:56:41
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

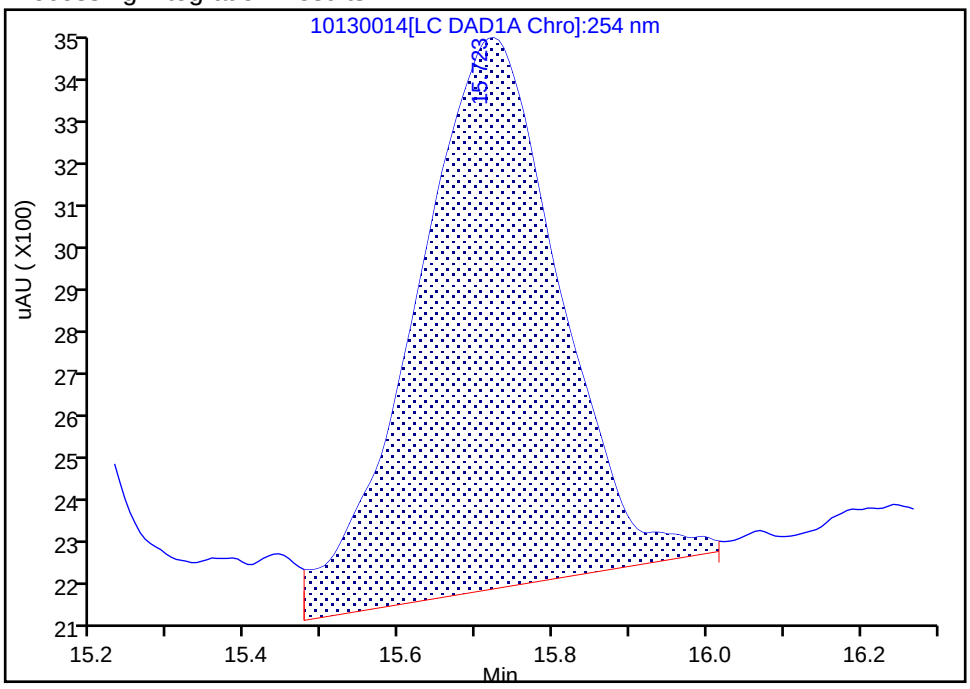
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

11 1,3-Dinitrobenzene, CAS: 99-65-0

Signal: 1

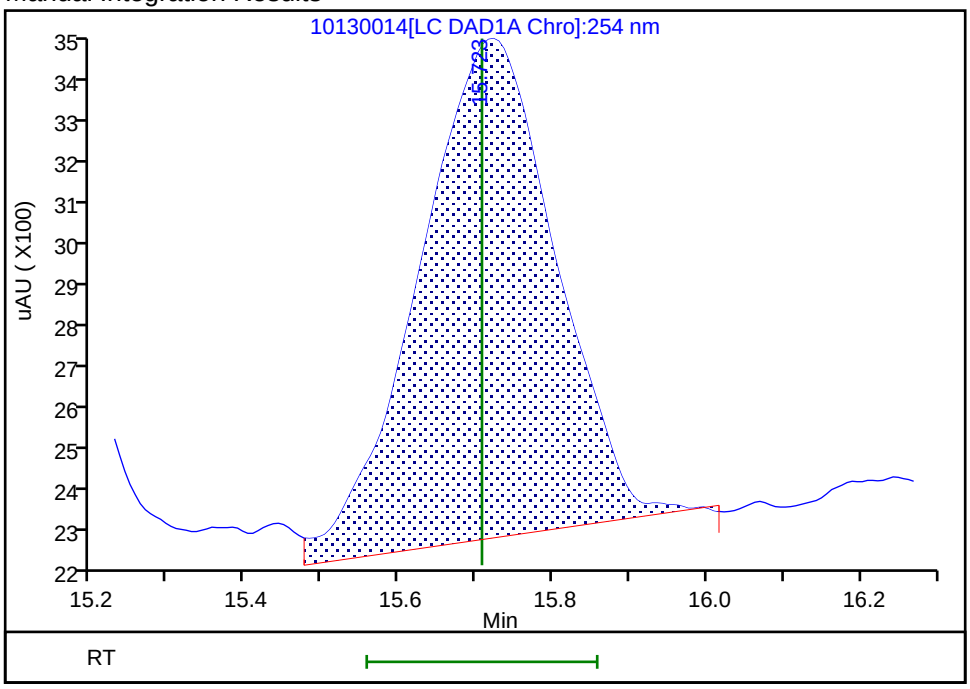
Processing Integration Results

RT: 15.72
Area: 15457
Amount: 0.021892
Amount Units: ug/ml



Manual Integration Results

RT: 15.72
Area: 14112
Amount: 0.020227
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:53:10
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

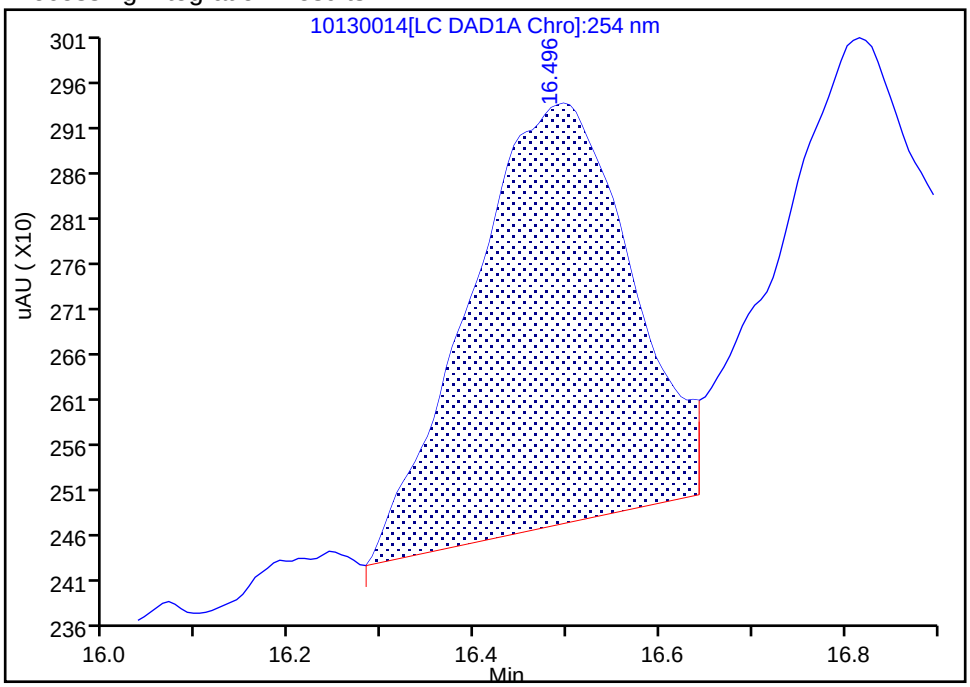
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D				
Injection Date:	13-Oct-2018 20:28:27	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	IC FULL LV 1				
Client ID:					
Operator ID:	HKF	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

13 o-Nitrotoluene, CAS: 88-72-2

Signal: 1

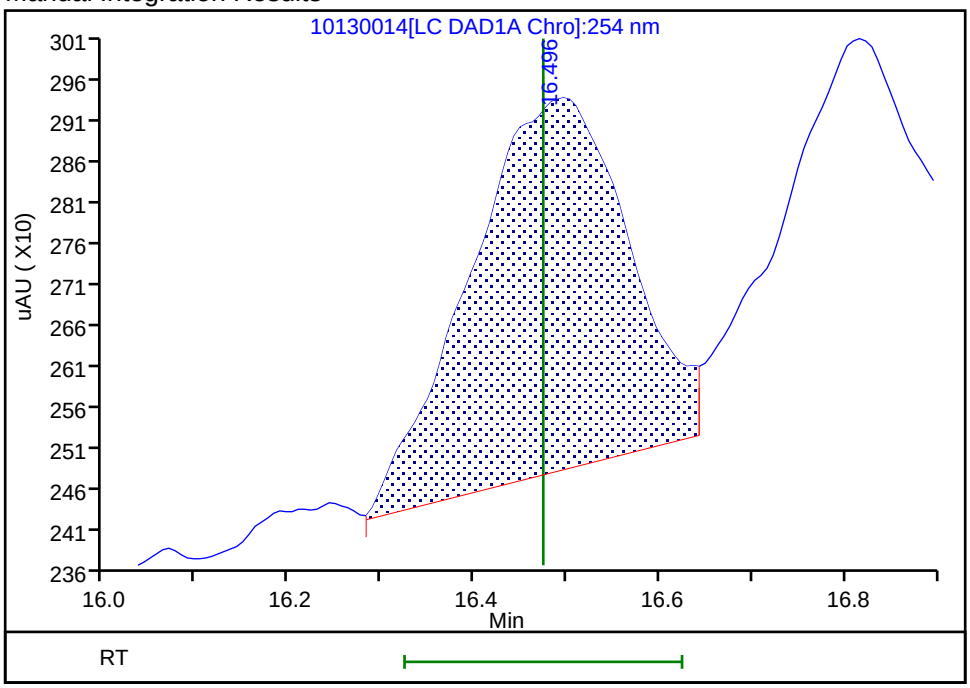
Processing Integration Results

RT: 16.50
Area: 5669
Amount: 0.020563
Amount Units: ug/ml



Manual Integration Results

RT: 16.50
Area: 5507
Amount: 0.020049
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:57:01
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

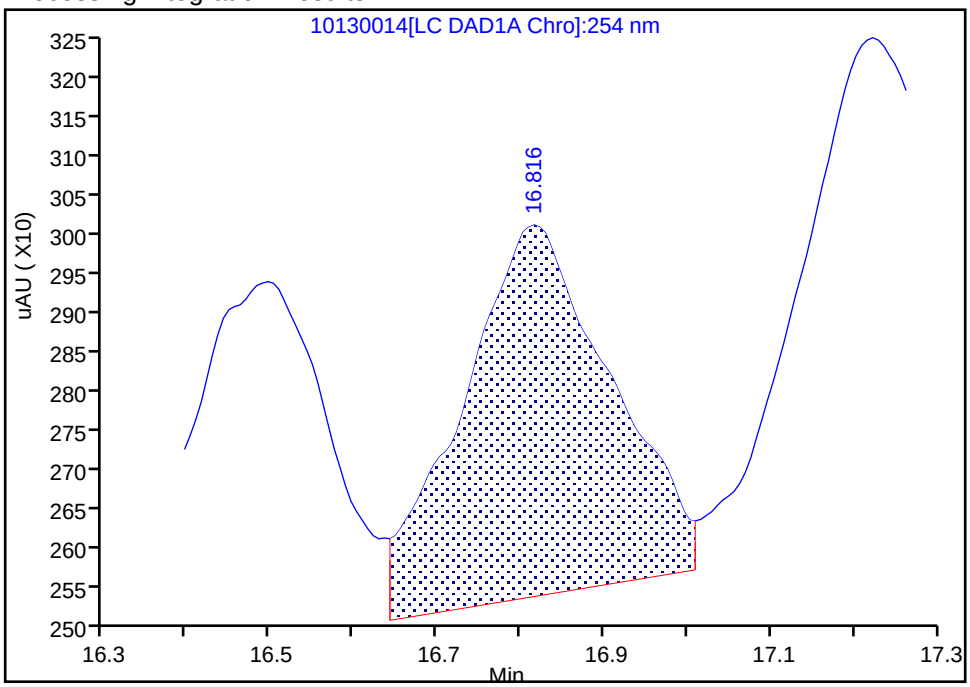
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D				
Injection Date:	13-Oct-2018 20:28:27	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	IC FULL LV 1				
Client ID:					
Operator ID:	HKF	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

14 p-Nitrotoluene, CAS: 99-99-0

Signal: 1

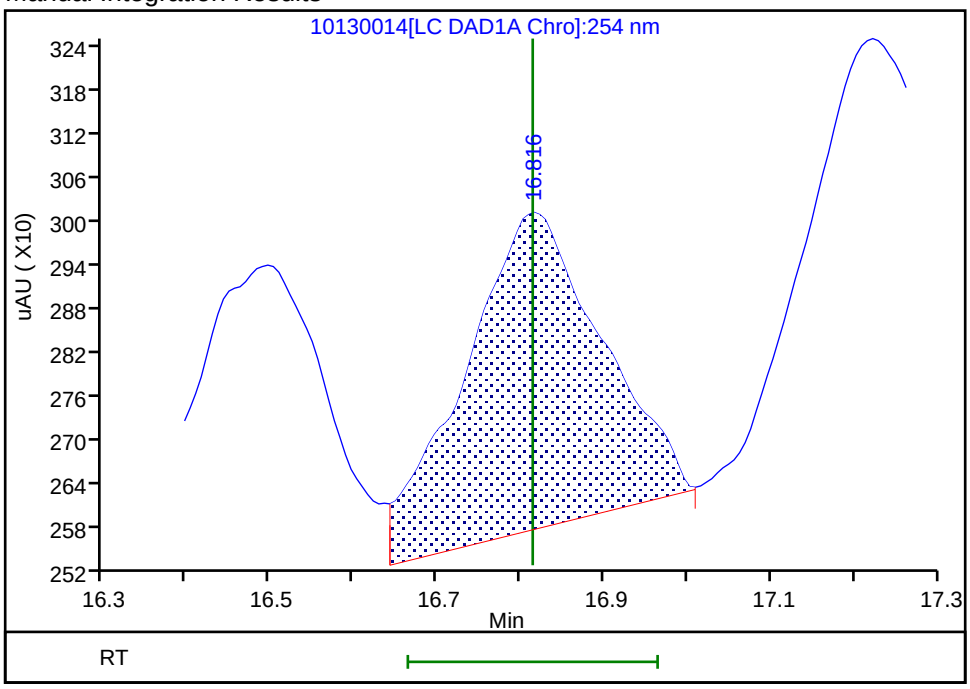
Processing Integration Results

RT: 16.82
Area: 5932
Amount: 0.024584
Amount Units: ug/ml



Manual Integration Results

RT: 16.82
Area: 5052
Amount: 0.021423
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:57:01
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

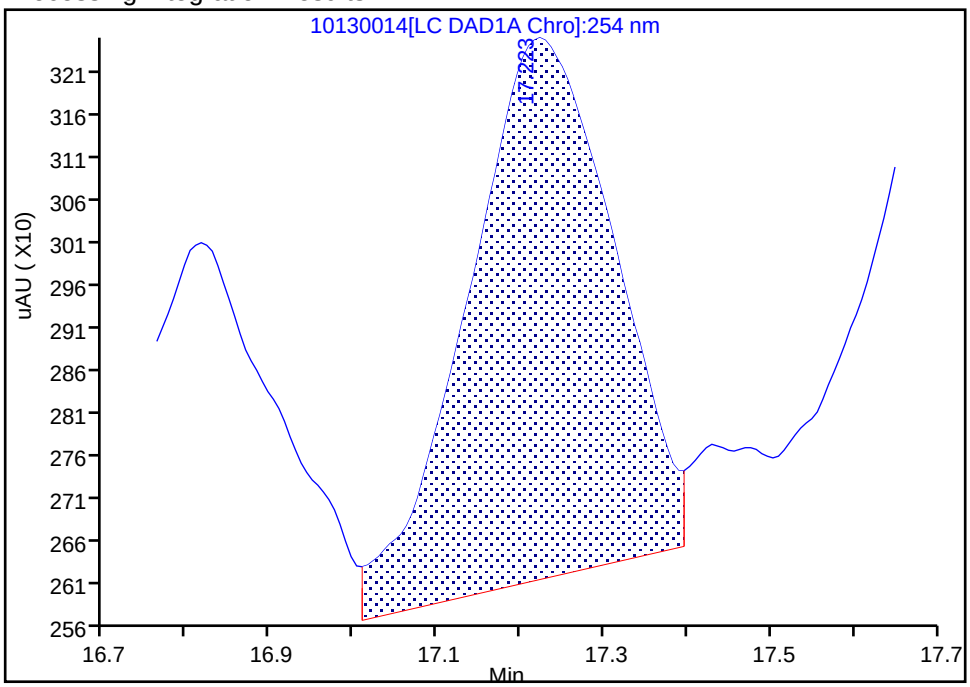
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

15 4-Amino-2,6-dinitrotoluene, CAS: 19406-51-0

Signal: 1

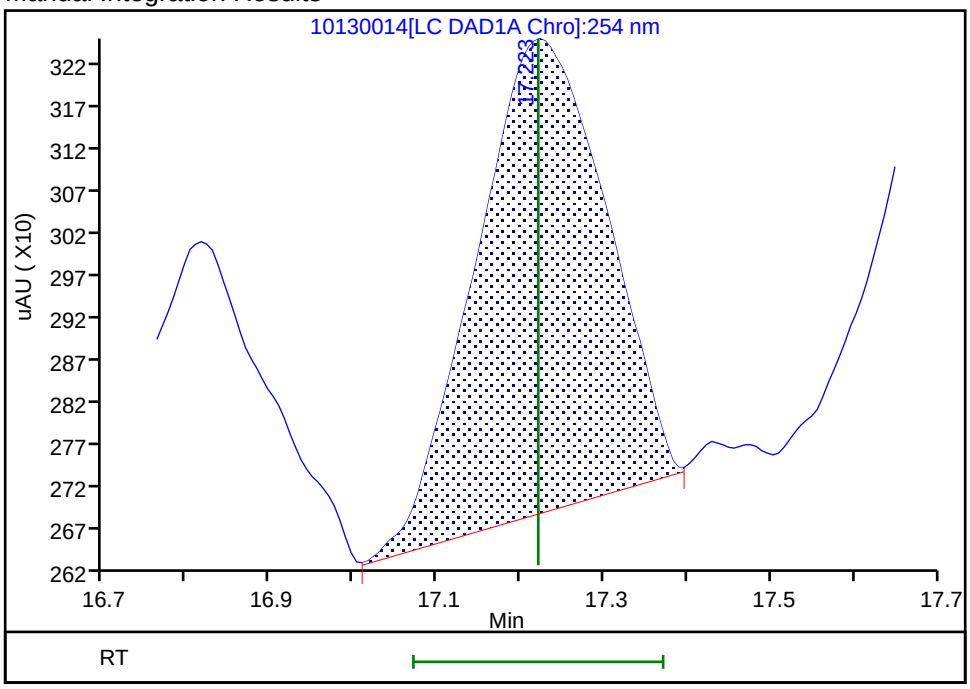
Processing Integration Results

RT: 17.22
Area: 7815
Amount: 0.023174
Amount Units: ug/ml



Manual Integration Results

RT: 17.22
Area: 6145
Amount: 0.018802
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:57:01
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

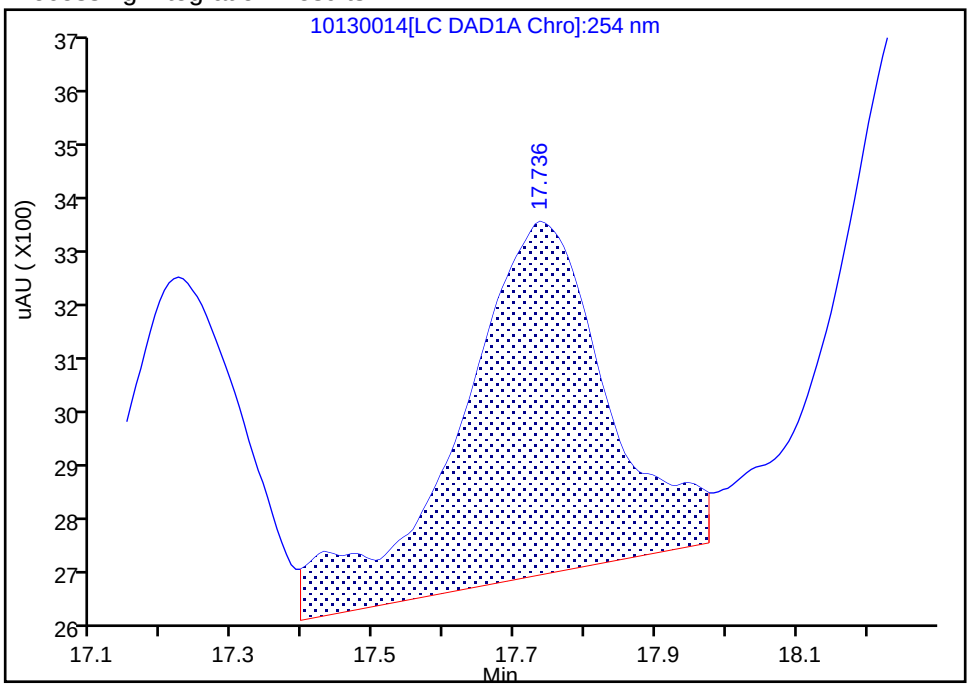
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

16 m-Nitrotoluene, CAS: 99-08-1

Signal: 1

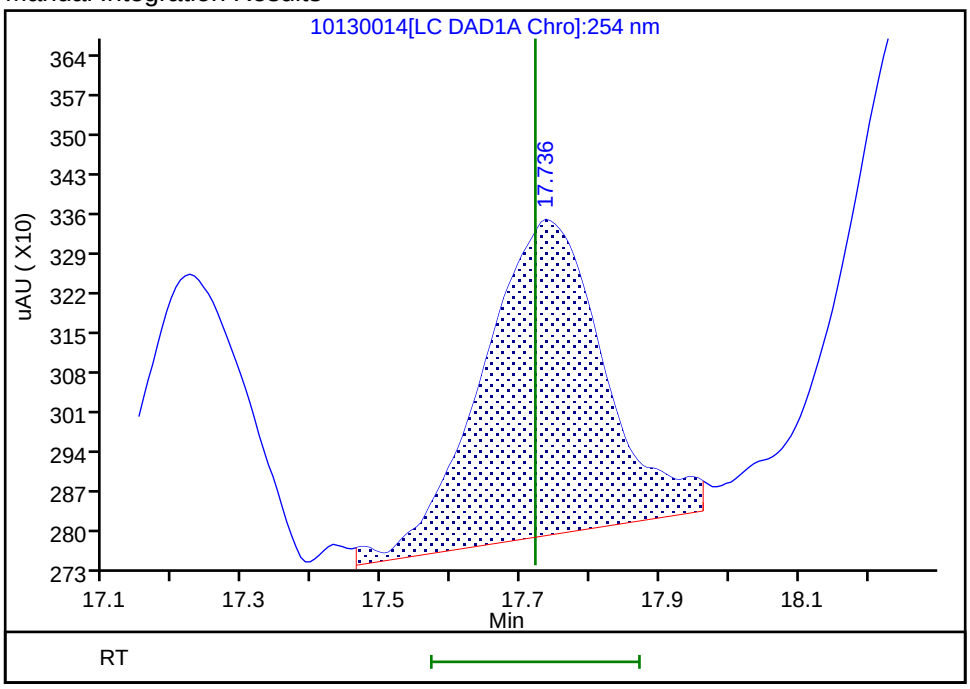
Processing Integration Results

RT: 17.74
Area: 9033
Amount: 0.027663
Amount Units: ug/ml



Manual Integration Results

RT: 17.74
Area: 6830
Amount: 0.021833
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:56:53
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

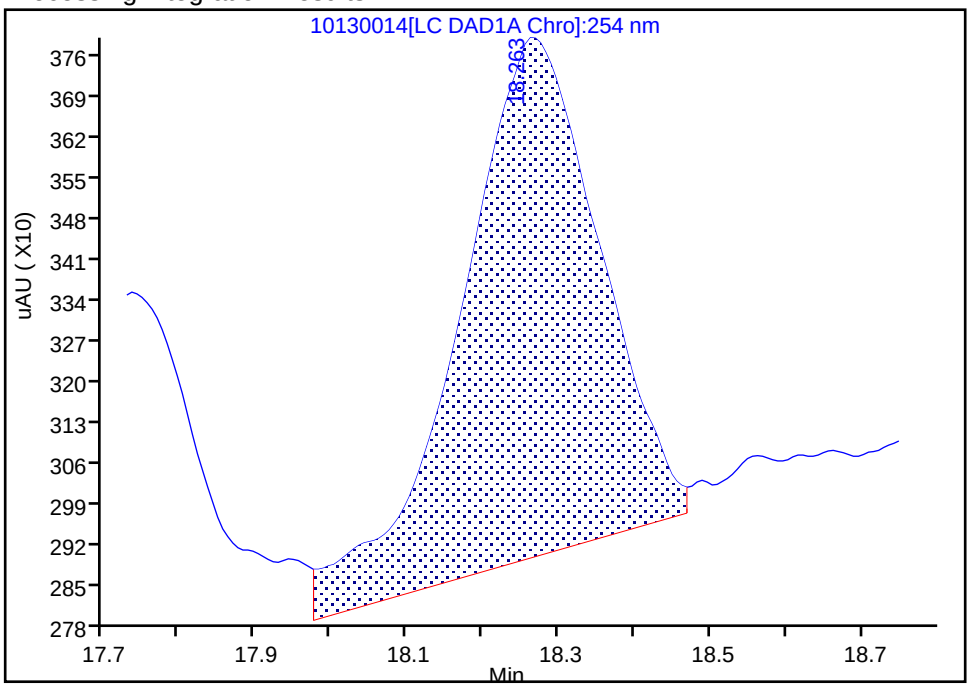
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

17 2-Amino-4,6-dinitrotoluene, CAS: 35572-78-2

Signal: 1

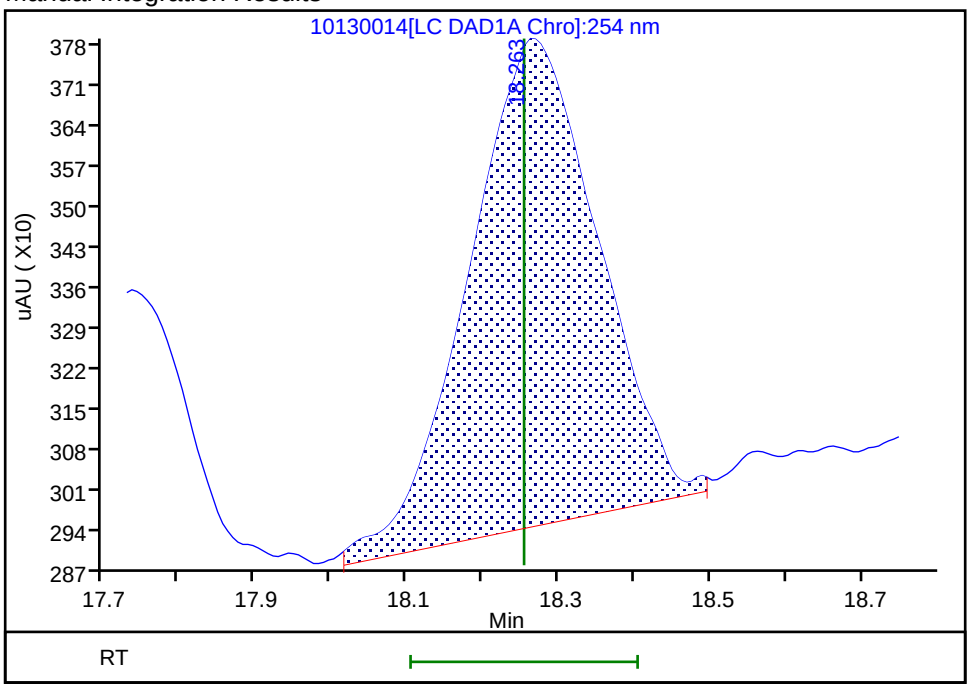
Processing Integration Results

RT: 18.26
Area: 11468
Amount: 0.023355
Amount Units: ug/ml



Manual Integration Results

RT: 18.26
Area: 10063
Amount: 0.020865
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:56:56
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

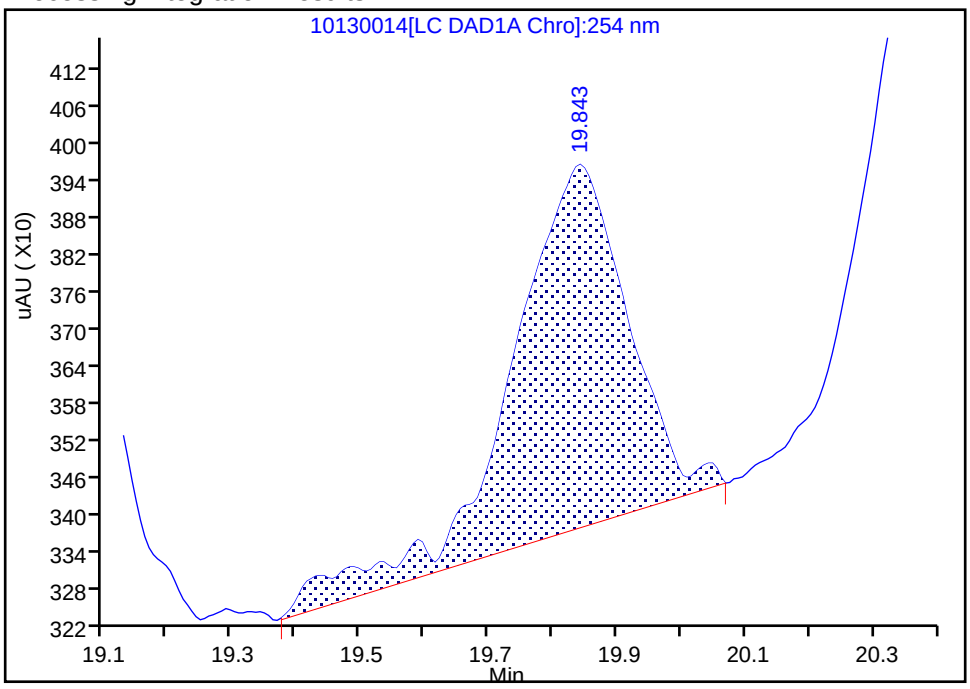
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

19 2,6-Dinitrotoluene, CAS: 606-20-2

Signal: 1

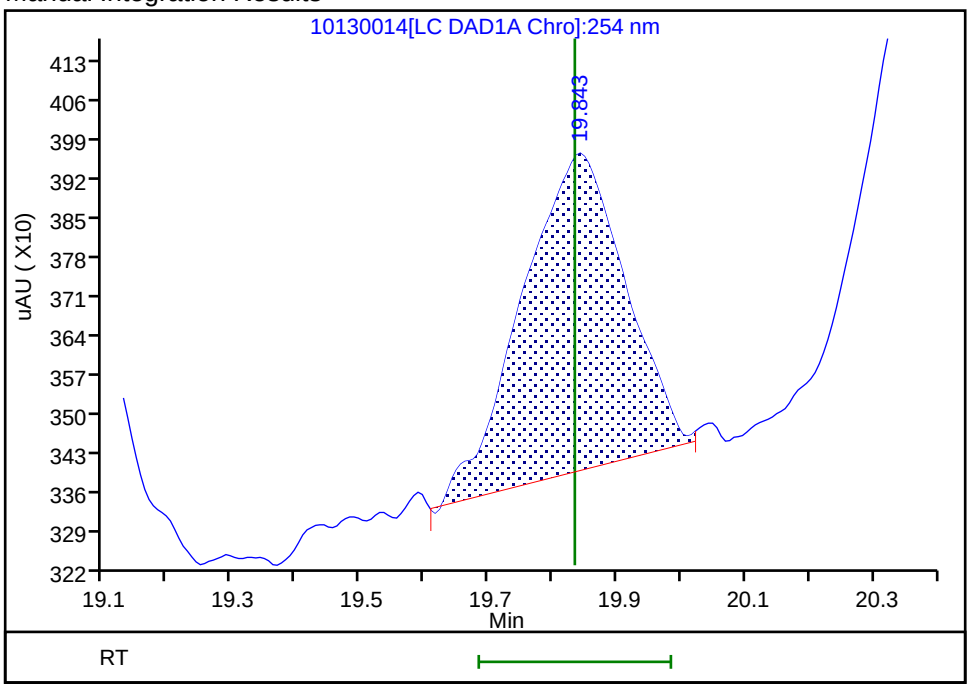
Processing Integration Results

RT: 19.84
Area: 7496
Amount: 0.022302
Amount Units: ug/ml



Manual Integration Results

RT: 19.84
Area: 6342
Amount: 0.019281
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:57:12
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

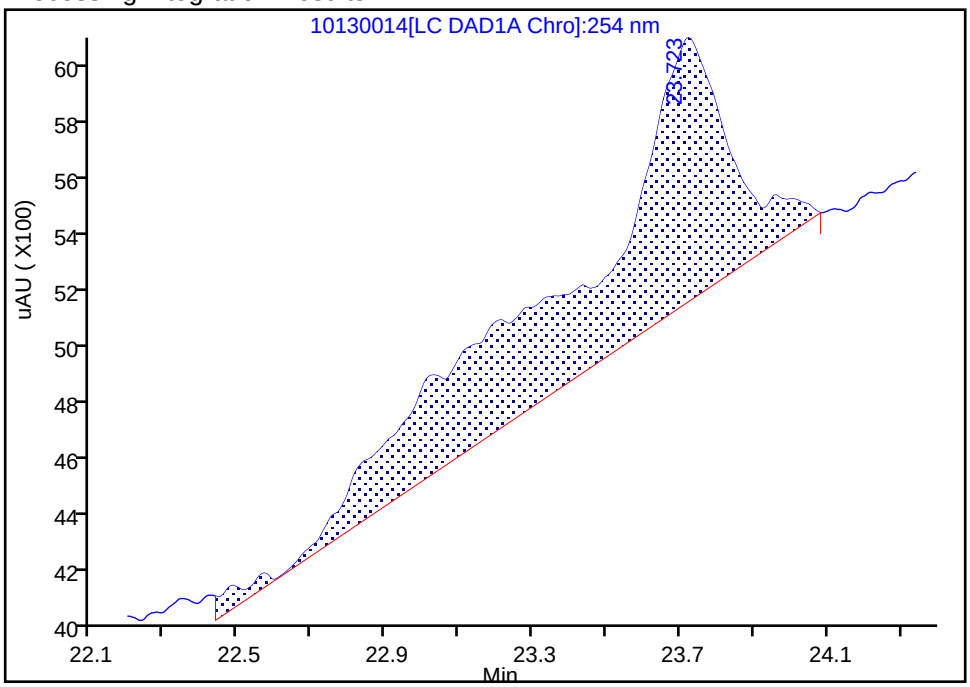
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D				
Injection Date:	13-Oct-2018 20:28:27	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	IC FULL LV 1				
Client ID:					
Operator ID:	HKF	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

21 Tetryl, CAS: 479-45-8

Signal: 1

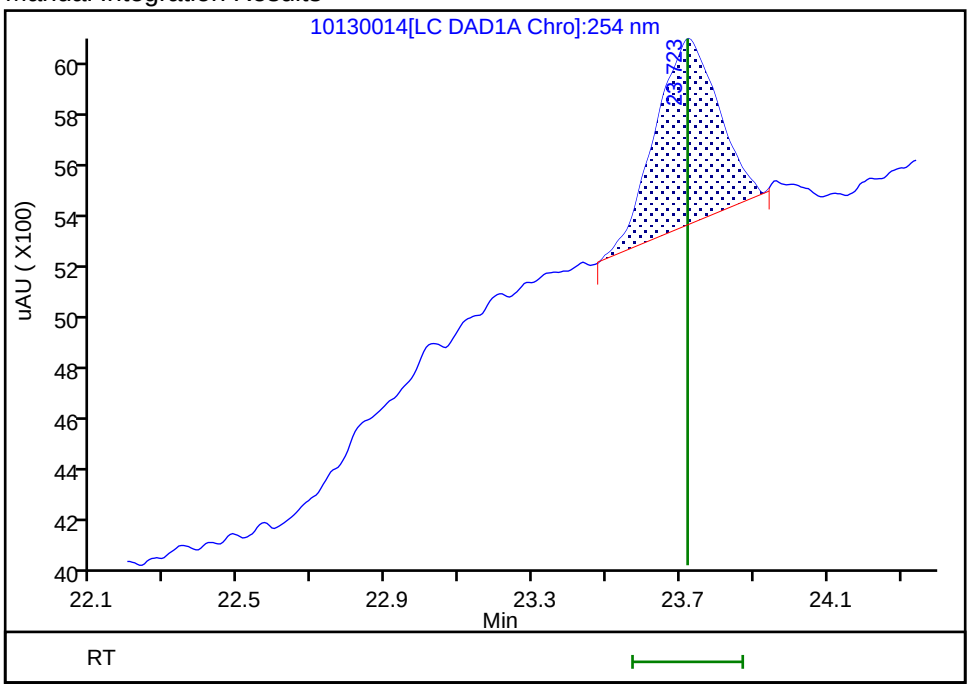
Processing Integration Results

RT: 23.72
Area: 27398
Amount: 0.052908
Amount Units: ug/ml



Manual Integration Results

RT: 23.72
Area: 8216
Amount: 0.021061
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:57:18

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

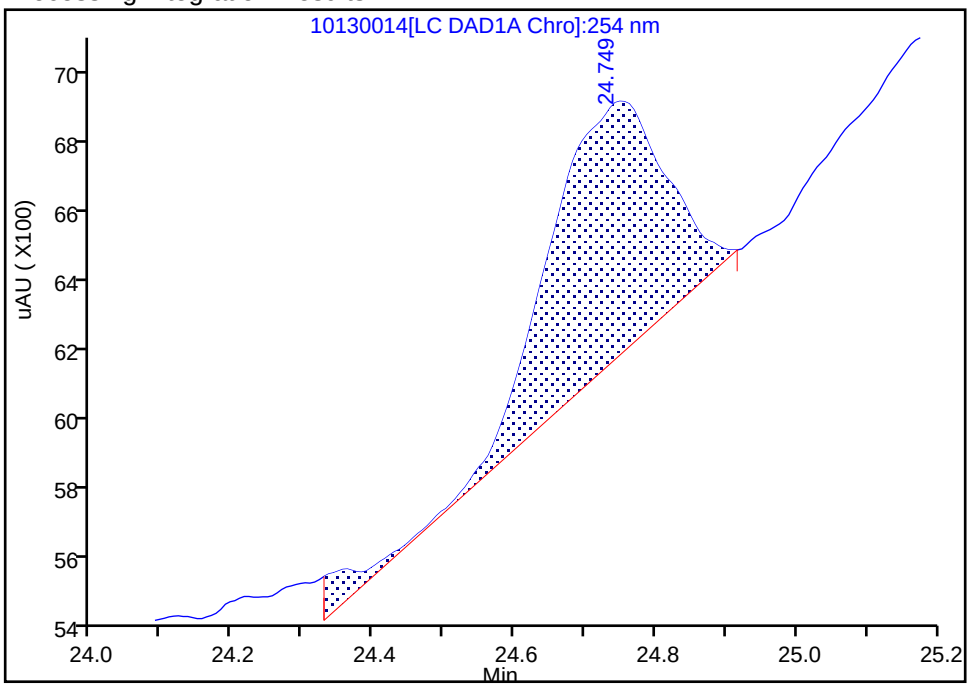
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

22 2,4,6-Trinitrotoluene, CAS: 118-96-7

Signal: 1

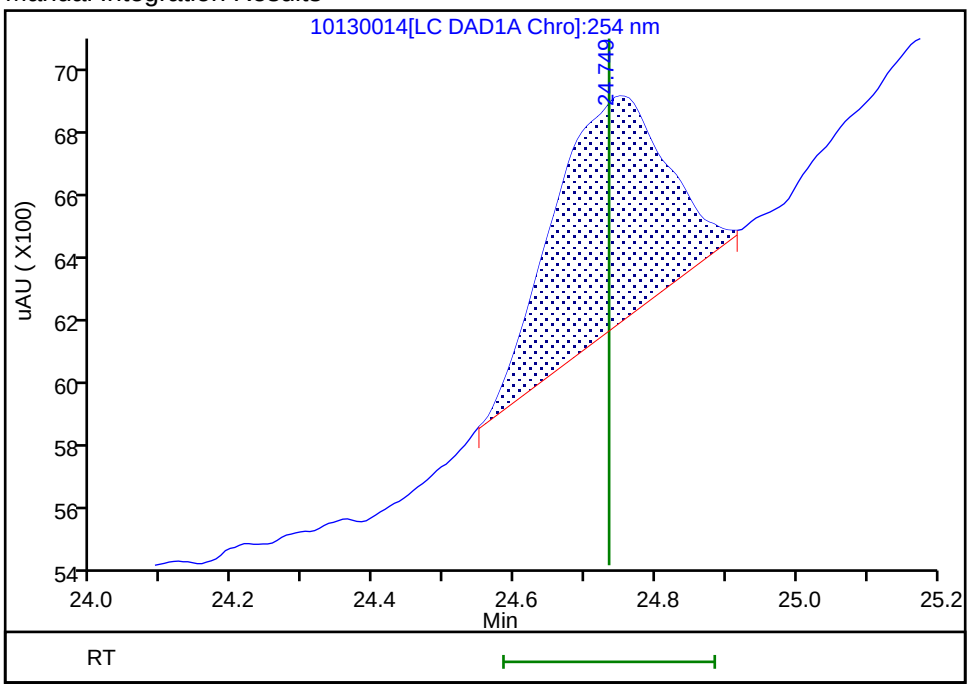
Processing Integration Results

RT: 24.75
Area: 8971
Amount: 0.019743
Amount Units: ug/ml



Manual Integration Results

RT: 24.75
Area: 8290
Amount: 0.018500
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:57:24
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

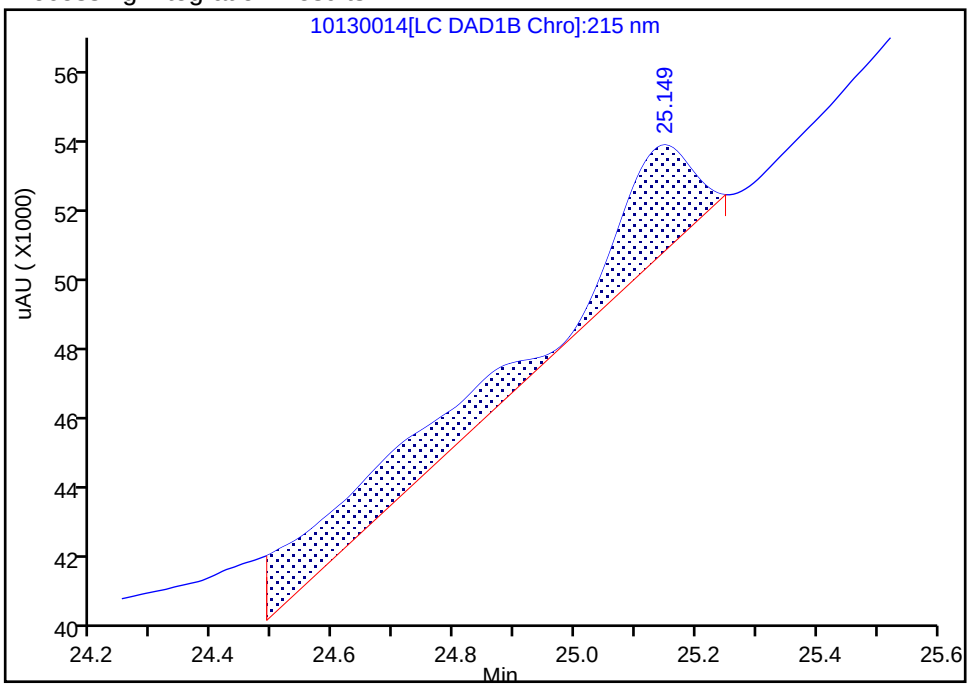
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Detector LC DAD1B, 215 nm

23 PETN, CAS: 78-11-5

Signal: 1

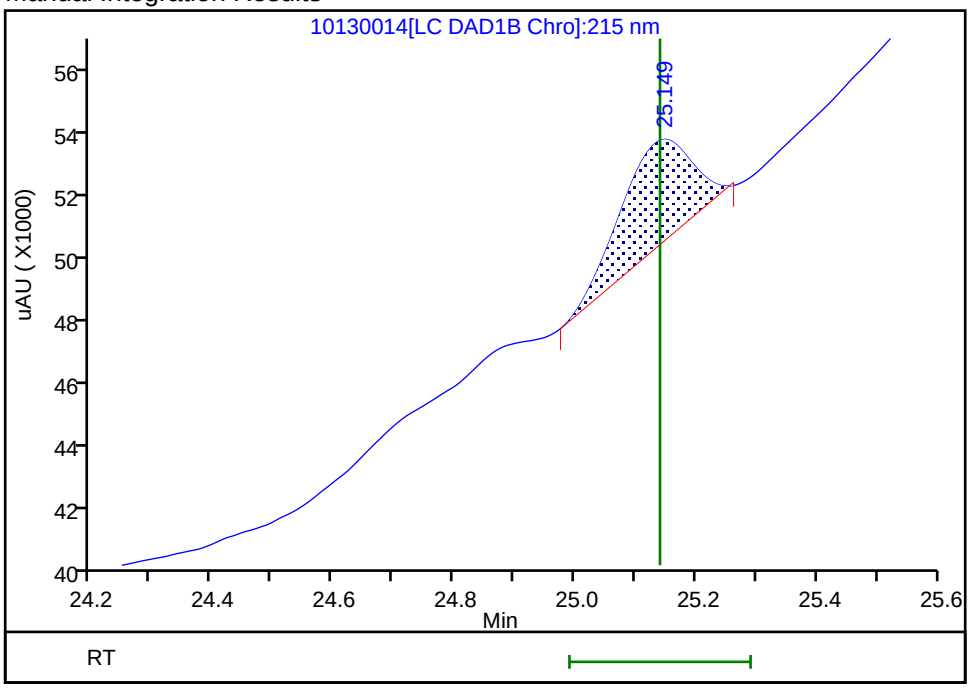
Processing Integration Results

RT: 25.15
Area: 58094
Amount: 0.293396
Amount Units: ug/ml



Manual Integration Results

RT: 25.15
Area: 25286
Amount: 0.179625
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:57:29
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 415256

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2018 10:34 Calibration End Date: 05/18/2018 13:14 Calibration ID: 32415

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-415256/14	05180014.D
Level 2	IC 280-415256/13	05180013.D
Level 3	IC 280-415256/12	05180012.D
Level 4	IC 280-415256/11	05180011.D
Level 5	IC 280-415256/10	05180010.D
Level 6	IC 280-415256/9	05180009.D
Level 7	IC 280-415256/8	05180008.D
Level 8	IC 280-415256/7	05180007.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8			RT WINDOW	AVG RT
HMX	6.625	6.622	6.623	6.622	6.624	6.625	6.624	6.622			6.472 - 6.772	6.623
RDX	7.718	7.722	7.723	7.722	7.717	7.719	7.724	7.715			7.572 - 7.872	7.720
Picric acid	8.065	8.062	8.056	8.049	8.037	8.025	8.018	7.968			7.899 - 8.199	8.035
1,3,5-Trinitrobenzene	8.865	8.869	8.869	8.862	8.857	8.859	8.864	8.855			8.712 - 9.012	8.863
1,3-Dinitrobenzene	9.512	9.516	9.516	9.509	9.503	9.512	9.511	9.502			9.359 - 9.659	9.510
Nitrobenzene	9.898	9.902	9.902	9.895	9.890	9.892	9.898	9.888			9.745 - 10.045	9.896
Tetryl	10.218	10.216	10.216	10.209	10.210	10.212	10.211	10.208			10.059 - 10.359	10.213
Nitroglycerin	10.725	10.722	10.722	10.715	10.710	10.712	10.711	10.708			10.565 - 10.865	10.716
2,4,6-Trinitrotoluene	11.165	11.162	11.162	11.155	11.157	11.159	11.158	11.155			11.055 - 11.255	11.159
4-Amino-2,6-dinitrotoluene	11.318	11.316	11.322	11.315	11.310	11.312	11.311	11.308			11.215 - 11.415	11.314
2-Amino-4,6-dinitrotoluene	11.598	11.596	11.602	11.595	11.590	11.592	11.591	11.588			11.495 - 11.695	11.594
2,6-Dinitrotoluene	11.765	11.756	11.762	11.755	11.750	11.752	11.751	11.748			11.655 - 11.855	11.755
2,4-Dinitrotoluene	11.952	11.949	11.956	11.942	11.943	11.945	11.944	11.942			11.842 - 12.042	11.947
2-Nitrotoluene	12.785	12.789	12.789	12.782	12.777	12.785	12.778	12.775			12.632 - 12.932	12.783
4-Nitrotoluene	13.218	13.216	13.216	13.209	13.210	13.212	13.211	13.208			13.059 - 13.359	13.213
3-Nitrotoluene	13.812	13.809	13.809	13.802	13.797	13.799	13.798	13.795			13.652 - 13.952	13.803
PETN		14.916	14.916	14.909	14.910	14.905	14.904	14.895			14.759 - 15.059	14.908
1,2-Dinitrobenzene	8.705	8.702	8.703	8.702	8.697	8.699	8.704	8.695			8.552 - 8.852	8.701

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 415256

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2018 10:34 Calibration End Date: 05/18/2018 13:14 Calibration ID: 32415

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-415256/14	05180014.D
Level 2	IC 280-415256/13	05180013.D
Level 3	IC 280-415256/12	05180012.D
Level 4	IC 280-415256/11	05180011.D
Level 5	IC 280-415256/10	05180010.D
Level 6	IC 280-415256/9	05180009.D
Level 7	IC 280-415256/8	05180008.D
Level 8	IC 280-415256/7	05180007.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
HMX	80950 85940	83640 87649	81370 87246	83844 88926	Ave		84945.5714				3.5		20.0			
RDX	102150 107003	101000 105186	105630 105400	103860 106390	Ave		104577.327				2.0		20.0			
Picric acid	93950 80905	89880 82509	80500 84211	76192 86576	Ave		84340.3214				6.7		20.0			
1,3,5-Trinitrobenzene	202100 234028	227660 235761	222530 236230	227420 241536	Ave		228408.166				5.4		20.0			
1,3-Dinitrobenzene	277572 307465	303437 304447	303027 304477	298725 309038	Ave		301023.443				3.3		20.0			
Nitrobenzene	191717 200245	201876 200781	198214 198631	193980 204804	Ave		198780.920				2.1		20.0			
Tetryl	139850 166665	164520 170279	162800 170312	160332 172830	Ave		163448.446				6.4		20.0			
Nitroglycerin	59530 70785	65386 70242	68459 70136	68518 70507	Ave		67945.3646				5.6		20.0			
2,4,6-Trinitrotoluene	206026 213254	224442 215804	210707 214814	209992 220784	Ave		214477.993				2.8		20.0			
4-Amino-2,6-dinitrotoluene	173779 167448	169831 161815	164606 161970	161779 162780	Ave		165500.847				2.7		20.0			
2-Amino-4,6-dinitrotoluene	191376 201012	204327 198084	197906 202480	197823 202720	Ave		199465.924				2.1		20.0			
2,6-Dinitrotoluene	155783 152159	159342 155008	150588 150226	148247 153167	Ave		153065.012				2.3		20.0			
2,4-Dinitrotoluene	286926 302290	305649 297850	299481 296720	293297 303937	Ave		298268.777				2.0		20.0			
2-Nitrotoluene	137637 130803	137886 130219	132742 128507	127864 132138	Ave		132224.576				2.9		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 415256

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2018 10:34 Calibration End Date: 05/18/2018 13:14 Calibration ID: 32415

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
4-Nitrotoluene	117281 112786	117211 112420	114412 111061	110291 113768	Ave		113653.797				2.3		20.0			
3-Nitrotoluene	161604 145301	155100 144859	146165 142855	142582 146418	Ave		148110.392				4.5		20.0			
PETN	 76935	68194 76788	73842 76779	74512 77633	Ave		74954.8292				4.4		20.0			
1,2-Dinitrobenzene	113900 131463	133300 131203	126380 133312	125372 134889	Ave		128727.320				5.3		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 415256

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2018 10:34 Calibration End Date: 05/18/2018 13:14 Calibration ID: 32415

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-415256/14	05180014.D
Level 2	IC 280-415256/13	05180013.D
Level 3	IC 280-415256/12	05180012.D
Level 4	IC 280-415256/11	05180011.D
Level 5	IC 280-415256/10	05180010.D
Level 6	IC 280-415256/9	05180009.D
Level 7	IC 280-415256/8	05180008.D
Level 8	IC 280-415256/7	05180007.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
HMX	Ave	1619 61354	4182 87246	8137 222315	20961	34376	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
RDX	Ave	2043 73630	5050 105400	10563 265976	25965	42801	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
Picric acid	Ave	1879 57756	4494 84211	8050 216440	19048	32362	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
1,3,5-Trinitrobenzene	Ave	4042 165033	11383 236230	22253 603841	56855	93611	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
1,3-Dinitrobenzene	Ave	5557 213326	15187 304781	30333 773367	74756	123109	0.0200 0.701	0.0501 1.00	0.100 2.50	0.250	0.400
Nitrobenzene	Ave	3842 140828	10114 199028	19861 513035	48592	80258	0.0200 0.701	0.0501 1.00	0.100 2.51	0.251	0.401
Tetryl	Ave	2797 119195	8226 170312	16280 432075	40083	66666	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
Nitroglycerin	Ave	11906 491693	32693 701363	68459 1762679	171294	283140	0.200 7.00	0.500 10.0	1.00 25.0	2.50	4.00
2,4,6-Trinitrotoluene	Ave	4137 151667	11267 215673	21155 554169	52708	85643	0.0201 0.703	0.0502 1.00	0.100 2.51	0.251	0.402
4-Amino-2,6-dinitrotoluene	Ave	3486 113610	8517 162456	16510 408172	40566	67180	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
2-Amino-4,6-dinitrotoluene	Ave	3839 139075	10247 203087	19850 508320	49604	80646	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
2,6-Dinitrotoluene	Ave	3125 108831	7991 150677	15104 384067	37173	61046	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
2,4-Dinitrotoluene	Ave	5750 208912	15313 297313	30008 761362	73471	121158	0.0200 0.701	0.0501 1.00	0.100 2.51	0.251	0.401
2-Nitrotoluene	Ave	2761 91427	6915 128893	13314 331335	32062	52478	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
4-Nitrotoluene	Ave	2355 79009	5884 111505	11487 285557	27683	45295	0.0201 0.703	0.0502 1.00	0.100 2.51	0.251	0.402

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-116020-1 Analy Batch No.: 415256

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2018 10:34 Calibration End Date: 05/18/2018 13:14 Calibration ID: 32415

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
3-Nitrotoluene	Ave	3245 101807	7786 143426	14675 367509	35788	58353	0.0201 0.703	0.0502 1.00	0.100 2.51	0.251	0.402
PETN	Ave	 537514	34097 767790	73842 1940836	186281	307741	 7.00	0.500 10.0	1.00 25.0	2.50	4.00
1,2-Dinitrobenzene	Ave	2278 91842	6665 133312	12638 337223	31343	52585	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400

Curve Type Legend:
Ave = Average

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180007.D
Lims ID: IC MAIN L8
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 18-May-2018 10:34:02 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L8
Misc. Info.: 280-0070054-007
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:16 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 22-May-2018 11:54:21

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.622	6.622	0.000	222315	2.50	2.62	
5 RDX	1	7.715	7.722	-0.007	265976	2.50	2.54	
6 2,4,6-Trinitrophenol	1	7.968	8.049	-0.081	216440	2.50	2.57	
$ 7 1,2-Dinitrobenzene	1	8.695	8.702	-0.007	337223	2.50	2.62	
8 1,3,5-Trinitrobenzene	1	8.855	8.862	-0.007	603841	2.50	2.64	
9 1,3-Dinitrobenzene	1	9.502	9.509	-0.007	773367	2.50	2.57	
11 Nitrobenzene	1	9.888	9.895	-0.007	513035	2.51	2.58	
12 Tetryl	1	10.208	10.209	-0.001	432075	2.50	2.64	
13 Nitroglycerin	2	10.708	10.715	-0.007	1762679	25.0	25.9	
14 2,4,6-Trinitrotoluene	1	11.155	11.155	0.000	554169	2.51	2.58	
15 4-Amino-2,6-dinitrotoluene	1	11.308	11.315	-0.007	408172	2.51	2.47	
16 2-Amino-4,6-dinitrotoluene	1	11.588	11.595	-0.007	508320	2.51	2.55	
17 2,6-Dinitrotoluene	1	11.748	11.755	-0.007	384067	2.51	2.51	
18 2,4-Dinitrotoluene	1	11.942	11.942	0.000	761362	2.51	2.55	
19 o-Nitrotoluene	1	12.775	12.782	-0.007	331335	2.51	2.51	
20 p-Nitrotoluene	1	13.208	13.209	-0.001	285557	2.51	2.51	
21 m-Nitrotoluene	1	13.795	13.802	-0.007	367509	2.51	2.48	
22 PETN	2	14.895	14.909	-0.014	1940836	25.0	25.9	

Reagents:

8330IntermStk_00055 Amount Added: 250.00 Units: uL

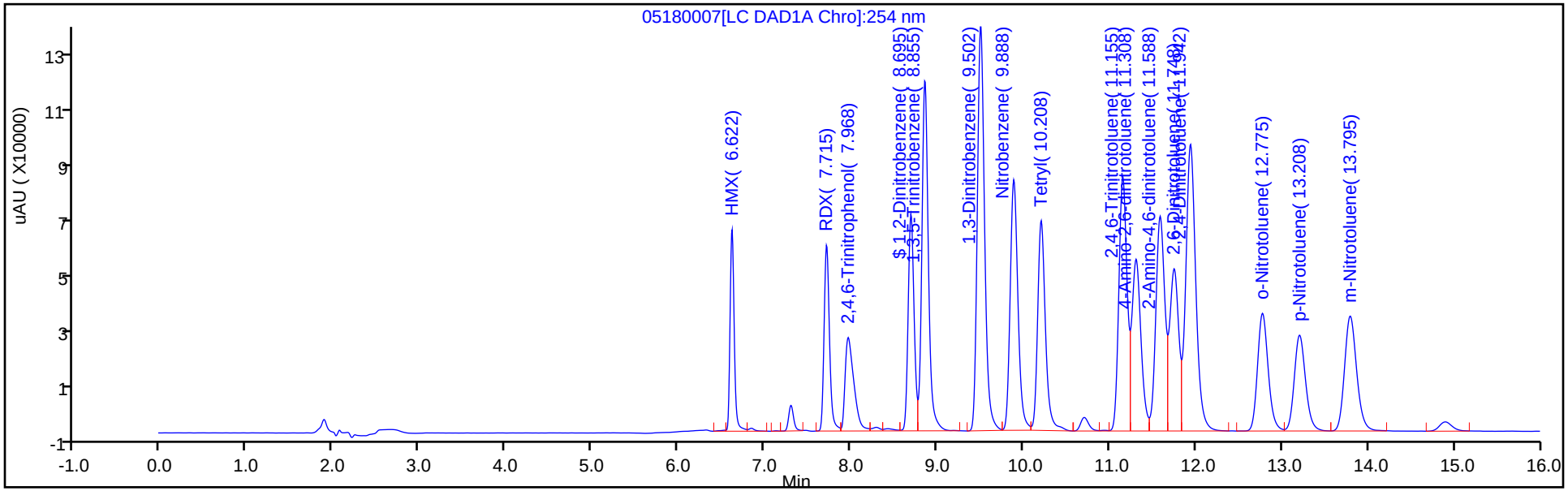
Report Date: 22-May-2018 12:01:17 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

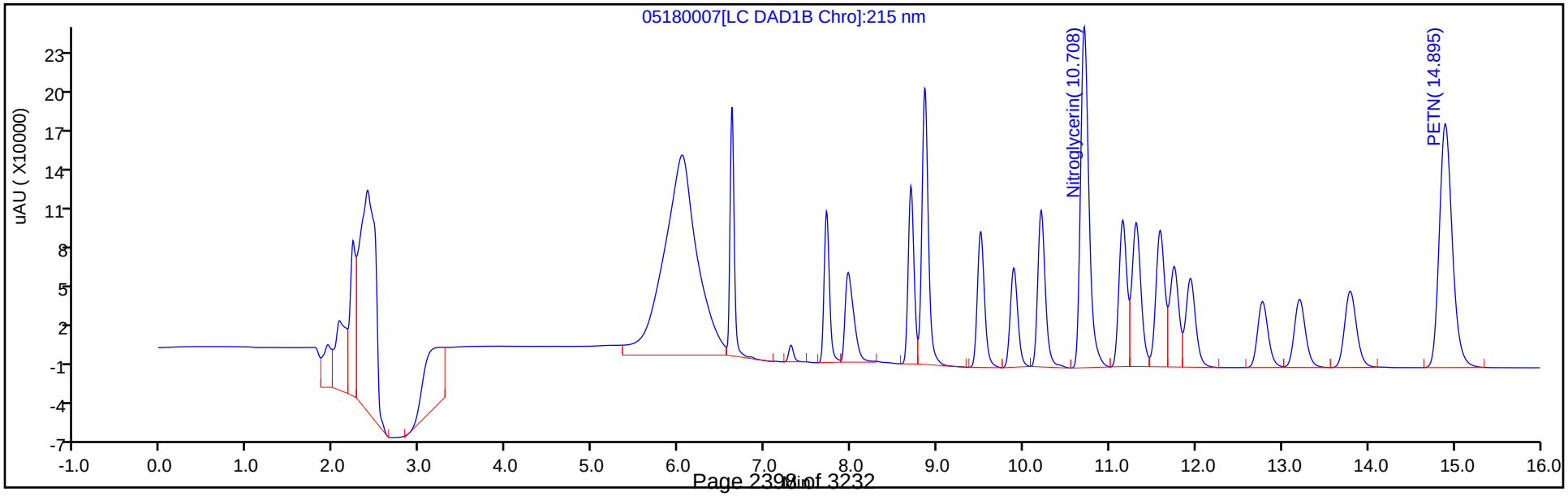
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180007.D

Injection Date:	18-May-2018 10:34:02	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L8			Worklist Smp#:	7
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180008.D
Lims ID: IC MAIN L7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 18-May-2018 10:57:00 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L7
Misc. Info.: 280-0070054-008
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:17 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 18-May-2018 17:06:57

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.624	6.622	0.002	87246	1.00	1.03	
	5 RDX	1	7.724	7.722	0.002	105400	1.00	1.01	
	6 2,4,6-Trinitrophenol	1	8.018	8.049	-0.031	84211	1.00	1.00	
$	7 1,2-Dinitrobenzene	1	8.704	8.702	0.002	133312	1.00	1.04	
	8 1,3,5-Trinitrobenzene	1	8.864	8.862	0.002	236230	1.00	1.03	
	9 1,3-Dinitrobenzene	1	9.511	9.509	0.002	304781	1.00	1.01	
	11 Nitrobenzene	1	9.898	9.895	0.003	199028	1.00	1.00	
	12 Tetryl	1	10.211	10.209	0.002	170312	1.00	1.04	
	13 Nitroglycerin	2	10.711	10.715	-0.004	701363	10.0	10.3	
	14 2,4,6-Trinitrotoluene	1	11.158	11.155	0.003	215673	1.00	1.01	
	15 4-Amino-2,6-dinitrotoluene	1	11.311	11.315	-0.004	162456	1.00	0.9816	
	16 2-Amino-4,6-dinitrotoluene	1	11.591	11.595	-0.004	203087	1.00	1.02	
	17 2,6-Dinitrotoluene	1	11.751	11.755	-0.004	150677	1.00	0.9844	
	18 2,4-Dinitrotoluene	1	11.944	11.942	0.002	297313	1.00	1.00	
	19 o-Nitrotoluene	1	12.778	12.782	-0.004	128893	1.00	0.9748	
	20 p-Nitrotoluene	1	13.211	13.209	0.002	111505	1.00	0.9811	
	21 m-Nitrotoluene	1	13.798	13.802	-0.004	143426	1.00	0.9684	
	22 PETN	2	14.904	14.909	-0.005	767790	10.0	10.2	

Reagents:

8330IntermStk_00055 Amount Added: 100.00 Units: uL

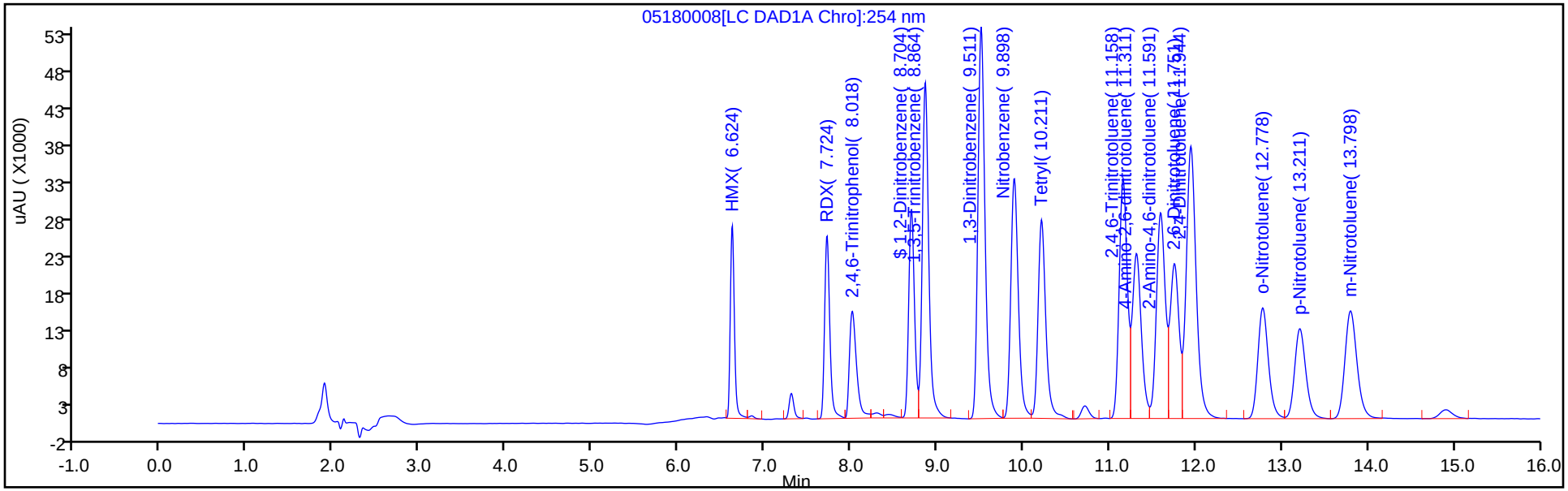
Report Date: 22-May-2018 12:01:18 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

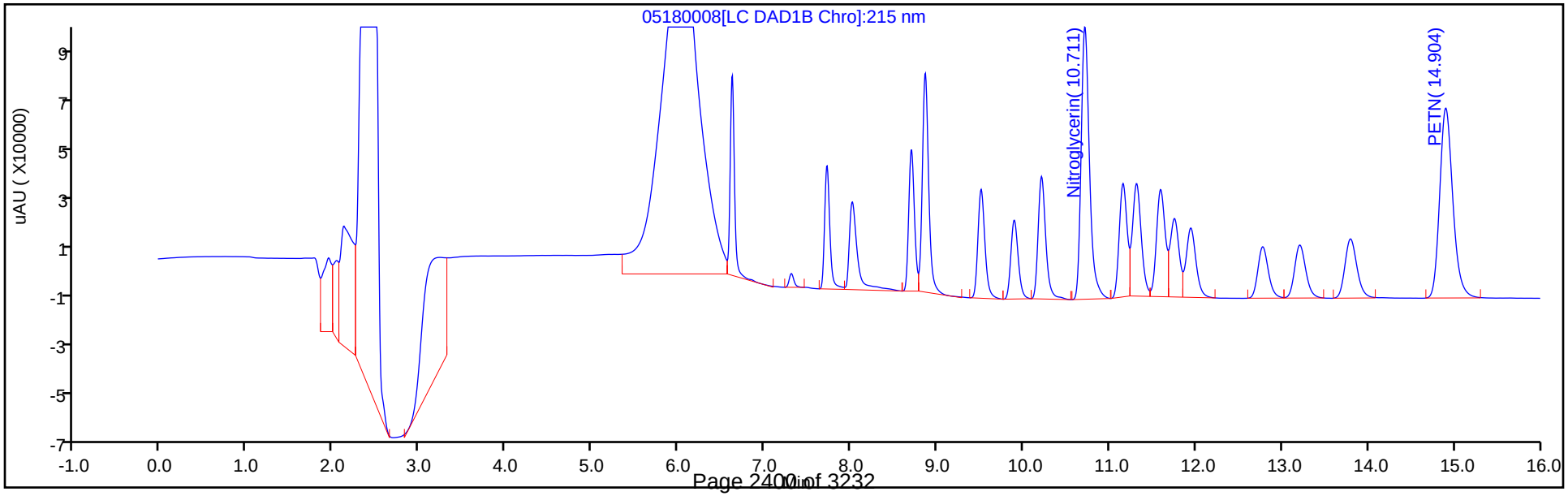
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180008.D

Injection Date:	18-May-2018 10:57:00	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L7			Worklist Smp#:	8
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180009.D
Lims ID: IC MAIN L6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 18-May-2018 11:19:59 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L6
Misc. Info.: 280-0070054-009
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:19 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 18-May-2018 17:09:16

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.625	6.622	0.003	61354	0.7000	0.7223	
	5 RDX	1	7.719	7.722	-0.003	73630	0.7000	0.7041	
	6 2,4,6-Trinitrophenol	1	8.025	8.049	-0.024	57756	0.7000	0.6848	
$	7 1,2-Dinitrobenzene	1	8.699	8.702	-0.003	91842	0.7000	0.7135	
	8 1,3,5-Trinitrobenzene	1	8.859	8.862	-0.003	165033	0.7000	0.7225	
	9 1,3-Dinitrobenzene	1	9.512	9.509	0.003	213326	0.7007	0.7087	
	11 Nitrobenzene	1	9.892	9.895	-0.003	140828	0.7014	0.7085	
	12 Tetryl	1	10.212	10.209	0.003	119195	0.7000	0.7293	
	13 Nitroglycerin	2	10.712	10.715	-0.003	491693	7.00	7.24	
	14 2,4,6-Trinitrotoluene	1	11.159	11.155	0.004	151667	0.7028	0.7071	
	15 4-Amino-2,6-dinitrotoluene	1	11.312	11.315	-0.003	113610	0.7021	0.6865	
	16 2-Amino-4,6-dinitrotoluene	1	11.592	11.595	-0.003	139075	0.7021	0.6972	
	17 2,6-Dinitrotoluene	1	11.752	11.755	-0.003	108831	0.7021	0.7110	
	18 2,4-Dinitrotoluene	1	11.945	11.942	0.003	208912	0.7014	0.7004	
	19 o-Nitrotoluene	1	12.785	12.782	0.003	91427	0.7021	0.6915	
	20 p-Nitrotoluene	1	13.212	13.209	0.003	79009	0.7028	0.6952	
	21 m-Nitrotoluene	1	13.799	13.802	-0.003	101807	0.7028	0.6874	
	22 PETN	2	14.905	14.909	-0.004	537514	7.00	7.17	

Reagents:

8330IntermStk_00055 Amount Added: 70.00 Units: uL

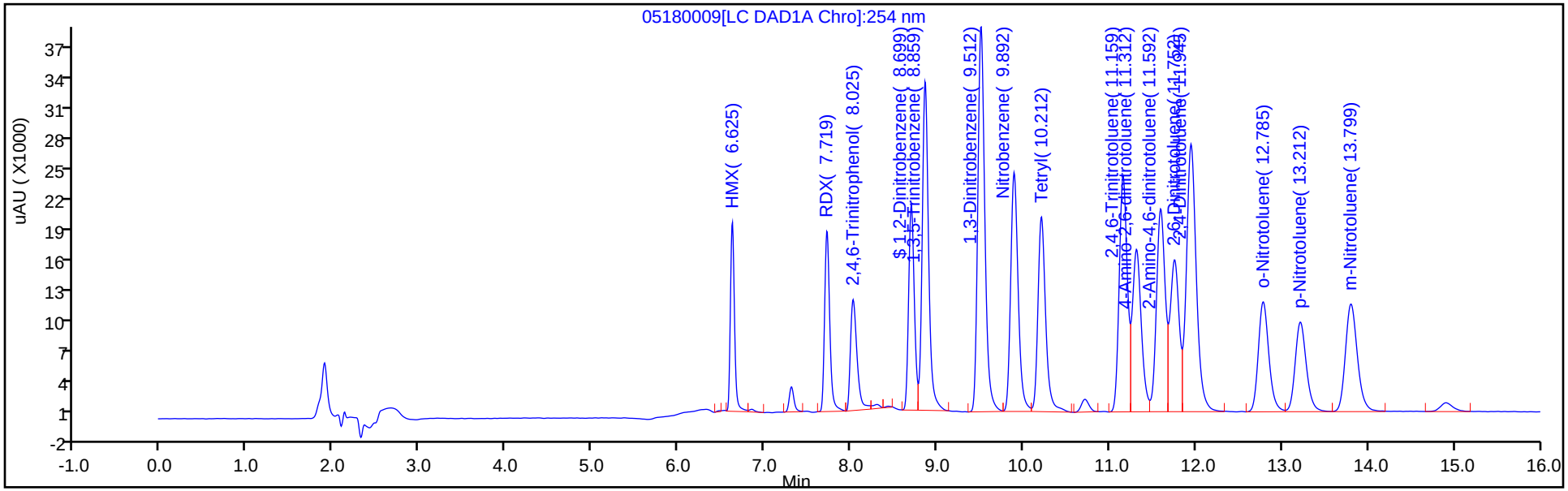
Report Date: 22-May-2018 12:01:20 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

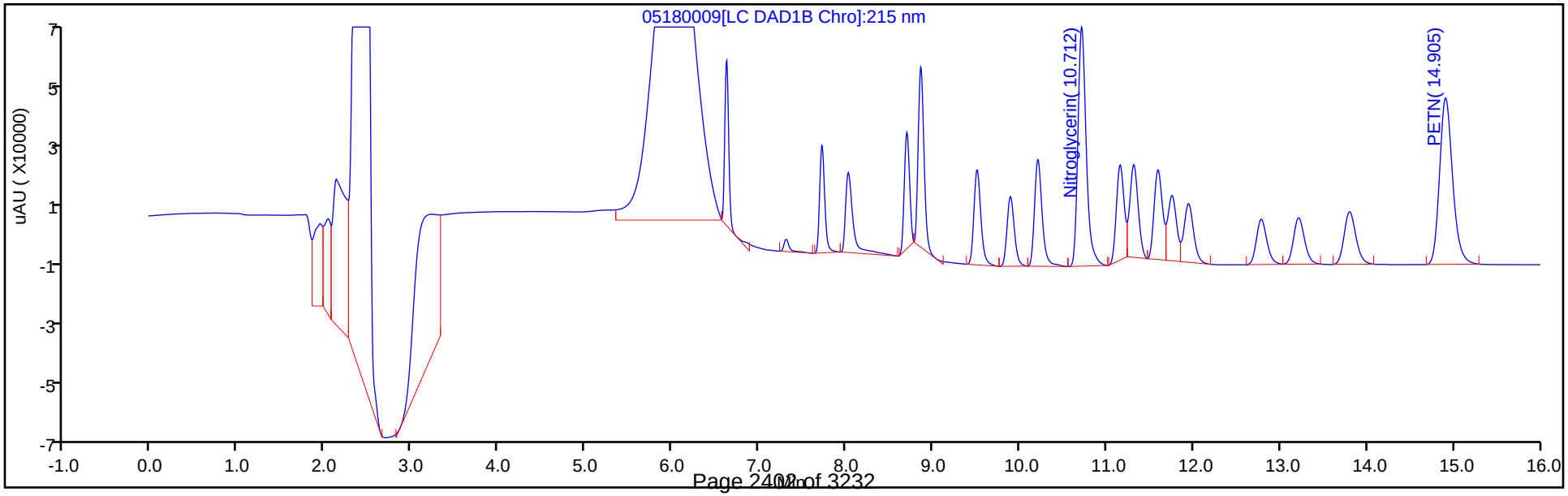
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180009.D

Injection Date:	18-May-2018 11:19:59	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L6			Worklist Smp#:	9
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180010.D
Lims ID: IC MAIN L5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 18-May-2018 11:42:59 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L5
Misc. Info.: 280-0070054-010
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:21 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 18-May-2018 17:13:29

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.624	6.622	0.002	34376	0.4000	0.4047	
5 RDX	1	7.717	7.722	-0.005	42801	0.4000	0.4093	
6 2,4,6-Trinitrophenol	1	8.037	8.049	-0.012	32362	0.4000	0.3837	
$ 7 1,2-Dinitrobenzene	1	8.697	8.702	-0.005	52585	0.4000	0.4085	
8 1,3,5-Trinitrobenzene	1	8.857	8.862	-0.005	93611	0.4000	0.4098	
9 1,3-Dinitrobenzene	1	9.503	9.509	-0.006	123109	0.4004	0.4090	
11 Nitrobenzene	1	9.890	9.895	-0.005	80258	0.4008	0.4038	
12 Tetryl	1	10.210	10.209	0.001	66666	0.4000	0.4079	
13 Nitroglycerin	2	10.710	10.715	-0.005	283140	4.00	4.17	
14 2,4,6-Trinitrotoluene	1	11.157	11.155	0.002	85643	0.4016	0.3993	
15 4-Amino-2,6-dinitrotoluene	1	11.310	11.315	-0.005	67180	0.4012	0.4059	
16 2-Amino-4,6-dinitrotoluene	1	11.590	11.595	-0.005	80646	0.4012	0.4043	
17 2,6-Dinitrotoluene	1	11.750	11.755	-0.005	61046	0.4012	0.3988	
18 2,4-Dinitrotoluene	1	11.943	11.942	0.001	121158	0.4008	0.4062	
19 o-Nitrotoluene	1	12.777	12.782	-0.005	52478	0.4012	0.3969	
20 p-Nitrotoluene	1	13.210	13.209	0.001	45295	0.4016	0.3985	
21 m-Nitrotoluene	1	13.797	13.802	-0.005	58353	0.4016	0.3940	
22 PETN	2	14.910	14.909	0.001	307741	4.00	4.11	

Reagents:

8330IntermStk_00055 Amount Added: 40.00 Units: uL

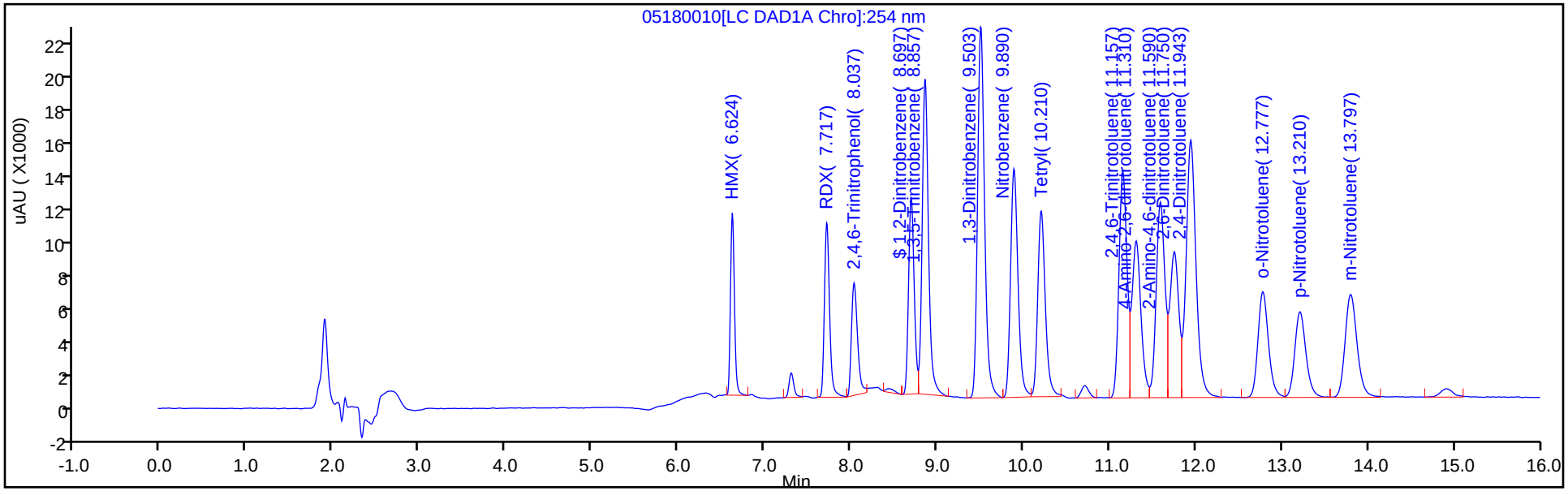
Report Date: 22-May-2018 12:01:22 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

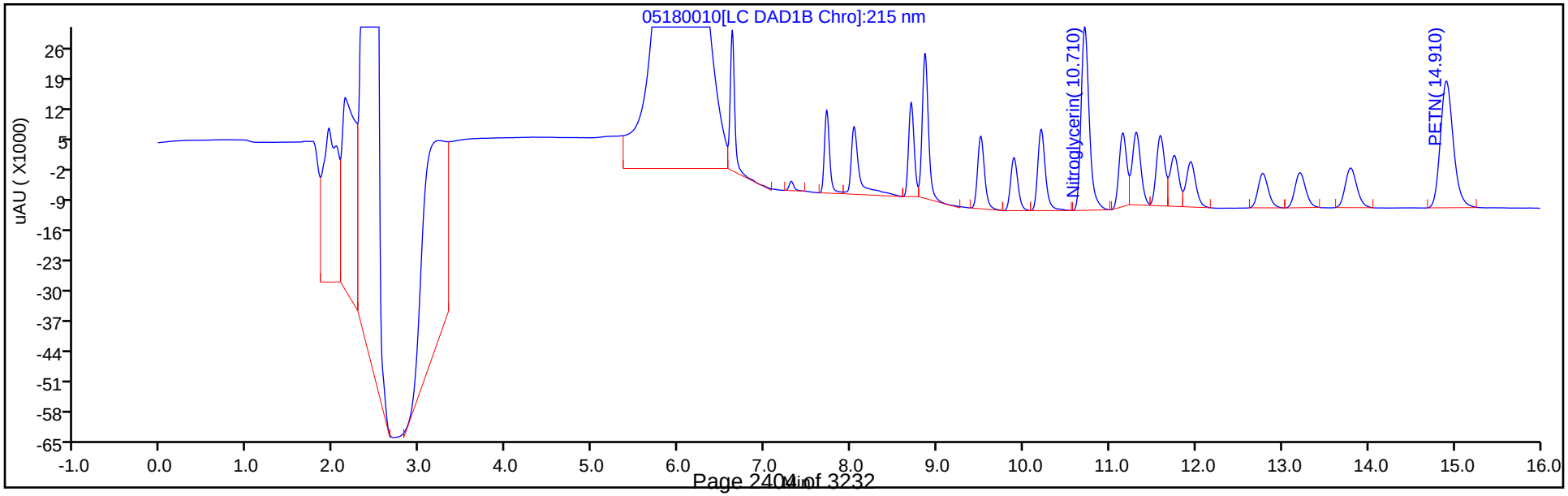
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180010.D

Injection Date:	18-May-2018 11:42:59	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L5			Worklist Smp#:	10
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Report Date: 22-May-2018 12:01:24 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180011.D
Lims ID: IC MAIN L4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-May-2018 12:05:58 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L4
Misc. Info.: 280-0070054-011
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:23 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 18-May-2018 17:16:46

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.622	6.622	0.000	20961	0.2500	0.2468	
	5 RDX	1	7.722	7.722	0.000	25965	0.2500	0.2483	
	6 2,4,6-Trinitrophenol	1	8.049	8.049	0.000	19048	0.2500	0.2258	
$	7 1,2-Dinitrobenzene	1	8.702	8.702	0.000	31343	0.2500	0.2435	
	8 1,3,5-Trinitrobenzene	1	8.862	8.862	0.000	56855	0.2500	0.2489	
	9 1,3-Dinitrobenzene	1	9.509	9.509	0.000	74756	0.2503	0.2483	
	11 Nitrobenzene	1	9.895	9.895	0.000	48592	0.2505	0.2445	
	12 Tetryl	1	10.209	10.209	0.000	40083	0.2500	0.2452	
	13 Nitroglycerin	2	10.715	10.715	0.000	171294	2.50	2.52	
	14 2,4,6-Trinitrotoluene	1	11.155	11.155	0.000	52708	0.2510	0.2458	
	15 4-Amino-2,6-dinitrotoluene	1	11.315	11.315	0.000	40566	0.2508	0.2451	
	16 2-Amino-4,6-dinitrotoluene	1	11.595	11.595	0.000	49604	0.2508	0.2487	
	17 2,6-Dinitrotoluene	1	11.755	11.755	0.000	37173	0.2508	0.2429	
	18 2,4-Dinitrotoluene	1	11.942	11.942	0.000	73471	0.2505	0.2463	
	19 o-Nitrotoluene	1	12.782	12.782	0.000	32062	0.2508	0.2425	
	20 p-Nitrotoluene	1	13.209	13.209	0.000	27683	0.2510	0.2436	
	21 m-Nitrotoluene	1	13.802	13.802	0.000	35788	0.2510	0.2416	
	22 PETN	2	14.909	14.909	0.000	186281	2.50	2.49	

Reagents:

8330IntermStk_00055 Amount Added: 25.00 Units: uL

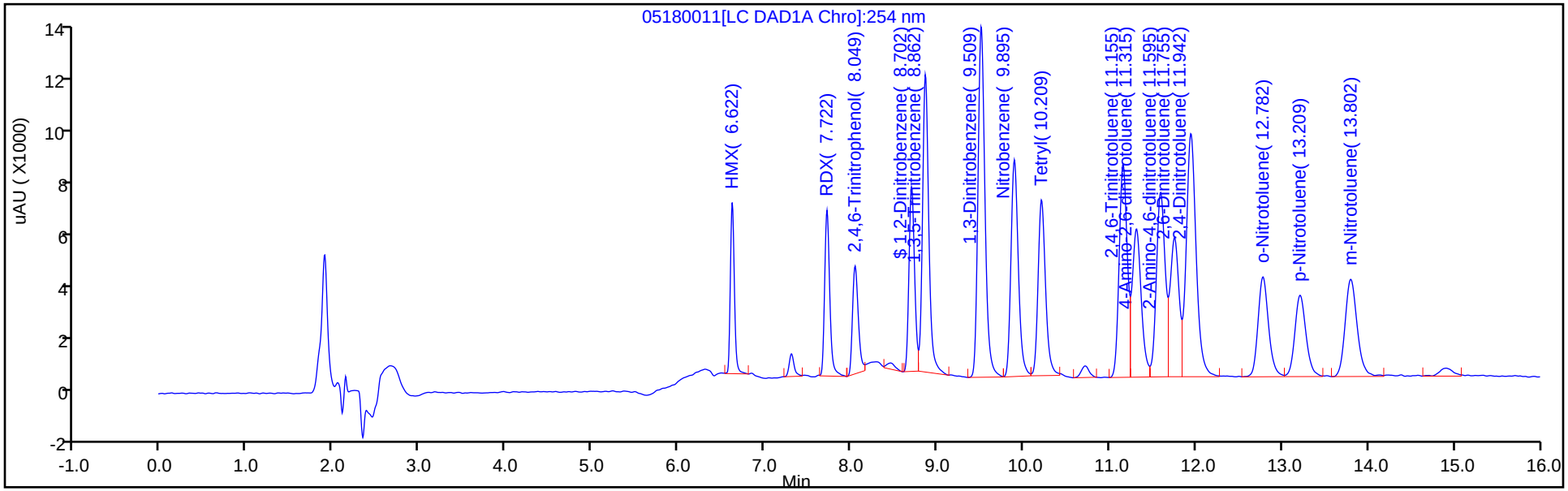
Report Date: 22-May-2018 12:01:24 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

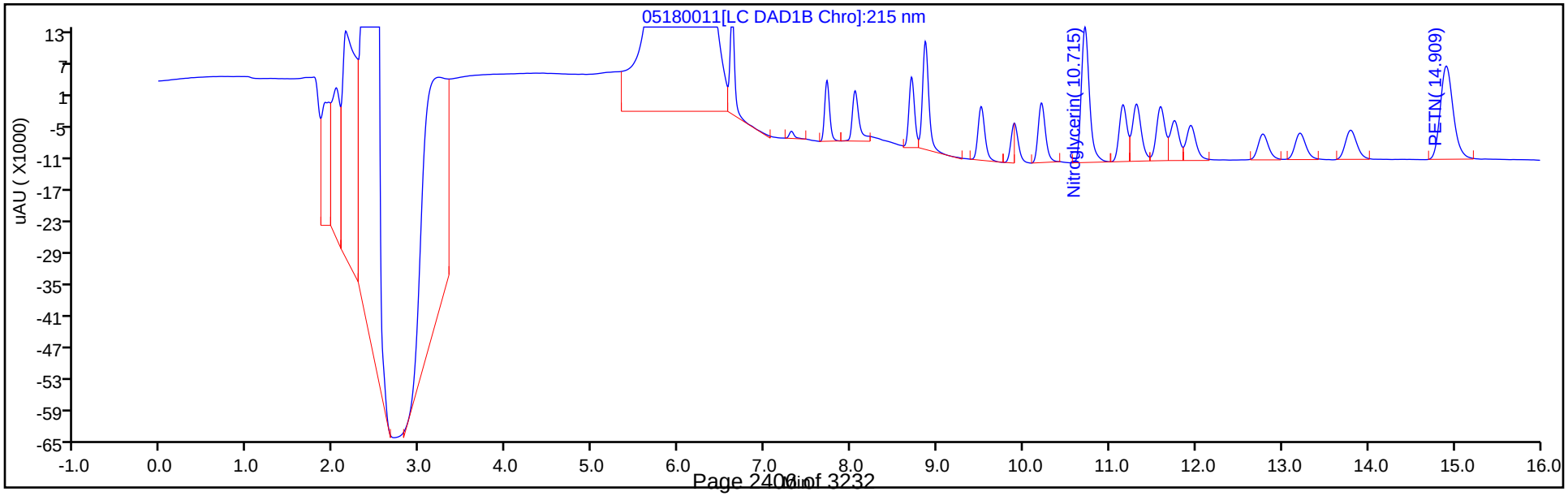
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180011.D

Injection Date:	18-May-2018 12:05:58	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L4			Worklist Smp#:	11
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180012.D
Lims ID: IC MAIN L3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 18-May-2018 12:28:55 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L3
Misc. Info.: 280-0070054-012
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:24 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 18-May-2018 17:17:29

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.623	6.622	0.001	8137	0.1000	0.0958	
5 RDX	1	7.723	7.722	0.001	10563	0.1000	0.1010	
6 2,4,6-Trinitrophenol	1	8.056	8.049	0.007	8050	0.1000	0.0954	
$ 7 1,2-Dinitrobenzene	1	8.703	8.702	0.001	12638	0.1000	0.0982	
8 1,3,5-Trinitrobenzene	1	8.869	8.862	0.007	22253	0.1000	0.0974	
9 1,3-Dinitrobenzene	1	9.516	9.509	0.007	30333	0.1001	0.1008	
11 Nitrobenzene	1	9.902	9.895	0.007	19861	0.1002	0.0999	
12 Tetryl	1	10.216	10.209	0.007	16280	0.1000	0.0996	
13 Nitroglycerin	2	10.722	10.715	0.007	68459	1.00	1.01	
14 2,4,6-Trinitrotoluene	1	11.162	11.155	0.007	21155	0.1004	0.0986	
15 4-Amino-2,6-dinitrotoluene	1	11.322	11.315	0.007	16510	0.1003	0.0998	
16 2-Amino-4,6-dinitrotoluene	1	11.602	11.595	0.007	19850	0.1003	0.0995	
17 2,6-Dinitrotoluene	1	11.762	11.755	0.007	15104	0.1003	0.0987	
18 2,4-Dinitrotoluene	1	11.956	11.942	0.014	30008	0.1002	0.1006	
19 o-Nitrotoluene	1	12.789	12.782	0.007	13314	0.1003	0.1007	
20 p-Nitrotoluene	1	13.216	13.209	0.007	11487	0.1004	0.1011	
21 m-Nitrotoluene	1	13.809	13.802	0.007	14675	0.1004	0.0991	
22 PETN	2	14.916	14.909	0.007	73842	1.00	0.9852	

Reagents:

8330IntermStk_00055 Amount Added: 10.00 Units: uL

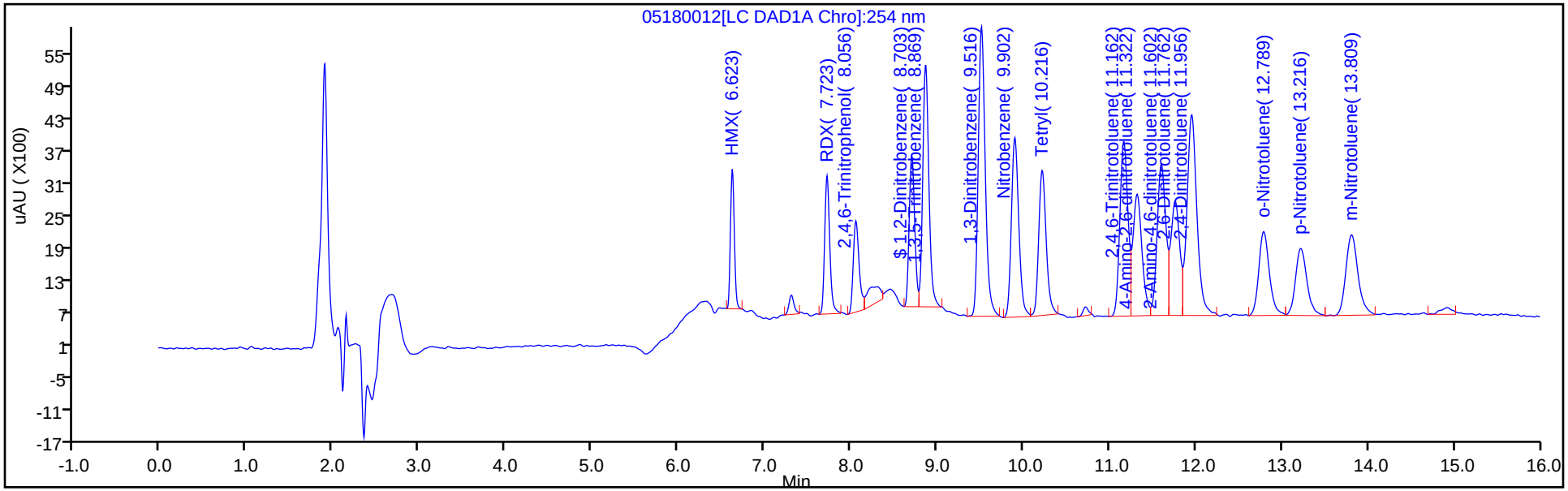
Report Date: 22-May-2018 12:01:25 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

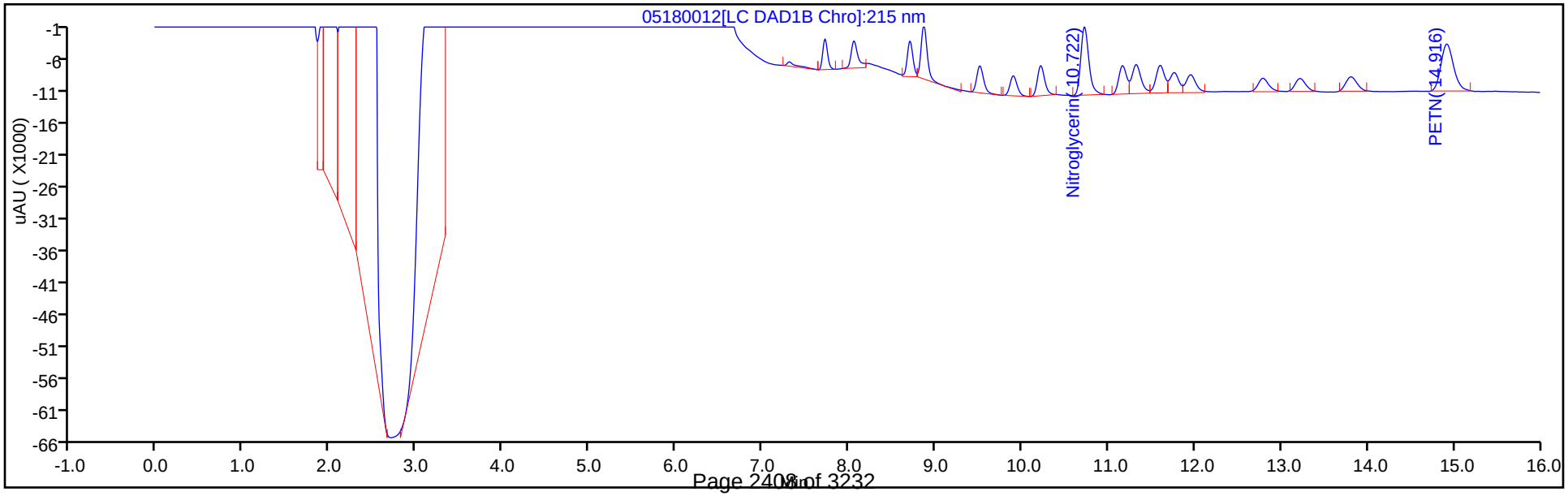
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180012.D

Injection Date:	18-May-2018 12:28:55	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L3			Worklist Smp#:	12
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180013.D
Lims ID: IC MAIN L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 18-May-2018 12:51:52 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L2
Misc. Info.: 280-0070054-013
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:26 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 22-May-2018 11:08:19

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.622	6.622	0.000	4182	0.0500	0.0492	
5 RDX	1	7.722	7.722	0.000	5050	0.0500	0.0483	
6 2,4,6-Trinitrophenol	1	8.062	8.049	0.013	4494	0.0500	0.0533	
$ 7 1,2-Dinitrobenzene	1	8.702	8.702	0.000	6665	0.0500	0.0518	
8 1,3,5-Trinitrobenzene	1	8.869	8.862	0.007	11383	0.0500	0.0498	
9 1,3-Dinitrobenzene	1	9.516	9.509	0.007	15187	0.0501	0.0505	
11 Nitrobenzene	1	9.902	9.895	0.007	10114	0.0501	0.0509	
12 Tetryl	1	10.216	10.209	0.007	8226	0.0500	0.0503	
13 Nitroglycerin	2	10.722	10.715	0.007	32693	0.5000	0.4812	
14 2,4,6-Trinitrotoluene	1	11.162	11.155	0.007	11267	0.0502	0.0525	
15 4-Amino-2,6-dinitrotoluene	1	11.316	11.315	0.001	8517	0.0502	0.0515	
16 2-Amino-4,6-dinitrotoluene	1	11.596	11.595	0.001	10247	0.0502	0.0514	
17 2,6-Dinitrotoluene	1	11.756	11.755	0.001	7991	0.0502	0.0522	
18 2,4-Dinitrotoluene	1	11.949	11.942	0.007	15313	0.0501	0.0513	
19 o-Nitrotoluene	1	12.789	12.782	0.007	6915	0.0502	0.0523	
20 p-Nitrotoluene	1	13.216	13.209	0.007	5884	0.0502	0.0518	
21 m-Nitrotoluene	1	13.809	13.802	0.007	7786	0.0502	0.0526	
22 PETN	2	14.916	14.909	0.007	34097	0.5000	0.4549	

Reagents:

8330IntermStk_00055 Amount Added: 5.00 Units: uL

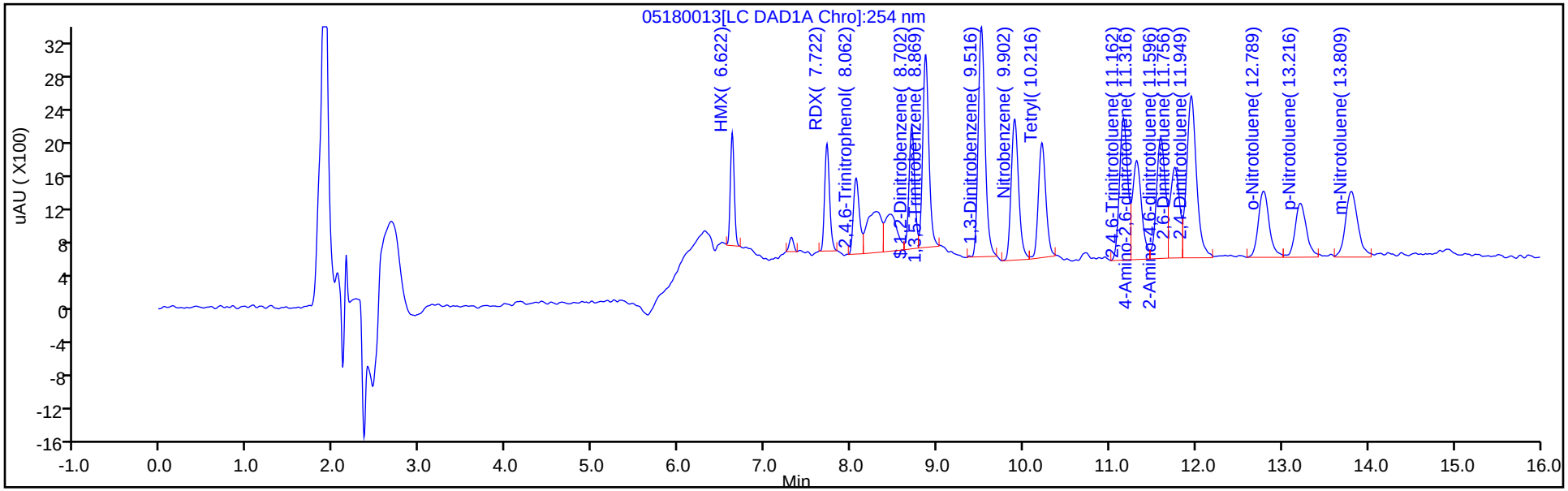
Report Date: 22-May-2018 12:01:27 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

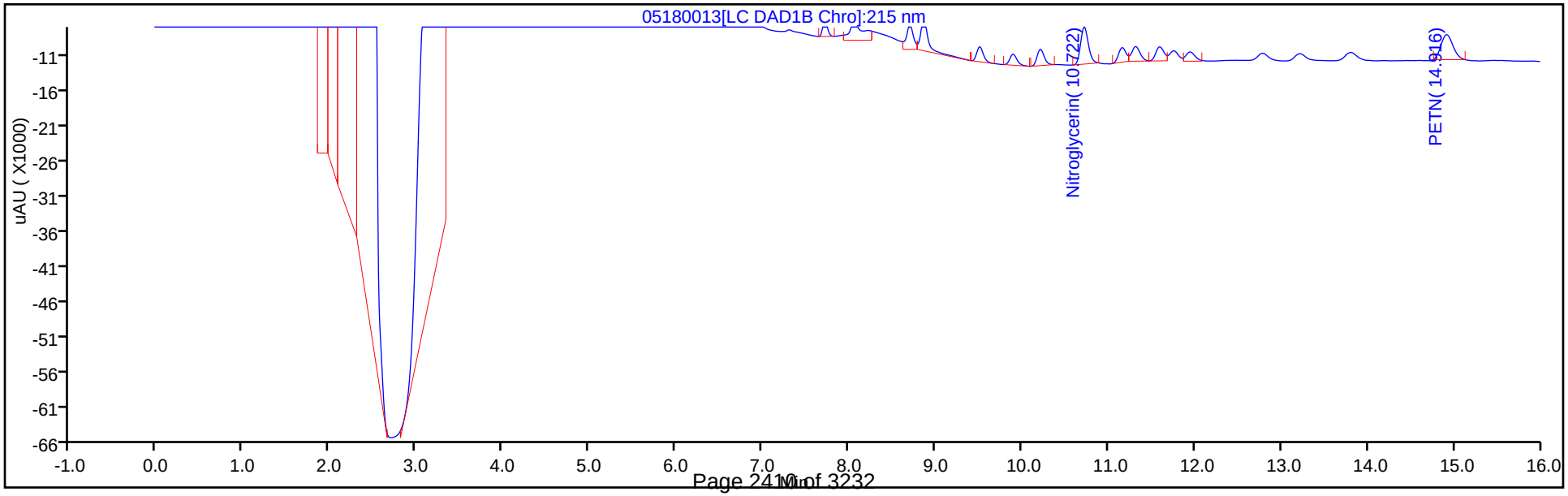
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180013.D

Injection Date:	18-May-2018 12:51:52	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L2			Worklist Smp#:	13
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180014.D
Lims ID: IC MAIN L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 18-May-2018 13:14:50 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L1
Misc. Info.: 280-0070054-014
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:27 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 22-May-2018 11:19:59

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.625	6.622	0.003	1619	0.0200	0.0191	
	5 RDX	1	7.718	7.722	-0.004	2043	0.0200	0.0195	
	6 2,4,6-Trinitrophenol	1	8.065	8.049	0.016	1879	0.0200	0.0223	
$	7 1,2-Dinitrobenzene	1	8.705	8.702	0.003	2278	0.0200	0.0177	
	8 1,3,5-Trinitrobenzene	1	8.865	8.862	0.003	4042	0.0200	0.0177	
	9 1,3-Dinitrobenzene	1	9.512	9.509	0.003	5557	0.0200	0.0185	
	11 Nitrobenzene	1	9.898	9.895	0.003	3842	0.0200	0.0193	
	12 Tetryl	1	10.218	10.209	0.009	2797	0.0200	0.0171	
	13 Nitroglycerin	2	10.725	10.715	0.010	11906	0.2000	0.1752	
	14 2,4,6-Trinitrotoluene	1	11.165	11.155	0.010	4137	0.0201	0.0193	
	15 4-Amino-2,6-dinitrotoluene	1	11.318	11.315	0.003	3486	0.0201	0.0211	
	16 2-Amino-4,6-dinitrotoluene	1	11.598	11.595	0.003	3839	0.0201	0.0192	
	17 2,6-Dinitrotoluene	1	11.765	11.755	0.010	3125	0.0201	0.0204	
	18 2,4-Dinitrotoluene	1	11.952	11.942	0.010	5750	0.0200	0.0193	
	19 o-Nitrotoluene	1	12.785	12.782	0.003	2761	0.0201	0.0209	
	20 p-Nitrotoluene	1	13.218	13.209	0.009	2355	0.0201	0.0207	
	21 m-Nitrotoluene	1	13.812	13.802	0.010	3245	0.0201	0.0219	
	22 PETN	2		14.909			ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

8330IntermStk_00055 Amount Added: 2.00 Units: uL

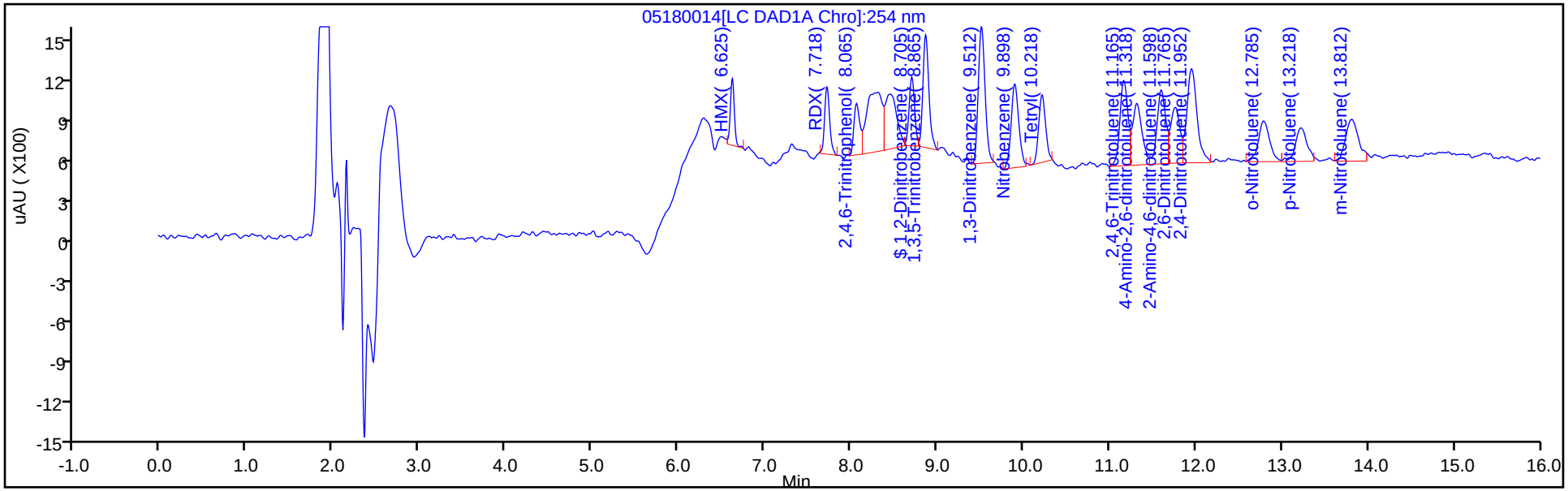
Report Date: 22-May-2018 12:01:27 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

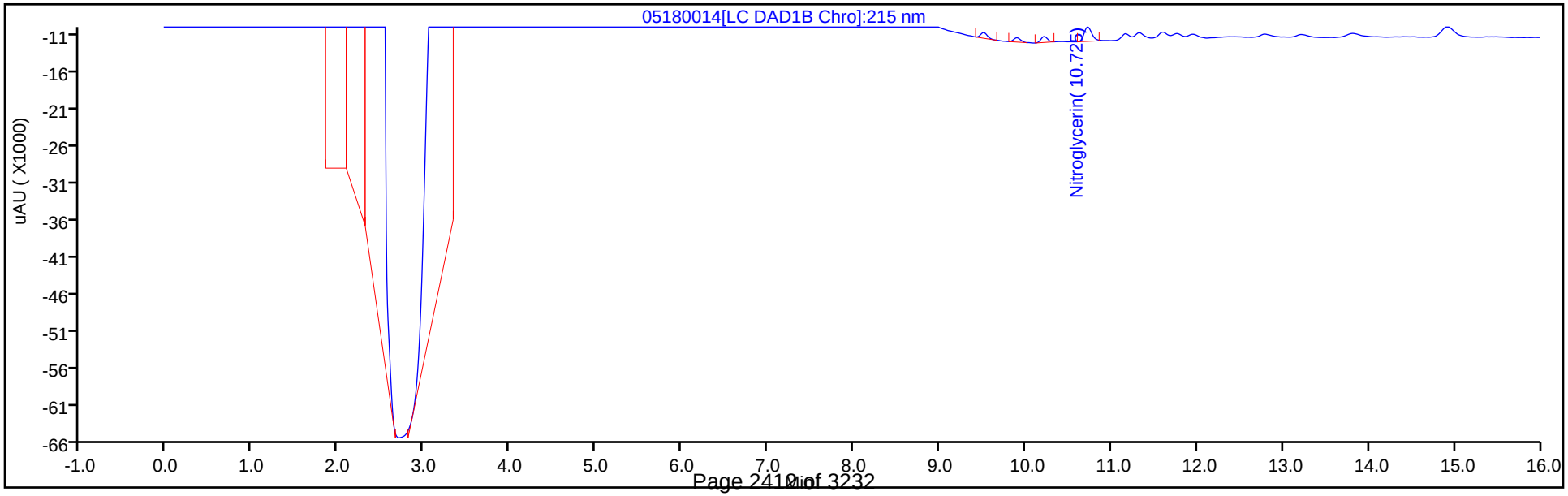
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180014.D

Injection Date:	18-May-2018 13:14:50	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L1			Worklist Smp#:	14
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Calibration / HMX

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

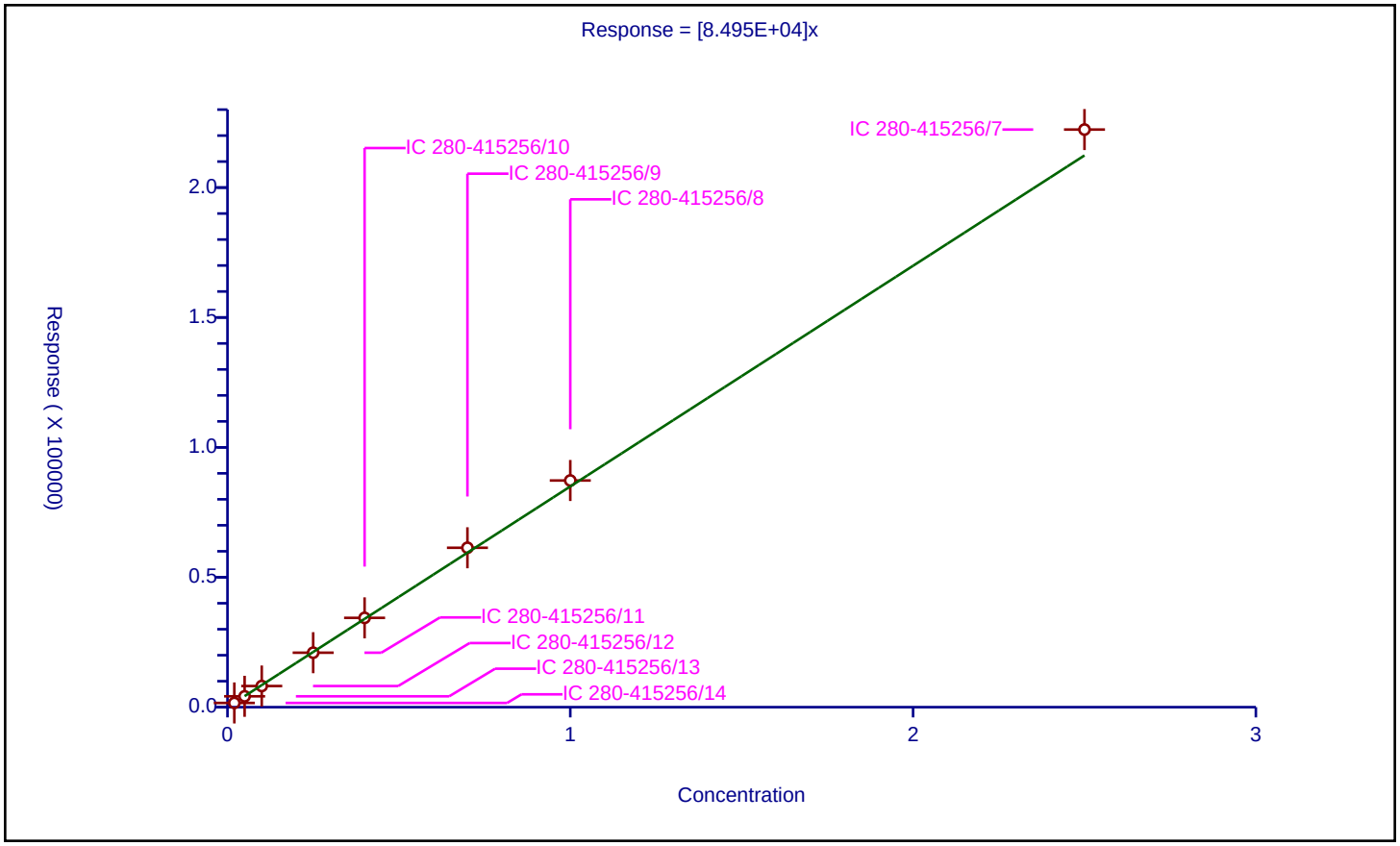
Curve Coefficients

Intercept:	0
Slope:	8.495E+04

Error Coefficients

Standard Error:	3930
Relative Standard Error:	3.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02	1619.0			80950.0	Y
2	IC 280-415256/13	0.05	4182.0			83640.0	Y
3	IC 280-415256/12	0.1	8137.0			81370.0	Y
4	IC 280-415256/11	0.25	20961.0			83844.0	Y
5	IC 280-415256/10	0.4	34376.0			85940.0	Y
6	IC 280-415256/9	0.7	61354.0			87648.571429	Y
7	IC 280-415256/8	1.0	87246.0			87246.0	Y
8	IC 280-415256/7	2.5	222315.0			88926.0	Y



Calibration / RDX

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

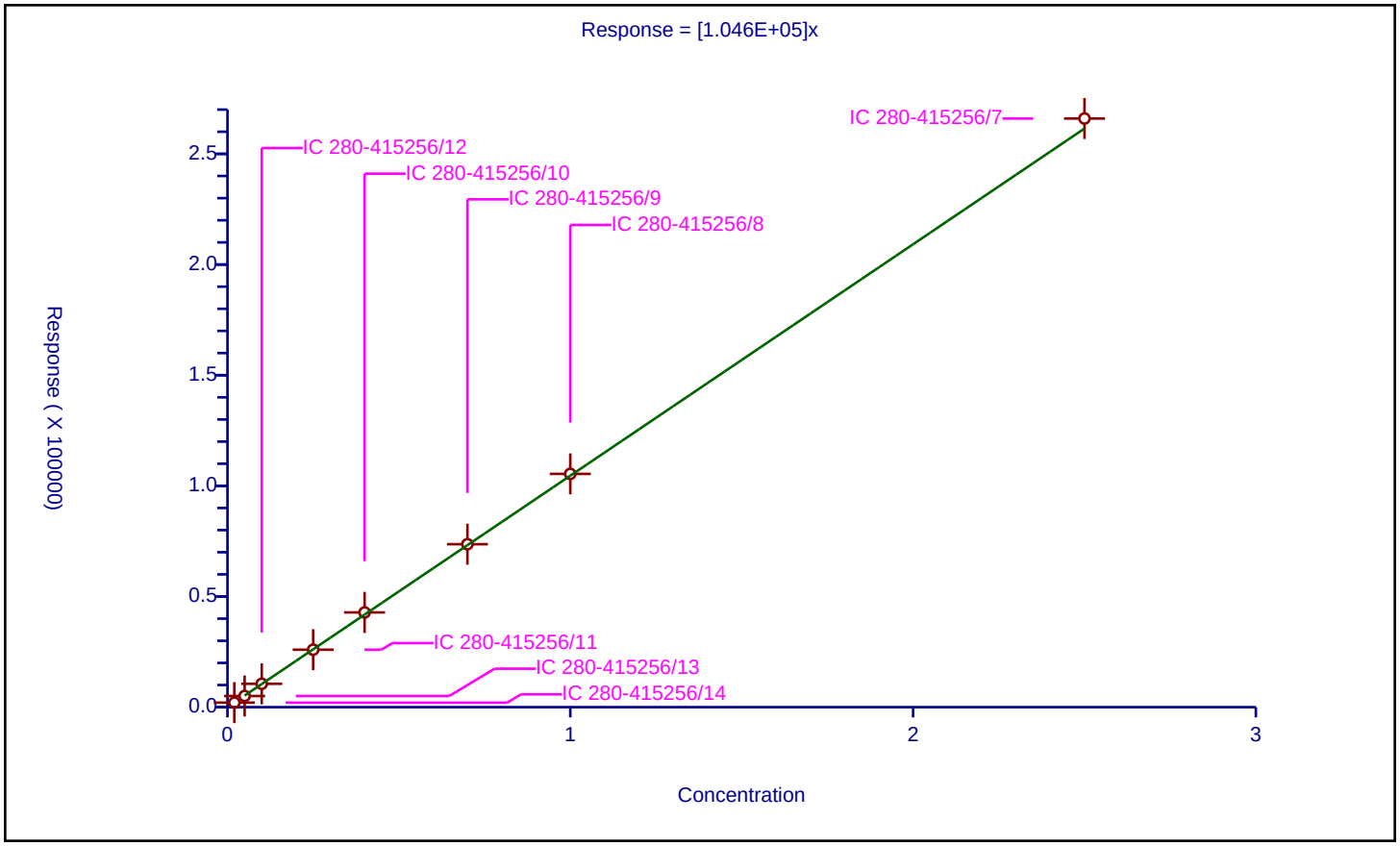
Curve Coefficients

Intercept:	0
Slope:	1.046E+05

Error Coefficients

Standard Error:	1790
Relative Standard Error:	2.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02	2043.0			102150.0	Y
2	IC 280-415256/13	0.05	5050.0			101000.0	Y
3	IC 280-415256/12	0.1	10563.0			105630.0	Y
4	IC 280-415256/11	0.25	25965.0			103860.0	Y
5	IC 280-415256/10	0.4	42801.0			107002.5	Y
6	IC 280-415256/9	0.7	73630.0			105185.714286	Y
7	IC 280-415256/8	1.0	105400.0			105400.0	Y
8	IC 280-415256/7	2.5	265976.0			106390.4	Y



Calibration / 2,4,6-Trinitrophenol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

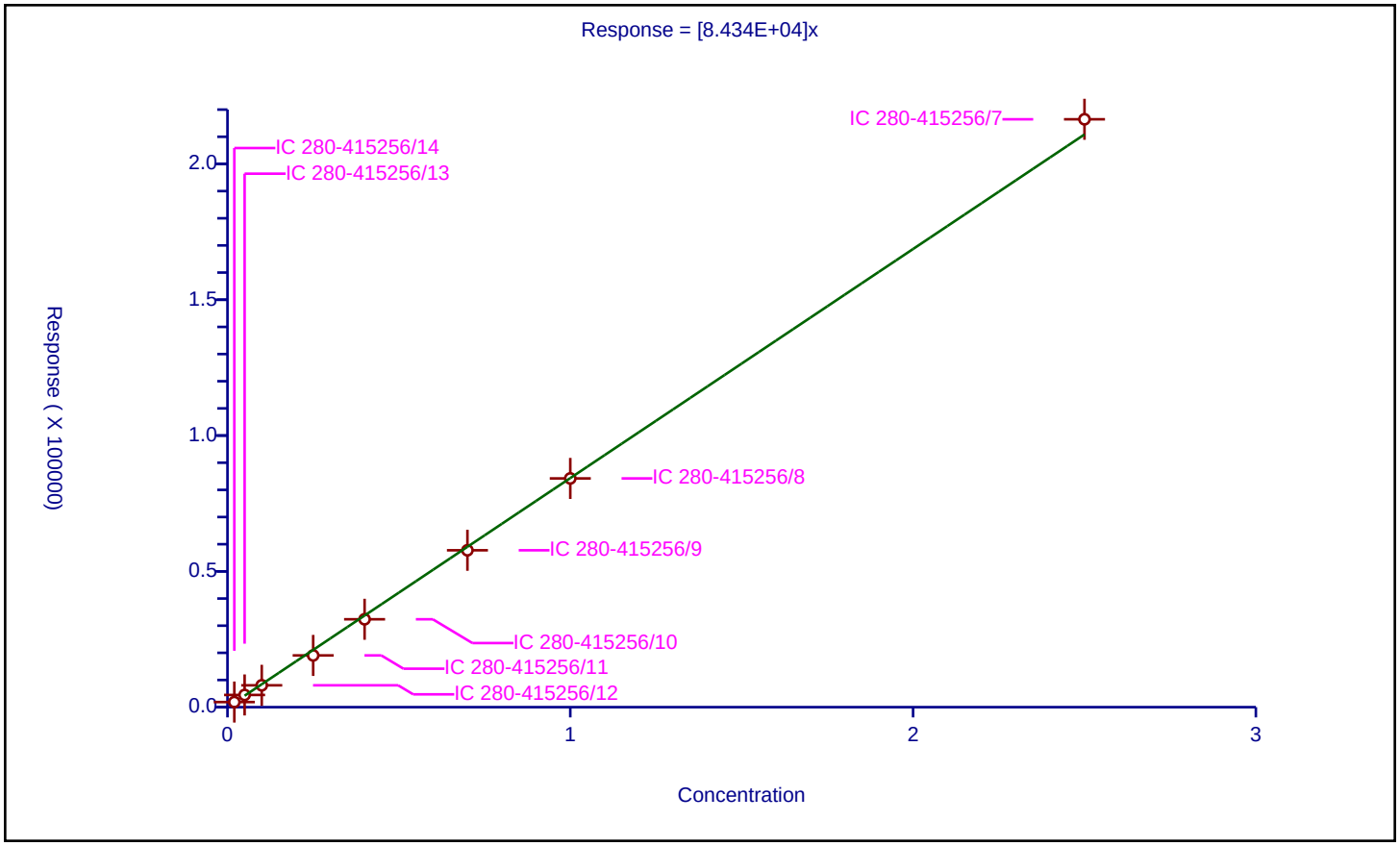
Curve Coefficients

Intercept:	0
Slope:	8.434E+04

Error Coefficients

Standard Error:	2370
Relative Standard Error:	6.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02	1879.0			93950.0	Y
2	IC 280-415256/13	0.05	4494.0			89880.0	Y
3	IC 280-415256/12	0.1	8050.0			80500.0	Y
4	IC 280-415256/11	0.25	19048.0			76192.0	Y
5	IC 280-415256/10	0.4	32362.0			80905.0	Y
6	IC 280-415256/9	0.7	57756.0			82508.571429	Y
7	IC 280-415256/8	1.0	84211.0			84211.0	Y
8	IC 280-415256/7	2.5	216440.0			86576.0	Y



Calibration / 1,2-Dinitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

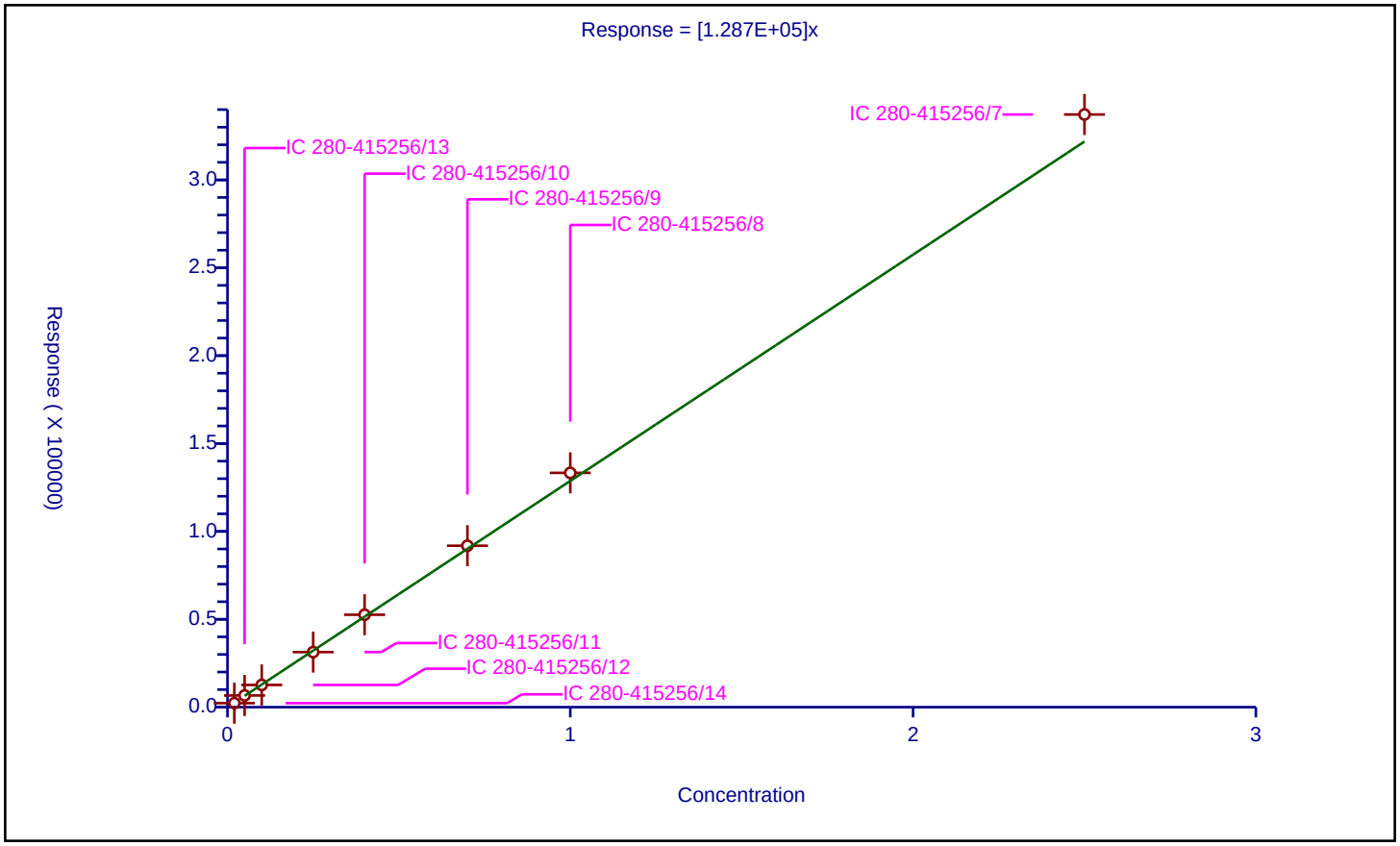
Curve Coefficients

Intercept:	0
Slope:	1.287E+05

Error Coefficients

Standard Error:	6130
Relative Standard Error:	5.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02	2278.0			113900.0	Y
2	IC 280-415256/13	0.05	6665.0			133300.0	Y
3	IC 280-415256/12	0.1	12638.0			126380.0	Y
4	IC 280-415256/11	0.25	31343.0			125372.0	Y
5	IC 280-415256/10	0.4	52585.0			131462.5	Y
6	IC 280-415256/9	0.7	91842.0			131202.857143	Y
7	IC 280-415256/8	1.0	133312.0			133312.0	Y
8	IC 280-415256/7	2.5	337223.0			134889.2	Y



Calibration / 1,3,5-Trinitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

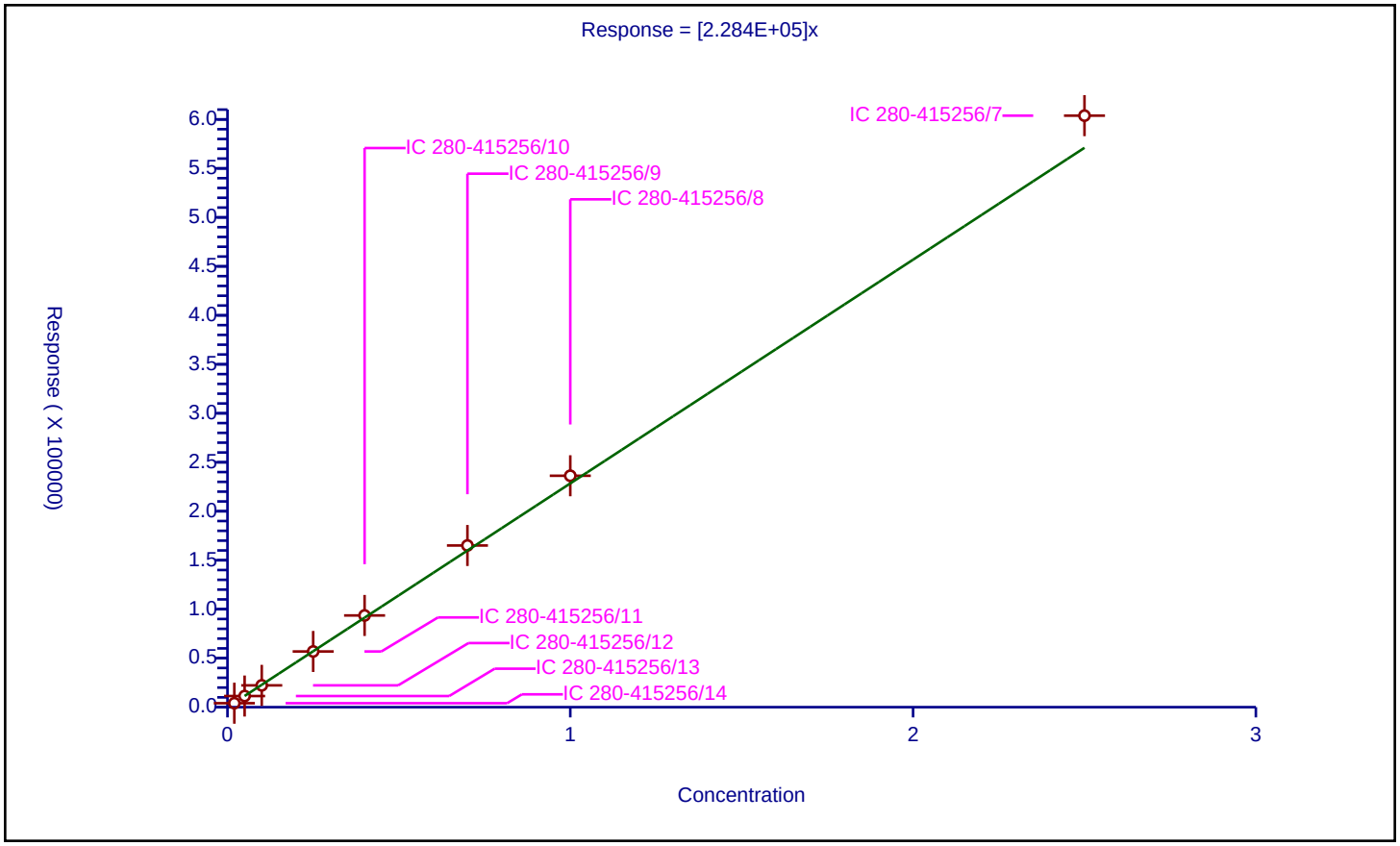
Curve Coefficients

Intercept:	0
Slope:	2.284E+05

Error Coefficients

Standard Error:	12900
Relative Standard Error:	5.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02	4042.0			202100.0	Y
2	IC 280-415256/13	0.05	11383.0			227660.0	Y
3	IC 280-415256/12	0.1	22253.0			222530.0	Y
4	IC 280-415256/11	0.25	56855.0			227420.0	Y
5	IC 280-415256/10	0.4	93611.0			234027.5	Y
6	IC 280-415256/9	0.7	165033.0			235761.428571	Y
7	IC 280-415256/8	1.0	236230.0			236230.0	Y
8	IC 280-415256/7	2.5	603841.0			241536.4	Y



Calibration / 1,3-Dinitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

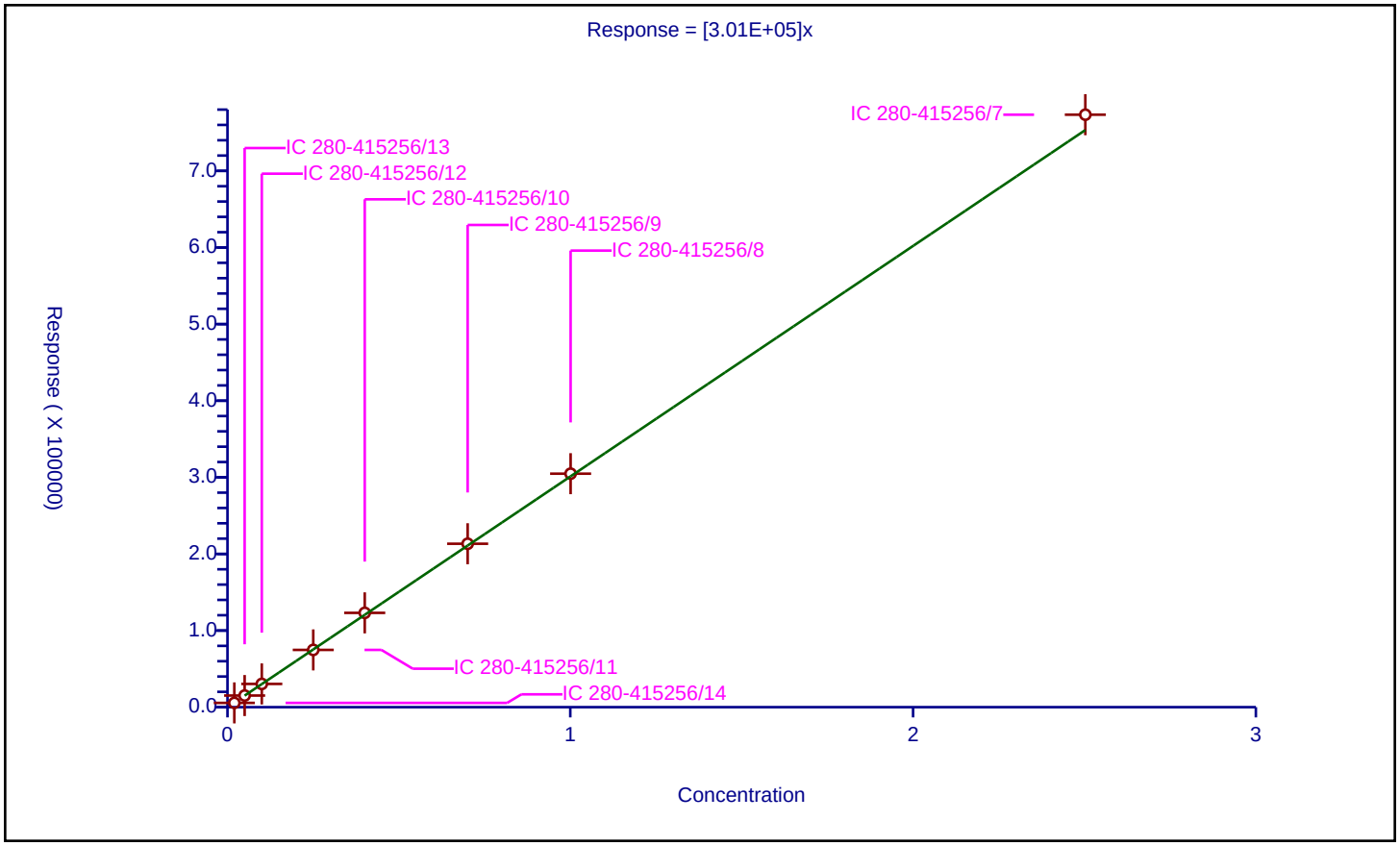
Curve Coefficients

Intercept:	0
Slope:	3.01E+05

Error Coefficients

Standard Error:	7810
Relative Standard Error:	3.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02002	5557.0			277572.427572	Y
2	IC 280-415256/13	0.05005	15187.0			303436.563437	Y
3	IC 280-415256/12	0.1001	30333.0			303026.973027	Y
4	IC 280-415256/11	0.25025	74756.0			298725.274725	Y
5	IC 280-415256/10	0.4004	123109.0			307465.034965	Y
6	IC 280-415256/9	0.7007	213326.0			304446.98159	Y
7	IC 280-415256/8	1.001	304781.0			304476.523477	Y
8	IC 280-415256/7	2.5025	773367.0			309037.762238	Y



Calibration / Nitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

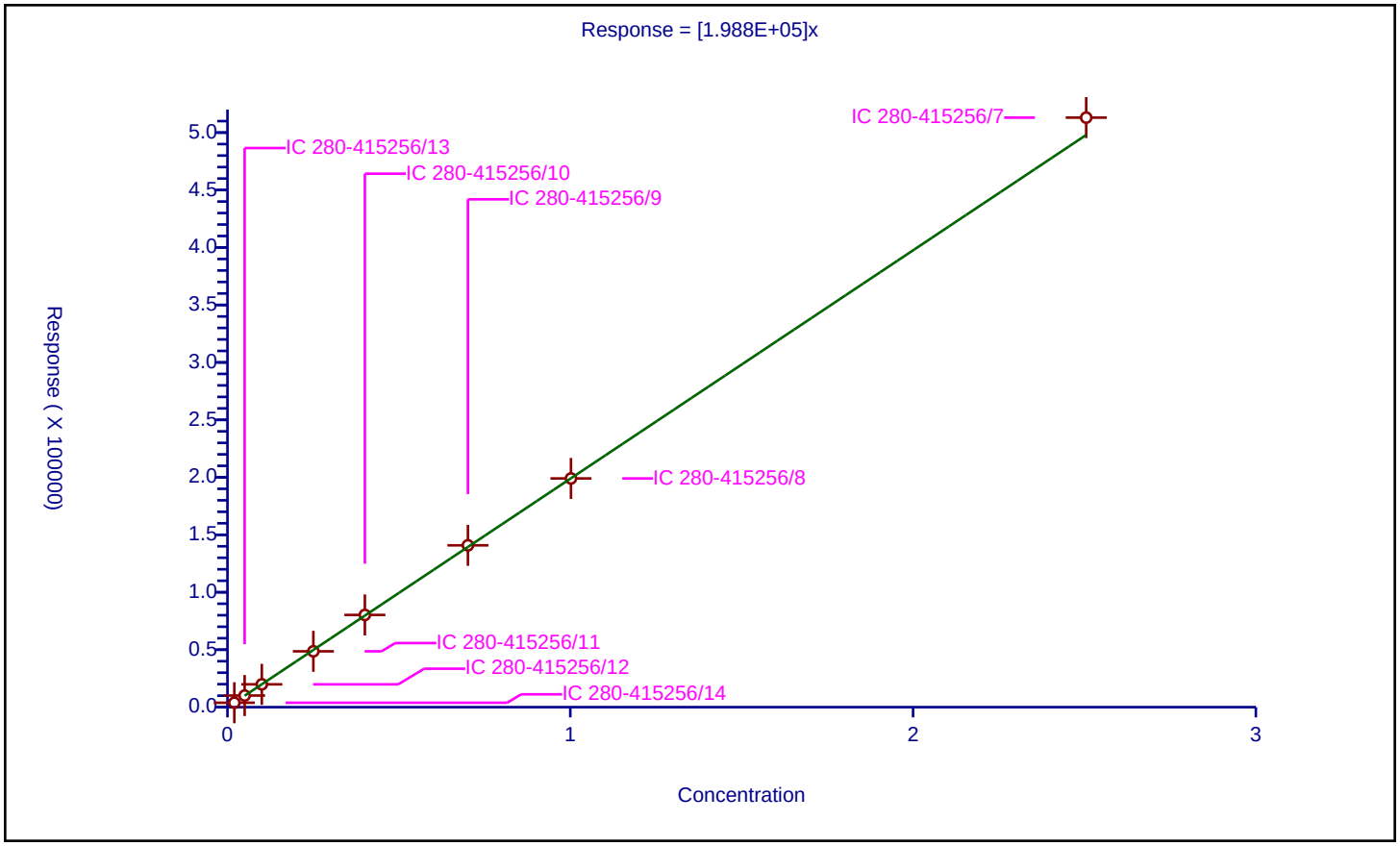
Curve Coefficients

Intercept:	0
Slope:	1.988E+05

Error Coefficients

Standard Error:	5750
Relative Standard Error:	2.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02004	3842.0			191716.566866	Y
2	IC 280-415256/13	0.0501	10114.0			201876.247505	Y
3	IC 280-415256/12	0.1002	19861.0			198213.572854	Y
4	IC 280-415256/11	0.2505	48592.0			193980.03992	Y
5	IC 280-415256/10	0.4008	80258.0			200244.510978	Y
6	IC 280-415256/9	0.7014	140828.0			200781.294554	Y
7	IC 280-415256/8	1.002	199028.0			198630.738523	Y
8	IC 280-415256/7	2.505	513035.0			204804.391218	Y



Calibration / Tetryl

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

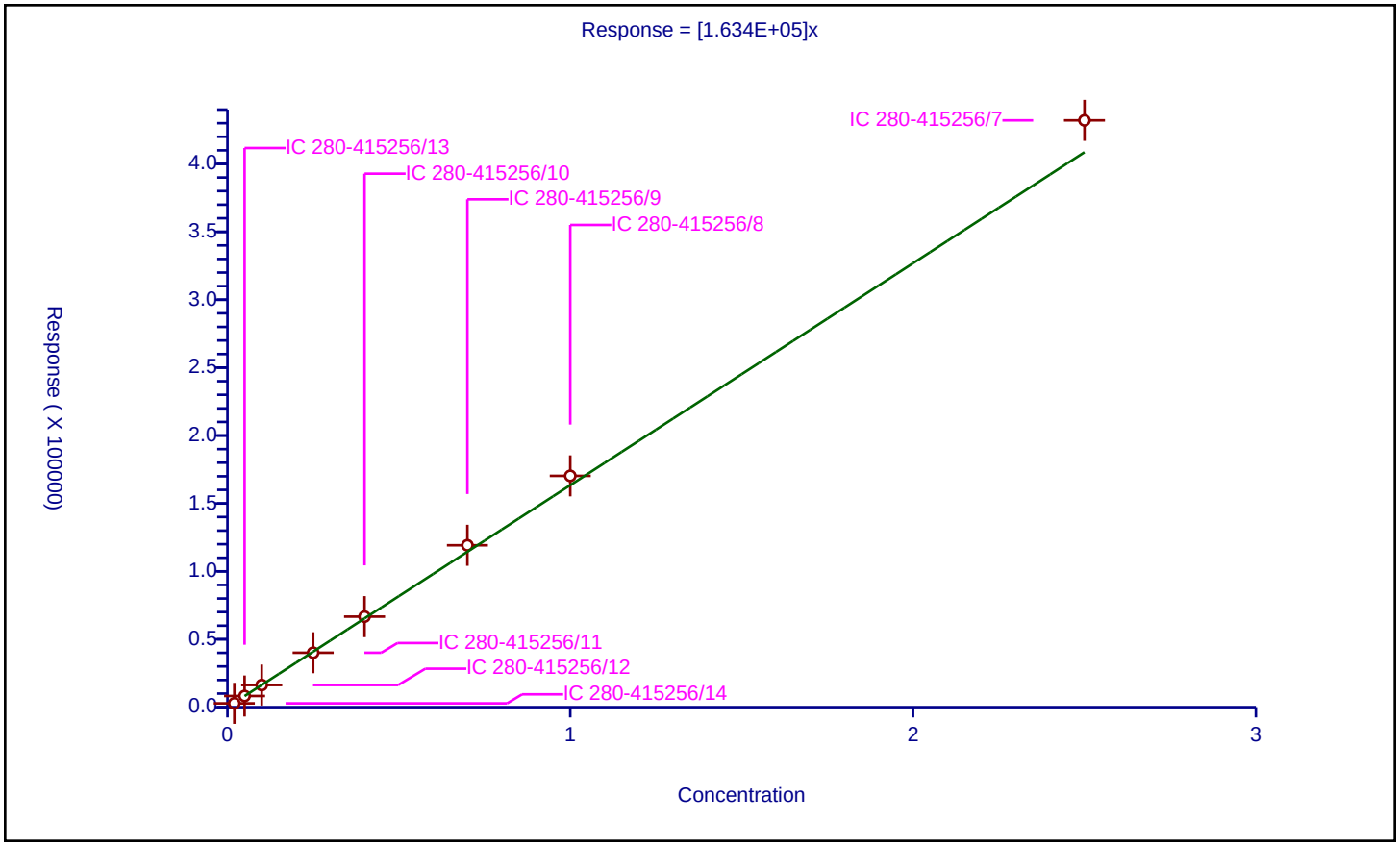
Curve Coefficients

Intercept:	0
Slope:	1.634E+05

Error Coefficients

Standard Error:	9430
Relative Standard Error:	6.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02	2797.0			139850.0	Y
2	IC 280-415256/13	0.05	8226.0			164520.0	Y
3	IC 280-415256/12	0.1	16280.0			162800.0	Y
4	IC 280-415256/11	0.25	40083.0			160332.0	Y
5	IC 280-415256/10	0.4	66666.0			166665.0	Y
6	IC 280-415256/9	0.7	119195.0			170278.571429	Y
7	IC 280-415256/8	1.0	170312.0			170312.0	Y
8	IC 280-415256/7	2.5	432075.0			172830.0	Y



Calibration / Nitroglycerin

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

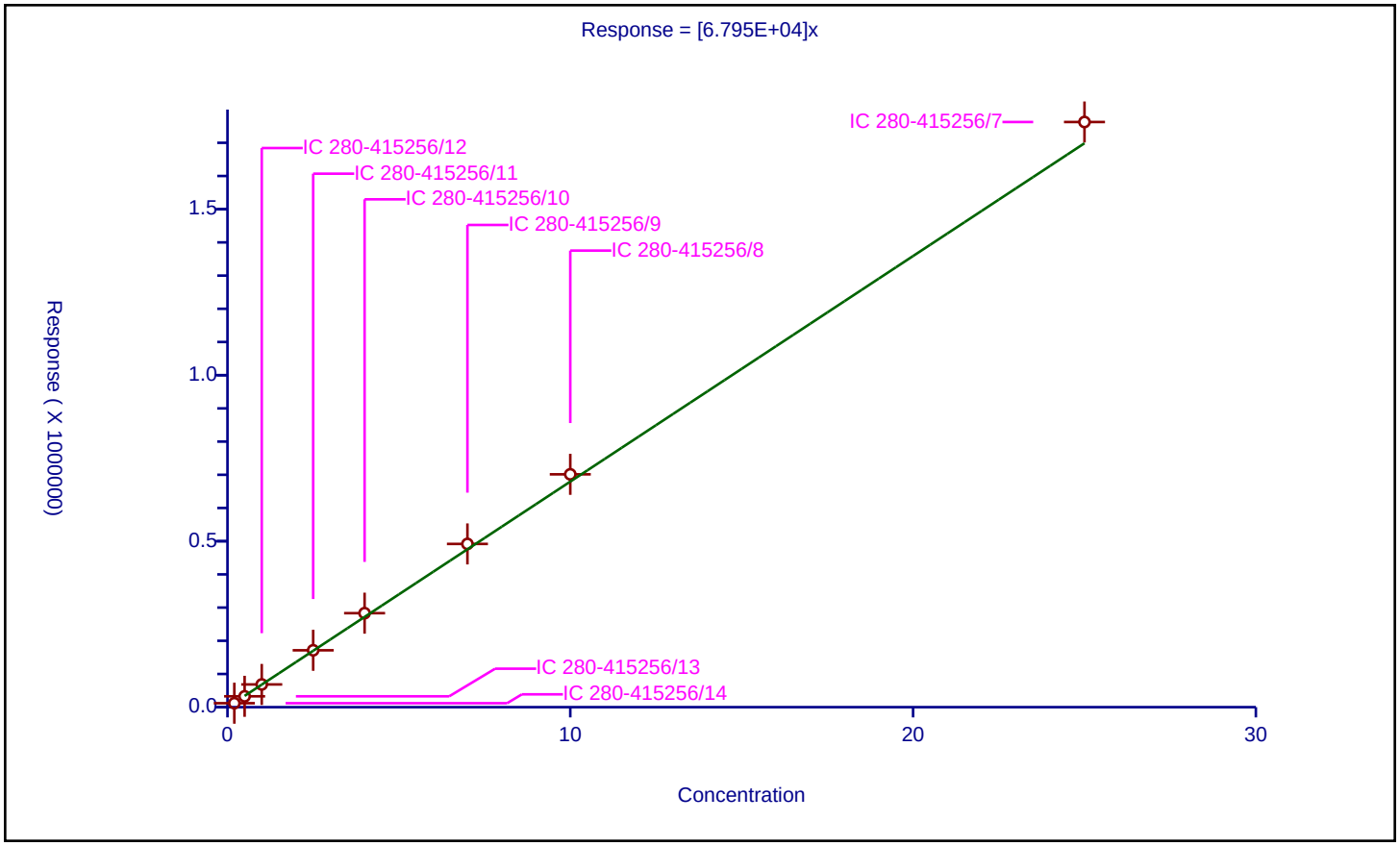
Curve Coefficients

Intercept:	0
Slope:	6.795E+04

Error Coefficients

Standard Error:	26700
Relative Standard Error:	5.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.2	11906.0			59530.0	Y
2	IC 280-415256/13	0.5	32693.0			65386.0	Y
3	IC 280-415256/12	1.0	68459.0			68459.0	Y
4	IC 280-415256/11	2.5	171294.0			68517.6	Y
5	IC 280-415256/10	4.0	283140.0			70785.0	Y
6	IC 280-415256/9	7.0	491693.0			70241.857143	Y
7	IC 280-415256/8	10.0	701363.0			70136.3	Y
8	IC 280-415256/7	25.0	1762679.0			70507.16	Y



Calibration / 2,4,6-Trinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

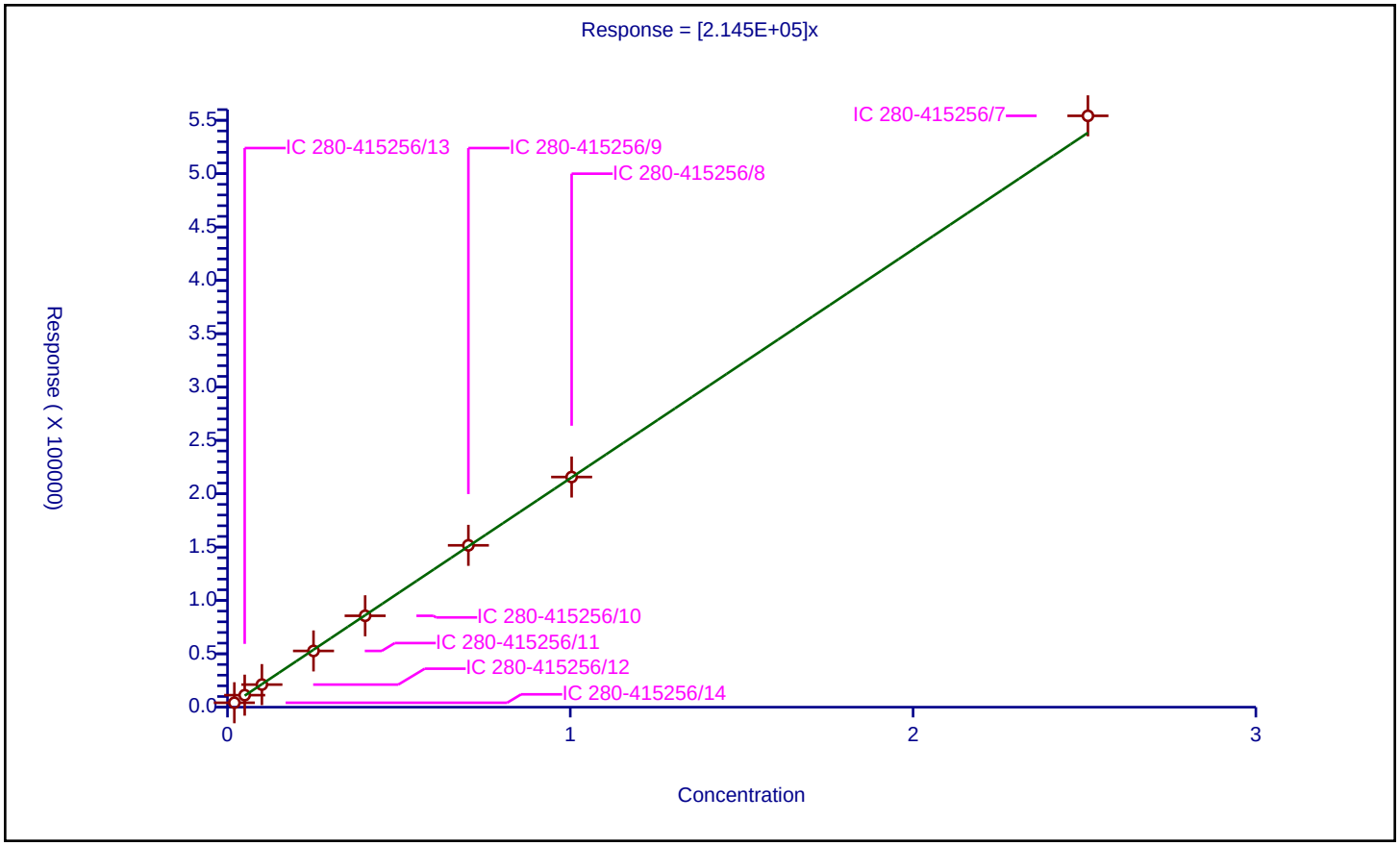
Curve Coefficients

Intercept:	0
Slope:	2.145E+05

Error Coefficients

Standard Error:	6020
Relative Standard Error:	2.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02008	4137.0			206025.896414	Y
2	IC 280-415256/13	0.0502	11267.0			224442.231076	Y
3	IC 280-415256/12	0.1004	21155.0			210707.171315	Y
4	IC 280-415256/11	0.251	52708.0			209992.031873	Y
5	IC 280-415256/10	0.4016	85643.0			213254.482072	Y
6	IC 280-415256/9	0.7028	151667.0			215803.927149	Y
7	IC 280-415256/8	1.004	215673.0			214813.74502	Y
8	IC 280-415256/7	2.51	554169.0			220784.462151	Y



Calibration / 4-Amino-2,6-dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

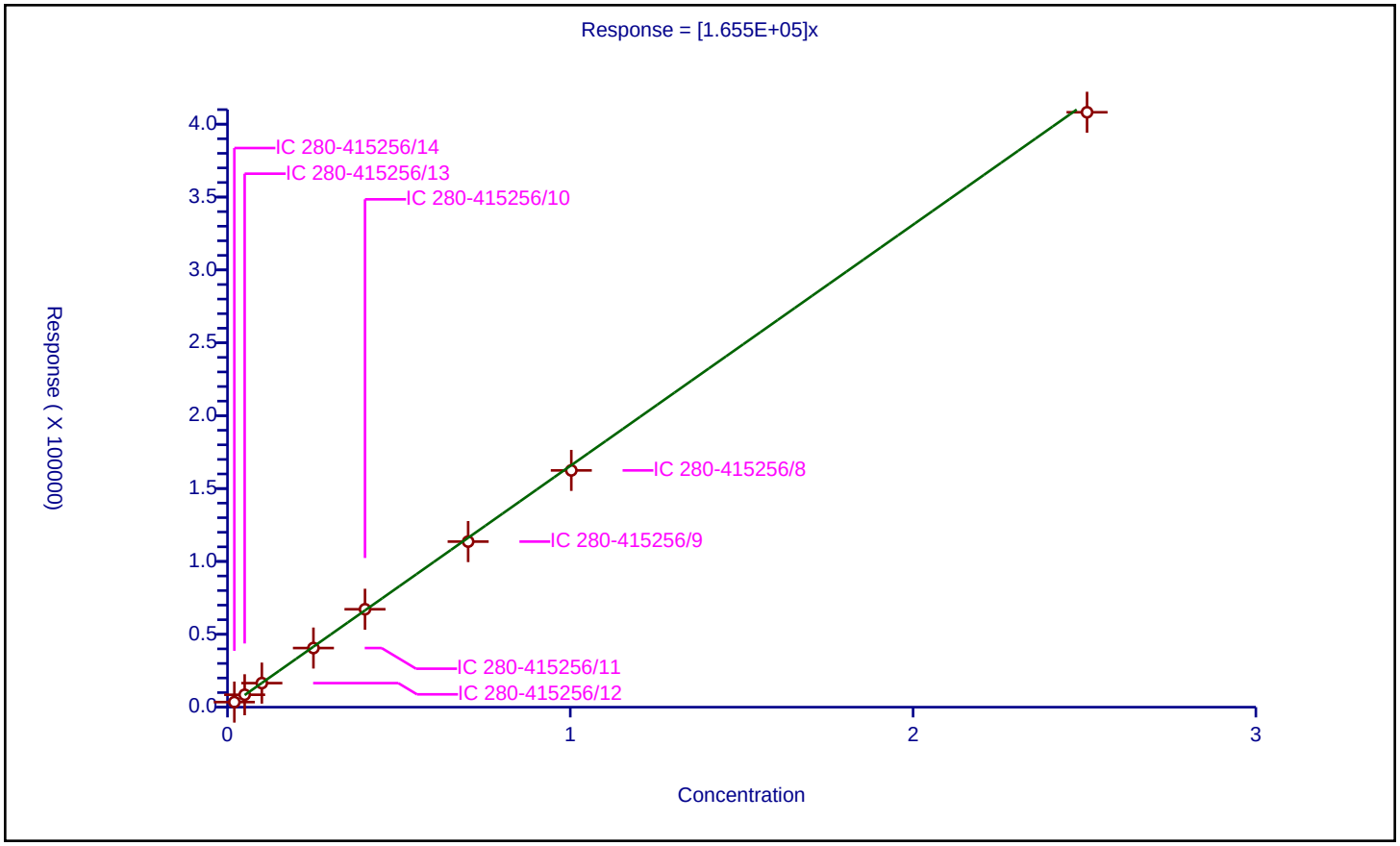
Curve Coefficients

Intercept:	0
Slope:	1.655E+05

Error Coefficients

Standard Error:	3100
Relative Standard Error:	2.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02006	3486.0			173778.664008	Y
2	IC 280-415256/13	0.05015	8517.0			169830.508475	Y
3	IC 280-415256/12	0.1003	16510.0			164606.181456	Y
4	IC 280-415256/11	0.25075	40566.0			161778.664008	Y
5	IC 280-415256/10	0.4012	67180.0			167447.657029	Y
6	IC 280-415256/9	0.7021	113610.0			161814.556331	Y
7	IC 280-415256/8	1.003	162456.0			161970.089731	Y
8	IC 280-415256/7	2.5075	408172.0			162780.458624	Y



Calibration / 2-Amino-4,6-dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

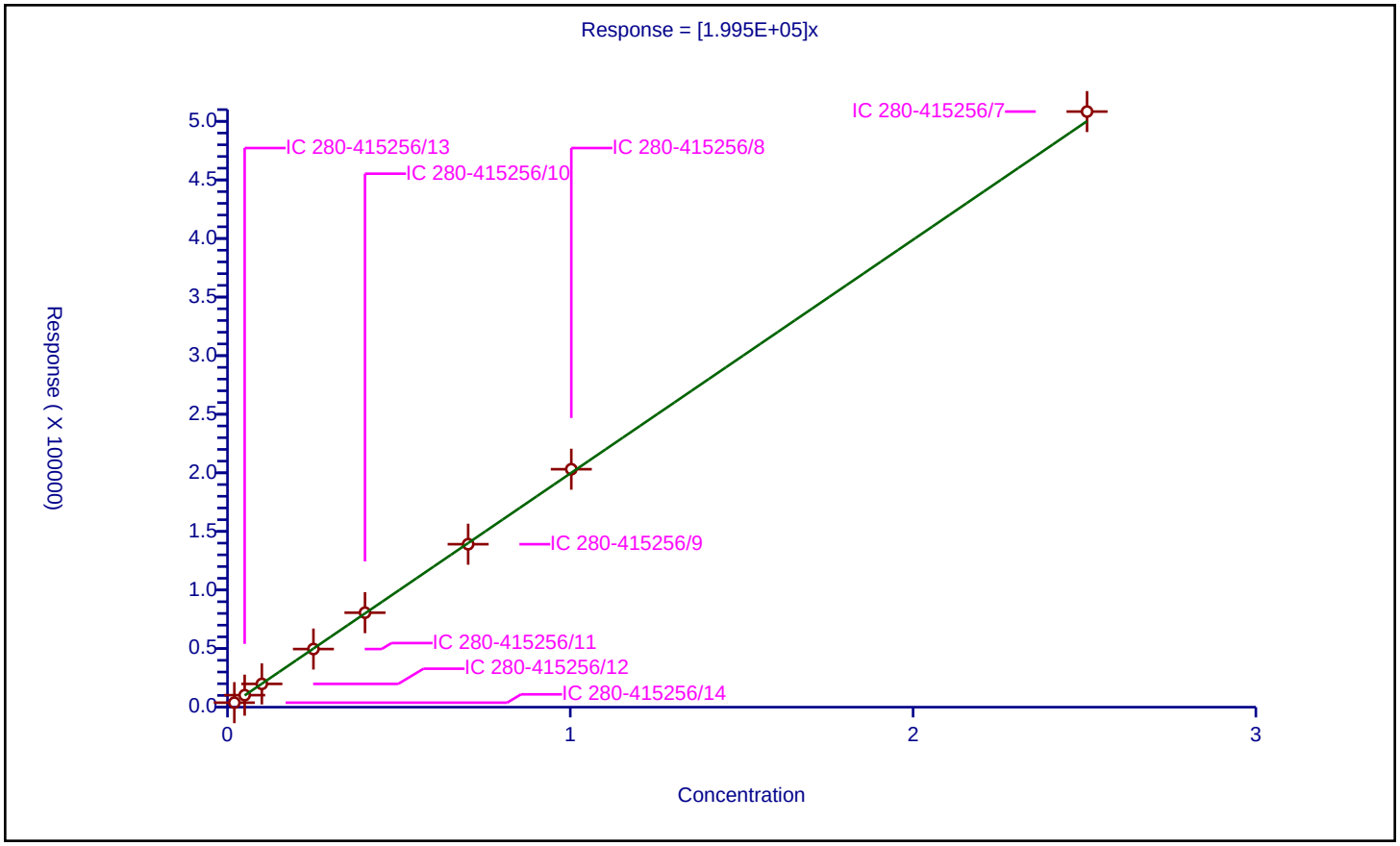
Curve Coefficients

Intercept:	0
Slope:	1.995E+05

Error Coefficients

Standard Error:	3320
Relative Standard Error:	2.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02006	3839.0			191375.872383	Y
2	IC 280-415256/13	0.05015	10247.0			204327.018943	Y
3	IC 280-415256/12	0.1003	19850.0			197906.281157	Y
4	IC 280-415256/11	0.25075	49604.0			197822.532403	Y
5	IC 280-415256/10	0.4012	80646.0			201011.964108	Y
6	IC 280-415256/9	0.7021	139075.0			198084.318473	Y
7	IC 280-415256/8	1.003	203087.0			202479.561316	Y
8	IC 280-415256/7	2.5075	508320.0			202719.840479	Y



Calibration / 2,6-Dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

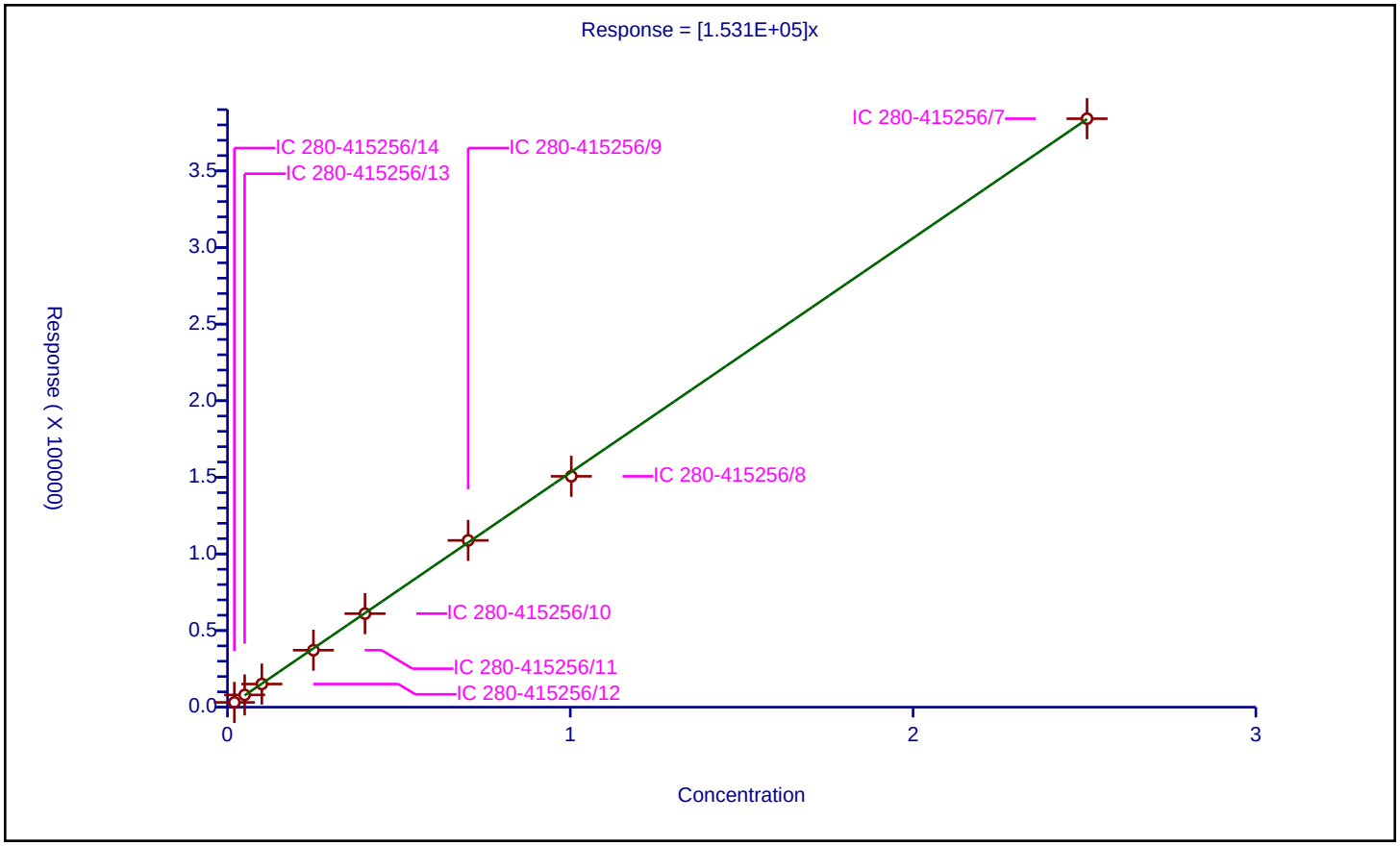
Curve Coefficients

Intercept:	0
Slope:	1.531E+05

Error Coefficients

Standard Error:	1300
Relative Standard Error:	2.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02006	3125.0			155782.652044	Y
2	IC 280-415256/13	0.05015	7991.0			159341.974078	Y
3	IC 280-415256/12	0.1003	15104.0			150588.235294	Y
4	IC 280-415256/11	0.25075	37173.0			148247.258225	Y
5	IC 280-415256/10	0.4012	61046.0			152158.524427	Y
6	IC 280-415256/9	0.7021	108831.0			155007.833642	Y
7	IC 280-415256/8	1.003	150677.0			150226.321037	Y
8	IC 280-415256/7	2.5075	384067.0			153167.298106	Y



Calibration / 2,4-Dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

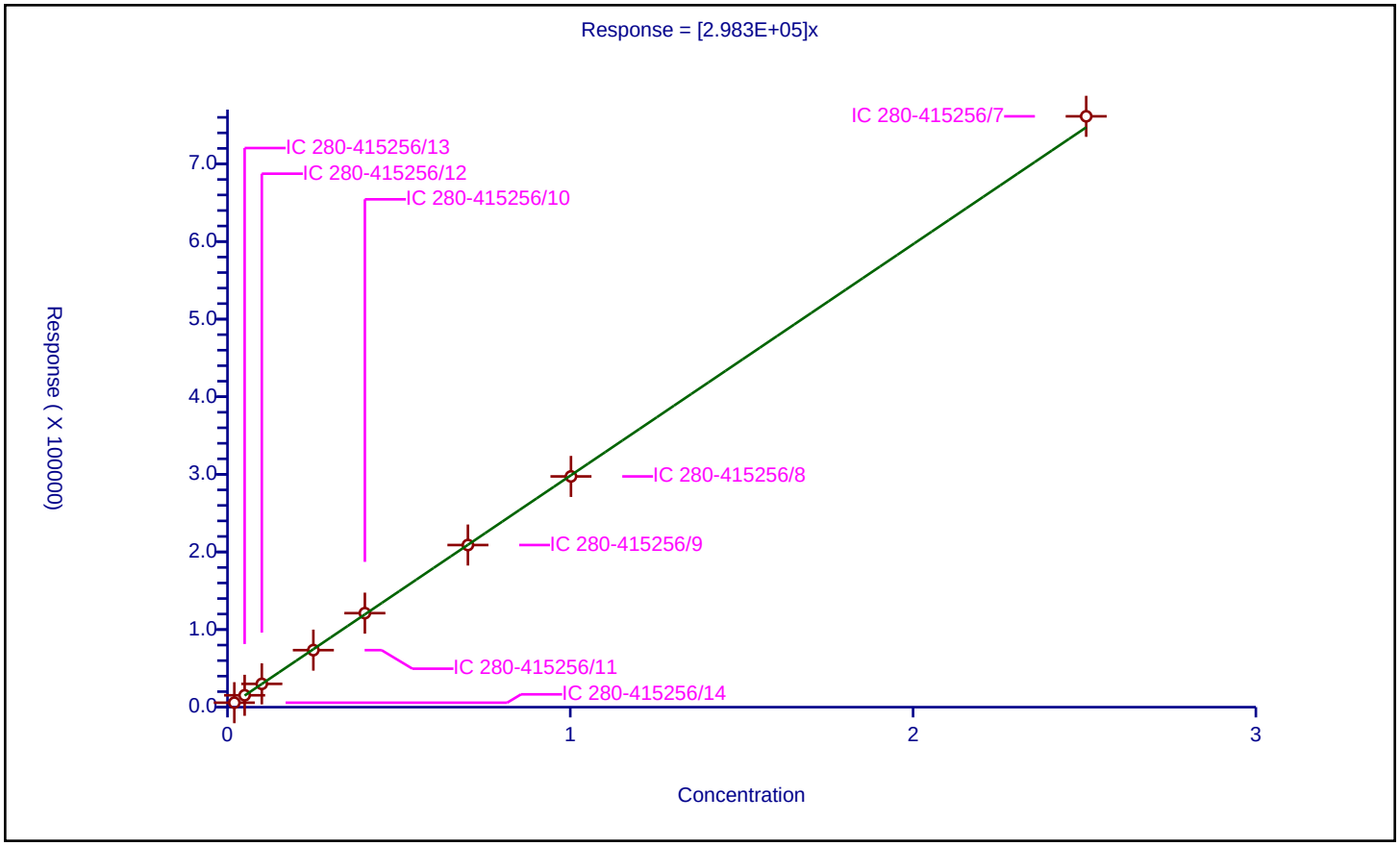
Curve Coefficients

Intercept:	0
Slope:	2.983E+05

Error Coefficients

Standard Error:	5460
Relative Standard Error:	2.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02004	5750.0			286926.147705	Y
2	IC 280-415256/13	0.0501	15313.0			305648.702595	Y
3	IC 280-415256/12	0.1002	30008.0			299481.037924	Y
4	IC 280-415256/11	0.2505	73471.0			293297.40519	Y
5	IC 280-415256/10	0.4008	121158.0			302290.419162	Y
6	IC 280-415256/9	0.7014	208912.0			297850.014257	Y
7	IC 280-415256/8	1.002	297313.0			296719.560878	Y
8	IC 280-415256/7	2.505	761362.0			303936.926148	Y



Calibration / o-Nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

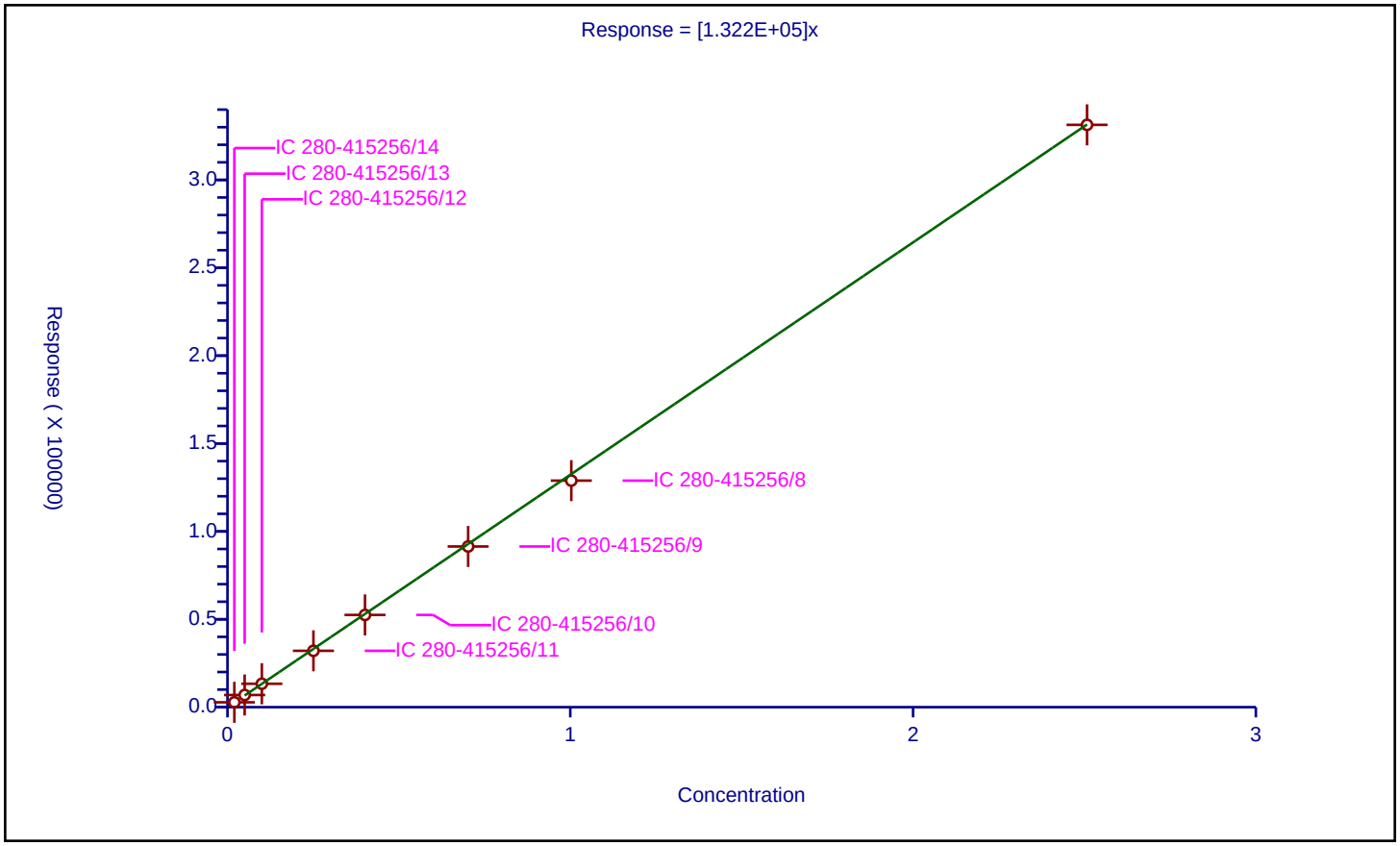
Curve Coefficients

Intercept:	0
Slope:	1.322E+05

Error Coefficients

Standard Error:	1580
Relative Standard Error:	2.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02006	2761.0			137637.088734	Y
2	IC 280-415256/13	0.05015	6915.0			137886.340977	Y
3	IC 280-415256/12	0.1003	13314.0			132741.774676	Y
4	IC 280-415256/11	0.25075	32062.0			127864.40678	Y
5	IC 280-415256/10	0.4012	52478.0			130802.592223	Y
6	IC 280-415256/9	0.7021	91427.0			130219.341974	Y
7	IC 280-415256/8	1.003	128893.0			128507.477567	Y
8	IC 280-415256/7	2.5075	331335.0			132137.587238	Y



Calibration / p-Nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

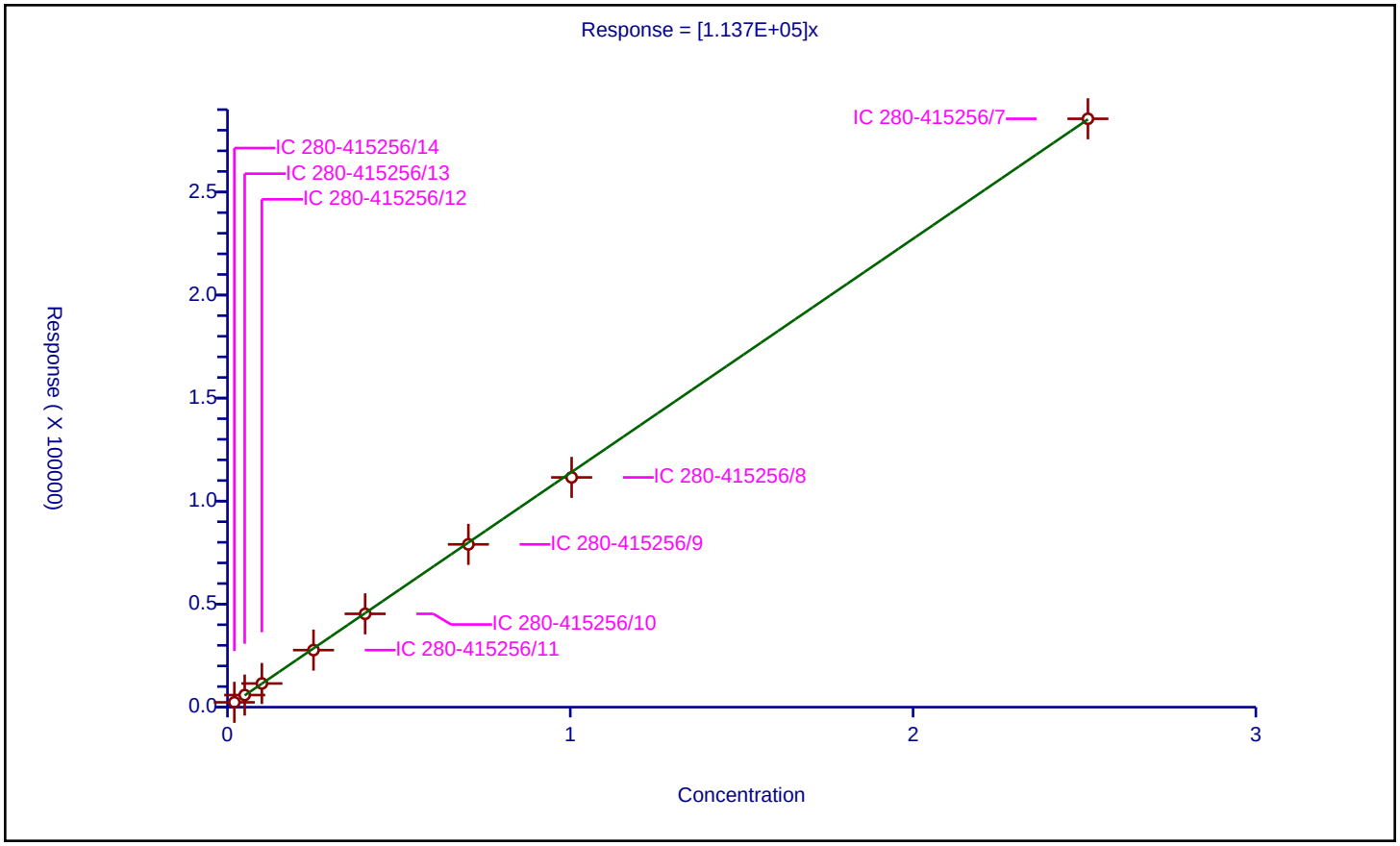
Curve Coefficients

Intercept:	0
Slope:	1.137E+05

Error Coefficients

Standard Error:	1100
Relative Standard Error:	2.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02008	2355.0			117280.876494	Y
2	IC 280-415256/13	0.0502	5884.0			117211.155378	Y
3	IC 280-415256/12	0.1004	11487.0			114412.350598	Y
4	IC 280-415256/11	0.251	27683.0			110290.836653	Y
5	IC 280-415256/10	0.4016	45295.0			112786.354582	Y
6	IC 280-415256/9	0.7028	79009.0			112420.318725	Y
7	IC 280-415256/8	1.004	111505.0			111060.756972	Y
8	IC 280-415256/7	2.51	285557.0			113767.729084	Y



Calibration / m-Nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

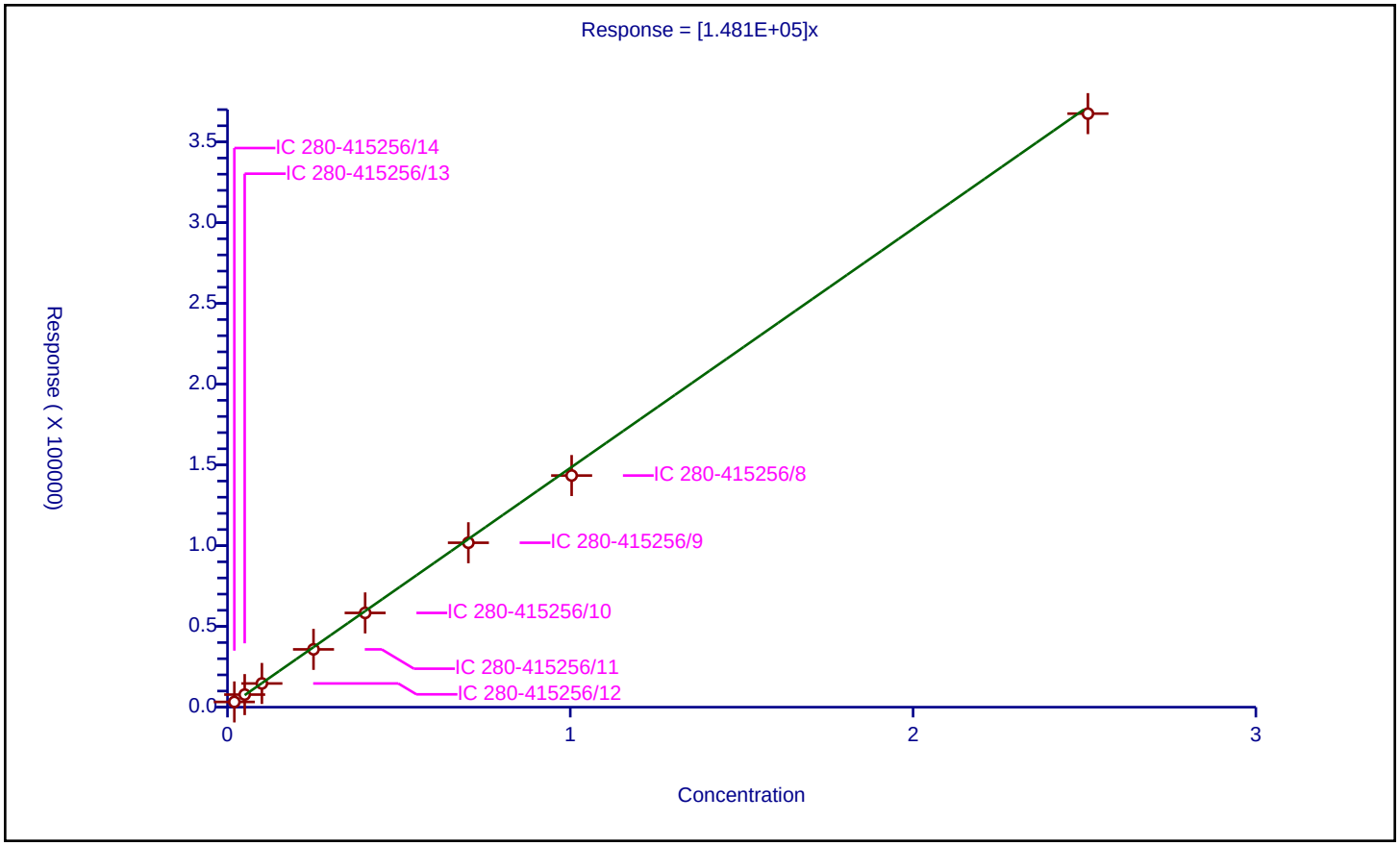
Curve Coefficients

Intercept:	0
Slope:	1.481E+05

Error Coefficients

Standard Error:	2790
Relative Standard Error:	4.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02008	3245.0			161603.585657	Y
2	IC 280-415256/13	0.0502	7786.0			155099.601594	Y
3	IC 280-415256/12	0.1004	14675.0			146165.338645	Y
4	IC 280-415256/11	0.251	35788.0			142581.673307	Y
5	IC 280-415256/10	0.4016	58353.0			145301.294821	Y
6	IC 280-415256/9	0.7028	101807.0			144859.134889	Y
7	IC 280-415256/8	1.004	143426.0			142854.581673	Y
8	IC 280-415256/7	2.51	367509.0			146417.928287	Y



Calibration / PETN

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

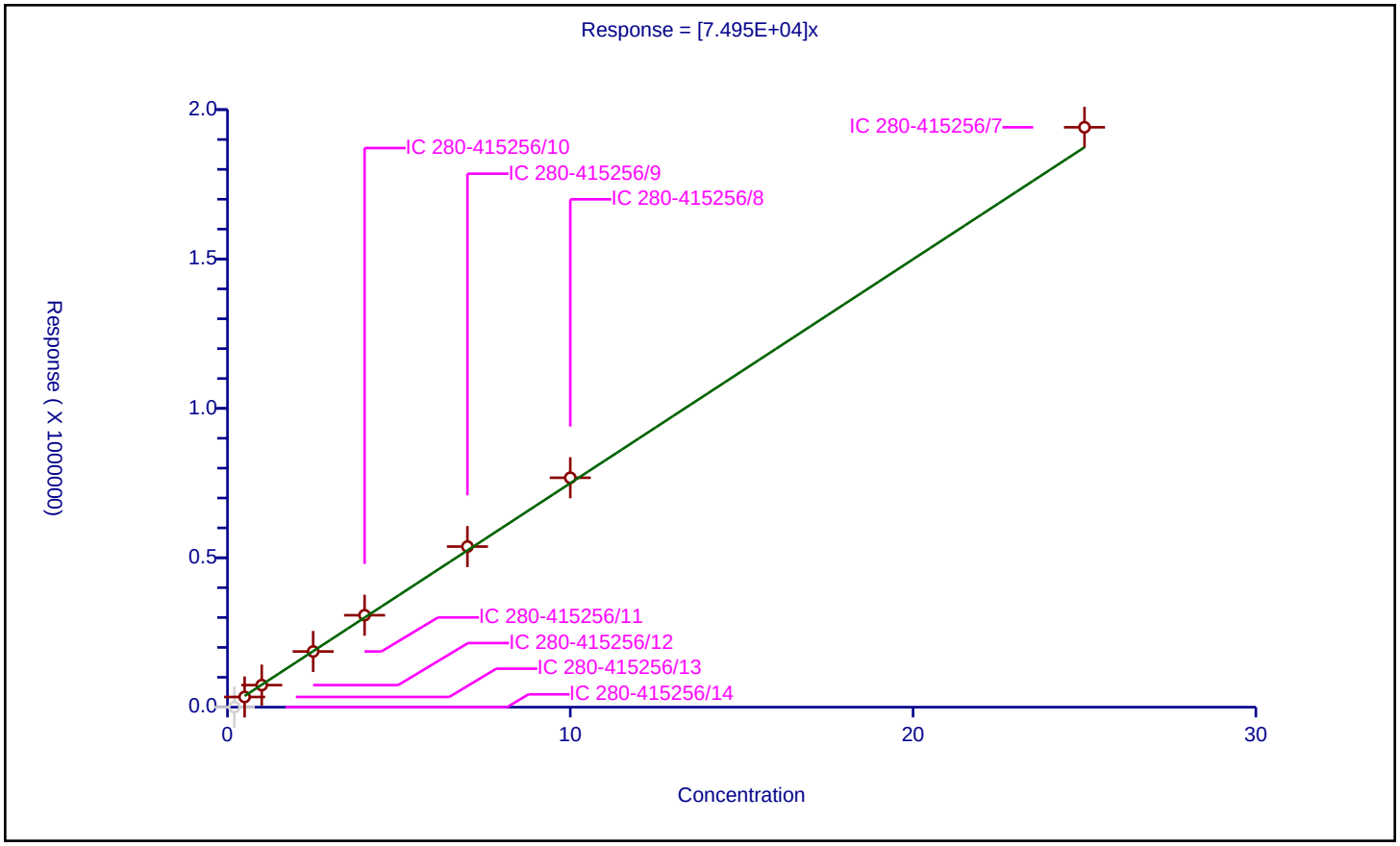
Curve Coefficients

Intercept:	0
Slope:	7.495E+04

Error Coefficients

Standard Error:	29000
Relative Standard Error:	4.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.2	0.0			0.0	N
2	IC 280-415256/13	0.5	34097.0			68194.0	Y
3	IC 280-415256/12	1.0	73842.0			73842.0	Y
4	IC 280-415256/11	2.5	186281.0			74512.4	Y
5	IC 280-415256/10	4.0	307741.0			76935.25	Y
6	IC 280-415256/9	7.0	537514.0			76787.714286	Y
7	IC 280-415256/8	10.0	767790.0			76779.0	Y
8	IC 280-415256/7	25.0	1940836.0			77633.44	Y



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-433312/15 Calibration Date: 10/13/2018 21:03

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 10130015.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Picric acid	Ave	175530	164130		374	400	-6.5	20.0
HMX	Ave	190873	163040		342	400	-14.6	20.0
RDX	Ave	240568	205278		341	400	-14.7	20.0
Nitrobenzene	Ave	436516	402705		369	400	-7.7	20.0
3,5-Dinitroaniline	Lin2		455585		359	400	-10.3	20.0
Nitroglycerin	Ave	195290	170580		3490	4000	-12.7	20.0
1,3-Dinitrobenzene	Ave	697670	622870		357	400	-10.7	20.0
2-Nitrotoluene	Ave	274675	248953		363	400	-9.4	20.0
4-Nitrotoluene	Ave	235818	225210		382	400	-4.5	20.0
4-Amino-2,6-dinitrotoluene	Ave	326821	290775		356	400	-11.0	20.0
3-Nitrotoluene	Ave	312824	277105		354	400	-11.4	20.0
2-Amino-4,6-dinitrotoluene	Ave	482281	410053		340	400	-15.0	20.0
1,3,5-Trinitrobenzene	Ave	508674	458213		360	400	-9.9	20.0
2,6-Dinitrotoluene	Ave	328921	281518		342	400	-14.4	20.0
2,4-Dinitrotoluene	Ave	629622	554770		352	400	-11.9	20.0
Tetryl	Ave	390101	337900		346	400	-13.4	20.0
2,4,6-Trinitrotoluene	Ave	448100	381930		341	400	-14.8	20.0
PETN	Ave	140771	126804		3600	4000	-9.9	20.0
1,2-Dinitrobenzene	Ave	308876	269188		349	400	-12.8	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-433312/15 Calibration Date: 10/13/2018 21:03

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 10130015.D

Analyte	RT	RT WINDOW	
		FROM	TO
Picric acid	6.06	5.93	6.23
HMX	7.13	7.00	7.30
RDX	9.19	9.07	9.37
Nitrobenzene	12.12	12.01	12.31
3,5-Dinitroaniline	15.08	14.96	15.26
Nitroglycerin	15.64	15.52	15.82
1,3-Dinitrobenzene	15.68	15.56	15.86
2-Nitrotoluene	16.44	16.32	16.62
4-Nitrotoluene	16.78	16.66	16.96
4-Amino-2,6-dinitrotoluene	17.19	17.07	17.37
3-Nitrotoluene	17.69	17.57	17.87
2-Amino-4,6-dinitrotoluene	18.23	18.10	18.40
1,3,5-Trinitrobenzene	19.00	18.87	19.17
2,6-Dinitrotoluene	19.80	19.68	19.98
2,4-Dinitrotoluene	20.37	20.24	20.54
Tetryl	23.71	23.57	23.87
2,4,6-Trinitrotoluene	24.72	24.58	24.88
PETN	25.14	24.99	25.29
1,2-Dinitrobenzene	13.13	13.01	13.31

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130015.D
Lims ID: ICV FULL 8330
Client ID:
Sample Type: ICV
Inject. Date: 13-Oct-2018 21:03:26 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: ICV FULL 8330
Misc. Info.: 280-0075057-015
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist:

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:03:04 Calib Date: 13-Oct-2018 20:28:27
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 14-Oct-2018 13:54:52

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	2 2,6-diamino-4-nitrotoluene	1	4.382	4.401	-0.019	171602	0.4000	0.3920	
	3 2,4-diamino-6-nitrotoluene	1	4.988	4.954	0.034	95793	0.4000	0.3450	M
	4 2,4,6-Trinitrophenol	1	6.055	6.081	-0.026	65652	0.4000	0.3740	
	5 HMX	1	7.128	7.148	-0.020	65216	0.4000	0.3417	
	7 RDX	1	9.188	9.221	-0.033	82111	0.4000	0.3413	
	8 Nitrobenzene	1	12.115	12.161	-0.046	161082	0.4000	0.3690	
$	9 1,2-Dinitrobenzene	1	13.128	13.161	-0.033	107675	0.4000	0.3486	
	10 3,5-Dinitroaniline	1	15.082	15.114	-0.032	182234	0.4000	0.3586	
	12 Nitroglycerin	2	15.642	15.667	-0.025	682321	4.00	3.49	
	11 1,3-Dinitrobenzene	1	15.682	15.707	-0.025	249148	0.4000	0.3571	
	13 o-Nitrotoluene	1	16.442	16.474	-0.032	99581	0.4000	0.3625	
	14 p-Nitrotoluene	1	16.775	16.814	-0.039	90084	0.4000	0.3820	
	15 4-Amino-2,6-dinitrotoluene	1	17.188	17.221	-0.033	116310	0.4000	0.3559	
	16 m-Nitrotoluene	1	17.688	17.721	-0.033	110842	0.4000	0.3543	
	17 2-Amino-4,6-dinitrotoluene	1	18.228	18.254	-0.026	164021	0.4000	0.3401	
	18 1,3,5-Trinitrobenzene	1	18.995	19.021	-0.026	183285	0.4000	0.3603	
	19 2,6-Dinitrotoluene	1	19.802	19.834	-0.032	112607	0.4000	0.3424	
	20 2,4-Dinitrotoluene	1	20.368	20.394	-0.026	221908	0.4000	0.3524	
	21 Tetryl	1	23.708	23.721	-0.013	135160	0.4000	0.3465	
	22 2,4,6-Trinitrotoluene	1	24.715	24.734	-0.019	152772	0.4000	0.3409	
	23 PETN	2	25.135	25.141	-0.006	507215	4.00	3.60	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

3,5-DNA LCS_00031	Amount Added:	40.00	Units: uL
8330Surrogate_00098	Amount Added:	40.00	Units: uL
8330DiaminLCS_00030	Amount Added:	40.00	Units: uL
8330 LCS_00081	Amount Added:	40.00	Units: uL

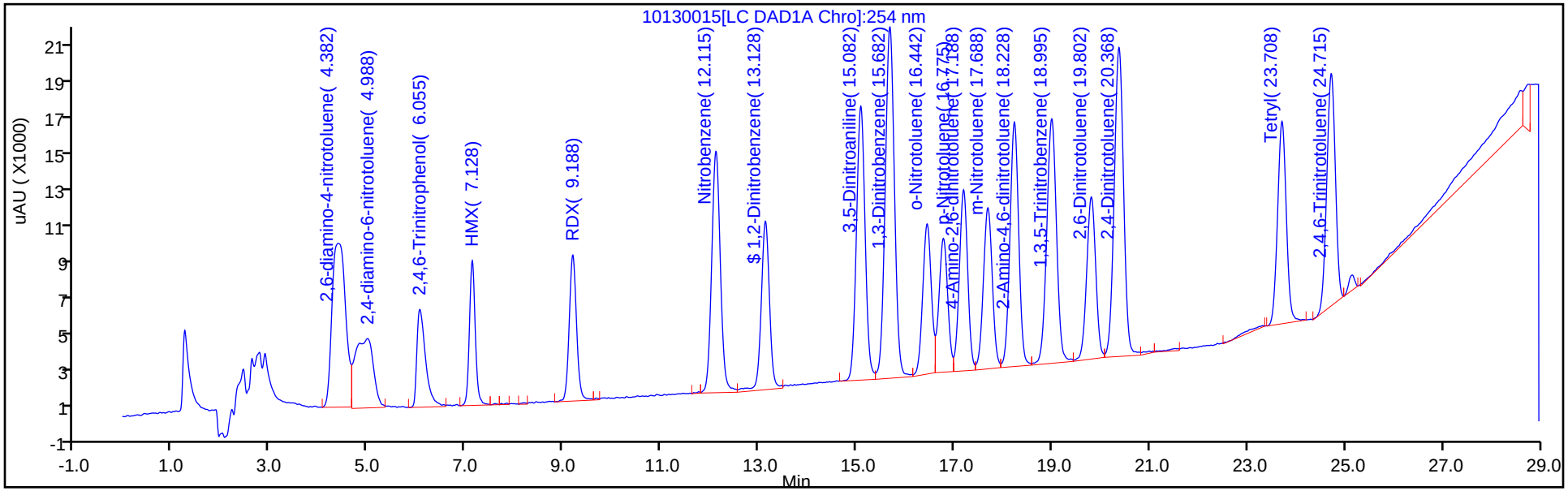
Report Date: 14-Oct-2018 14:03:06 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

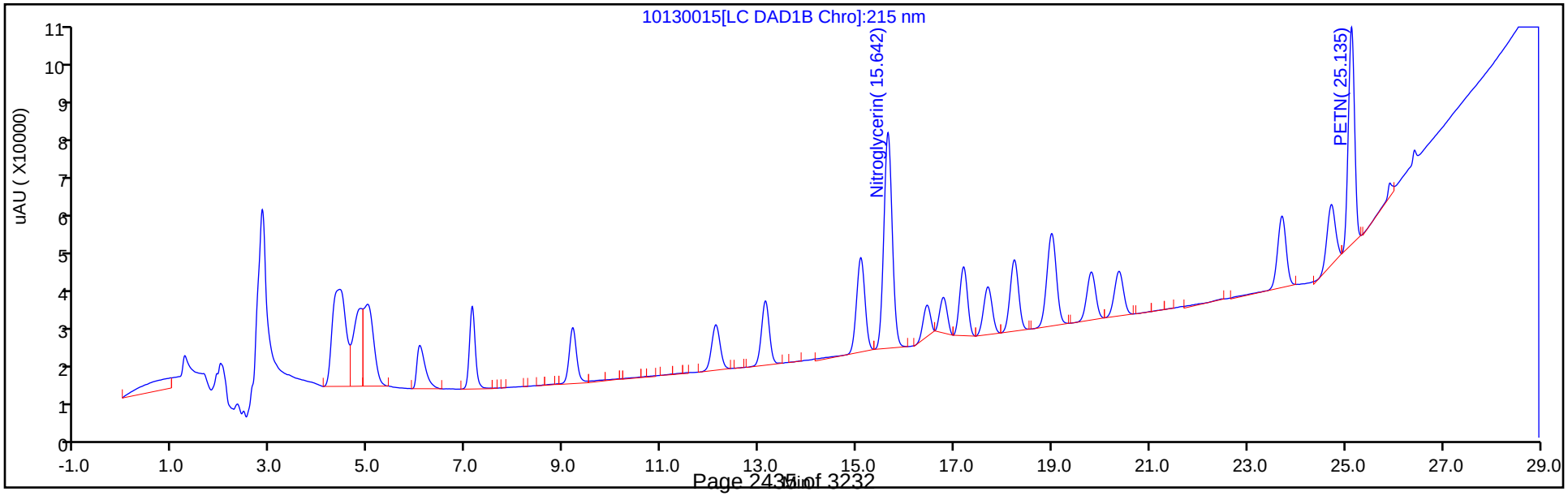
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130015.D

Injection Date:	13-Oct-2018 21:03:26	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	ICV FULL 8330			Worklist Smp#:	15
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435757/15 Calibration Date: 10/31/2018 21:35

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 10310015.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Picric acid	Ave	175530	193528		276	250	10.3	20.0
HMX	Ave	190873	199760		262	250	4.7	20.0
RDX	Ave	240568	242304		252	250	0.7	20.0
Nitrobenzene	Ave	436516	430830		247	251	-1.3	20.0
3,5-Dinitroaniline	Lin2		507548		250	250	-0.1	20.0
Nitroglycerin	Ave	195290	199770		2560	2500	2.3	20.0
1,3-Dinitrobenzene	Ave	697670	707097		254	250	1.4	20.0
2-Nitrotoluene	Ave	274675	268782		245	251	-2.1	20.0
4-Nitrotoluene	Ave	235818	232151		247	251	-1.6	20.0
4-Amino-2,6-dinitrotoluene	Ave	326821	333113		256	251	1.9	20.0
3-Nitrotoluene	Ave	312824	302259		243	251	-3.4	20.0
2-Amino-4,6-dinitrotoluene	Ave	482281	480889		250	251	-0.3	20.0
1,3,5-Trinitrobenzene	Ave	508674	511456		251	250	0.5	20.0
2,6-Dinitrotoluene	Ave	328921	324534		247	251	-1.3	20.0
2,4-Dinitrotoluene	Ave	629622	640754		255	251	1.8	20.0
Tetryl	Ave	390101	391436		251	250	0.3	20.0
2,4,6-Trinitrotoluene	Ave	448100	473040		265	251	5.6	20.0
PETN	Ave	140771	151724		2690	2500	7.8	20.0
1,2-Dinitrobenzene	Ave	308876	310624		251	250	0.6	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435757/15 Calibration Date: 10/31/2018 21:35

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 10310015.D

Analyte	RT	RT WINDOW	
		FROM	TO
Picric acid	6.40	6.34	6.64
HMX	7.13	6.98	7.28
RDX	9.19	9.05	9.35
Nitrobenzene	12.13	11.98	12.28
3,5-Dinitroaniline	15.09	14.95	15.25
Nitroglycerin	15.62	15.47	15.77
1,3-Dinitrobenzene	15.68	15.53	15.83
2-Nitrotoluene	16.43	16.29	16.59
4-Nitrotoluene	16.77	16.62	16.92
4-Amino-2,6-dinitrotoluene	17.18	17.04	17.34
3-Nitrotoluene	17.67	17.53	17.83
2-Amino-4,6-dinitrotoluene	18.22	18.08	18.38
1,3,5-Trinitrobenzene	18.97	18.83	19.13
2,6-Dinitrotoluene	19.78	19.64	19.94
2,4-Dinitrotoluene	20.35	20.21	20.51
Tetryl	23.67	23.54	23.84
2,4,6-Trinitrotoluene	24.69	24.55	24.85
PETN	25.10	24.96	25.26
1,2-Dinitrobenzene	13.13	12.99	13.29

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181031-75684.b\10310015.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 31-Oct-2018 21:35:52 ALS Bottle#: 7 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0075684-015
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181031-75684.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 01-Nov-2018 08:24:31 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0331

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	2 2,6-diamino-4-nitrotoluene	1	4.405	4.405	0.000	103672	0.2500	0.2368	
	3 2,4-diamino-6-nitrotoluene	1	4.965	4.965	0.000	55882	0.2500	0.2012	
	4 2,4,6-Trinitrophenol	1	6.399	6.485	-0.086	48382	0.2500	0.2756	
	5 HMX	1	7.125	7.131	-0.006	49940	0.2500	0.2616	
	7 RDX	1	9.192	9.198	-0.006	60576	0.2500	0.2518	
	8 Nitrobenzene	1	12.125	12.131	-0.006	107923	0.2505	0.2472	
$	9 1,2-Dinitrobenzene	1	13.132	13.138	-0.006	77656	0.2500	0.2514	
	10 3,5-Dinitroaniline	1	15.085	15.098	-0.013	126887	0.2500	0.2496	
	12 Nitroglycerin	2	15.618	15.624	-0.006	499425	2.50	2.56	
	11 1,3-Dinitrobenzene	1	15.678	15.684	-0.006	176951	0.2503	0.2536	
	13 o-Nitrotoluene	1	16.432	16.438	-0.006	67397	0.2508	0.2454	
	14 p-Nitrotoluene	1	16.765	16.771	-0.006	58270	0.2510	0.2471	
	15 4-Amino-2,6-dinitrotoluene	1	17.178	17.191	-0.013	83528	0.2508	0.2556	
	16 m-Nitrotoluene	1	17.672	17.678	-0.006	75867	0.2510	0.2425	
	17 2-Amino-4,6-dinitrotoluene	1	18.218	18.231	-0.013	120583	0.2508	0.2500	
	18 1,3,5-Trinitrobenzene	1	18.972	18.984	-0.012	127864	0.2500	0.2514	
	19 2,6-Dinitrotoluene	1	19.778	19.791	-0.013	81377	0.2508	0.2474	
	20 2,4-Dinitrotoluene	1	20.345	20.364	-0.019	160509	0.2505	0.2549	
	21 Tetryl	1	23.672	23.685	-0.013	97859	0.2500	0.2509	
	22 2,4,6-Trinitrotoluene	1	24.685	24.698	-0.013	118733	0.2510	0.2650	
	23 PETN	2	25.099	25.111	-0.012	379309	2.50	2.69	

Reagents:

8330_ADDs_00017 Amount Added: 12.50 Units: uL
8330IntermStk_00056 Amount Added: 12.50 Units: uL

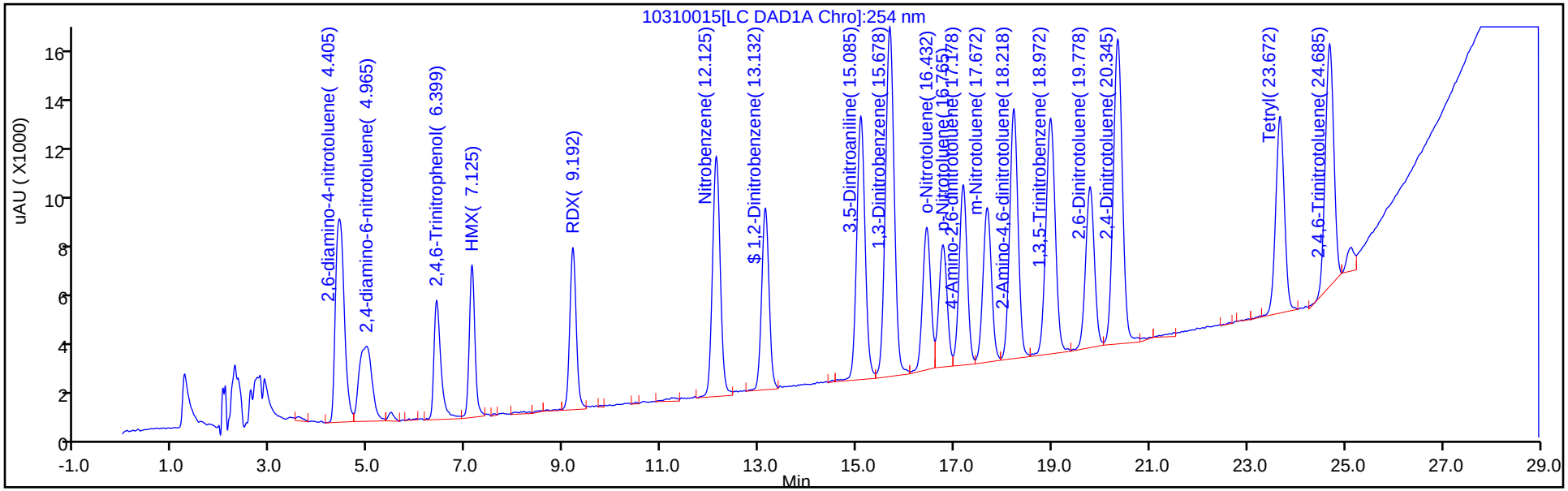
Report Date: 01-Nov-2018 08:24:32 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

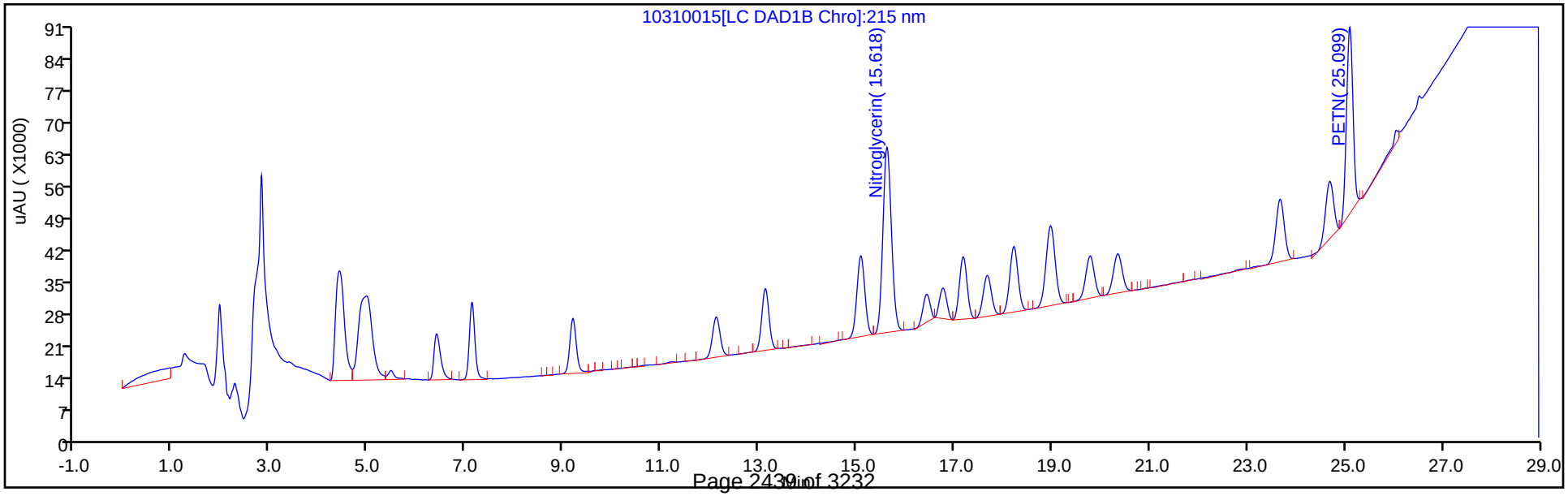
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181031-75684.b\10310015.D

Injection Date:	31-Oct-2018 21:35:52	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	CCV			Worklist Smp#:	15
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435757/22 Calibration Date: 11/01/2018 01:40

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 10310022.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Picric acid	Ave	175530	194120		276	250	10.6	20.0
HMX	Ave	190873	203096		266	250	6.4	20.0
RDX	Ave	240568	242428		252	250	0.8	20.0
Nitrobenzene	Ave	436516	426212		245	251	-2.4	20.0
3,5-Dinitroaniline	Lin2		495856		244	250	-2.4	20.0
Nitroglycerin	Ave	195290	200039		2560	2500	2.4	20.0
1,3-Dinitrobenzene	Ave	697670	702557		252	250	0.7	20.0
2-Nitrotoluene	Ave	274675	265165		242	251	-3.5	20.0
4-Nitrotoluene	Ave	235818	231948		247	251	-1.6	20.0
4-Amino-2,6-dinitrotoluene	Ave	326821	331629		254	251	1.5	20.0
3-Nitrotoluene	Ave	312824	298785		240	251	-4.5	20.0
2-Amino-4,6-dinitrotoluene	Ave	482281	481412		250	251	-0.2	20.0
1,3,5-Trinitrobenzene	Ave	508674	513092		252	250	0.9	20.0
2,6-Dinitrotoluene	Ave	328921	329336		251	251	0.1	20.0
2,4-Dinitrotoluene	Ave	629622	642192		256	251	2.0	20.0
Tetryl	Ave	390101	395528		253	250	1.4	20.0
2,4,6-Trinitrotoluene	Ave	448100	475124		266	251	6.0	20.0
PETN	Ave	140771	151308		2690	2500	7.5	20.0
1,2-Dinitrobenzene	Ave	308876	314684		255	250	1.9	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435757/22 Calibration Date: 11/01/2018 01:40

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 10310022.D

Analyte	RT	RT WINDOW	
		FROM	TO
Picric acid	6.39	6.34	6.64
HMX	7.12	6.98	7.28
RDX	9.19	9.05	9.35
Nitrobenzene	12.12	11.98	12.28
3,5-Dinitroaniline	15.08	14.95	15.25
Nitroglycerin	15.61	15.47	15.77
1,3-Dinitrobenzene	15.67	15.53	15.83
2-Nitrotoluene	16.43	16.29	16.59
4-Nitrotoluene	16.76	16.62	16.92
4-Amino-2,6-dinitrotoluene	17.17	17.04	17.34
3-Nitrotoluene	17.67	17.53	17.83
2-Amino-4,6-dinitrotoluene	18.21	18.08	18.38
1,3,5-Trinitrobenzene	18.97	18.83	19.13
2,6-Dinitrotoluene	19.78	19.64	19.94
2,4-Dinitrotoluene	20.34	20.21	20.51
Tetryl	23.67	23.54	23.84
2,4,6-Trinitrotoluene	24.68	24.55	24.85
PETN	25.09	24.96	25.26
1,2-Dinitrobenzene	13.12	12.99	13.29

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181031-75684.b\10310022.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 01-Nov-2018 01:40:39 ALS Bottle#: 7 Worklist Smp#: 22
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0075684-022
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181031-75684.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 01-Nov-2018 08:24:37 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0331

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.406	4.405	0.001	104808	0.2500	0.2394	
3 2,4-diamino-6-nitrotoluene	1	4.966	4.965	0.001	57868	0.2500	0.2084	
4 2,4,6-Trinitrophenol	1	6.386	6.485	-0.099	48530	0.2500	0.2765	
5 HMX	1	7.119	7.131	-0.012	50774	0.2500	0.2660	
7 RDX	1	9.186	9.198	-0.012	60607	0.2500	0.2519	
8 Nitrobenzene	1	12.119	12.131	-0.012	106766	0.2505	0.2446	
$ 9 1,2-Dinitrobenzene	1	13.119	13.138	-0.019	78671	0.2500	0.2547	
10 3,5-Dinitroaniline	1	15.079	15.098	-0.019	123964	0.2500	0.2439	
12 Nitroglycerin	2	15.612	15.624	-0.012	500097	2.50	2.56	
11 1,3-Dinitrobenzene	1	15.672	15.684	-0.012	175815	0.2503	0.2520	
13 o-Nitrotoluene	1	16.426	16.438	-0.012	66490	0.2508	0.2421	
14 p-Nitrotoluene	1	16.759	16.771	-0.012	58219	0.2510	0.2469	
15 4-Amino-2,6-dinitrotoluene	1	17.172	17.191	-0.019	83156	0.2508	0.2544	
16 m-Nitrotoluene	1	17.672	17.678	-0.006	74995	0.2510	0.2397	
17 2-Amino-4,6-dinitrotoluene	1	18.212	18.231	-0.019	120714	0.2508	0.2503	
18 1,3,5-Trinitrobenzene	1	18.966	18.984	-0.018	128273	0.2500	0.2522	
19 2,6-Dinitrotoluene	1	19.779	19.791	-0.012	82581	0.2508	0.2511	
20 2,4-Dinitrotoluene	1	20.339	20.364	-0.025	160869	0.2505	0.2555	
21 Tetryl	1	23.666	23.685	-0.019	98882	0.2500	0.2535	
22 2,4,6-Trinitrotoluene	1	24.679	24.698	-0.019	119256	0.2510	0.2661	
23 PETN	2	25.092	25.111	-0.019	378269	2.50	2.69	

Reagents:

8330_ADDs_00017 Amount Added: 12.50 Units: uL
8330IntermStk_00056 Amount Added: 12.50 Units: uL

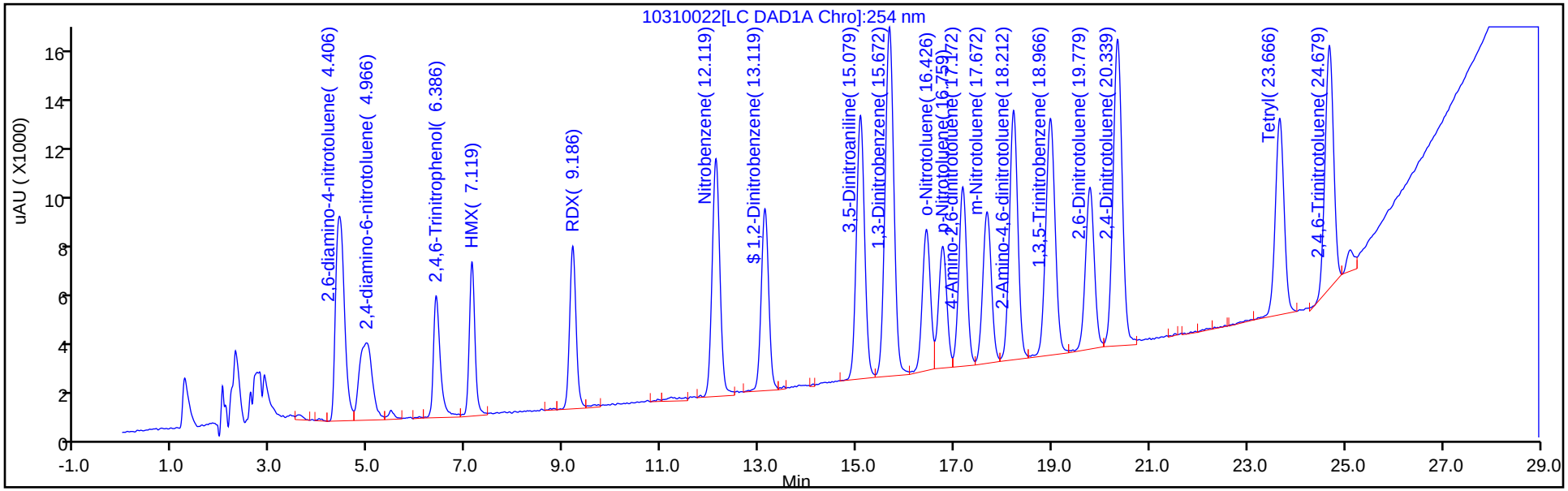
Report Date: 01-Nov-2018 08:24:38 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

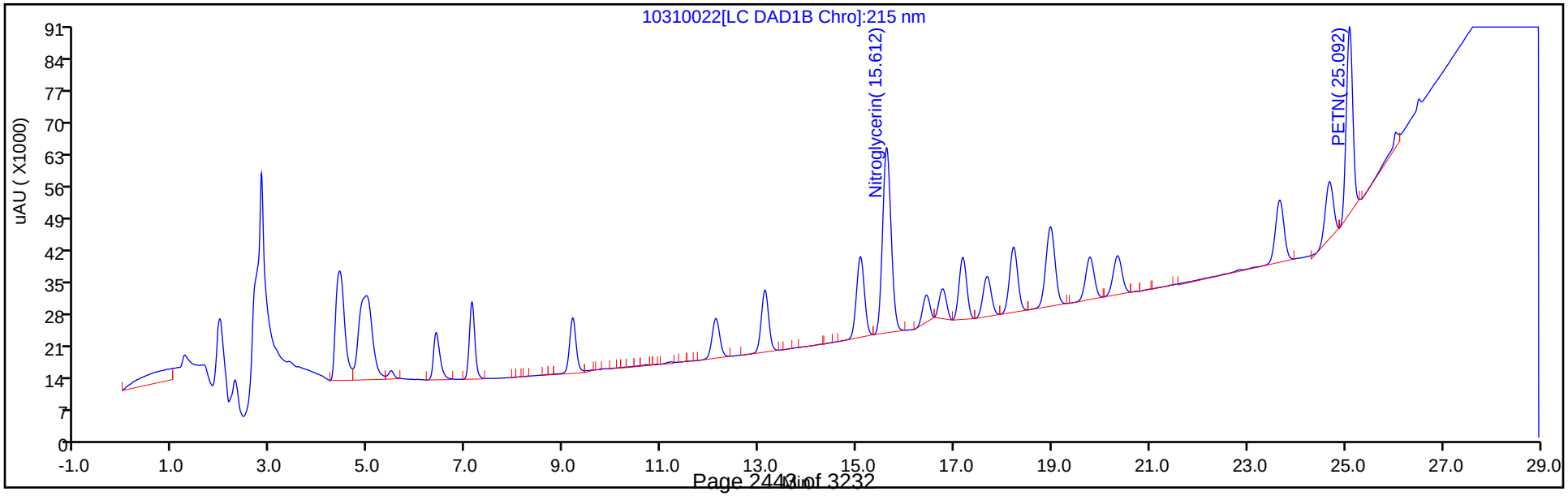
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181031-75684.b\10310022.D

Injection Date:	01-Nov-2018 01:40:39	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	CCV			Worklist Smp#:	22
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436120/12 Calibration Date: 11/02/2018 21:15

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 11020012.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Picric acid	Ave	175530	188520		269	250	7.4	20.0
HMX	Ave	190873	202708		266	250	6.2	20.0
RDX	Ave	240568	247400		257	250	2.8	20.0
Nitrobenzene	Ave	436516	433633		249	251	-0.7	20.0
3,5-Dinitroaniline	Lin2		509124		250	250	0.2	20.0
Nitroglycerin	Ave	195290	203054		2600	2500	4.0	20.0
1,3-Dinitrobenzene	Ave	697670	712975		256	250	2.2	20.0
2-Nitrotoluene	Ave	274675	265133		242	251	-3.5	20.0
4-Nitrotoluene	Ave	235818	230944		246	251	-2.1	20.0
4-Amino-2,6-dinitrotoluene	Ave	326821	333719		256	251	2.1	20.0
3-Nitrotoluene	Ave	312824	295582		237	251	-5.5	20.0
2-Amino-4,6-dinitrotoluene	Ave	482281	482812		251	251	0.1	20.0
1,3,5-Trinitrobenzene	Ave	508674	513368		252	250	0.9	20.0
2,6-Dinitrotoluene	Ave	328921	328499		250	251	-0.1	20.0
2,4-Dinitrotoluene	Ave	629622	637190		254	251	1.2	20.0
Tetryl	Ave	390101	394896		253	250	1.2	20.0
2,4,6-Trinitrotoluene	Ave	448100	483398		271	251	7.9	20.0
PETN	Ave	140771	156846		2790	2500	11.4	20.0
1,2-Dinitrobenzene	Ave	308876	335008		271	250	8.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436120/12 Calibration Date: 11/02/2018 21:15

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 11020012.D

Analyte	RT	RT WINDOW	
		FROM	TO
Picric acid	6.51	6.43	6.73
HMX	7.16	7.02	7.32
RDX	9.24	9.11	9.41
Nitrobenzene	12.21	12.07	12.37
3,5-Dinitroaniline	15.15	15.02	15.32
Nitroglycerin	15.71	15.57	15.87
1,3-Dinitrobenzene	15.75	15.62	15.92
2-Nitrotoluene	16.52	16.39	16.69
4-Nitrotoluene	16.86	16.73	17.03
4-Amino-2,6-dinitrotoluene	17.25	17.13	17.43
3-Nitrotoluene	17.77	17.63	17.93
2-Amino-4,6-dinitrotoluene	18.29	18.17	18.47
1,3,5-Trinitrobenzene	19.05	18.92	19.22
2,6-Dinitrotoluene	19.87	19.74	20.04
2,4-Dinitrotoluene	20.43	20.31	20.61
Tetryl	23.75	23.61	23.91
2,4,6-Trinitrotoluene	24.77	24.62	24.92
PETN	25.18	25.03	25.33
1,2-Dinitrobenzene	13.21	13.08	13.38

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\11020012.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 02-Nov-2018 21:15:27 ALS Bottle#: 7 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0075779-012
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 05-Nov-2018 11:34:27 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 05-Nov-2018 11:27:39

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.472	4.478	-0.006	106746	0.2500	0.2439	
3 2,4-diamino-6-nitrotoluene	1	5.025	5.031	-0.006	54773	0.2500	0.1973	
4 2,4,6-Trinitrophenol	1	6.505	6.578	-0.073	47130	0.2500	0.2685	
5 HMX	1	7.159	7.171	-0.012	50677	0.2500	0.2655	
7 RDX	1	9.239	9.264	-0.025	61850	0.2500	0.2571	
8 Nitrobenzene	1	12.205	12.224	-0.019	108625	0.2505	0.2488	
$ 9 1,2-Dinitrobenzene	1	13.205	13.231	-0.026	83752	0.2500	0.2712	
10 3,5-Dinitroaniline	1	15.152	15.171	-0.019	127281	0.2500	0.2504	
12 Nitroglycerin	2	15.705	15.724	-0.019	507635	2.50	2.60	
11 1,3-Dinitrobenzene	1	15.752	15.771	-0.019	178422	0.2503	0.2557	
13 o-Nitrotoluene	1	16.519	16.544	-0.025	66482	0.2508	0.2420	
14 p-Nitrotoluene	1	16.859	16.878	-0.019	57967	0.2510	0.2458	
15 4-Amino-2,6-dinitrotoluene	1	17.252	17.284	-0.032	83680	0.2508	0.2560	
16 m-Nitrotoluene	1	17.765	17.784	-0.019	74191	0.2510	0.2372	
17 2-Amino-4,6-dinitrotoluene	1	18.292	18.324	-0.032	121065	0.2508	0.2510	
18 1,3,5-Trinitrobenzene	1	19.045	19.071	-0.026	128342	0.2500	0.2523	
19 2,6-Dinitrotoluene	1	19.865	19.891	-0.026	82371	0.2508	0.2504	
20 2,4-Dinitrotoluene	1	20.432	20.458	-0.026	159616	0.2505	0.2535	
21 Tetryl	1	23.752	23.758	-0.006	98724	0.2500	0.2531	
22 2,4,6-Trinitrotoluene	1	24.765	24.771	-0.006	121333	0.2510	0.2708	
23 PETN	2	25.179	25.178	0.001	392114	2.50	2.79	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL
8330_ADDs_00017 Amount Added: 12.50 Units: uL

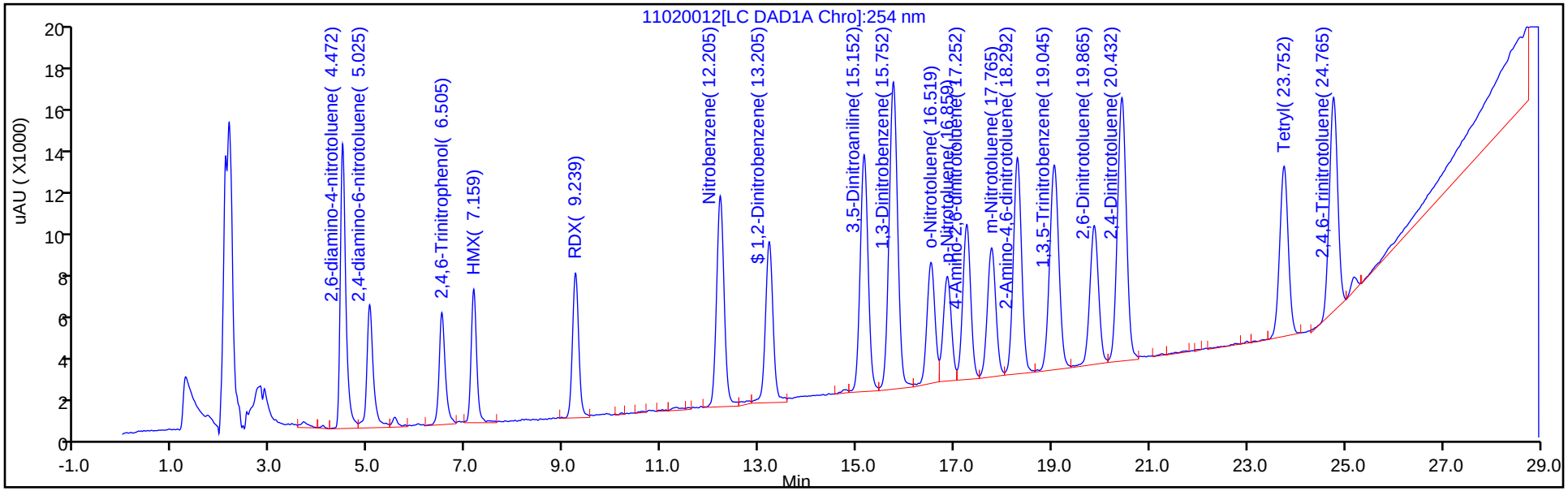
Report Date: 05-Nov-2018 11:34:27 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

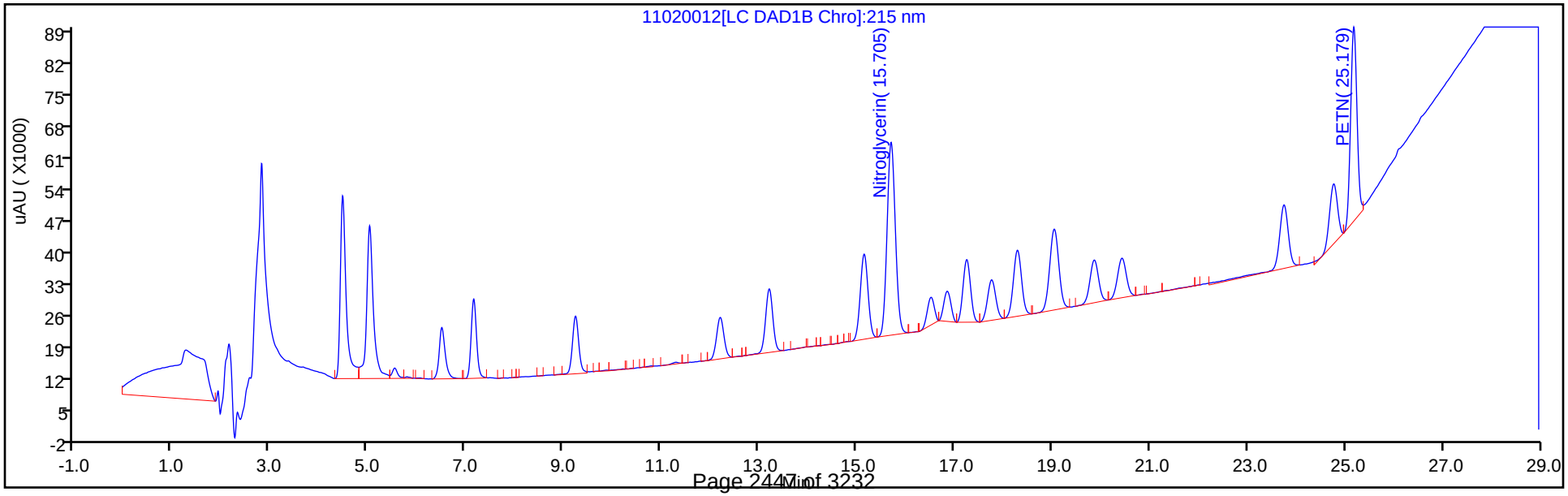
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\11020012.D

Injection Date:	02-Nov-2018 21:15:27	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	CCV			Worklist Smp#:	12
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436120/23 Calibration Date: 11/03/2018 03:39

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 11020023.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Picric acid	Ave	175530	189136		269	250	7.8	20.0
HMX	Ave	190873	202848		266	250	6.3	20.0
RDX	Ave	240568	252784		263	250	5.1	20.0
Nitrobenzene	Ave	436516	396515		228	251	-9.2	20.0
3,5-Dinitroaniline	Lin2		506084		249	250	-0.4	20.0
Nitroglycerin	Ave	195290	202920		2600	2500	3.9	20.0
1,3-Dinitrobenzene	Ave	697670	712000		255	250	2.1	20.0
2-Nitrotoluene	Ave	274675	240407		219	251	-12.5	20.0
4-Nitrotoluene	Ave	235818	214697		229	251	-9.0	20.0
4-Amino-2,6-dinitrotoluene	Ave	326821	332857		255	251	1.8	20.0
3-Nitrotoluene	Ave	312824	269865		217	251	-13.7	20.0
2-Amino-4,6-dinitrotoluene	Ave	482281	486162		253	251	0.8	20.0
1,3,5-Trinitrobenzene	Ave	508674	523756		257	250	3.0	20.0
2,6-Dinitrotoluene	Ave	328921	324957		248	251	-1.2	20.0
2,4-Dinitrotoluene	Ave	629622	641681		255	251	1.9	20.0
Tetryl	Ave	390101	398744		256	250	2.2	20.0
2,4,6-Trinitrotoluene	Ave	448100	475598		266	251	6.1	20.0
PETN	Ave	140771	157728		2800	2500	12.0	20.0
1,2-Dinitrobenzene	Ave	308876	321960		261	250	4.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436120/23 Calibration Date: 11/03/2018 03:39

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 11020023.D

Analyte	RT	RT WINDOW	
		FROM	TO
Picric acid	6.45	6.43	6.73
HMX	7.14	7.02	7.32
RDX	9.23	9.11	9.41
Nitrobenzene	12.18	12.07	12.37
3,5-Dinitroaniline	15.13	15.02	15.32
Nitroglycerin	15.67	15.57	15.87
1,3-Dinitrobenzene	15.73	15.62	15.92
2-Nitrotoluene	16.50	16.39	16.69
4-Nitrotoluene	16.83	16.73	17.03
4-Amino-2,6-dinitrotoluene	17.23	17.13	17.43
3-Nitrotoluene	17.74	17.63	17.93
2-Amino-4,6-dinitrotoluene	18.27	18.17	18.47
1,3,5-Trinitrobenzene	19.02	18.92	19.22
2,6-Dinitrotoluene	19.84	19.74	20.04
2,4-Dinitrotoluene	20.40	20.31	20.61
Tetryl	23.71	23.61	23.91
2,4,6-Trinitrotoluene	24.73	24.62	24.92
PETN	25.14	25.03	25.33
1,2-Dinitrobenzene	13.18	13.08	13.38

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\11020023.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 03-Nov-2018 03:39:56 ALS Bottle#: 7 Worklist Smp#: 23
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0075779-023
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 05-Nov-2018 11:34:56 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0304

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.460	4.478	-0.018	105978	0.2500	0.2421	
3 2,4-diamino-6-nitrotoluene	1	5.013	5.031	-0.018	54196	0.2500	0.1952	
4 2,4,6-Trinitrophenol	1	6.446	6.578	-0.132	47284	0.2500	0.2694	
5 HMX	1	7.140	7.171	-0.031	50712	0.2500	0.2657	
7 RDX	1	9.226	9.264	-0.038	63196	0.2500	0.2627	
8 Nitrobenzene	1	12.180	12.224	-0.044	99327	0.2505	0.2275	
$ 9 1,2-Dinitrobenzene	1	13.180	13.231	-0.051	80490	0.2500	0.2606	
10 3,5-Dinitroaniline	1	15.126	15.171	-0.045	126521	0.2500	0.2489	
12 Nitroglycerin	2	15.673	15.724	-0.051	507300	2.50	2.60	
11 1,3-Dinitrobenzene	1	15.726	15.771	-0.045	178178	0.2503	0.2554	
13 o-Nitrotoluene	1	16.500	16.544	-0.044	60282	0.2508	0.2195	
14 p-Nitrotoluene	1	16.833	16.878	-0.045	53889	0.2510	0.2285	
15 4-Amino-2,6-dinitrotoluene	1	17.233	17.284	-0.051	83464	0.2508	0.2554	
16 m-Nitrotoluene	1	17.740	17.784	-0.044	67736	0.2510	0.2165	
17 2-Amino-4,6-dinitrotoluene	1	18.266	18.324	-0.058	121905	0.2508	0.2528	
18 1,3,5-Trinitrobenzene	1	19.020	19.071	-0.051	130939	0.2500	0.2574	
19 2,6-Dinitrotoluene	1	19.840	19.891	-0.051	81483	0.2508	0.2477	
20 2,4-Dinitrotoluene	1	20.400	20.458	-0.058	160741	0.2505	0.2553	
21 Tetryl	1	23.713	23.758	-0.045	99686	0.2500	0.2555	
22 2,4,6-Trinitrotoluene	1	24.726	24.771	-0.045	119375	0.2510	0.2664	
23 PETN	2	25.140	25.178	-0.038	394320	2.50	2.80	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL
8330_ADDs_00017 Amount Added: 12.50 Units: uL

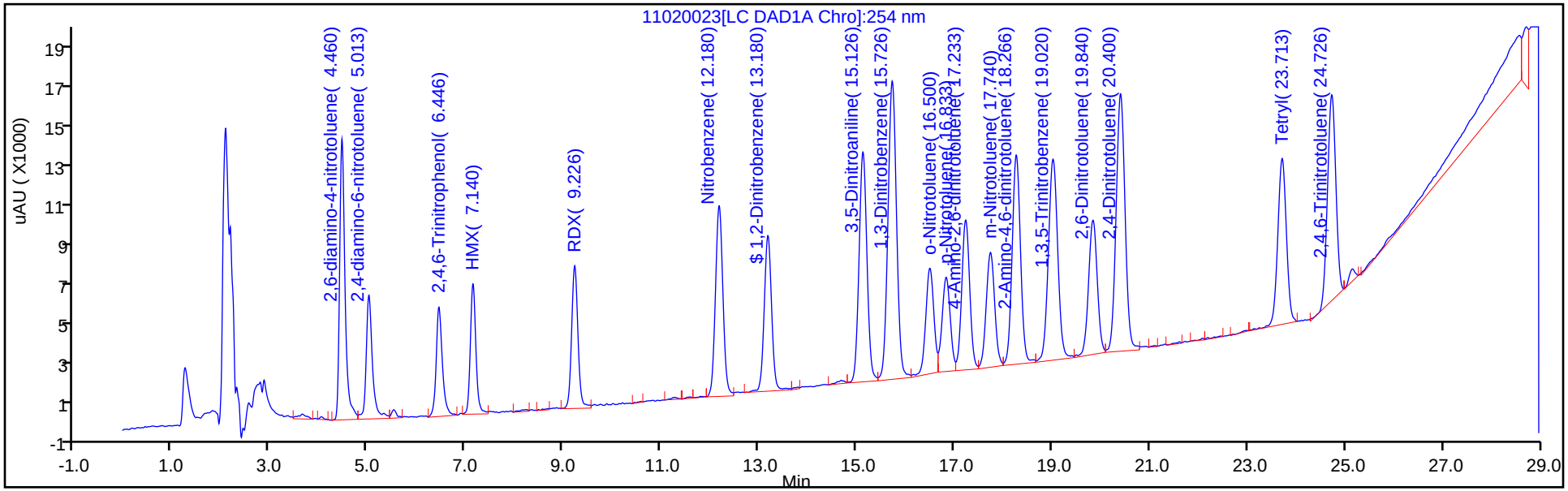
Report Date: 05-Nov-2018 11:34:57 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

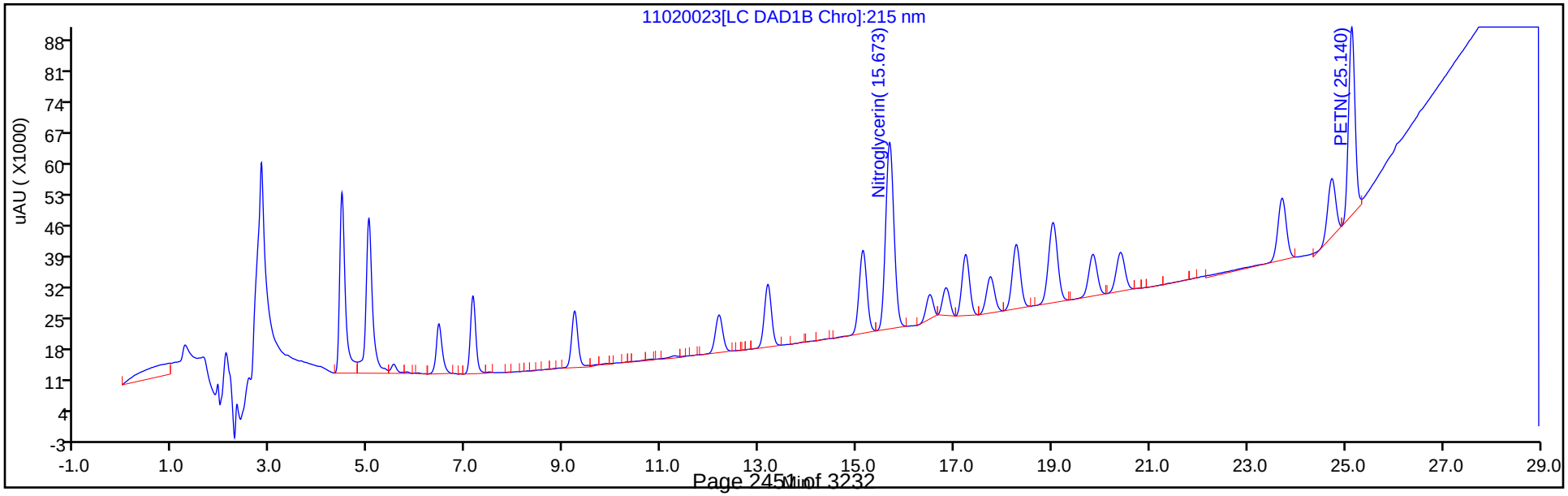
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181102-75779.b\11020023.D

Injection Date:	03-Nov-2018 03:39:56	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	CCV			Worklist Smp#:	23
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436505/18 Calibration Date: 11/06/2018 22:45

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 11060018.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Picric acid	Ave	175530	190796		272	250	8.7	20.0
HMX	Ave	190873	210252		275	250	10.2	20.0
RDX	Ave	240568	245388		255	250	2.0	20.0
Nitrobenzene	Ave	436516	411106		236	251	-5.8	20.0
3,5-Dinitroaniline	Lin2		499096		245	250	-1.8	20.0
Nitroglycerin	Ave	195290	198603		2540	2500	1.7	20.0
1,3-Dinitrobenzene	Ave	697670	704492		253	250	1.0	20.0
2-Nitrotoluene	Ave	274675	251697		230	251	-8.4	20.0
4-Nitrotoluene	Ave	235818	225323		240	251	-4.5	20.0
4-Amino-2,6-dinitrotoluene	Ave	326821	324885		249	251	-0.6	20.0
3-Nitrotoluene	Ave	312824	284418		228	251	-9.1	20.0
2-Amino-4,6-dinitrotoluene	Ave	482281	475725		247	251	-1.4	20.0
1,3,5-Trinitrobenzene	Ave	508674	514068		253	250	1.1	20.0
2,6-Dinitrotoluene	Ave	328921	328144		250	251	-0.2	20.0
2,4-Dinitrotoluene	Ave	629622	650016		259	251	3.2	20.0
Tetryl	Ave	390101	394168		253	250	1.0	20.0
2,4,6-Trinitrotoluene	Ave	448100	470339		263	251	5.0	20.0
PETN	Ave	140771	152153		2700	2500	8.1	20.0
1,2-Dinitrobenzene	Ave	308876	316520		256	250	2.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436505/18 Calibration Date: 11/06/2018 22:45

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 11060018.D

Analyte	RT	RT WINDOW	
		FROM	TO
Picric acid	6.48	6.38	6.68
HMX	7.16	7.01	7.31
RDX	9.23	9.09	9.39
Nitrobenzene	12.18	12.04	12.34
3,5-Dinitroaniline	15.15	15.02	15.32
Nitroglycerin	15.66	15.54	15.84
1,3-Dinitrobenzene	15.74	15.60	15.90
2-Nitrotoluene	16.50	16.36	16.66
4-Nitrotoluene	16.83	16.70	17.00
4-Amino-2,6-dinitrotoluene	17.25	17.12	17.42
3-Nitrotoluene	17.74	17.61	17.91
2-Amino-4,6-dinitrotoluene	18.29	18.16	18.46
1,3,5-Trinitrobenzene	19.04	18.91	19.21
2,6-Dinitrotoluene	19.85	19.72	20.02
2,4-Dinitrotoluene	20.42	20.29	20.59
Tetryl	23.74	23.61	23.91
2,4,6-Trinitrotoluene	24.75	24.62	24.92
PETN	25.13	25.00	25.30
1,2-Dinitrobenzene	13.18	13.06	13.36

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181106-75890.b\11060018.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 06-Nov-2018 22:45:21 ALS Bottle#: 7 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0075890-018
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181106-75890.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 07-Nov-2018 08:47:45 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0317

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.458	4.461	-0.003	103750	0.2500	0.2370	
3 2,4-diamino-6-nitrotoluene	1	5.011	5.014	-0.003	53367	0.2500	0.1922	
4 2,4,6-Trinitrophenol	1	6.478	6.534	-0.056	47699	0.2500	0.2717	
5 HMX	1	7.158	7.161	-0.003	52563	0.2500	0.2754	
7 RDX	1	9.231	9.241	-0.010	61347	0.2500	0.2550	
8 Nitrobenzene	1	12.177	12.194	-0.017	102982	0.2505	0.2359	
$ 9 1,2-Dinitrobenzene	1	13.184	13.207	-0.023	79130	0.2500	0.2562	
10 3,5-Dinitroaniline	1	15.151	15.167	-0.016	124774	0.2500	0.2455	
12 Nitroglycerin	2	15.664	15.687	-0.023	496508	2.50	2.54	
11 1,3-Dinitrobenzene	1	15.737	15.754	-0.017	176299	0.2503	0.2527	
13 o-Nitrotoluene	1	16.497	16.514	-0.017	63113	0.2508	0.2298	
14 p-Nitrotoluene	1	16.831	16.847	-0.016	56556	0.2510	0.2398	
15 4-Amino-2,6-dinitrotoluene	1	17.251	17.267	-0.016	81465	0.2508	0.2493	
16 m-Nitrotoluene	1	17.737	17.761	-0.024	71389	0.2510	0.2282	
17 2-Amino-4,6-dinitrotoluene	1	18.291	18.314	-0.023	119288	0.2508	0.2473	
18 1,3,5-Trinitrobenzene	1	19.037	19.061	-0.024	128517	0.2500	0.2527	
19 2,6-Dinitrotoluene	1	19.851	19.874	-0.023	82282	0.2508	0.2502	
20 2,4-Dinitrotoluene	1	20.417	20.441	-0.024	162829	0.2505	0.2586	
21 Tetryl	1	23.738	23.761	-0.023	98542	0.2500	0.2526	
22 2,4,6-Trinitrotoluene	1	24.751	24.768	-0.017	118055	0.2510	0.2635	
23 PETN	2	25.131	25.154	-0.023	380382	2.50	2.70	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL
8330_ADDs_00017 Amount Added: 12.50 Units: uL

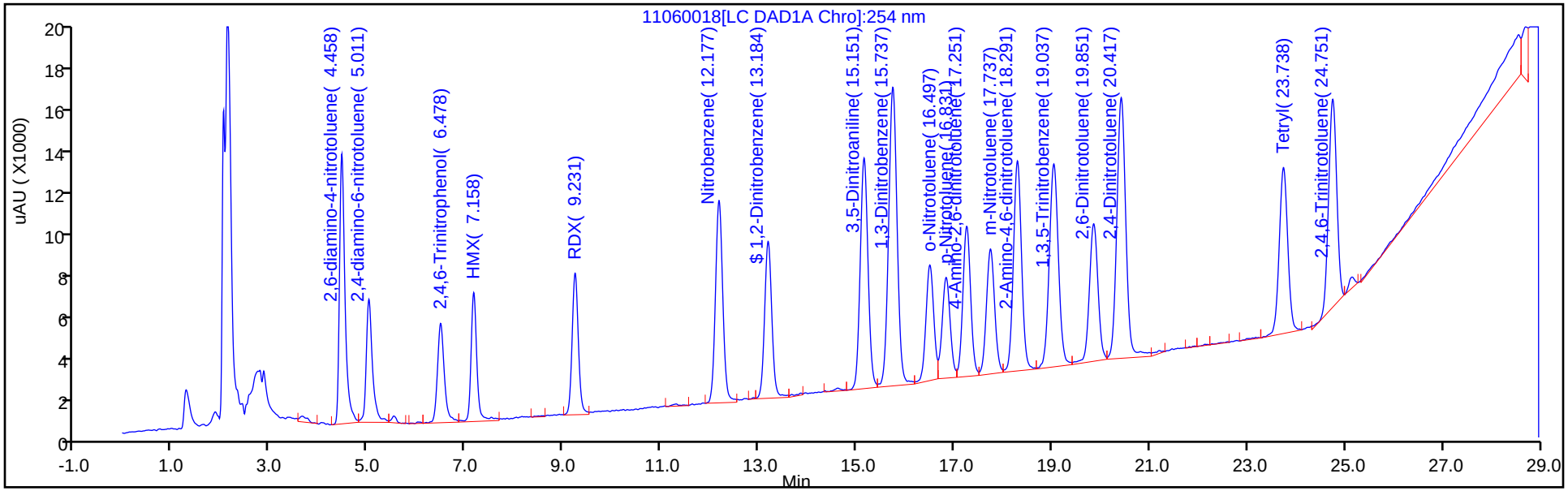
Report Date: 07-Nov-2018 08:47:46 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

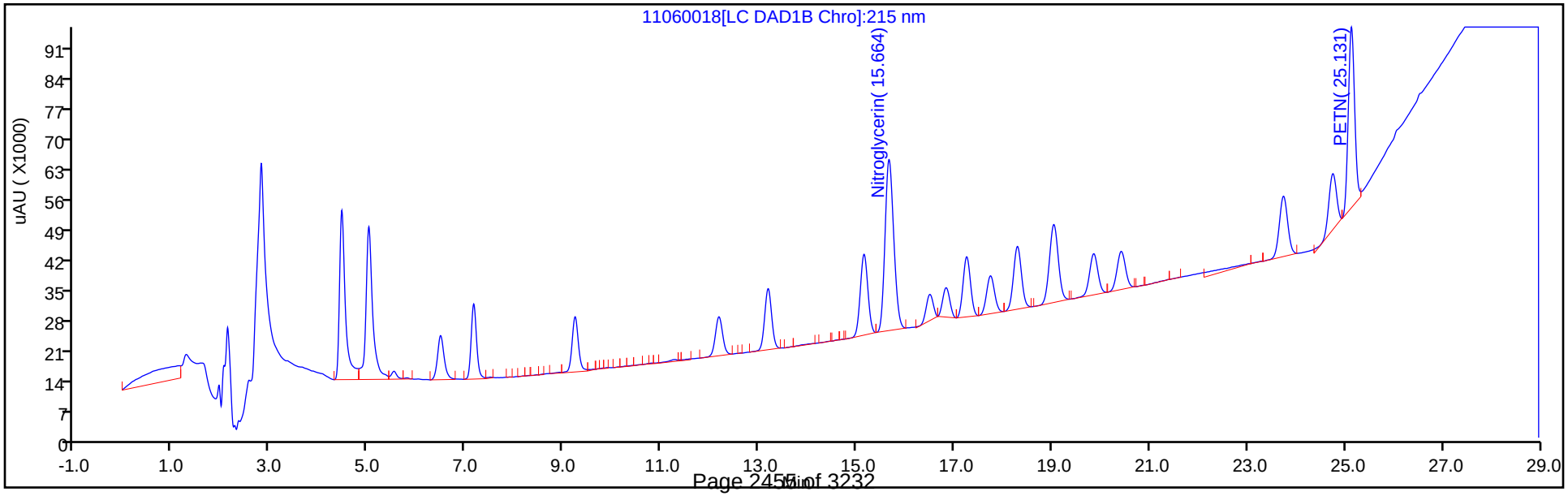
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181106-75890.b\11060018.D

Injection Date:	06-Nov-2018 22:45:21	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	CCV			Worklist Smp#:	18
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436505/27 Calibration Date: 11/07/2018 03:59

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 11060027.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Picric acid	Ave	175530	193424		275	250	10.2	20.0
HMX	Ave	190873	199948		262	250	4.8	20.0
RDX	Ave	240568	251924		262	250	4.7	20.0
Nitrobenzene	Ave	436516	399253		229	251	-8.5	20.0
3,5-Dinitroaniline	Lin2		503924		248	250	-0.9	20.0
Nitroglycerin	Ave	195290	199244		2550	2500	2.0	20.0
1,3-Dinitrobenzene	Ave	697670	714122		256	250	2.4	20.0
2-Nitrotoluene	Ave	274675	241926		221	251	-11.9	20.0
4-Nitrotoluene	Ave	235818	213486		227	251	-9.5	20.0
4-Amino-2,6-dinitrotoluene	Ave	326821	322193		247	251	-1.4	20.0
3-Nitrotoluene	Ave	312824	266247		214	251	-14.9	20.0
2-Amino-4,6-dinitrotoluene	Ave	482281	467059		243	251	-3.2	20.0
1,3,5-Trinitrobenzene	Ave	508674	504188		248	250	-0.9	20.0
2,6-Dinitrotoluene	Ave	328921	313531		239	251	-4.7	20.0
2,4-Dinitrotoluene	Ave	629622	625329		249	251	-0.7	20.0
Tetryl	Ave	390101	387004		248	250	-0.8	20.0
2,4,6-Trinitrotoluene	Ave	448100	468570		262	251	4.6	20.0
PETN	Ave	140771	153370		2720	2500	8.9	20.0
1,2-Dinitrobenzene	Ave	308876	317796		257	250	2.9	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436505/27 Calibration Date: 11/07/2018 03:59

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 11060027.D

Analyte	RT	RT WINDOW	
		FROM	TO
Picric acid	6.44	6.38	6.68
HMX	7.14	7.01	7.31
RDX	9.21	9.09	9.39
Nitrobenzene	12.15	12.04	12.34
3,5-Dinitroaniline	15.12	15.02	15.32
Nitroglycerin	15.62	15.54	15.84
1,3-Dinitrobenzene	15.70	15.60	15.90
2-Nitrotoluene	16.46	16.36	16.66
4-Nitrotoluene	16.79	16.70	17.00
4-Amino-2,6-dinitrotoluene	17.21	17.12	17.42
3-Nitrotoluene	17.70	17.61	17.91
2-Amino-4,6-dinitrotoluene	18.26	18.16	18.46
1,3,5-Trinitrobenzene	19.00	18.91	19.21
2,6-Dinitrotoluene	19.82	19.72	20.02
2,4-Dinitrotoluene	20.38	20.29	20.59
Tetryl	23.70	23.61	23.91
2,4,6-Trinitrotoluene	24.70	24.62	24.92
PETN	25.08	25.00	25.30
1,2-Dinitrobenzene	13.15	13.06	13.36

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181106-75890.b\11060027.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Nov-2018 03:59:58 ALS Bottle#: 7 Worklist Smp#: 27
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0075890-027
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181106-75890.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 07-Nov-2018 08:48:08 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0317

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.449	4.461	-0.012	104717	0.2500	0.2392	
3 2,4-diamino-6-nitrotoluene	1	4.995	5.014	-0.019	56552	0.2500	0.2037	
4 2,4,6-Trinitrophenol	1	6.442	6.534	-0.092	48356	0.2500	0.2755	
5 HMX	1	7.135	7.161	-0.026	49987	0.2500	0.2619	
7 RDX	1	9.209	9.241	-0.032	62981	0.2500	0.2618	
8 Nitrobenzene	1	12.149	12.194	-0.045	100013	0.2505	0.2291	
$ 9 1,2-Dinitrobenzene	1	13.149	13.207	-0.058	79449	0.2500	0.2572	
10 3,5-Dinitroaniline	1	15.115	15.167	-0.052	125981	0.2500	0.2479	
12 Nitroglycerin	2	15.615	15.687	-0.072	498109	2.50	2.55	
11 1,3-Dinitrobenzene	1	15.702	15.754	-0.052	178709	0.2503	0.2562	
13 o-Nitrotoluene	1	16.455	16.514	-0.059	60663	0.2508	0.2209	
14 p-Nitrotoluene	1	16.789	16.847	-0.058	53585	0.2510	0.2272	
15 4-Amino-2,6-dinitrotoluene	1	17.209	17.267	-0.058	80790	0.2508	0.2472	
16 m-Nitrotoluene	1	17.695	17.761	-0.066	66828	0.2510	0.2136	
17 2-Amino-4,6-dinitrotoluene	1	18.255	18.314	-0.059	117115	0.2508	0.2428	
18 1,3,5-Trinitrobenzene	1	18.995	19.061	-0.066	126047	0.2500	0.2478	
19 2,6-Dinitrotoluene	1	19.815	19.874	-0.059	78618	0.2508	0.2390	
20 2,4-Dinitrotoluene	1	20.375	20.441	-0.066	156645	0.2505	0.2488	
21 Tetryl	1	23.695	23.761	-0.066	96751	0.2500	0.2480	
22 2,4,6-Trinitrotoluene	1	24.702	24.768	-0.066	117611	0.2510	0.2625	
23 PETN	2	25.082	25.154	-0.072	383425	2.50	2.72	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL
8330_ADDs_00017 Amount Added: 12.50 Units: uL

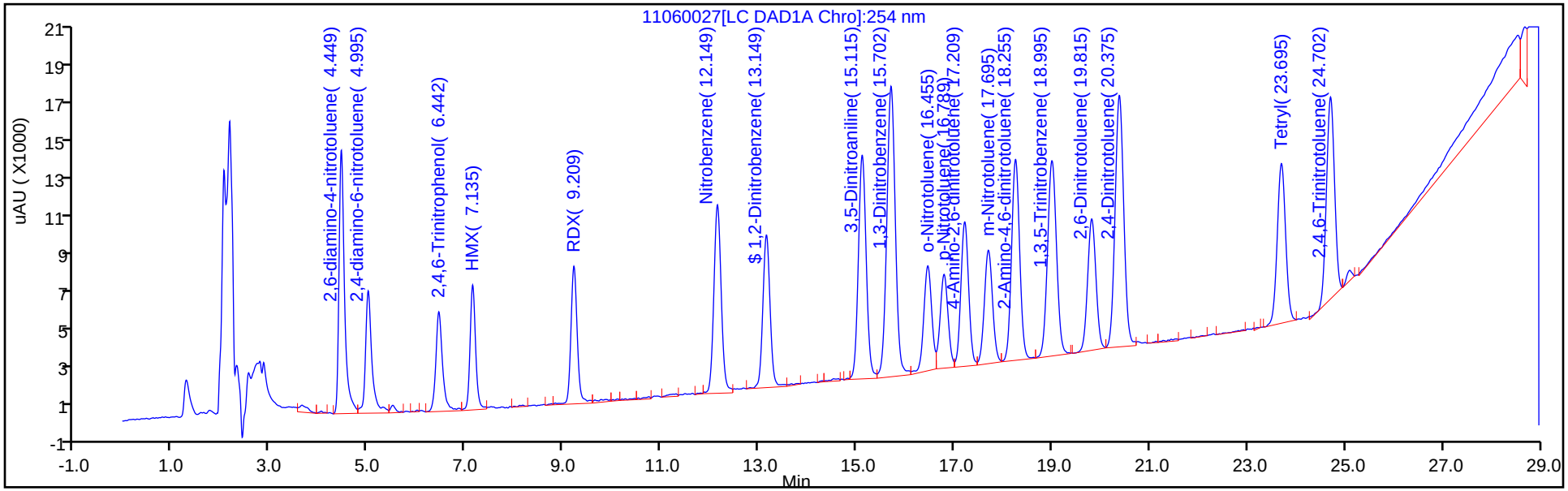
Report Date: 07-Nov-2018 08:48:08 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

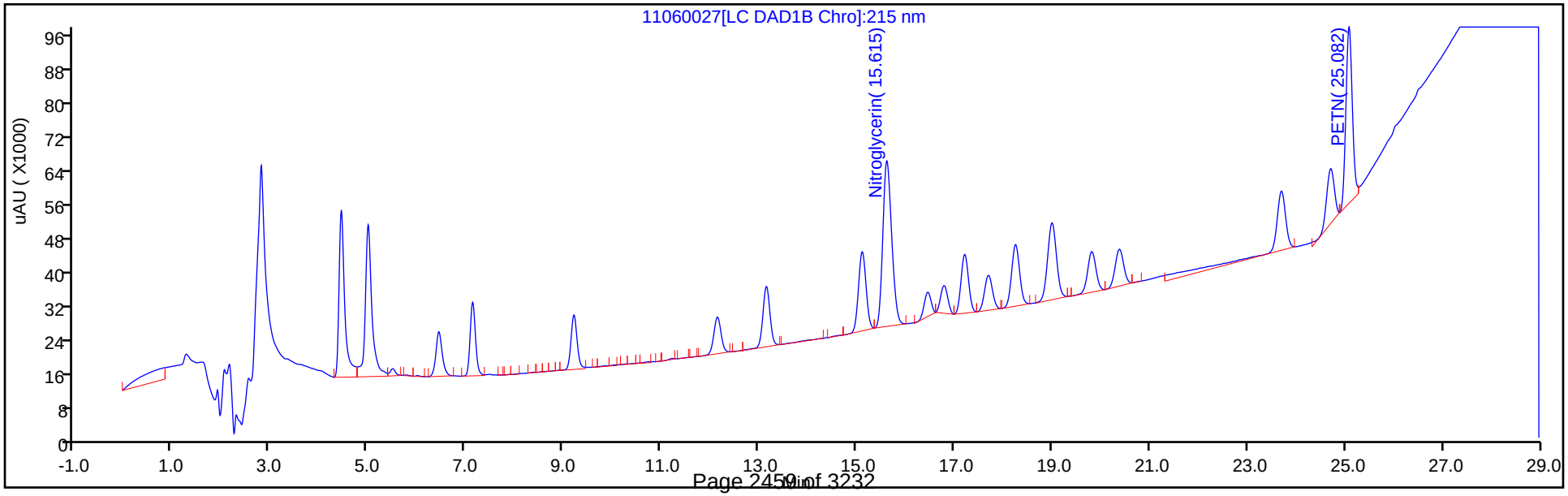
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181106-75890.b\11060027.D

Injection Date:	07-Nov-2018 03:59:58	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	CCV			Worklist Smp#:	27
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-415256/15 Calibration Date: 05/18/2018 13:37

Instrument ID: CHHPLC_X3 Calib Start Date: 04/18/2018 11:11

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 04/18/2018 13:51

Lab File ID: 05180015.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
MNX	Ave	13140	139188			400	959.2*	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-415256/15 Calibration Date: 05/18/2018 13:37

Instrument ID: CHHPLC_X3 Calib Start Date: 04/18/2018 11:11

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 04/18/2018 13:51

Lab File ID: 05180015.D

Analyte	RT	RT WINDOW	
		FROM	TO
MNX	7.30	7.15	7.45

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180015.D
Lims ID: ICV MAIN
Client ID:
Sample Type: ICV
Inject. Date: 18-May-2018 13:37:47 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: ICV MAIN
Misc. Info.: 280-0070054-015
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist:

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:28 Calib Date: 18-May-2018 13:14:50
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180014.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 22-May-2018 11:23:09

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.624	6.624	0.000	33119	0.4000	0.3899	
4 MNX	1	7.304	7.304	0.000	55675	NC	NC	
5 RDX	1	7.718	7.718	0.000	42920	0.4000	0.4104	
6 2,4,6-Trinitrophenol	1	8.038	8.038	0.000	35387	0.4000	0.4196	
$ 7 1,2-Dinitrobenzene	1	8.704	8.704	0.000	51224	0.4000	0.3979	
8 1,3,5-Trinitrobenzene	1	8.864	8.864	0.000	94671	0.4000	0.4145	
9 1,3-Dinitrobenzene	1	9.511	9.511	0.000	125716	0.4000	0.4176	
11 Nitrobenzene	1	9.898	9.898	0.000	81291	0.4000	0.4089	
12 Tetryl	1	10.211	10.211	0.000	70719	0.4000	0.4327	
13 Nitroglycerin	2	10.718	10.718	0.000	277340	4.00	4.08	
14 2,4,6-Trinitrotoluene	1	11.158	11.158	0.000	81234	0.4000	0.3788	
15 4-Amino-2,6-dinitrotoluene	1	11.311	11.311	0.000	66437	0.4000	0.4014	
16 2-Amino-4,6-dinitrotoluene	1	11.591	11.591	0.000	80254	0.4000	0.4023	
17 2,6-Dinitrotoluene	1	11.751	11.751	0.000	62107	0.4000	0.4058	
18 2,4-Dinitrotoluene	1	11.944	11.944	0.000	120805	0.4000	0.4050	
19 o-Nitrotoluene	1	12.778	12.778	0.000	52181	0.4000	0.3946	
20 p-Nitrotoluene	1	13.204	13.204	0.000	46822	0.4000	0.4120	
21 m-Nitrotoluene	1	13.791	13.791	0.000	58385	0.4000	0.3942	
22 PETN	2	14.898	14.898	0.000	309639	4.00	4.13	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

8330Surrogate_00098 Amount Added: 40.00 Units: uL
8330 LCS_00078 Amount Added: 40.00 Units: uL

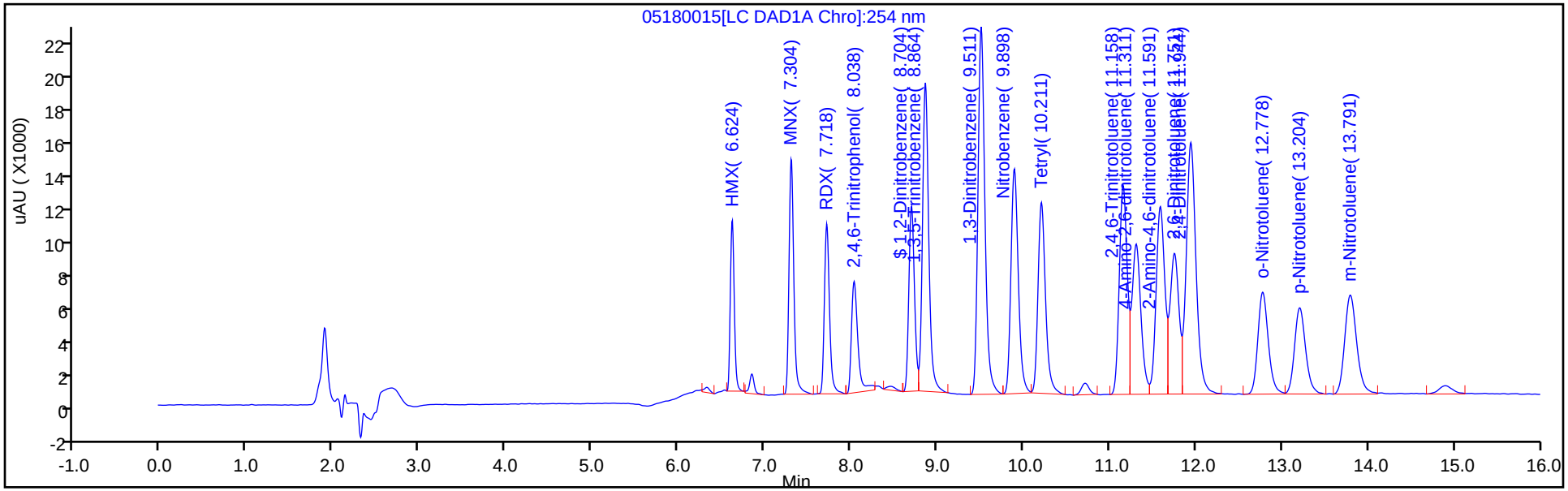
Report Date: 22-May-2018 12:01:28 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

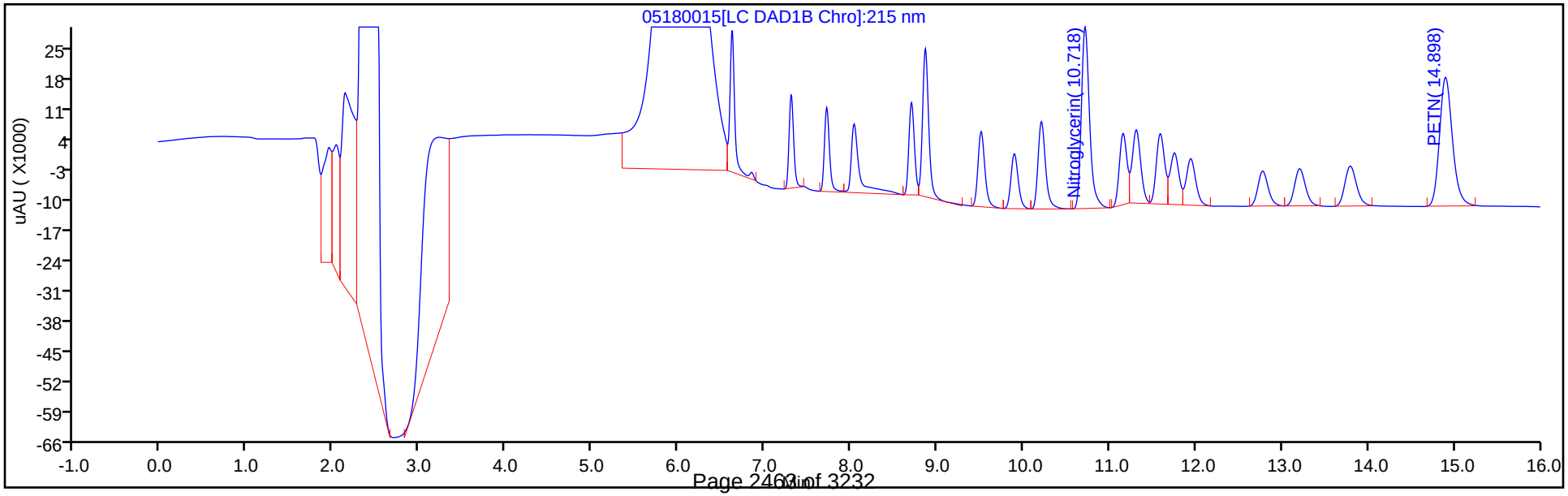
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180015.D

Injection Date:	18-May-2018 13:37:47	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	ICV MAIN			Worklist Smp#:	15
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-415256/15 Calibration Date: 05/18/2018 13:37

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 05180015.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	84946	82798		390	400	-2.5	20.0
RDX	Ave	104577	107300		410	400	2.6	20.0
Picric acid	Ave	84340	88468		420	400	4.9	20.0
1,3,5-Trinitrobenzene	Ave	228408	236678		414	400	3.6	20.0
1,3-Dinitrobenzene	Ave	301023	314290		418	400	4.4	20.0
Nitrobenzene	Ave	198781	203228		409	400	2.2	20.0
Tetryl	Ave	163448	176798		433	400	8.2	20.0
Nitroglycerin	Ave	67945	69335		4080	4000	2.0	20.0
2,4,6-Trinitrotoluene	Ave	214478	203085		379	400	-5.3	20.0
4-Amino-2,6-dinitrotoluene	Ave	165501	166093		401	400	0.4	20.0
2-Amino-4,6-dinitrotoluene	Ave	199466	200635		402	400	0.6	20.0
2,6-Dinitrotoluene	Ave	153065	155268		406	400	1.4	20.0
2,4-Dinitrotoluene	Ave	298269	302013		405	400	1.3	20.0
2-Nitrotoluene	Ave	132225	130453		395	400	-1.3	20.0
4-Nitrotoluene	Ave	113654	117055		412	400	3.0	20.0
3-Nitrotoluene	Ave	148110	145963		394	400	-1.5	20.0
PETN	Ave	74955	77410		4130	4000	3.3	20.0
1,2-Dinitrobenzene	Ave	128727	128060		398	400	-0.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICV 280-415256/15 Calibration Date: 05/18/2018 13:37

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 05180015.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.62	6.47	6.77
RDX	7.72	7.57	7.87
Picric acid	8.04	7.89	8.19
1,3,5-Trinitrobenzene	8.86	8.71	9.01
1,3-Dinitrobenzene	9.51	9.36	9.66
Nitrobenzene	9.90	9.75	10.05
Tetryl	10.21	10.06	10.36
Nitroglycerin	10.72	10.57	10.87
2,4,6-Trinitrotoluene	11.16	11.06	11.26
4-Amino-2,6-dinitrotoluene	11.31	11.21	11.41
2-Amino-4,6-dinitrotoluene	11.59	11.49	11.69
2,6-Dinitrotoluene	11.75	11.65	11.85
2,4-Dinitrotoluene	11.94	11.84	12.04
2-Nitrotoluene	12.78	12.63	12.93
4-Nitrotoluene	13.20	13.05	13.35
3-Nitrotoluene	13.79	13.64	13.94
PETN	14.90	14.75	15.05
1,2-Dinitrobenzene	8.70	8.55	8.85

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180015.D
Lims ID: ICV MAIN
Client ID:
Sample Type: ICV
Inject. Date: 18-May-2018 13:37:47 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: ICV MAIN
Misc. Info.: 280-0070054-015
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist:

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:28 Calib Date: 18-May-2018 13:14:50
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180014.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 22-May-2018 11:23:09

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.624	6.624	0.000	33119	0.4000	0.3899	
4 MNX	1	7.304	7.304	0.000	55675	NC	NC	
5 RDX	1	7.718	7.718	0.000	42920	0.4000	0.4104	
6 2,4,6-Trinitrophenol	1	8.038	8.038	0.000	35387	0.4000	0.4196	
$ 7 1,2-Dinitrobenzene	1	8.704	8.704	0.000	51224	0.4000	0.3979	
8 1,3,5-Trinitrobenzene	1	8.864	8.864	0.000	94671	0.4000	0.4145	
9 1,3-Dinitrobenzene	1	9.511	9.511	0.000	125716	0.4000	0.4176	
11 Nitrobenzene	1	9.898	9.898	0.000	81291	0.4000	0.4089	
12 Tetryl	1	10.211	10.211	0.000	70719	0.4000	0.4327	
13 Nitroglycerin	2	10.718	10.718	0.000	277340	4.00	4.08	
14 2,4,6-Trinitrotoluene	1	11.158	11.158	0.000	81234	0.4000	0.3788	
15 4-Amino-2,6-dinitrotoluene	1	11.311	11.311	0.000	66437	0.4000	0.4014	
16 2-Amino-4,6-dinitrotoluene	1	11.591	11.591	0.000	80254	0.4000	0.4023	
17 2,6-Dinitrotoluene	1	11.751	11.751	0.000	62107	0.4000	0.4058	
18 2,4-Dinitrotoluene	1	11.944	11.944	0.000	120805	0.4000	0.4050	
19 o-Nitrotoluene	1	12.778	12.778	0.000	52181	0.4000	0.3946	
20 p-Nitrotoluene	1	13.204	13.204	0.000	46822	0.4000	0.4120	
21 m-Nitrotoluene	1	13.791	13.791	0.000	58385	0.4000	0.3942	
22 PETN	2	14.898	14.898	0.000	309639	4.00	4.13	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

8330Surrogate_00098 Amount Added: 40.00 Units: uL
8330 LCS_00078 Amount Added: 40.00 Units: uL

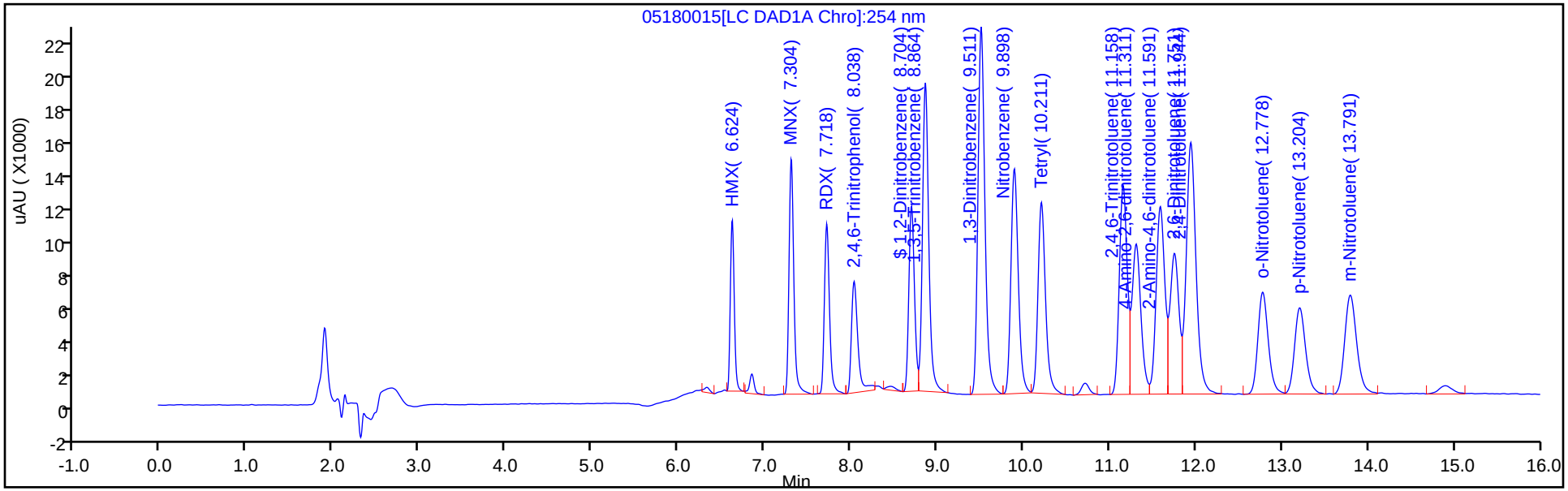
Report Date: 22-May-2018 12:01:28 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

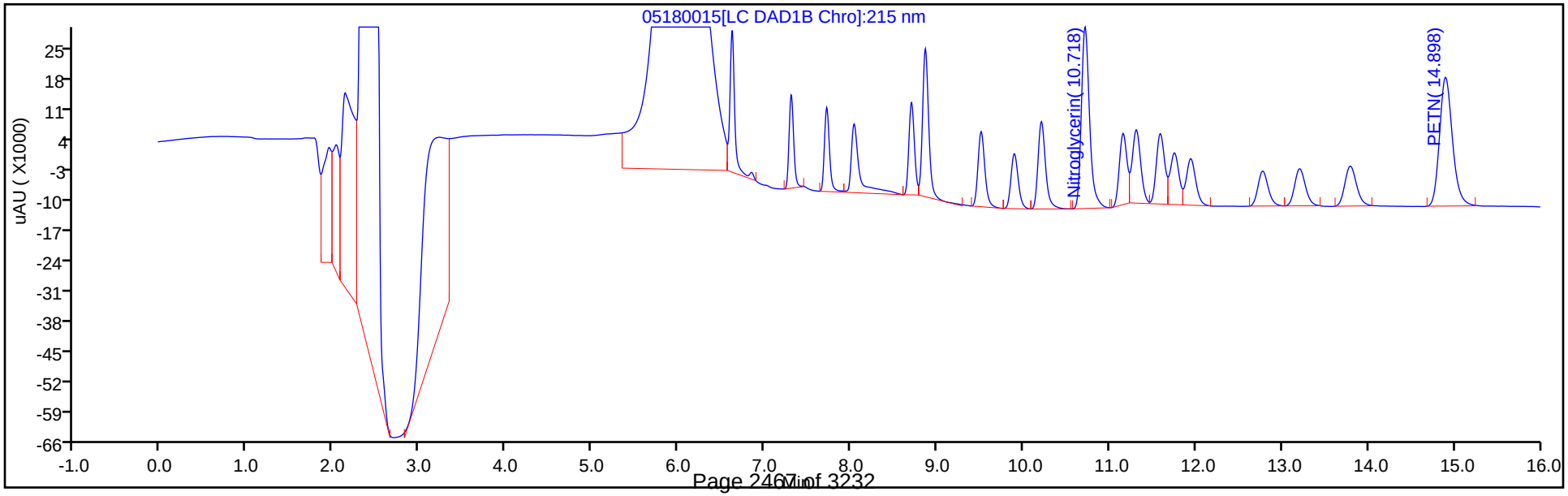
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180015.D

Injection Date:	18-May-2018 13:37:47	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	ICV MAIN			Worklist Smp#:	15
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435517/12 Calibration Date: 10/30/2018 13:18

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 10300012.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	84946	96896		285	250	14.1	20.0
RDX	Ave	104577	117912		282	250	12.8	20.0
Picric acid	Ave	84340	93248		276	250	10.6	20.0
1,3,5-Trinitrobenzene	Ave	228408	258024		282	250	13.0	20.0
1,3-Dinitrobenzene	Ave	301023	333359		277	250	10.7	20.0
Nitrobenzene	Ave	198781	209361		264	251	5.3	20.0
Tetryl	Ave	163448	197884		303	250	21.1*	20.0
Nitroglycerin	Ave	67945	79127		2910	2500	16.5	20.0
2,4,6-Trinitrotoluene	Ave	214478	250303		293	251	16.7	20.0
4-Amino-2,6-dinitrotoluene	Ave	165501	172754		262	251	4.4	20.0
2-Amino-4,6-dinitrotoluene	Ave	199466	222345		280	251	11.5	20.0
2,6-Dinitrotoluene	Ave	153065	168542		276	251	10.1	20.0
2,4-Dinitrotoluene	Ave	298269	318044		267	251	6.6	20.0
2-Nitrotoluene	Ave	132225	139888		265	251	5.8	20.0
4-Nitrotoluene	Ave	113654	122944		272	251	8.2	20.0
3-Nitrotoluene	Ave	148110	148888		252	251	0.5	20.0
PETN	Ave	74955	82937		2770	2500	10.6	20.0
1,2-Dinitrobenzene	Ave	128727	150752		293	250	17.1	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435517/12 Calibration Date: 10/30/2018 13:18

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 10300012.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.67	6.52	6.82
RDX	7.77	7.63	7.93
Picric acid	8.09	7.94	8.24
1,3,5-Trinitrobenzene	8.91	8.77	9.07
1,3-Dinitrobenzene	9.57	9.44	9.74
Nitrobenzene	9.96	9.82	10.12
Tetryl	10.29	10.14	10.44
Nitroglycerin	10.79	10.65	10.95
2,4,6-Trinitrotoluene	11.25	11.15	11.35
4-Amino-2,6-dinitrotoluene	11.43	11.34	11.54
2-Amino-4,6-dinitrotoluene	11.71	11.63	11.83
2,6-Dinitrotoluene	11.85	11.77	11.97
2,4-Dinitrotoluene	12.05	11.97	12.17
2-Nitrotoluene	12.90	12.76	13.06
4-Nitrotoluene	13.34	13.21	13.51
3-Nitrotoluene	13.94	13.81	14.11
PETN	15.03	14.91	15.21
1,2-Dinitrobenzene	8.75	8.61	8.91

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300012.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2018 13:18:17 ALS Bottle#: 7 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Misc. Info.: 280-0075621-012
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 30-Oct-2018 15:11:05 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0307

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.667	6.666	0.001	24224	0.2500	0.2852	
	5 RDX	1	7.774	7.779	-0.005	29478	0.2500	0.2819	
	6 2,4,6-Trinitrophenol	1	8.087	8.092	-0.005	23312	0.2500	0.2764	
$	7 1,2-Dinitrobenzene	1	8.754	8.759	-0.005	37688	0.2500	0.2928	
	8 1,3,5-Trinitrobenzene	1	8.914	8.919	-0.005	64506	0.2500	0.2824	
	9 1,3-Dinitrobenzene	1	9.574	9.585	-0.011	83423	0.2503	0.2771	
	11 Nitrobenzene	1	9.960	9.972	-0.012	52445	0.2505	0.2638	
	12 Tetryl	1	10.287	10.292	-0.005	49471	0.2500	0.3027	
	13 Nitroglycerin	2	10.787	10.799	-0.012	197818	2.50	2.91	
	14 2,4,6-Trinitrotoluene	1	11.247	11.252	-0.005	62826	0.2510	0.2929	
	15 4-Amino-2,6-dinitrotoluene	1	11.427	11.439	-0.012	43318	0.2508	0.2617	
	16 2-Amino-4,6-dinitrotoluene	1	11.714	11.725	-0.011	55753	0.2508	0.2795	
	17 2,6-Dinitrotoluene	1	11.854	11.865	-0.011	42262	0.2508	0.2761	
	18 2,4-Dinitrotoluene	1	12.054	12.065	-0.011	79670	0.2505	0.2671	
	19 o-Nitrotoluene	1	12.900	12.912	-0.012	35077	0.2508	0.2653	
	20 p-Nitrotoluene	1	13.340	13.359	-0.019	30859	0.2510	0.2715	
	21 m-Nitrotoluene	1	13.940	13.959	-0.019	37371	0.2510	0.2523	
	22 PETN	2	15.034	15.059	-0.025	207343	2.50	2.77	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL

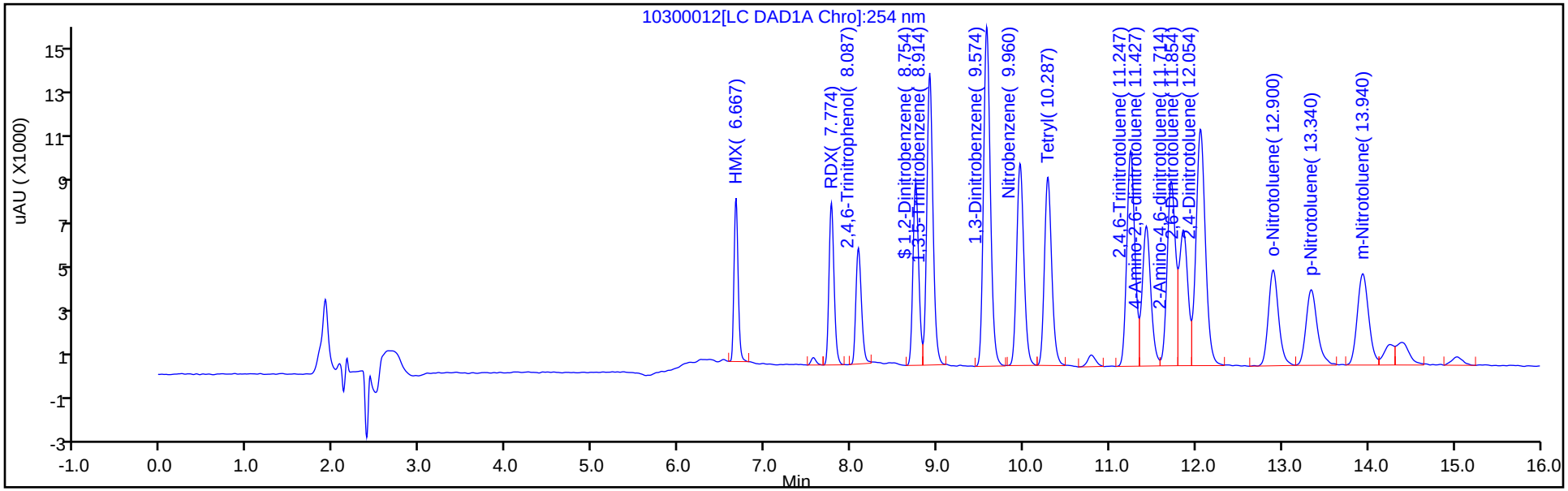
Report Date: 30-Oct-2018 15:11:06 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

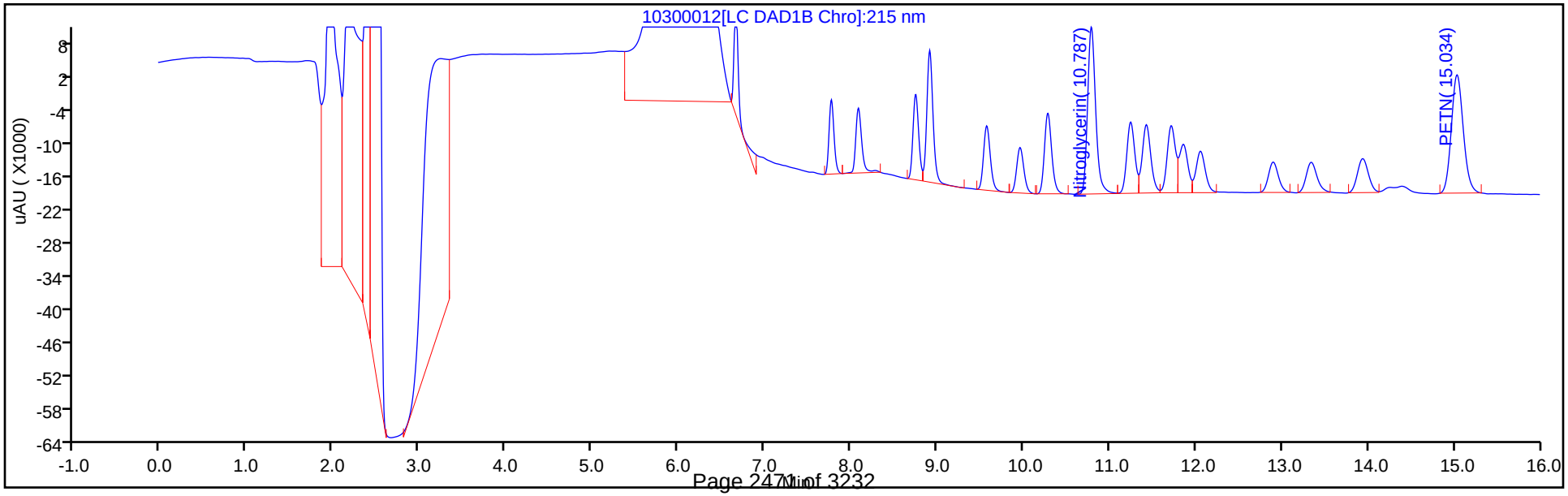
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300012.D

Injection Date:	30-Oct-2018 13:18:17	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	CCV INT			Worklist Smp#:	12
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435517/24 Calibration Date: 10/30/2018 17:53

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 10300024.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	84946	97216		286	250	14.4	20.0
RDX	Ave	104577	118388		283	250	13.2	20.0
Picric acid	Ave	84340	93724		278	250	11.1	20.0
1,3,5-Trinitrobenzene	Ave	228408	259372		284	250	13.6	20.0
1,3-Dinitrobenzene	Ave	301023	332200		276	250	10.4	20.0
Nitrobenzene	Ave	198781	206056		260	251	3.7	20.0
Tetryl	Ave	163448	198852		304	250	21.7*	20.0
Nitroglycerin	Ave	67945	78771		2900	2500	15.9	20.0
2,4,6-Trinitrotoluene	Ave	214478	250753		293	251	16.9	20.0
4-Amino-2,6-dinitrotoluene	Ave	165501	173113		262	251	4.6	20.0
2-Amino-4,6-dinitrotoluene	Ave	199466	223844		281	251	12.2	20.0
2,6-Dinitrotoluene	Ave	153065	165519		271	251	8.1	20.0
2,4-Dinitrotoluene	Ave	298269	321713		270	251	7.9	20.0
2-Nitrotoluene	Ave	132225	137288		260	251	3.8	20.0
4-Nitrotoluene	Ave	113654	119414		264	251	5.1	20.0
3-Nitrotoluene	Ave	148110	144064		244	251	-2.7	20.0
PETN	Ave	74955	83880		2800	2500	11.9	20.0
1,2-Dinitrobenzene	Ave	128727	150908		293	250	17.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435517/24 Calibration Date: 10/30/2018 17:53

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 10300024.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.66	6.52	6.82
RDX	7.77	7.63	7.93
Picric acid	8.09	7.94	8.24
1,3,5-Trinitrobenzene	8.91	8.77	9.07
1,3-Dinitrobenzene	9.58	9.44	9.74
Nitrobenzene	9.96	9.82	10.12
Tetryl	10.28	10.14	10.44
Nitroglycerin	10.79	10.65	10.95
2,4,6-Trinitrotoluene	11.24	11.15	11.35
4-Amino-2,6-dinitrotoluene	11.42	11.34	11.54
2-Amino-4,6-dinitrotoluene	11.71	11.63	11.83
2,6-Dinitrotoluene	11.85	11.77	11.97
2,4-Dinitrotoluene	12.05	11.97	12.17
2-Nitrotoluene	12.89	12.76	13.06
4-Nitrotoluene	13.34	13.21	13.51
3-Nitrotoluene	13.94	13.81	14.11
PETN	15.04	14.91	15.21
1,2-Dinitrobenzene	8.75	8.61	8.91

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300024.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2018 17:53:38 ALS Bottle#: 7 Worklist Smp#: 24
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Misc. Info.: 280-0075621-024
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 31-Oct-2018 13:37:26 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0316

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.661	6.666	-0.005	24304	0.2500	0.2861	
	5 RDX	1	7.768	7.779	-0.011	29597	0.2500	0.2830	
	6 2,4,6-Trinitrophenol	1	8.088	8.092	-0.004	23431	0.2500	0.2778	
$	7 1,2-Dinitrobenzene	1	8.748	8.759	-0.011	37727	0.2500	0.2931	
	8 1,3,5-Trinitrobenzene	1	8.908	8.919	-0.011	64843	0.2500	0.2839	
	9 1,3-Dinitrobenzene	1	9.575	9.585	-0.010	83133	0.2503	0.2762	
	11 Nitrobenzene	1	9.961	9.972	-0.011	51617	0.2505	0.2597	
	12 Tetryl	1	10.281	10.292	-0.011	49713	0.2500	0.3042	
	13 Nitroglycerin	2	10.788	10.799	-0.011	196928	2.50	2.90	
	14 2,4,6-Trinitrotoluene	1	11.241	11.252	-0.011	62939	0.2510	0.2935	
	15 4-Amino-2,6-dinitrotoluene	1	11.421	11.439	-0.018	43408	0.2508	0.2623	
	16 2-Amino-4,6-dinitrotoluene	1	11.708	11.725	-0.017	56129	0.2508	0.2814	
	17 2,6-Dinitrotoluene	1	11.848	11.865	-0.017	41504	0.2508	0.2712	
	18 2,4-Dinitrotoluene	1	12.048	12.065	-0.017	80589	0.2505	0.2702	
	19 o-Nitrotoluene	1	12.888	12.912	-0.024	34425	0.2508	0.2604	
	20 p-Nitrotoluene	1	13.335	13.359	-0.024	29973	0.2510	0.2637	
	21 m-Nitrotoluene	1	13.935	13.959	-0.024	36160	0.2510	0.2441	
	22 PETN	2	15.041	15.059	-0.018	209701	2.50	2.80	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL

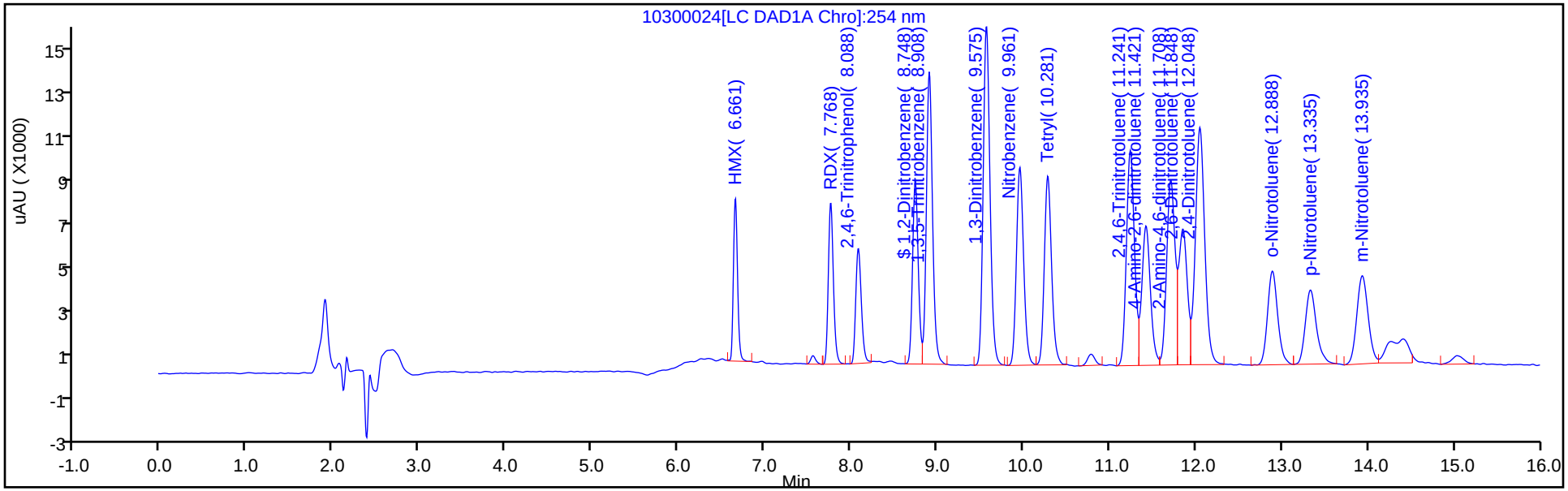
Report Date: 31-Oct-2018 13:37:27 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

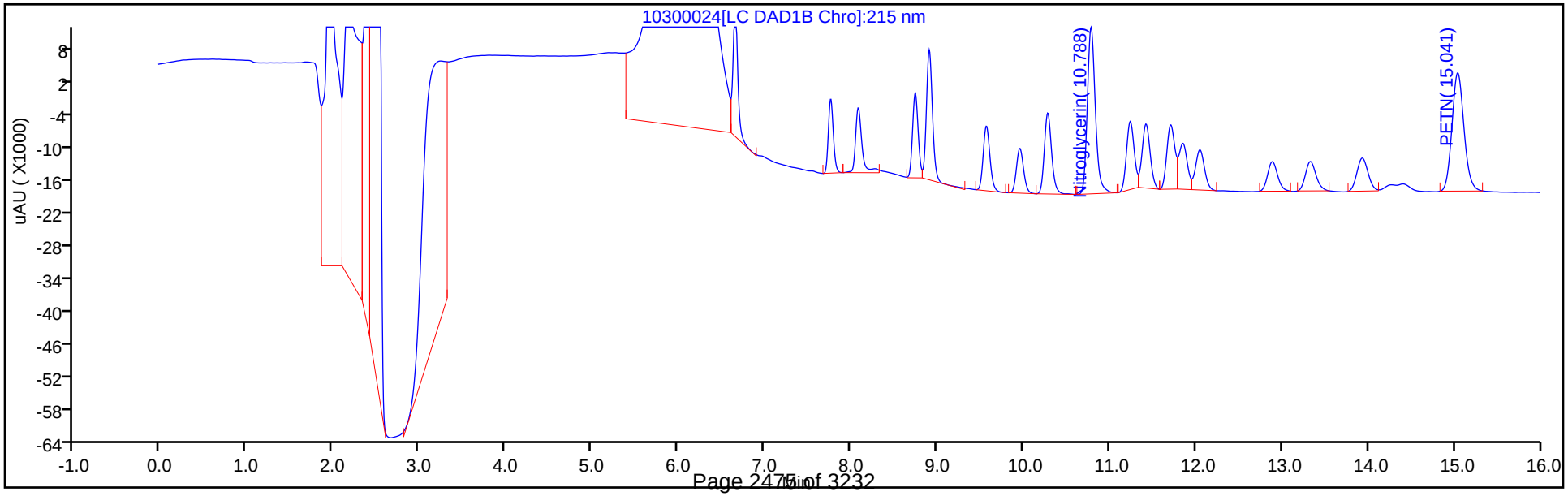
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300024.D

Injection Date:	30-Oct-2018 17:53:38	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	CCV INT			Worklist Smp#:	24
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435517/34 Calibration Date: 10/30/2018 21:43

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 10300034.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	84946	98008		288	250	15.4	20.0
RDX	Ave	104577	119216		285	250	14.0	20.0
Picric acid	Ave	84340	92768		275	250	10.0	20.0
1,3,5-Trinitrobenzene	Ave	228408	258548		283	250	13.2	20.0
1,3-Dinitrobenzene	Ave	301023	333259		277	250	10.7	20.0
Nitrobenzene	Ave	198781	202267		255	251	1.8	20.0
Tetryl	Ave	163448	199384		305	250	22.0*	20.0
Nitroglycerin	Ave	67945	79790		2940	2500	17.4	20.0
2,4,6-Trinitrotoluene	Ave	214478	250904		294	251	17.0	20.0
4-Amino-2,6-dinitrotoluene	Ave	165501	174592		265	251	5.5	20.0
2-Amino-4,6-dinitrotoluene	Ave	199466	227222		286	251	13.9	20.0
2,6-Dinitrotoluene	Ave	153065	165456		271	251	8.1	20.0
2,4-Dinitrotoluene	Ave	298269	325214		273	251	9.0	20.0
2-Nitrotoluene	Ave	132225	134923		256	251	2.0	20.0
4-Nitrotoluene	Ave	113654	121004		267	251	6.5	20.0
3-Nitrotoluene	Ave	148110	142920		242	251	-3.5	20.0
PETN	Ave	74955	83296		2780	2500	11.1	20.0
1,2-Dinitrobenzene	Ave	128727	149880		291	250	16.4	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435517/34 Calibration Date: 10/30/2018 21:43

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 10300034.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.66	6.52	6.82
RDX	7.77	7.63	7.93
Picric acid	8.09	7.94	8.24
1,3,5-Trinitrobenzene	8.91	8.77	9.07
1,3-Dinitrobenzene	9.57	9.44	9.74
Nitrobenzene	9.96	9.82	10.12
Tetryl	10.28	10.14	10.44
Nitroglycerin	10.79	10.65	10.95
2,4,6-Trinitrotoluene	11.25	11.15	11.35
4-Amino-2,6-dinitrotoluene	11.43	11.34	11.54
2-Amino-4,6-dinitrotoluene	11.72	11.63	11.83
2,6-Dinitrotoluene	11.86	11.77	11.97
2,4-Dinitrotoluene	12.06	11.97	12.17
2-Nitrotoluene	12.90	12.76	13.06
4-Nitrotoluene	13.35	13.21	13.51
3-Nitrotoluene	13.95	13.81	14.11
PETN	15.05	14.91	15.21
1,2-Dinitrobenzene	8.75	8.61	8.91

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300034.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2018 21:43:13 ALS Bottle#: 7 Worklist Smp#: 34
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Misc. Info.: 280-0075621-034
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 31-Oct-2018 13:37:43 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0316

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.660	6.666	-0.006	24502	0.2500	0.2884	
	5 RDX	1	7.767	7.779	-0.012	29804	0.2500	0.2850	
	6 2,4,6-Trinitrophenol	1	8.087	8.092	-0.005	23192	0.2500	0.2750	
$	7 1,2-Dinitrobenzene	1	8.747	8.759	-0.012	37470	0.2500	0.2911	
	8 1,3,5-Trinitrobenzene	1	8.907	8.919	-0.012	64637	0.2500	0.2830	
	9 1,3-Dinitrobenzene	1	9.567	9.585	-0.018	83398	0.2503	0.2770	
	11 Nitrobenzene	1	9.960	9.972	-0.012	50668	0.2505	0.2549	
	12 Tetryl	1	10.280	10.292	-0.012	49846	0.2500	0.3050	
	13 Nitroglycerin	2	10.787	10.799	-0.012	199476	2.50	2.94	
	14 2,4,6-Trinitrotoluene	1	11.247	11.252	-0.005	62977	0.2510	0.2936	
	15 4-Amino-2,6-dinitrotoluene	1	11.434	11.439	-0.005	43779	0.2508	0.2645	
	16 2-Amino-4,6-dinitrotoluene	1	11.720	11.725	-0.005	56976	0.2508	0.2856	
	17 2,6-Dinitrotoluene	1	11.860	11.865	-0.005	41488	0.2508	0.2710	
	18 2,4-Dinitrotoluene	1	12.060	12.065	-0.005	81466	0.2505	0.2731	
	19 o-Nitrotoluene	1	12.900	12.912	-0.012	33832	0.2508	0.2559	
	20 p-Nitrotoluene	1	13.347	13.359	-0.012	30372	0.2510	0.2672	
	21 m-Nitrotoluene	1	13.947	13.959	-0.012	35873	0.2510	0.2422	
	22 PETN	2	15.047	15.059	-0.012	208241	2.50	2.78	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL

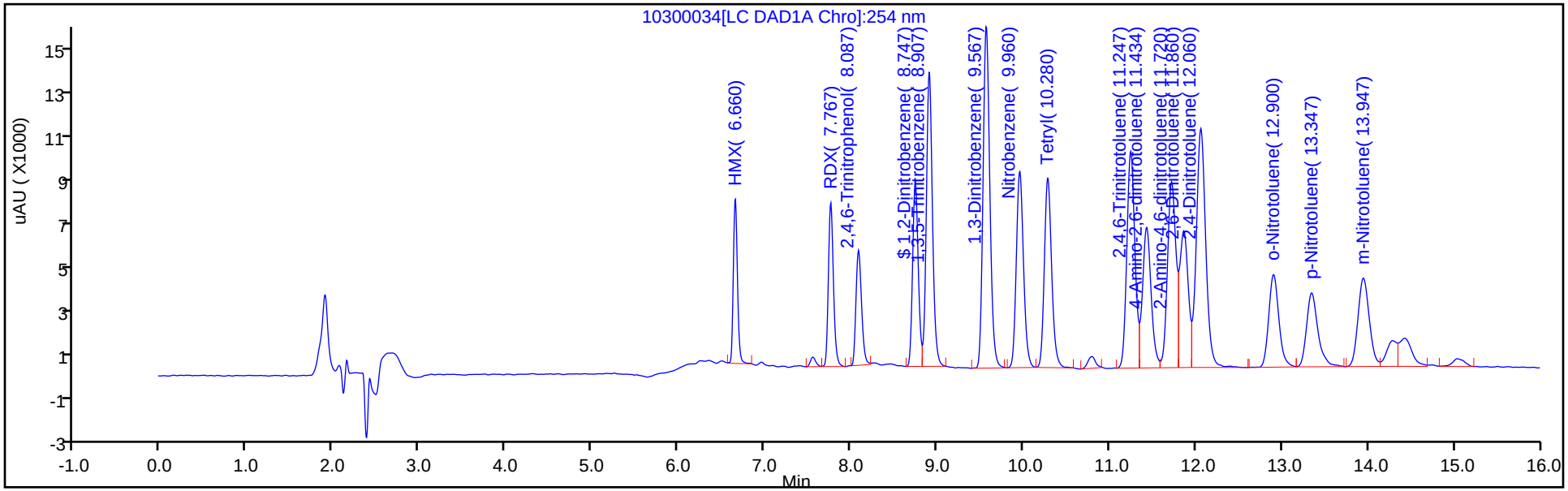
Report Date: 31-Oct-2018 13:37:43 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

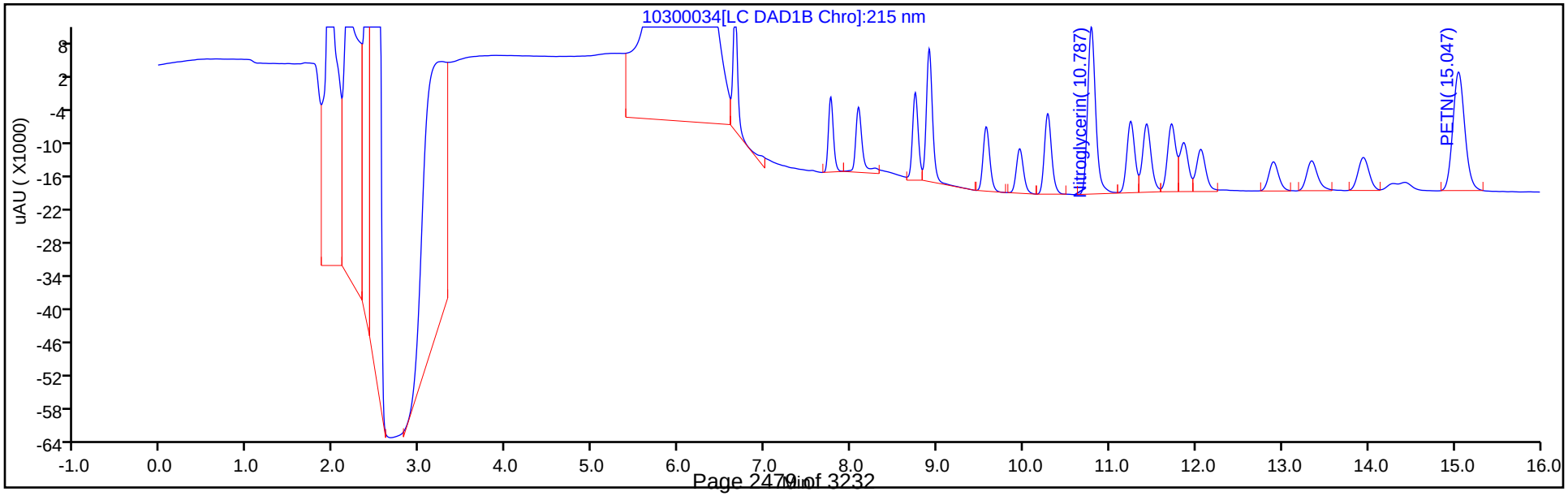
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300034.D

Injection Date:	30-Oct-2018 21:43:13	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	CCV INT			Worklist Smp#:	34
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435886/7 Calibration Date: 11/01/2018 15:40

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 11010007.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	84946	94008		277	250	10.7	20.0
RDX	Ave	104577	115108		275	250	10.1	20.0
Picric acid	Ave	84340	89320		265	250	5.9	20.0
1,3,5-Trinitrobenzene	Ave	228408	251372		275	250	10.1	20.0
1,3-Dinitrobenzene	Ave	301023	322442		268	250	7.1	20.0
Nitrobenzene	Ave	198781	202611		255	251	1.9	20.0
Tetryl	Ave	163448	192640		295	250	17.9	20.0
Nitroglycerin	Ave	67945	77178		2840	2500	13.6	20.0
2,4,6-Trinitrotoluene	Ave	214478	242956		284	251	13.3	20.0
4-Amino-2,6-dinitrotoluene	Ave	165501	167984		255	251	1.5	20.0
2-Amino-4,6-dinitrotoluene	Ave	199466	218879		275	251	9.7	20.0
2,6-Dinitrotoluene	Ave	153065	159318		261	251	4.1	20.0
2,4-Dinitrotoluene	Ave	298269	310754		261	251	4.2	20.0
2-Nitrotoluene	Ave	132225	132207		251	251	-0.0	20.0
4-Nitrotoluene	Ave	113654	115446		255	251	1.6	20.0
3-Nitrotoluene	Ave	148110	144773		245	251	-2.3	20.0
PETN	Ave	74955	80950		2700	2500	8.0	20.0
1,2-Dinitrobenzene	Ave	128727	144252		280	250	12.1	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435886/7 Calibration Date: 11/01/2018 15:40

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 11010007.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.67	6.52	6.82
RDX	7.78	7.63	7.93
Picric acid	8.10	7.95	8.25
1,3,5-Trinitrobenzene	8.94	8.79	9.09
1,3-Dinitrobenzene	9.60	9.45	9.75
Nitrobenzene	9.98	9.83	10.13
Tetryl	10.31	10.16	10.46
Nitroglycerin	10.82	10.67	10.97
2,4,6-Trinitrotoluene	11.28	11.18	11.38
4-Amino-2,6-dinitrotoluene	11.46	11.36	11.56
2-Amino-4,6-dinitrotoluene	11.75	11.65	11.85
2,6-Dinitrotoluene	11.89	11.79	11.99
2,4-Dinitrotoluene	12.09	11.99	12.19
2-Nitrotoluene	12.94	12.79	13.09
4-Nitrotoluene	13.38	13.23	13.53
3-Nitrotoluene	13.98	13.83	14.13
PETN	15.10	14.95	15.25
1,2-Dinitrobenzene	8.77	8.62	8.92

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010007.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 01-Nov-2018 15:40:37 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Misc. Info.: 280-0075718-007
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 02-Nov-2018 16:14:17 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0315

First Level Reviewer: fiedlerh Date: 02-Nov-2018 15:02:54

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.669	6.669	0.000	23502	0.2500	0.2767	
5 RDX	1	7.782	7.782	0.000	28777	0.2500	0.2752	
6 2,4,6-Trinitrophenol	1	8.095	8.095	0.000	22330	0.2500	0.2648	
$ 7 1,2-Dinitrobenzene	1	8.769	8.769	0.000	36063	0.2500	0.2802	
8 1,3,5-Trinitrobenzene	1	8.935	8.935	0.000	62843	0.2500	0.2751	
9 1,3-Dinitrobenzene	1	9.595	9.595	0.000	80691	0.2503	0.2681	
11 Nitrobenzene	1	9.982	9.982	0.000	50754	0.2505	0.2553	
12 Tetryl	1	10.308	10.308	0.000	48160	0.2500	0.2946	
13 Nitroglycerin	2	10.815	10.815	0.000	192944	2.50	2.84	
14 2,4,6-Trinitrotoluene	1	11.275	11.275	0.000	60982	0.2510	0.2843	
15 4-Amino-2,6-dinitrotoluene	1	11.462	11.462	0.000	42122	0.2508	0.2545	
16 2-Amino-4,6-dinitrotoluene	1	11.748	11.748	0.000	54884	0.2508	0.2752	
17 2,6-Dinitrotoluene	1	11.888	11.888	0.000	39949	0.2508	0.2610	
18 2,4-Dinitrotoluene	1	12.088	12.088	0.000	77844	0.2505	0.2610	
19 o-Nitrotoluene	1	12.935	12.935	0.000	33151	0.2508	0.2507	
20 p-Nitrotoluene	1	13.382	13.382	0.000	28977	0.2510	0.2550	
21 m-Nitrotoluene	1	13.982	13.982	0.000	36338	0.2510	0.2453	
22 PETN	2	15.102	15.102	0.000	202374	2.50	2.70	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL

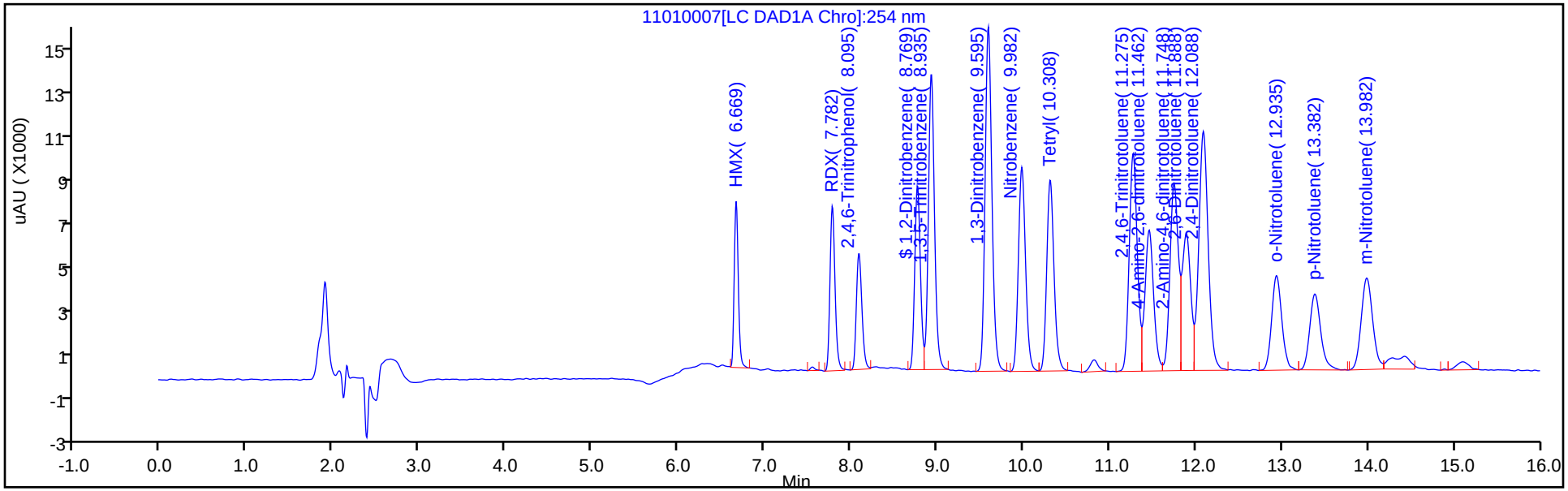
Report Date: 02-Nov-2018 16:14:17 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

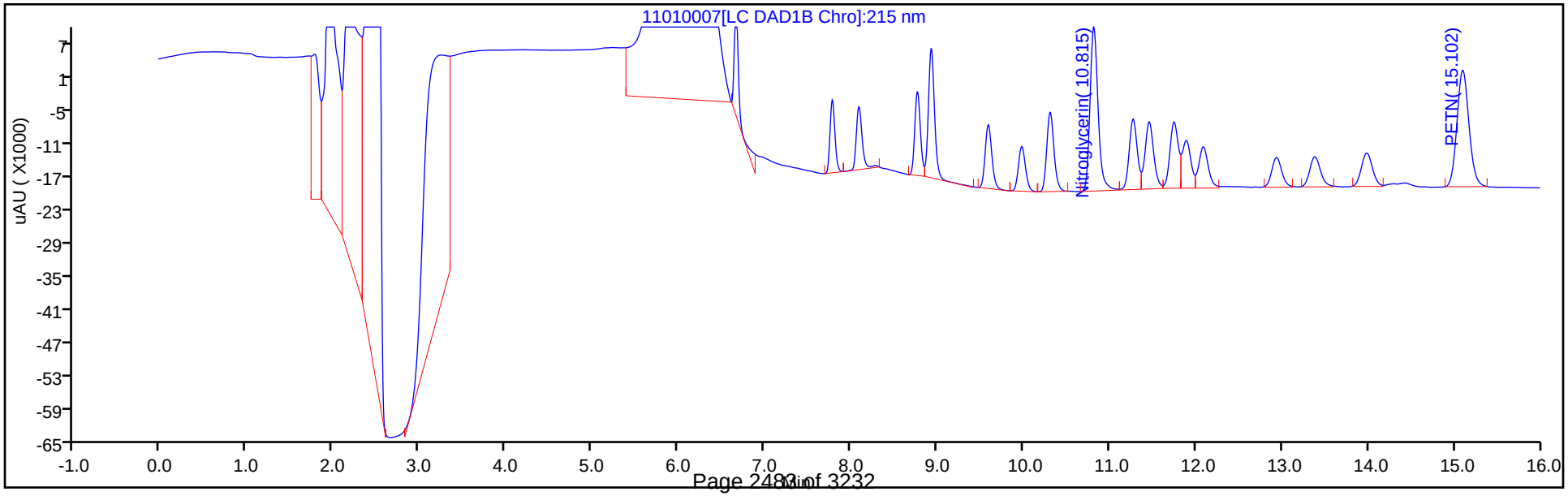
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010007.D

Injection Date:	01-Nov-2018 15:40:37	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	CCV INT			Worklist Smp#:	7
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435886/18 Calibration Date: 11/01/2018 19:53

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 11010018.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	84946	94408		278	250	11.1	20.0
RDX	Ave	104577	114824		274	250	9.8	20.0
Picric acid	Ave	84340	89572		266	250	6.2	20.0
1,3,5-Trinitrobenzene	Ave	228408	251616		275	250	10.2	20.0
1,3-Dinitrobenzene	Ave	301023	322058		268	250	7.0	20.0
Nitrobenzene	Ave	198781	197992		250	251	-0.4	20.0
Tetryl	Ave	163448	193220		296	250	18.2	20.0
Nitroglycerin	Ave	67945	76360		2810	2500	12.4	20.0
2,4,6-Trinitrotoluene	Ave	214478	243861		285	251	13.7	20.0
4-Amino-2,6-dinitrotoluene	Ave	165501	167912		254	251	1.5	20.0
2-Amino-4,6-dinitrotoluene	Ave	199466	219079		275	251	9.8	20.0
2,6-Dinitrotoluene	Ave	153065	158879		260	251	3.8	20.0
2,4-Dinitrotoluene	Ave	298269	311733		262	251	4.5	20.0
2-Nitrotoluene	Ave	132225	130205		247	251	-1.5	20.0
4-Nitrotoluene	Ave	113654	113183		250	251	-0.4	20.0
3-Nitrotoluene	Ave	148110	139430		236	251	-5.9	20.0
PETN	Ave	74955	81239		2710	2500	8.4	20.0
1,2-Dinitrobenzene	Ave	128727	145448		282	250	13.0	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435886/18 Calibration Date: 11/01/2018 19:53

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 11010018.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.66	6.52	6.82
RDX	7.78	7.63	7.93
Picric acid	8.10	7.95	8.25
1,3,5-Trinitrobenzene	8.93	8.79	9.09
1,3-Dinitrobenzene	9.59	9.45	9.75
Nitrobenzene	9.98	9.83	10.13
Tetryl	10.31	10.16	10.46
Nitroglycerin	10.82	10.67	10.97
2,4,6-Trinitrotoluene	11.28	11.18	11.38
4-Amino-2,6-dinitrotoluene	11.46	11.36	11.56
2-Amino-4,6-dinitrotoluene	11.75	11.65	11.85
2,6-Dinitrotoluene	11.90	11.79	11.99
2,4-Dinitrotoluene	12.09	11.99	12.19
2-Nitrotoluene	12.94	12.79	13.09
4-Nitrotoluene	13.38	13.23	13.53
3-Nitrotoluene	13.98	13.83	14.13
PETN	15.10	14.95	15.25
1,2-Dinitrobenzene	8.77	8.62	8.92

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010018.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 01-Nov-2018 19:53:10 ALS Bottle#: 7 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Misc. Info.: 280-0075718-018
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 02-Nov-2018 16:14:27 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0315

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.663	6.669	-0.006	23602	0.2500	0.2778	
	5 RDX	1	7.783	7.782	0.001	28706	0.2500	0.2745	
	6 2,4,6-Trinitrophenol	1	8.097	8.095	0.002	22393	0.2500	0.2655	
$	7 1,2-Dinitrobenzene	1	8.770	8.769	0.001	36362	0.2500	0.2825	
	8 1,3,5-Trinitrobenzene	1	8.930	8.935	-0.005	62904	0.2500	0.2754	
	9 1,3-Dinitrobenzene	1	9.590	9.595	-0.005	80595	0.2503	0.2677	
	11 Nitrobenzene	1	9.983	9.982	0.001	49597	0.2505	0.2495	
	12 Tetryl	1	10.310	10.308	0.002	48305	0.2500	0.2955	
	13 Nitroglycerin	2	10.816	10.815	0.001	190899	2.50	2.81	
	14 2,4,6-Trinitrotoluene	1	11.276	11.275	0.001	61209	0.2510	0.2854	
	15 4-Amino-2,6-dinitrotoluene	1	11.463	11.462	0.001	42104	0.2508	0.2544	
	16 2-Amino-4,6-dinitrotoluene	1	11.750	11.748	0.002	54934	0.2508	0.2754	
	17 2,6-Dinitrotoluene	1	11.896	11.888	0.008	39839	0.2508	0.2603	
	18 2,4-Dinitrotoluene	1	12.090	12.088	0.002	78089	0.2505	0.2618	
	19 o-Nitrotoluene	1	12.936	12.935	0.001	32649	0.2508	0.2469	
	20 p-Nitrotoluene	1	13.383	13.382	0.001	28409	0.2510	0.2500	
	21 m-Nitrotoluene	1	13.983	13.982	0.001	34997	0.2510	0.2363	
	22 PETN	2	15.103	15.102	0.001	203098	2.50	2.71	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL

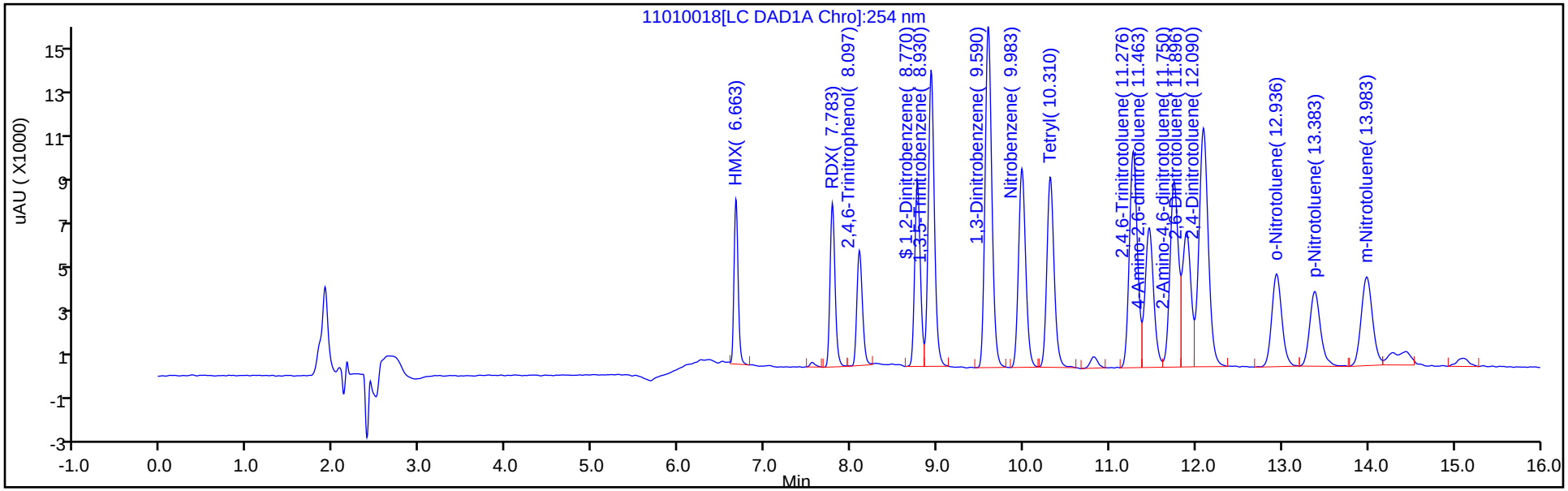
Report Date: 02-Nov-2018 16:14:27 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

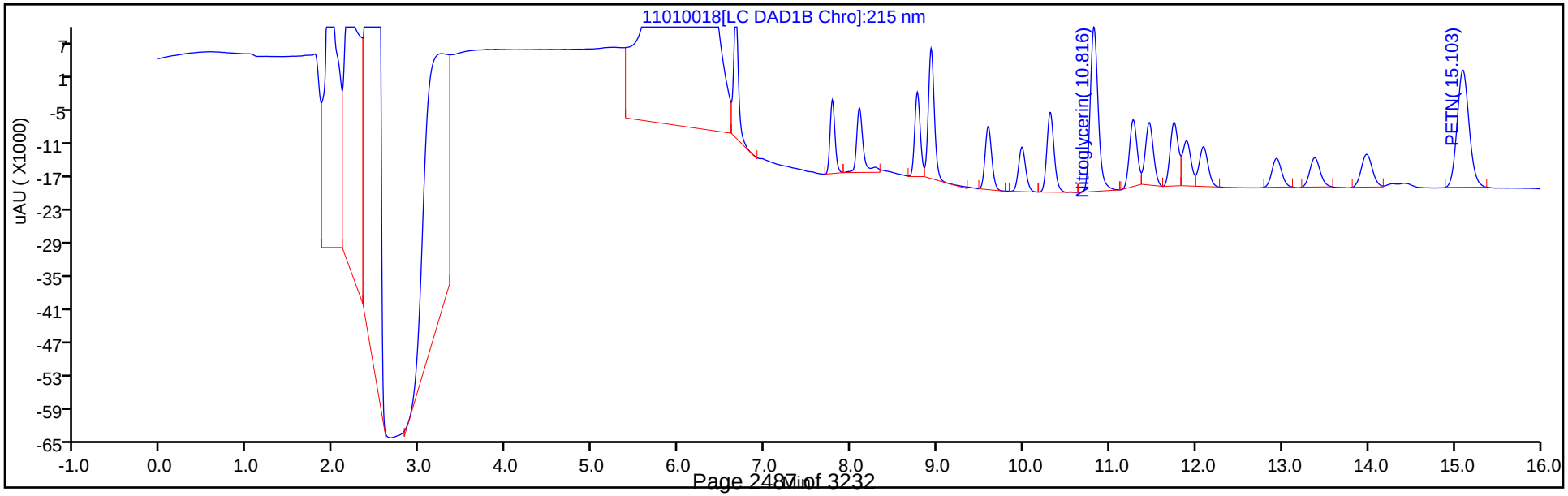
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010018.D

Injection Date:	01-Nov-2018 19:53:10	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	CCV INT			Worklist Smp#:	18
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435886/30 Calibration Date: 11/02/2018 00:28

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 11010030.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	84946	94452		278	250	11.2	20.0
RDX	Ave	104577	115072		275	250	10.0	20.0
Picric acid	Ave	84340	93324		277	250	10.7	20.0
1,3,5-Trinitrobenzene	Ave	228408	252312		276	250	10.5	20.0
1,3-Dinitrobenzene	Ave	301023	325315		270	250	8.1	20.0
Nitrobenzene	Ave	198781	194711		245	251	-2.0	20.0
Tetryl	Ave	163448	193868		297	250	18.6	20.0
Nitroglycerin	Ave	67945	76448		2810	2500	12.5	20.0
2,4,6-Trinitrotoluene	Ave	214478	246052		288	251	14.7	20.0
4-Amino-2,6-dinitrotoluene	Ave	165501	167904		254	251	1.5	20.0
2-Amino-4,6-dinitrotoluene	Ave	199466	218126		274	251	9.4	20.0
2,6-Dinitrotoluene	Ave	153065	160638		263	251	4.9	20.0
2,4-Dinitrotoluene	Ave	298269	313860		264	251	5.2	20.0
2-Nitrotoluene	Ave	132225	127450		242	251	-3.6	20.0
4-Nitrotoluene	Ave	113654	109076		241	251	-4.0	20.0
3-Nitrotoluene	Ave	148110	137239		233	251	-7.3	20.0
PETN	Ave	74955	81382		2710	2500	8.6	20.0
1,2-Dinitrobenzene	Ave	128727	145568		283	250	13.1	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-435886/30 Calibration Date: 11/02/2018 00:28

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 11010030.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.66	6.52	6.82
RDX	7.78	7.63	7.93
Picric acid	8.10	7.95	8.25
1,3,5-Trinitrobenzene	8.93	8.79	9.09
1,3-Dinitrobenzene	9.60	9.45	9.75
Nitrobenzene	9.98	9.83	10.13
Tetryl	10.32	10.16	10.46
Nitroglycerin	10.82	10.67	10.97
2,4,6-Trinitrotoluene	11.28	11.18	11.38
4-Amino-2,6-dinitrotoluene	11.46	11.36	11.56
2-Amino-4,6-dinitrotoluene	11.75	11.65	11.85
2,6-Dinitrotoluene	11.90	11.79	11.99
2,4-Dinitrotoluene	12.09	11.99	12.19
2-Nitrotoluene	12.94	12.79	13.09
4-Nitrotoluene	13.38	13.23	13.53
3-Nitrotoluene	13.98	13.83	14.13
PETN	15.10	14.95	15.25
1,2-Dinitrobenzene	8.77	8.62	8.92

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010030.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 02-Nov-2018 00:28:38 ALS Bottle#: 7 Worklist Smp#: 30
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Misc. Info.: 280-0075718-030
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 02-Nov-2018 16:14:36 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0315

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.662	6.669	-0.007	23613	0.2500	0.2780	
	5 RDX	1	7.782	7.782	0.000	28768	0.2500	0.2751	
	6 2,4,6-Trinitrophenol	1	8.102	8.095	0.007	23331	0.2500	0.2766	
$	7 1,2-Dinitrobenzene	1	8.768	8.769	-0.001	36392	0.2500	0.2827	
	8 1,3,5-Trinitrobenzene	1	8.928	8.935	-0.007	63078	0.2500	0.2762	
	9 1,3-Dinitrobenzene	1	9.595	9.595	0.000	81410	0.2503	0.2704	
	11 Nitrobenzene	1	9.981	9.982	-0.001	48775	0.2505	0.2454	
	12 Tetryl	1	10.315	10.308	0.007	48467	0.2500	0.2965	
	13 Nitroglycerin	2	10.821	10.815	0.006	191121	2.50	2.81	
	14 2,4,6-Trinitrotoluene	1	11.275	11.275	0.000	61759	0.2510	0.2880	
	15 4-Amino-2,6-dinitrotoluene	1	11.461	11.462	-0.001	42102	0.2508	0.2544	
	16 2-Amino-4,6-dinitrotoluene	1	11.748	11.748	0.000	54695	0.2508	0.2742	
	17 2,6-Dinitrotoluene	1	11.895	11.888	0.007	40280	0.2508	0.2632	
	18 2,4-Dinitrotoluene	1	12.088	12.088	0.000	78622	0.2505	0.2636	
	19 o-Nitrotoluene	1	12.941	12.935	0.006	31958	0.2508	0.2417	
	20 p-Nitrotoluene	1	13.381	13.382	-0.001	27378	0.2510	0.2409	
	21 m-Nitrotoluene	1	13.981	13.982	-0.001	34447	0.2510	0.2326	
	22 PETN	2	15.101	15.102	-0.001	203455	2.50	2.71	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL

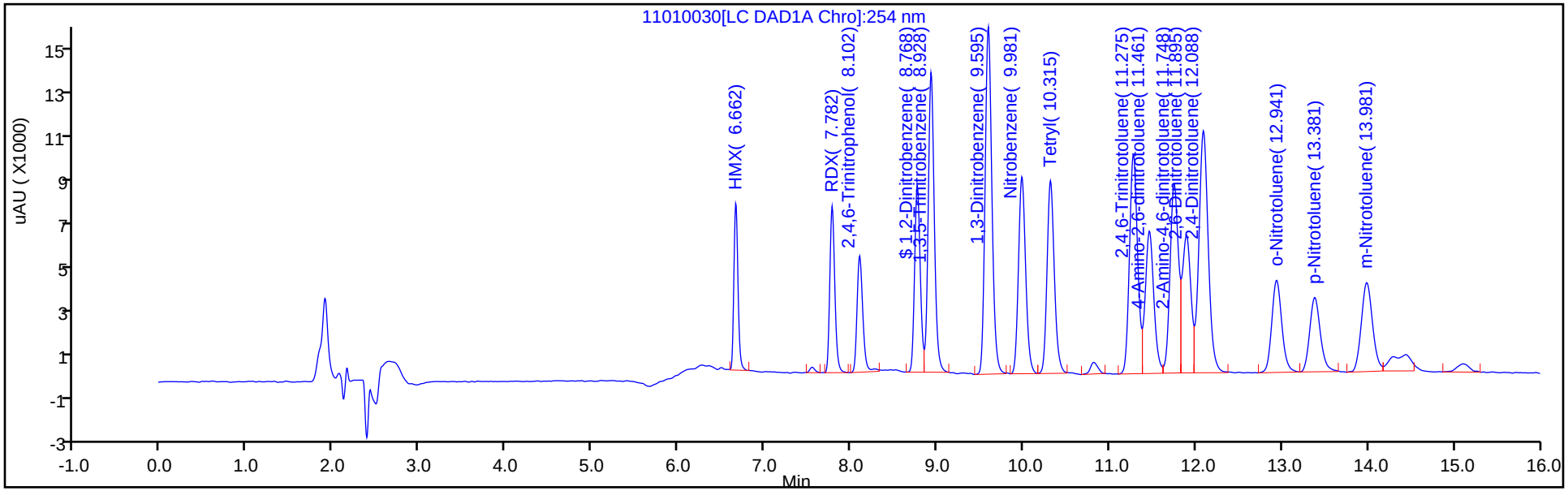
Report Date: 02-Nov-2018 16:14:36 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

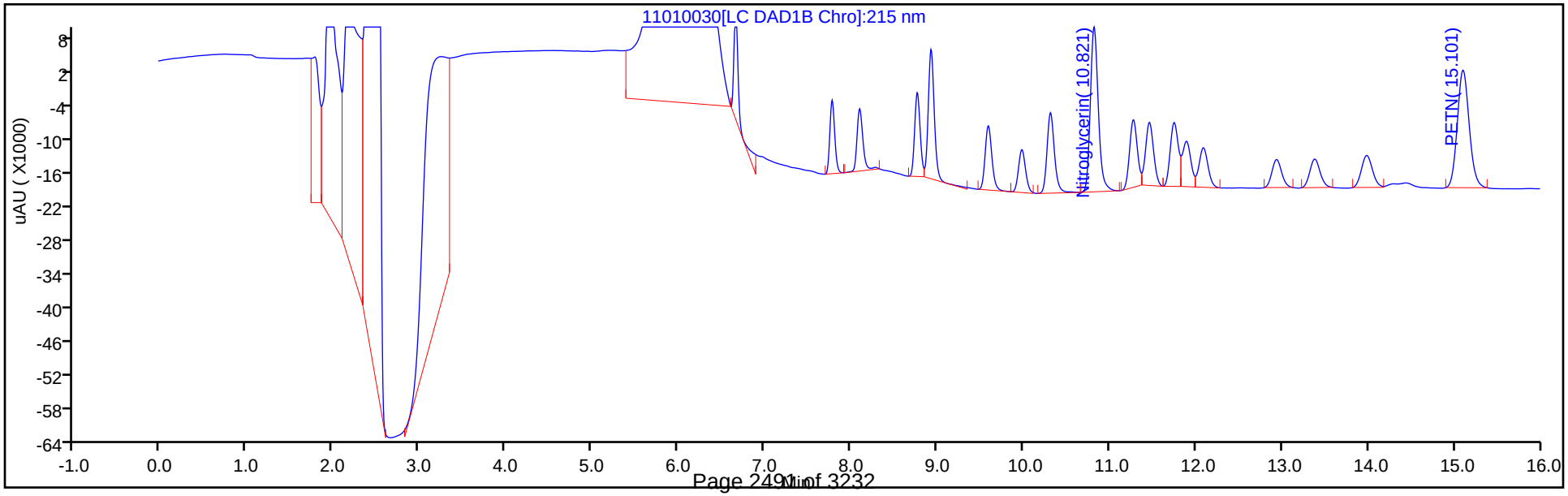
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010030.D

Injection Date:	02-Nov-2018 00:28:38	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	CCV INT			Worklist Smp#:	30
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436368/7 Calibration Date: 11/05/2018 16:48

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 11050007.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	84946	90368		266	250	6.4	20.0
RDX	Ave	104577	111384		266	250	6.5	20.0
Picric acid	Ave	84340	91268		271	250	8.2	20.0
1,3,5-Trinitrobenzene	Ave	228408	243936		267	250	6.8	20.0
1,3-Dinitrobenzene	Ave	301023	311692		259	250	3.5	20.0
Nitrobenzene	Ave	198781	195178		246	251	-1.8	20.0
Tetryl	Ave	163448	186912		286	250	14.4	20.0
Nitroglycerin	Ave	67945	73877		2720	2500	8.7	20.0
2,4,6-Trinitrotoluene	Ave	214478	235060		275	251	9.6	20.0
4-Amino-2,6-dinitrotoluene	Ave	165501	161364		244	251	-2.5	20.0
2-Amino-4,6-dinitrotoluene	Ave	199466	209643		264	251	5.1	20.0
2,6-Dinitrotoluene	Ave	153065	154832		254	251	1.2	20.0
2,4-Dinitrotoluene	Ave	298269	300679		253	251	0.8	20.0
2-Nitrotoluene	Ave	132225	148335		281	251	12.2	20.0
4-Nitrotoluene	Ave	113654	136394		301	251	20.0	20.0
3-Nitrotoluene	Ave	148110	134649		228	251	-9.1	20.0
PETN	Ave	74955	78221		2610	2500	4.4	20.0
1,2-Dinitrobenzene	Ave	128727	139220		270	250	8.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436368/7 Calibration Date: 11/05/2018 16:48

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 11050007.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.66	6.51	6.81
RDX	7.77	7.62	7.92
Picric acid	8.08	7.93	8.23
1,3,5-Trinitrobenzene	8.92	8.77	9.07
1,3-Dinitrobenzene	9.58	9.43	9.73
Nitrobenzene	9.97	9.82	10.12
Tetryl	10.30	10.15	10.45
Nitroglycerin	10.80	10.65	10.95
2,4,6-Trinitrotoluene	11.26	11.16	11.36
4-Amino-2,6-dinitrotoluene	11.44	11.34	11.54
2-Amino-4,6-dinitrotoluene	11.73	11.63	11.83
2,6-Dinitrotoluene	11.87	11.77	11.97
2,4-Dinitrotoluene	12.07	11.97	12.17
2-Nitrotoluene	12.92	12.77	13.07
4-Nitrotoluene	13.36	13.21	13.51
3-Nitrotoluene	13.96	13.81	14.11
PETN	15.06	14.91	15.21
1,2-Dinitrobenzene	8.76	8.61	8.91

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050007.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 05-Nov-2018 16:48:59 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Misc. Info.: 280-0075851-007
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Nov-2018 10:01:44 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0320

First Level Reviewer: fiedlerh Date: 06-Nov-2018 07:47:41

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.656	6.656	0.000	22592	0.2500	0.2660	
5 RDX	1	7.769	7.769	0.000	27846	0.2500	0.2663	
6 2,4,6-Trinitrophenol	1	8.083	8.083	0.000	22817	0.2500	0.2705	
$ 7 1,2-Dinitrobenzene	1	8.756	8.756	0.000	34805	0.2500	0.2704	
8 1,3,5-Trinitrobenzene	1	8.916	8.916	0.000	60984	0.2500	0.2670	
9 1,3-Dinitrobenzene	1	9.576	9.576	0.000	78001	0.2503	0.2591	
11 Nitrobenzene	1	9.969	9.969	0.000	48892	0.2505	0.2460	
12 Tetryl	1	10.296	10.296	0.000	46728	0.2500	0.2859	
13 Nitroglycerin	2	10.796	10.796	0.000	184693	2.50	2.72	
14 2,4,6-Trinitrotoluene	1	11.256	11.256	0.000	59000	0.2510	0.2751	
15 4-Amino-2,6-dinitrotoluene	1	11.442	11.442	0.000	40462	0.2508	0.2445	
16 2-Amino-4,6-dinitrotoluene	1	11.729	11.729	0.000	52568	0.2508	0.2635	
17 2,6-Dinitrotoluene	1	11.869	11.869	0.000	38824	0.2508	0.2536	
18 2,4-Dinitrotoluene	1	12.069	12.069	0.000	75320	0.2505	0.2525	
19 o-Nitrotoluene	1	12.916	12.916	0.000	37195	0.2508	0.2813	
20 p-Nitrotoluene	1	13.356	13.356	0.000	34235	0.2510	0.3012	
21 m-Nitrotoluene	1	13.956	13.956	0.000	33797	0.2510	0.2282	
22 PETN	2	15.062	15.062	0.000	195553	2.50	2.61	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL

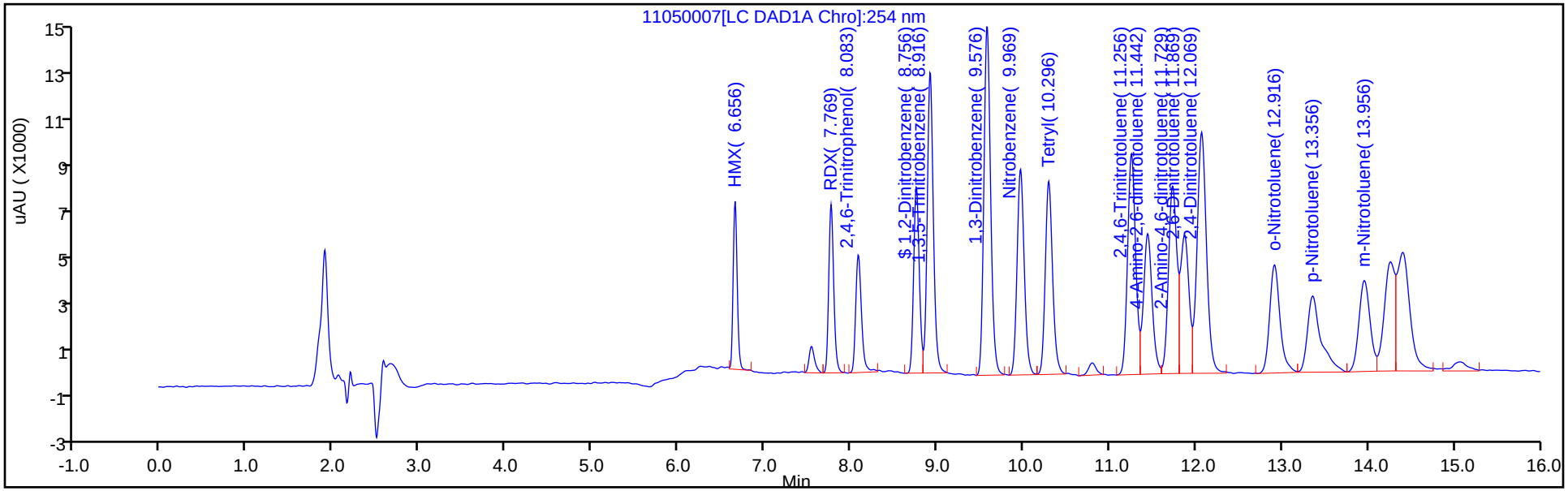
Report Date: 06-Nov-2018 10:01:45 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

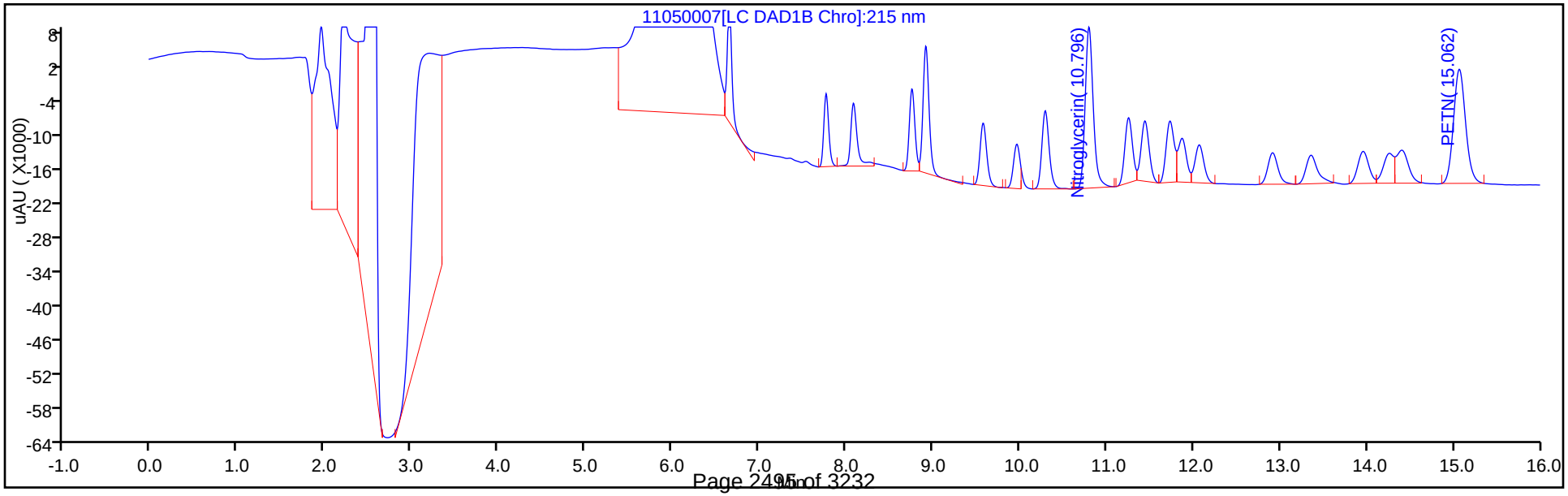
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050007.D

Injection Date:	05-Nov-2018 16:48:59	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	CCV INT			Worklist Smp#:	7
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436368/19 Calibration Date: 11/05/2018 21:24

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 11050019.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	84946	91084		268	250	7.2	20.0
RDX	Ave	104577	110816		265	250	6.0	20.0
Picric acid	Ave	84340	91464		271	250	8.4	20.0
1,3,5-Trinitrobenzene	Ave	228408	244712		268	250	7.1	20.0
1,3-Dinitrobenzene	Ave	301023	312008		259	250	3.6	20.0
Nitrobenzene	Ave	198781	187341		236	251	-5.8	20.0
Tetryl	Ave	163448	186836		286	250	14.3	20.0
Nitroglycerin	Ave	67945	74365		2740	2500	9.4	20.0
2,4,6-Trinitrotoluene	Ave	214478	236745		277	251	10.4	20.0
4-Amino-2,6-dinitrotoluene	Ave	165501	158022		239	251	-4.5	20.0
2-Amino-4,6-dinitrotoluene	Ave	199466	211613		266	251	6.1	20.0
2,6-Dinitrotoluene	Ave	153065	154070		252	251	0.7	20.0
2,4-Dinitrotoluene	Ave	298269	302160		254	251	1.3	20.0
2-Nitrotoluene	Ave	132225	131015		248	251	-0.9	20.0
4-Nitrotoluene	Ave	113654	120558		266	251	6.1	20.0
3-Nitrotoluene	Ave	148110	128586		218	251	-13.2	20.0
PETN	Ave	74955	77790		2590	2500	3.8	20.0
1,2-Dinitrobenzene	Ave	128727	140424		273	250	9.1	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436368/19 Calibration Date: 11/05/2018 21:24

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 11050019.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.67	6.51	6.81
RDX	7.78	7.62	7.92
Picric acid	8.10	7.93	8.23
1,3,5-Trinitrobenzene	8.93	8.77	9.07
1,3-Dinitrobenzene	9.60	9.43	9.73
Nitrobenzene	9.98	9.82	10.12
Tetryl	10.31	10.15	10.45
Nitroglycerin	10.82	10.65	10.95
2,4,6-Trinitrotoluene	11.28	11.16	11.36
4-Amino-2,6-dinitrotoluene	11.46	11.34	11.54
2-Amino-4,6-dinitrotoluene	11.76	11.63	11.83
2,6-Dinitrotoluene	11.90	11.77	11.97
2,4-Dinitrotoluene	12.09	11.97	12.17
2-Nitrotoluene	12.94	12.77	13.07
4-Nitrotoluene	13.38	13.21	13.51
3-Nitrotoluene	13.99	13.81	14.11
PETN	15.10	14.91	15.21
1,2-Dinitrobenzene	8.77	8.61	8.91

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050019.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 05-Nov-2018 21:24:20 ALS Bottle#: 7 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Misc. Info.: 280-0075851-019
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Nov-2018 10:01:11 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0320

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.669	6.656	0.013	22771	0.2500	0.2681	
	5 RDX	1	7.782	7.769	0.013	27704	0.2500	0.2649	
	6 2,4,6-Trinitrophenol	1	8.102	8.083	0.019	22866	0.2500	0.2711	
$	7 1,2-Dinitrobenzene	1	8.769	8.756	0.013	35106	0.2500	0.2727	
	8 1,3,5-Trinitrobenzene	1	8.929	8.916	0.013	61178	0.2500	0.2678	
	9 1,3-Dinitrobenzene	1	9.595	9.576	0.019	78080	0.2503	0.2594	
	11 Nitrobenzene	1	9.982	9.969	0.013	46929	0.2505	0.2361	
	12 Tetryl	1	10.309	10.296	0.013	46709	0.2500	0.2858	
	13 Nitroglycerin	2	10.815	10.796	0.019	185912	2.50	2.74	
	14 2,4,6-Trinitrotoluene	1	11.275	11.256	0.019	59423	0.2510	0.2771	
	15 4-Amino-2,6-dinitrotoluene	1	11.462	11.442	0.020	39624	0.2508	0.2394	
	16 2-Amino-4,6-dinitrotoluene	1	11.755	11.729	0.026	53062	0.2508	0.2660	
	17 2,6-Dinitrotoluene	1	11.895	11.869	0.026	38633	0.2508	0.2524	
	18 2,4-Dinitrotoluene	1	12.089	12.069	0.020	75691	0.2505	0.2538	
	19 o-Nitrotoluene	1	12.942	12.916	0.026	32852	0.2508	0.2485	
	20 p-Nitrotoluene	1	13.382	13.356	0.026	30260	0.2510	0.2662	
	21 m-Nitrotoluene	1	13.989	13.956	0.033	32275	0.2510	0.2179	
	22 PETN	2	15.095	15.062	0.033	194476	2.50	2.59	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL

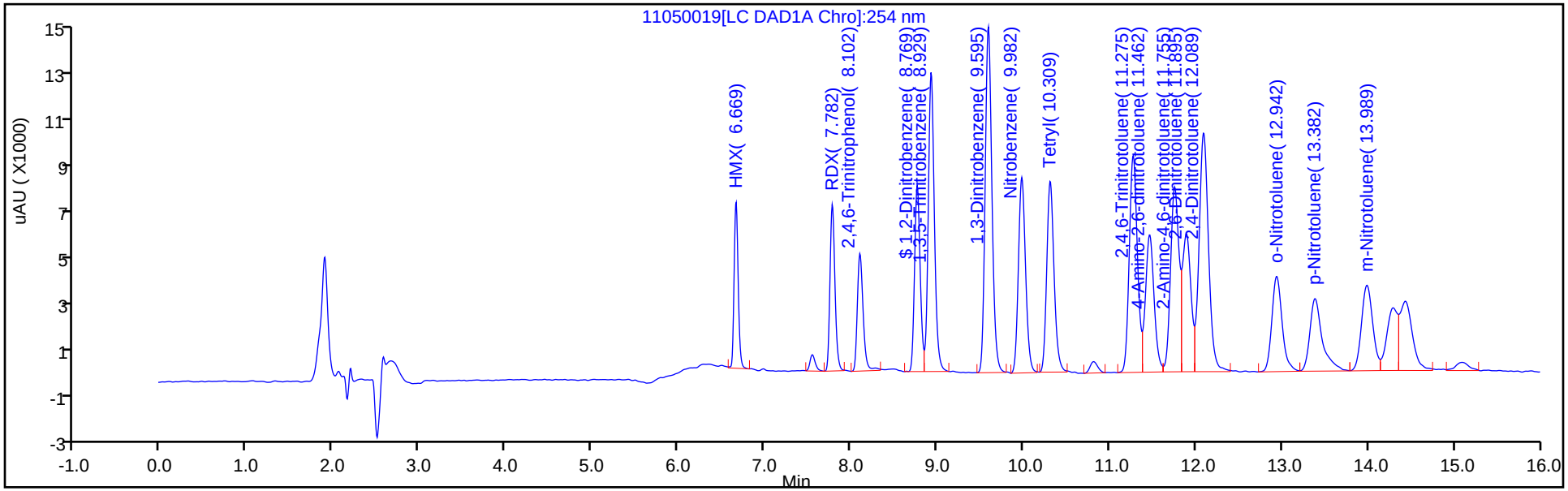
Report Date: 06-Nov-2018 10:01:12 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

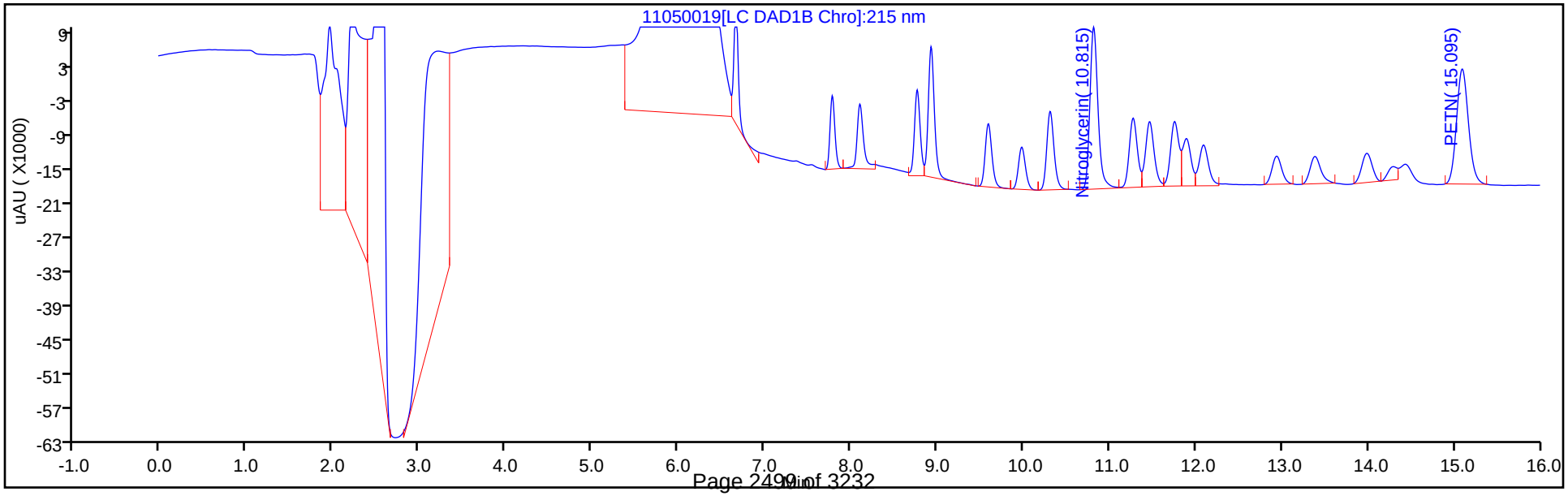
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050019.D

Injection Date:	05-Nov-2018 21:24:20	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	CCV INT			Worklist Smp#:	19
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436368/30 Calibration Date: 11/06/2018 01:36

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 11050030.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	84946	91332		269	250	7.5	20.0
RDX	Ave	104577	110216		263	250	5.4	20.0
Picric acid	Ave	84340	88752		263	250	5.2	20.0
1,3,5-Trinitrobenzene	Ave	228408	243840		267	250	6.8	20.0
1,3-Dinitrobenzene	Ave	301023	311752		259	250	3.6	20.0
Nitrobenzene	Ave	198781	180216		227	251	-9.3	20.0
Tetryl	Ave	163448	186904		286	250	14.4	20.0
Nitroglycerin	Ave	67945	74521		2740	2500	9.7	20.0
2,4,6-Trinitrotoluene	Ave	214478	236231		276	251	10.1	20.0
4-Amino-2,6-dinitrotoluene	Ave	165501	158963		241	251	-4.0	20.0
2-Amino-4,6-dinitrotoluene	Ave	199466	205675		259	251	3.1	20.0
2,6-Dinitrotoluene	Ave	153065	156989		257	251	2.6	20.0
2,4-Dinitrotoluene	Ave	298269	304080		255	251	1.9	20.0
2-Nitrotoluene	Ave	132225	125005		237	251	-5.5	20.0
4-Nitrotoluene	Ave	113654	117837		260	251	3.7	20.0
3-Nitrotoluene	Ave	148110	122518		208	251	-17.3	20.0
PETN	Ave	74955	78614		2620	2500	4.9	20.0
1,2-Dinitrobenzene	Ave	128727	141228		274	250	9.7	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: CCV 280-436368/30 Calibration Date: 11/06/2018 01:36

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 11050030.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.67	6.51	6.81
RDX	7.78	7.62	7.92
Picric acid	8.10	7.93	8.23
1,3,5-Trinitrobenzene	8.93	8.77	9.07
1,3-Dinitrobenzene	9.60	9.43	9.73
Nitrobenzene	9.98	9.82	10.12
Tetryl	10.32	10.15	10.45
Nitroglycerin	10.82	10.65	10.95
2,4,6-Trinitrotoluene	11.28	11.16	11.36
4-Amino-2,6-dinitrotoluene	11.47	11.34	11.54
2-Amino-4,6-dinitrotoluene	11.76	11.63	11.83
2,6-Dinitrotoluene	11.90	11.77	11.97
2,4-Dinitrotoluene	12.10	11.97	12.17
2-Nitrotoluene	12.95	12.77	13.07
4-Nitrotoluene	13.40	13.21	13.51
3-Nitrotoluene	14.00	13.81	14.11
PETN	15.12	14.91	15.21
1,2-Dinitrobenzene	8.76	8.61	8.91

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050030.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 06-Nov-2018 01:36:47 ALS Bottle#: 7 Worklist Smp#: 30
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Misc. Info.: 280-0075851-030
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Nov-2018 10:00:43 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0320

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.669	6.656	0.013	22833	0.2500	0.2688	
	5 RDX	1	7.782	7.769	0.013	27554	0.2500	0.2635	
	6 2,4,6-Trinitrophenol	1	8.102	8.083	0.019	22188	0.2500	0.2631	
$	7 1,2-Dinitrobenzene	1	8.762	8.756	0.006	35307	0.2500	0.2743	
	8 1,3,5-Trinitrobenzene	1	8.929	8.916	0.013	60960	0.2500	0.2669	
	9 1,3-Dinitrobenzene	1	9.595	9.576	0.019	78016	0.2503	0.2592	
	11 Nitrobenzene	1	9.982	9.969	0.013	45144	0.2505	0.2271	
	12 Tetryl	1	10.315	10.296	0.019	46726	0.2500	0.2859	
	13 Nitroglycerin	2	10.815	10.796	0.019	186303	2.50	2.74	
	14 2,4,6-Trinitrotoluene	1	11.275	11.256	0.019	59294	0.2510	0.2765	
	15 4-Amino-2,6-dinitrotoluene	1	11.469	11.442	0.027	39860	0.2508	0.2408	
	16 2-Amino-4,6-dinitrotoluene	1	11.762	11.729	0.033	51573	0.2508	0.2586	
	17 2,6-Dinitrotoluene	1	11.895	11.869	0.026	39365	0.2508	0.2572	
	18 2,4-Dinitrotoluene	1	12.095	12.069	0.026	76172	0.2505	0.2554	
	19 o-Nitrotoluene	1	12.949	12.916	0.033	31345	0.2508	0.2371	
	20 p-Nitrotoluene	1	13.395	13.356	0.039	29577	0.2510	0.2602	
	21 m-Nitrotoluene	1	13.995	13.956	0.039	30752	0.2510	0.2076	
	22 PETN	2	15.115	15.062	0.053	196534	2.50	2.62	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL

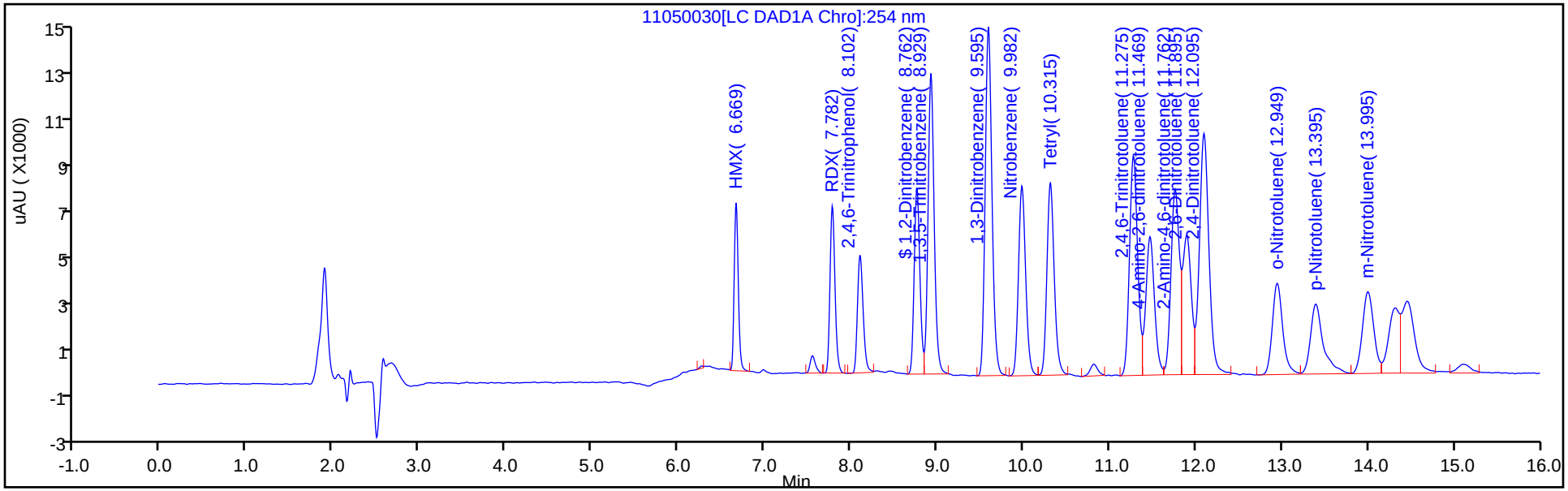
Report Date: 06-Nov-2018 10:00:44 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

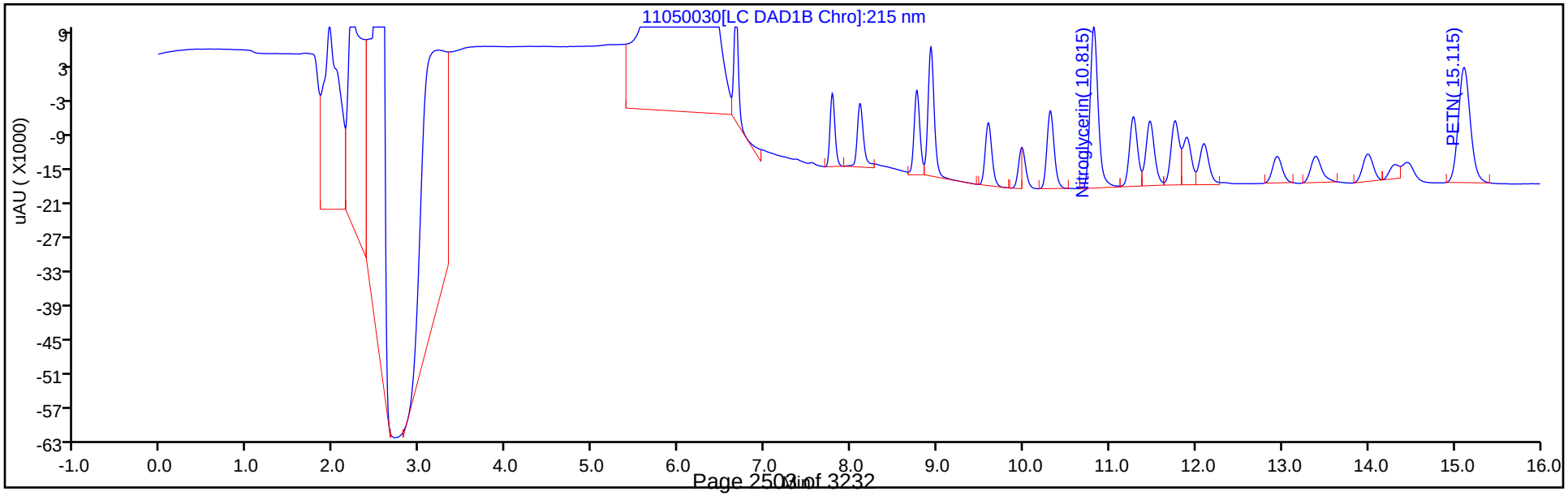
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050030.D

Injection Date:	06-Nov-2018 01:36:47	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	CCV INT			Worklist Smp#:	30
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-435346/1-A

Matrix: Water | Lab File ID: 10300014.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 10/29/2018 12:30

Sample wt/vol: 500(mL) | Date Analyzed: 10/30/2018 14:04

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435517 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.40	U Q	1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	0.20	U Q	0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	0.20	U Q	0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	0.20	U Q	0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	0.20	U Q	0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	0.12	U Q	0.20	0.12	0.051
88-72-2	2-Nitrotoluene	0.20	U Q	0.40	0.20	0.086
99-08-1	3-Nitrotoluene	0.20	U Q	0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	0.12	U Q	0.20	0.12	0.058
99-99-0	4-Nitrotoluene	0.40	U Q	1.0	0.40	0.20
2691-41-0	HMX	0.20	U Q	0.40	0.20	0.088
98-95-3	Nitrobenzene	0.20	U Q	0.40	0.20	0.091
55-63-0	Nitroglycerin	2.0	U Q	3.0	2.0	0.92
78-11-5	PETN	1.2	U Q	2.0	1.2	0.42
121-82-4	RDX	0.12	U Q	0.20	0.12	0.052
479-45-8	Tetryl	0.20	U Q	0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	81	Q	83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300014.D
Lims ID: MB 280-435346/1-A
Client ID:
Sample Type: MB
Inject. Date: 30-Oct-2018 14:04:13 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-435346/1-
Misc. Info.: 280-0075621-014
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 31-Oct-2018 13:36:51 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0316

First Level Reviewer: fiedlerh Date: 31-Oct-2018 10:36:27

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	1 2,6-diamino-4-nitrotoluene	1		6.510				ND	
	25 TNX	1		6.546				ND	
	2 HMX	1		6.666				ND	
	3 2,4-diamino-6-nitrotoluene	1		6.697				ND	
	24 DNX	1		6.866				ND	
	4 MNX	1		7.326				ND	
	5 RDX	1		7.779				ND	
	6 2,4,6-Trinitrophenol	1		8.092				ND	U
$	7 1,2-Dinitrobenzene	1	8.750	8.759	-0.009	20869	0.2000	0.1621	
	8 1,3,5-Trinitrobenzene	1		8.919				ND	
	9 1,3-Dinitrobenzene	1		9.585				ND	
	11 Nitrobenzene	1		9.972				ND	
	10 3,5-Dinitroaniline	1		10.217				ND	
	12 Tetryl	1		10.292				ND	
	13 Nitroglycerin	2		10.799				ND	
	14 2,4,6-Trinitrotoluene	1		11.252				ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.439				ND	
	16 2-Amino-4,6-dinitrotoluene	1		11.725				ND	
	17 2,6-Dinitrotoluene	1		11.865				ND	
	18 2,4-Dinitrotoluene	1		12.065				ND	
	19 o-Nitrotoluene	1		12.912				ND	
	20 p-Nitrotoluene	1		13.359				ND	
	21 m-Nitrotoluene	1		13.959				ND	
	22 PETN	2		15.059				ND	
	23 Ammonium Picrate	1		0.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

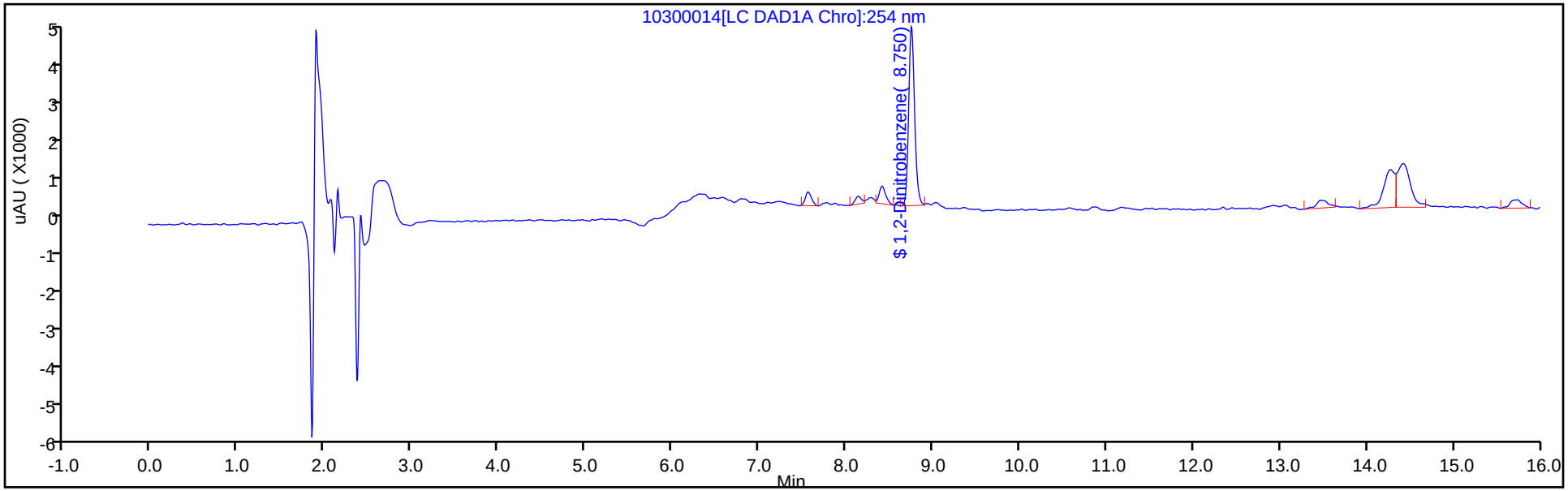
Report Date: 31-Oct-2018 13:37:07 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

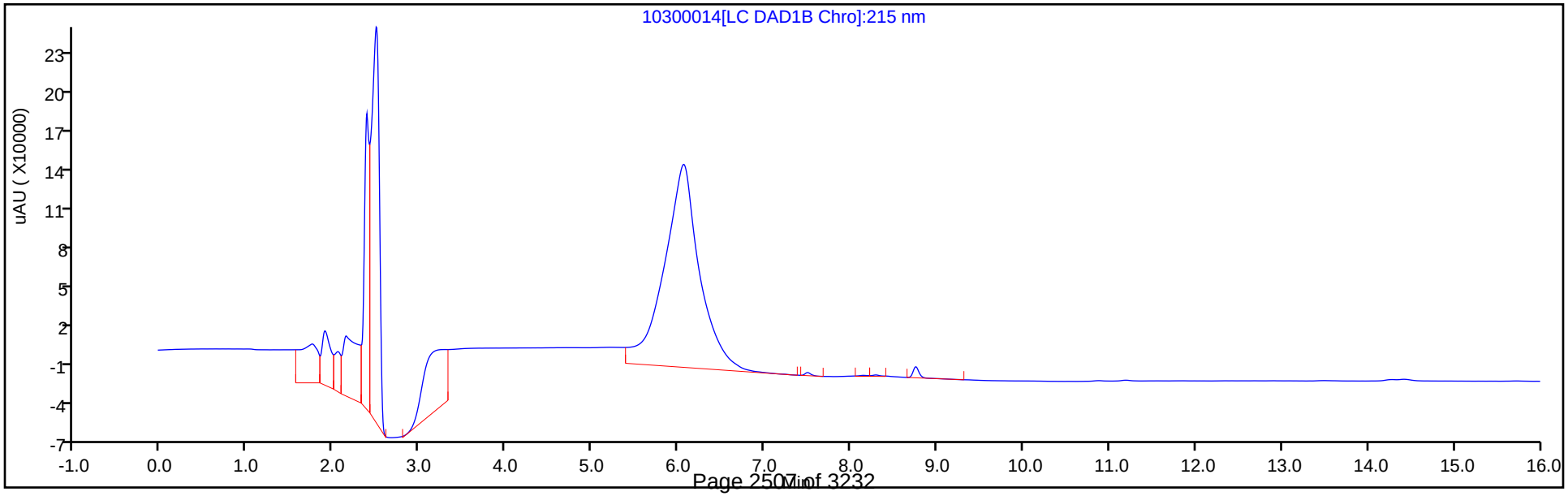
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300014.D

Injection Date:	30-Oct-2018 14:04:13	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	MB 280-435346/1-A			Worklist Smp#:	14
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300014.D
Lims ID: MB 280-435346/1-A
Client ID:
Sample Type: MB
Inject. Date: 30-Oct-2018 14:04:13 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-435346/1-
Misc. Info.: 280-0075621-014
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 31-Oct-2018 13:36:51 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0316

First Level Reviewer: fiedlerh Date: 31-Oct-2018 10:36:27

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.1621	81.06

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-435504/1-A

Matrix: Water | Lab File ID: 11010013.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 10/30/2018 13:24

Sample wt/vol: 500(mL) | Date Analyzed: 11/01/2018 17:58

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435886 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.40	U	1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	0.20	U	0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	0.20	U	0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	0.20	U	0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	0.20	U	0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	0.12	U	0.20	0.12	0.051
88-72-2	2-Nitrotoluene	0.20	U	0.40	0.20	0.086
99-08-1	3-Nitrotoluene	0.20	U	0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	0.12	U	0.20	0.12	0.058
99-99-0	4-Nitrotoluene	0.40	U	1.0	0.40	0.20
2691-41-0	HMX	0.20	U	0.40	0.20	0.088
98-95-3	Nitrobenzene	0.20	U	0.40	0.20	0.091
55-63-0	Nitroglycerin	2.0	U	3.0	2.0	0.92
78-11-5	PETN	1.2	U	2.0	1.2	0.42
121-82-4	RDX	0.12	U	0.20	0.12	0.052
479-45-8	Tetryl	0.20	U	0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	103		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010013.D
Lims ID: MB 280-435504/1-A
Client ID:
Sample Type: MB
Inject. Date: 01-Nov-2018 17:58:26 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-435504/1-
Misc. Info.: 280-0075718-013
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 02-Nov-2018 16:14:18 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0315

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	1 2,6-diamino-4-nitrotoluene	1		6.513				ND	
	25 TNX	1		6.546				ND	
	2 HMX	1		6.669				ND	
	3 2,4-diamino-6-nitrotoluene	1		6.700				ND	
	24 DNX	1		6.866				ND	
	4 MNX	1		7.326				ND	
	5 RDX	1		7.782				ND	
	6 2,4,6-Trinitrophenol	1		8.095				ND	
$	7 1,2-Dinitrobenzene	1	8.769	8.769	0.000	26451	0.2000	0.2055	
	8 1,3,5-Trinitrobenzene	1		8.935				ND	
	9 1,3-Dinitrobenzene	1		9.595				ND	
	11 Nitrobenzene	1		9.982				ND	
	10 3,5-Dinitroaniline	1		10.227				ND	
	12 Tetryl	1		10.308				ND	
	13 Nitroglycerin	2		10.815				ND	
	14 2,4,6-Trinitrotoluene	1		11.275				ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.462				ND	
	16 2-Amino-4,6-dinitrotoluene	1		11.748				ND	
	17 2,6-Dinitrotoluene	1		11.888				ND	
	18 2,4-Dinitrotoluene	1		12.088				ND	
	19 o-Nitrotoluene	1		12.935				ND	
	20 p-Nitrotoluene	1		13.382				ND	
	21 m-Nitrotoluene	1		13.982				ND	
	22 PETN	2		15.102				ND	
	23 Ammonium Picrate	1		0.000				ND	

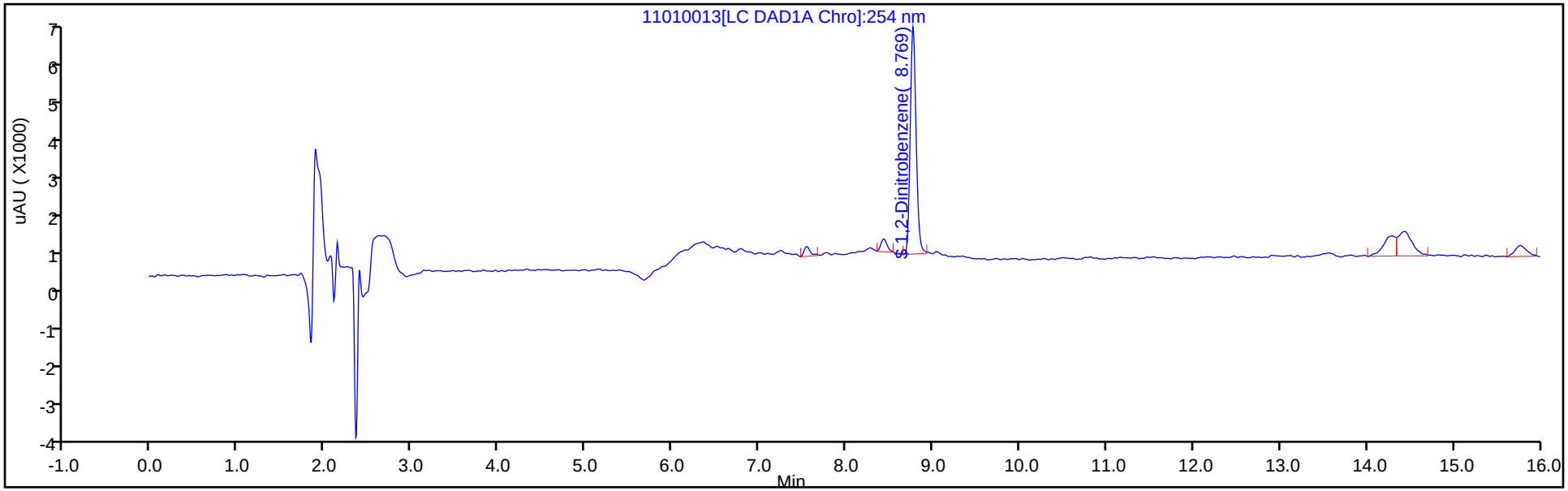
Report Date: 02-Nov-2018 16:14:23 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

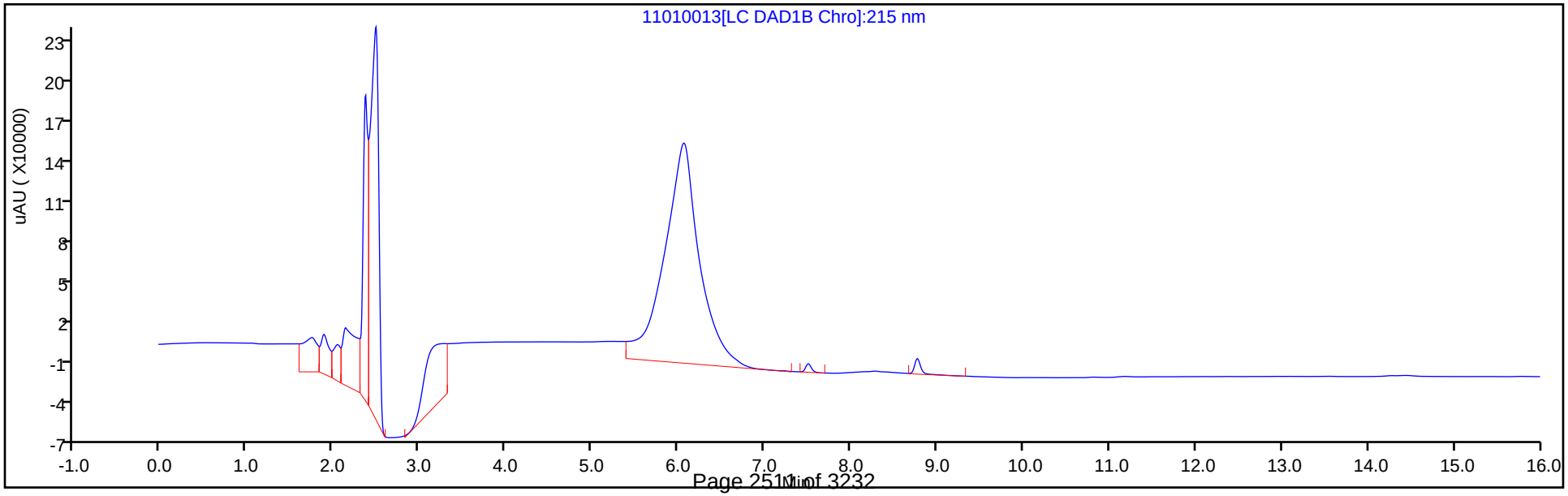
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010013.D

Injection Date:	01-Nov-2018 17:58:26	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	MB 280-435504/1-A			Worklist Smp#:	13
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010013.D				
Lims ID:	MB 280-435504/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	01-Nov-2018 17:58:26	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB 280-435504/1-				
Misc. Info.:	280-0075718-013				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	02-Nov-2018 16:14:18	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX0315				

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2055	102.74

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-436019/1-A

Matrix: Water | Lab File ID: 11050009.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 11/02/2018 12:09

Sample wt/vol: 500(mL) | Date Analyzed: 11/05/2018 17:34

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436368 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.40	U	1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	0.20	U	0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	0.20	U	0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	0.20	U	0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	0.20	U	0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	0.12	U	0.20	0.12	0.051
88-72-2	2-Nitrotoluene	0.345	J	0.40	0.20	0.086
99-08-1	3-Nitrotoluene	0.20	U	0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	0.12	U	0.20	0.12	0.058
99-99-0	4-Nitrotoluene	0.40	U	1.0	0.40	0.20
2691-41-0	HMX	0.20	U	0.40	0.20	0.088
98-95-3	Nitrobenzene	0.20	U	0.40	0.20	0.091
55-63-0	Nitroglycerin	2.0	U	3.0	2.0	0.92
78-11-5	PETN	1.2	U	2.0	1.2	0.42
121-82-4	RDX	0.12	U	0.20	0.12	0.052
479-45-8	Tetryl	0.20	U	0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	99		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050009.D
Lims ID: MB 280-436019/1-A
Client ID:
Sample Type: MB
Inject. Date: 05-Nov-2018 17:34:53 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-436019/1-
Misc. Info.: 280-0075851-009
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Nov-2018 10:01:11 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0320

First Level Reviewer: fiedlerh Date: 06-Nov-2018 07:48:02

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
1 2,6-diamino-4-nitrotoluene	1		6.513				ND	
25 TNX	1		6.546				ND	
2 HMX	1		6.656				ND	
3 2,4-diamino-6-nitrotoluene	1		6.700				ND	
24 DNX	1		6.866				ND	
4 MNX	1		7.326				ND	
5 RDX	1		7.769				ND	
6 2,4,6-Trinitrophenol	1		8.083				ND	
$ 7 1,2-Dinitrobenzene	1	8.759	8.756	0.003	25548	0.2000	0.1985	
8 1,3,5-Trinitrobenzene	1		8.916				ND	
9 1,3-Dinitrobenzene	1		9.576				ND	
11 Nitrobenzene	1		9.969				ND	
10 3,5-Dinitroaniline	1		10.227				ND	
12 Tetryl	1		10.296				ND	
13 Nitroglycerin	2		10.796				ND	
14 2,4,6-Trinitrotoluene	1		11.256				ND	
15 4-Amino-2,6-dinitrotoluene	1		11.442				ND	
16 2-Amino-4,6-dinitrotoluene	1		11.729				ND	
17 2,6-Dinitrotoluene	1		11.869				ND	
18 2,4-Dinitrotoluene	1		12.069				ND	
19 o-Nitrotoluene	1	12.939	12.916	0.023	4567		0.0345	
20 p-Nitrotoluene	1		13.356				ND	
21 m-Nitrotoluene	1		13.956				ND	
22 PETN	2		15.062				ND	
23 Ammonium Picrate	1		0.000				ND	

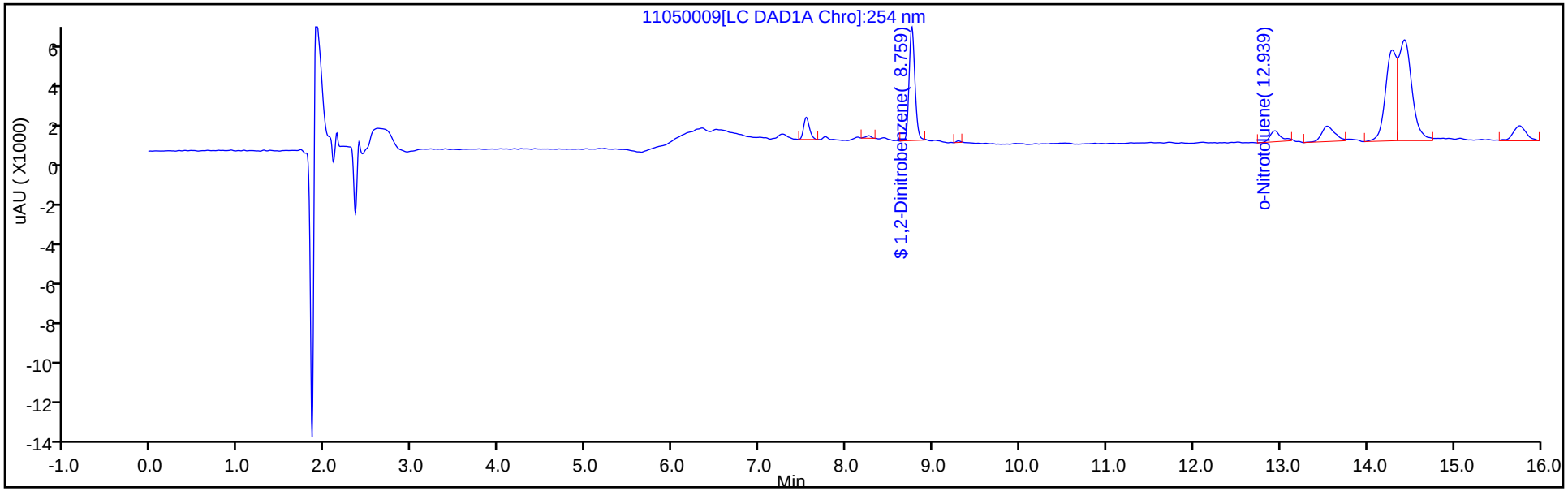
Report Date: 06-Nov-2018 10:01:41 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

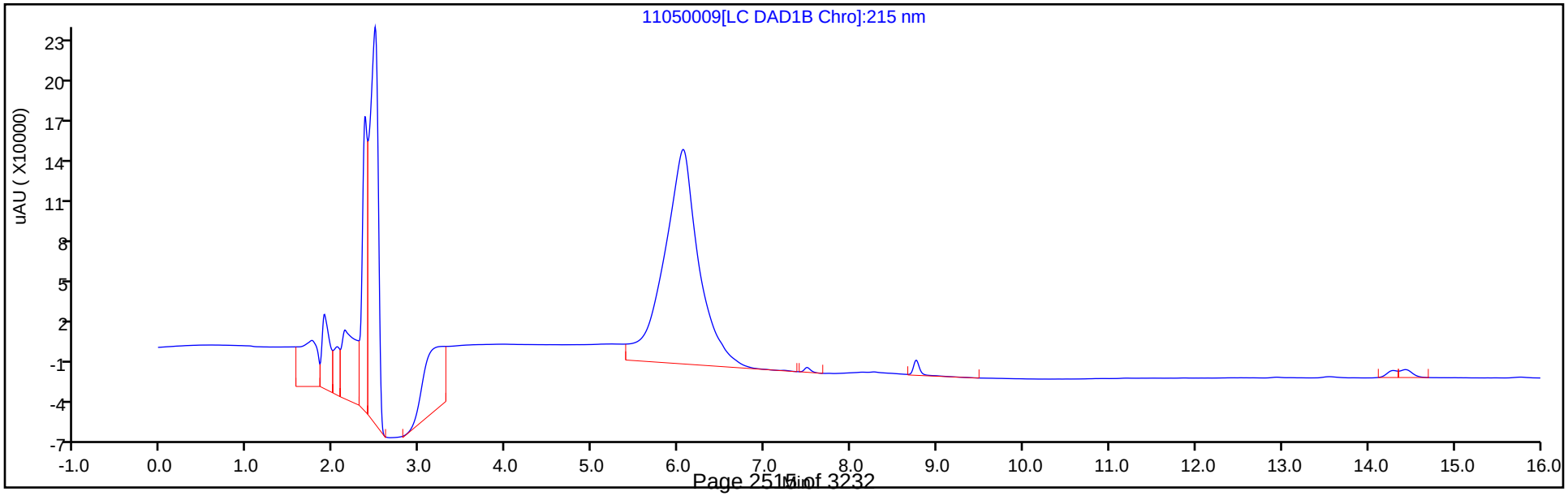
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050009.D

Injection Date:	05-Nov-2018 17:34:53	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	MB 280-436019/1-A			Worklist Smp#:	9
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050009.D
Lims ID: MB 280-436019/1-A
Client ID:
Sample Type: MB
Inject. Date: 05-Nov-2018 17:34:53 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-436019/1-
Misc. Info.: 280-0075851-009
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Nov-2018 10:01:11 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0320

First Level Reviewer: fiedlerh Date: 06-Nov-2018 07:48:02

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.1985	99.23

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-435346/2-A

Matrix: Water | Lab File ID: 10300015.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 10/29/2018 12:30

Sample wt/vol: 500(mL) | Date Analyzed: 10/30/2018 14:27

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435517 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	1.66	Q	1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	1.53	Q	0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	1.49	Q	0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	1.40	Q	0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	1.41	Q	0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	1.31	Q	0.20	0.12	0.051
88-72-2	2-Nitrotoluene	1.21	Q	0.40	0.20	0.086
99-08-1	3-Nitrotoluene	1.10	Q	0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	1.22	Q	0.20	0.12	0.058
99-99-0	4-Nitrotoluene	1.37	Q	1.0	0.40	0.20
2691-41-0	HMX	1.60	Q	0.40	0.20	0.088
98-95-3	Nitrobenzene	1.32	Q	0.40	0.20	0.091
55-63-0	Nitroglycerin	17.1	Q	3.0	2.0	0.92
78-11-5	PETN	15.9	Q	2.0	1.2	0.42
121-82-4	RDX	1.70	Q	0.20	0.12	0.052
479-45-8	Tetryl	1.64	Q	0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	78	Q	83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300015.D
Lims ID: LCS 280-435346/2-A
Client ID:
Sample Type: LCS
Inject. Date: 30-Oct-2018 14:27:08 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-435346/2
Misc. Info.: 280-0075621-015
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 31-Oct-2018 13:36:51 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0316

First Level Reviewer: fiedlerh Date: 31-Oct-2018 10:36:35

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.658	6.666	-0.008	13606	0.2000	0.1602	
	5 RDX	1	7.771	7.779	-0.008	17755	0.2000	0.1698	
	6 2,4,6-Trinitrophenol	1	8.085	8.092	-0.007	14362	0.2000	0.1703	
$	7 1,2-Dinitrobenzene	1	8.751	8.759	-0.008	20010	0.2000	0.1554	
	8 1,3,5-Trinitrobenzene	1	8.918	8.919	-0.001	38026	0.2000	0.1665	
	9 1,3-Dinitrobenzene	1	9.578	9.585	-0.007	46165	0.2000	0.1534	
	11 Nitrobenzene	1	9.965	9.972	-0.007	26196	0.2000	0.1318	
	12 Tetryl	1	10.291	10.292	-0.001	26864	0.2000	0.1644	
	13 Nitroglycerin	2	10.798	10.799	-0.001	116149	2.00	1.71	
	14 2,4,6-Trinitrotoluene	1	11.251	11.252	-0.001	31884	0.2000	0.1487	
	15 4-Amino-2,6-dinitrotoluene	1	11.431	11.439	-0.008	20239	0.2000	0.1223	
	16 2-Amino-4,6-dinitrotoluene	1	11.725	11.725	0.000	26084	0.2000	0.1308	
	17 2,6-Dinitrotoluene	1	11.865	11.865	0.000	21655	0.2000	0.1415	
	18 2,4-Dinitrotoluene	1	12.058	12.065	-0.007	41669	0.2000	0.1397	
	19 o-Nitrotoluene	1	12.905	12.912	-0.007	16049	0.2000	0.1214	
	20 p-Nitrotoluene	1	13.351	13.359	-0.008	15608	0.2000	0.1373	
	21 m-Nitrotoluene	1	13.951	13.959	-0.008	16226	0.2000	0.1096	
	22 PETN	2	15.051	15.059	-0.008	119107	2.00	1.59	

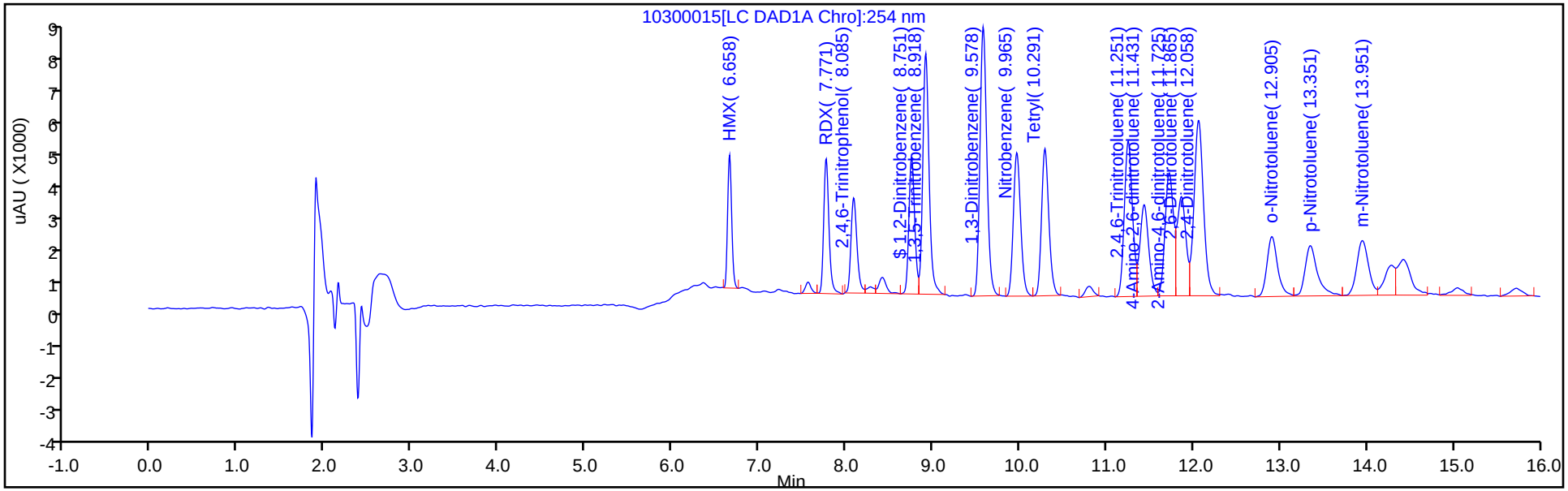
Report Date: 31-Oct-2018 13:37:09 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

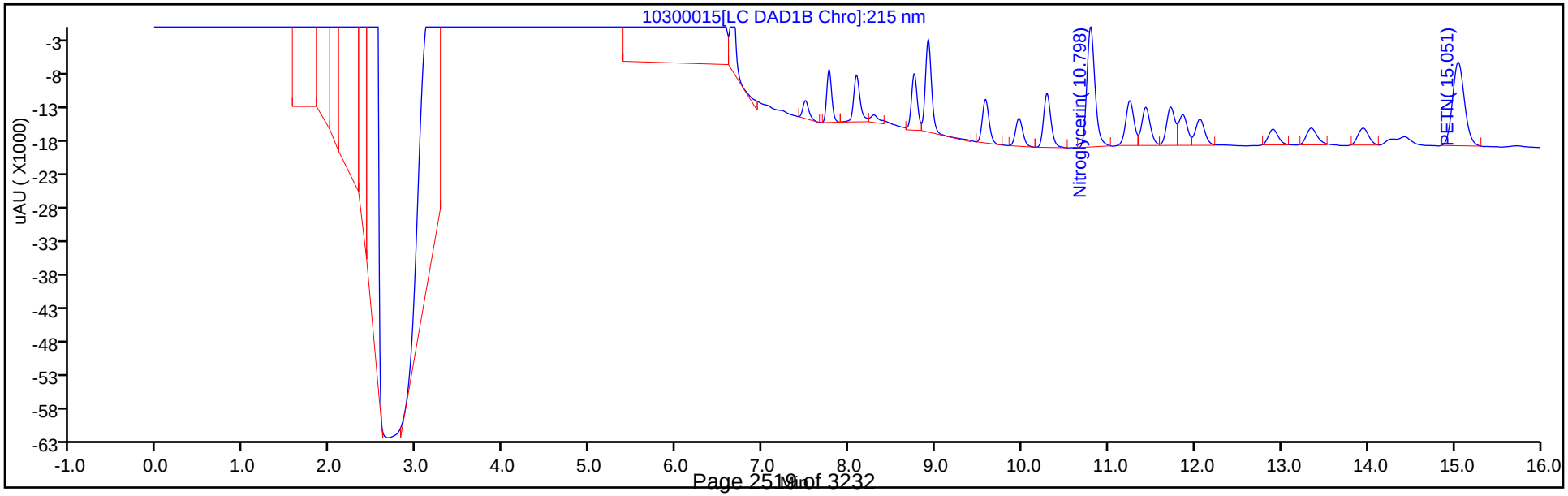
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300015.D

Injection Date:	30-Oct-2018 14:27:08	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	LCS 280-435346/2-A			Worklist Smp#:	15
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\10300015.D				
Lims ID:	LCS 280-435346/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	30-Oct-2018 14:27:08	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 280-435346/2				
Misc. Info.:	280-0075621-015				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181030-75621.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	31-Oct-2018 13:36:51	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX0316				
First Level Reviewer: fiedlerh		Date:	31-Oct-2018 10:36:35		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.1554	77.72

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-435504/2-A

Matrix: Water | Lab File ID: 11010014.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 10/30/2018 13:24

Sample wt/vol: 500(mL) | Date Analyzed: 11/01/2018 18:21

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435886 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	2.16		1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	2.07		0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	1.97		0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	1.95		0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	1.97		0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	1.93		0.20	0.12	0.051
88-72-2	2-Nitrotoluene	1.63		0.40	0.20	0.086
99-08-1	3-Nitrotoluene	1.68		0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	1.79		0.20	0.12	0.058
99-99-0	4-Nitrotoluene	1.84		1.0	0.40	0.20
2691-41-0	HMX	1.97		0.40	0.20	0.088
98-95-3	Nitrobenzene	1.84		0.40	0.20	0.091
55-63-0	Nitroglycerin	20.6		3.0	2.0	0.92
78-11-5	PETN	20.3		2.0	1.2	0.42
121-82-4	RDX	2.10		0.20	0.12	0.052
479-45-8	Tetryl	2.12		0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	102		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010014.D
Lims ID: LCS 280-435504/2-A
Client ID:
Sample Type: LCS
Inject. Date: 01-Nov-2018 18:21:23 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-435504/2
Misc. Info.: 280-0075718-014
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 02-Nov-2018 16:14:18 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0315

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.672	6.669	0.003	16715	0.2000	0.1968	
	5 RDX	1	7.779	7.782	-0.003	21979	0.2000	0.2102	
	6 2,4,6-Trinitrophenol	1	8.085	8.095	-0.010	17977	0.2000	0.2131	
$	7 1,2-Dinitrobenzene	1	8.765	8.769	-0.004	26249	0.2000	0.2039	
	8 1,3,5-Trinitrobenzene	1	8.925	8.935	-0.010	49222	0.2000	0.2155	
	9 1,3-Dinitrobenzene	1	9.585	9.595	-0.010	62285	0.2000	0.2069	
	11 Nitrobenzene	1	9.978	9.982	-0.004	36587	0.2000	0.1841	
	12 Tetryl	1	10.305	10.308	-0.003	34716	0.2000	0.2124	
	13 Nitroglycerin	2	10.812	10.815	-0.003	140202	2.00	2.06	
	14 2,4,6-Trinitrotoluene	1	11.265	11.275	-0.010	42334	0.2000	0.1974	
	15 4-Amino-2,6-dinitrotoluene	1	11.452	11.462	-0.010	29643	0.2000	0.1791	
	16 2-Amino-4,6-dinitrotoluene	1	11.738	11.748	-0.010	38520	0.2000	0.1931	
	17 2,6-Dinitrotoluene	1	11.885	11.888	-0.003	30155	0.2000	0.1970	
	18 2,4-Dinitrotoluene	1	12.078	12.088	-0.010	58184	0.2000	0.1951	
	19 o-Nitrotoluene	1	12.932	12.935	-0.003	21574	0.2000	0.1632	
	20 p-Nitrotoluene	1	13.372	13.382	-0.010	20892	0.2000	0.1838	
	21 m-Nitrotoluene	1	13.978	13.982	-0.004	24905	0.2000	0.1682	
	22 PETN	2	15.092	15.102	-0.010	151944	2.00	2.03	

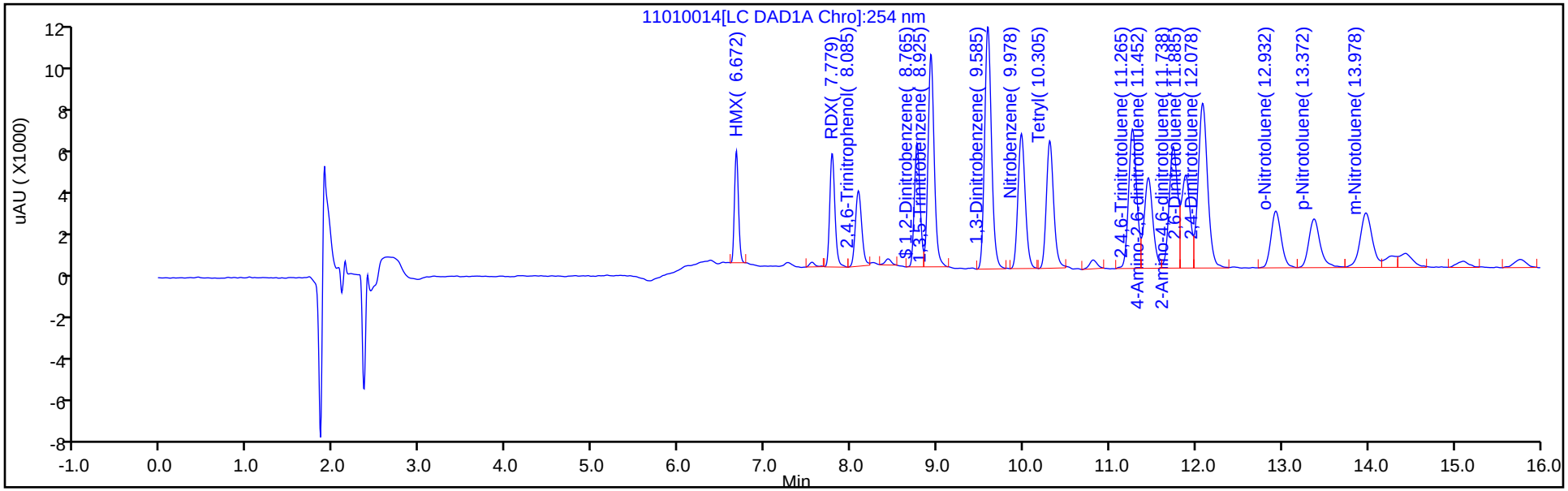
Report Date: 02-Nov-2018 16:14:24 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

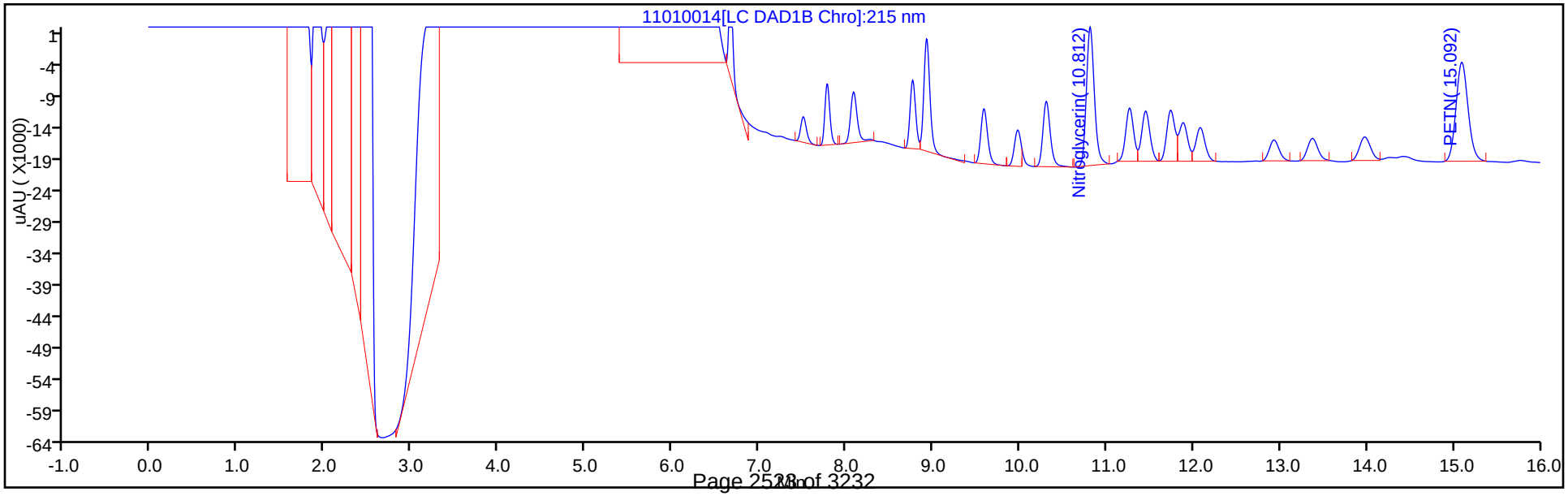
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010014.D

Injection Date:	01-Nov-2018 18:21:23	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	LCS 280-435504/2-A			Worklist Smp#:	14
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010014.D				
Lims ID:	LCS 280-435504/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	01-Nov-2018 18:21:23	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 280-435504/2				
Misc. Info.:	280-0075718-014				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	02-Nov-2018 16:14:18	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX0315				

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2039	101.96

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-436019/2-A

Matrix: Water | Lab File ID: 11050010.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 11/02/2018 12:09

Sample wt/vol: 500(mL) | Date Analyzed: 11/05/2018 17:57

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 436368 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	2.10		1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	2.01		0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	1.94		0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	1.91		0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	1.92		0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	1.82		0.20	0.12	0.051
88-72-2	2-Nitrotoluene	2.09		0.40	0.20	0.086
99-08-1	3-Nitrotoluene	1.69		0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	1.72		0.20	0.12	0.058
99-99-0	4-Nitrotoluene	1.70	M	1.0	0.40	0.20
2691-41-0	HMX	2.05		0.40	0.20	0.088
98-95-3	Nitrobenzene	1.88		0.40	0.20	0.091
55-63-0	Nitroglycerin	20.2		3.0	2.0	0.92
78-11-5	PETN	19.6		2.0	1.2	0.42
121-82-4	RDX	2.06		0.20	0.12	0.052
479-45-8	Tetryl	2.03		0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	102		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050010.D
Lims ID: LCS 280-436019/2-A
Client ID:
Sample Type: LCS
Inject. Date: 05-Nov-2018 17:57:52 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-436019/2
Misc. Info.: 280-0075851-010
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Nov-2018 10:01:11 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0320

First Level Reviewer: fiedlerh Date: 06-Nov-2018 07:48:43

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.656	6.656	0.000	17409	0.2000	0.2049	
5 RDX	1	7.769	7.769	0.000	21583	0.2000	0.2064	
6 2,4,6-Trinitrophenol	1	8.083	8.083	0.000	19426	0.2000	0.2303	
$ 7 1,2-Dinitrobenzene	1	8.763	8.756	0.007	26322	0.2000	0.2045	
8 1,3,5-Trinitrobenzene	1	8.923	8.916	0.007	47879	0.2000	0.2096	
9 1,3-Dinitrobenzene	1	9.582	9.576	0.006	60392	0.2000	0.2006	
11 Nitrobenzene	1	9.976	9.969	0.007	37438	0.2000	0.1883	
12 Tetryl	1	10.309	10.296	0.013	33223	0.2000	0.2033	
13 Nitroglycerin	2	10.816	10.796	0.020	137110	2.00	2.02	
14 2,4,6-Trinitrotoluene	1	11.276	11.256	0.020	41534	0.2000	0.1937	
15 4-Amino-2,6-dinitrotoluene	1	11.469	11.442	0.027	28402	0.2000	0.1716	
16 2-Amino-4,6-dinitrotoluene	1	11.756	11.729	0.027	36390	0.2000	0.1824	
17 2,6-Dinitrotoluene	1	11.896	11.869	0.027	29348	0.2000	0.1917	
18 2,4-Dinitrotoluene	1	12.089	12.069	0.020	56987	0.2000	0.1911	
19 o-Nitrotoluene	1	12.942	12.916	0.026	27698	0.2000	0.2095	
20 p-Nitrotoluene	1	13.382	13.356	0.026	19282	0.2000	0.1697	M
21 m-Nitrotoluene	1	13.989	13.956	0.033	25026	0.2000	0.1690	
22 PETN	2	15.102	15.062	0.040	146888	2.00	1.96	

QC Flag Legend

Review Flags
M - Manually Integrated

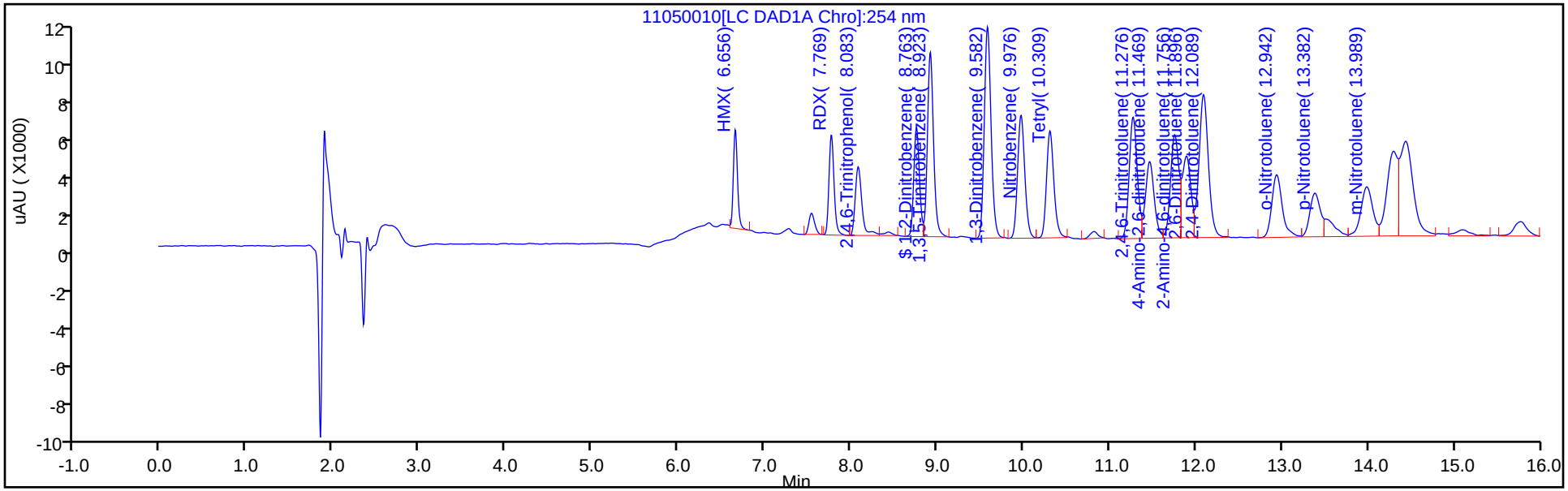
Report Date: 06-Nov-2018 10:01:38 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

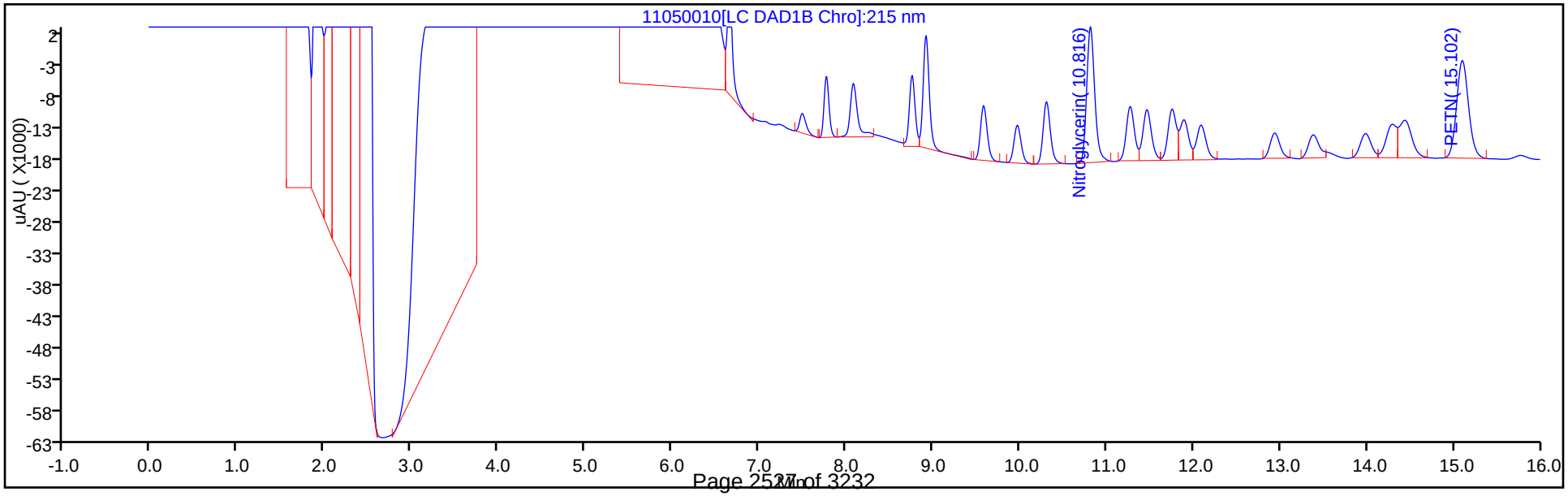
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050010.D

Injection Date:	05-Nov-2018 17:57:52	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	LCS 280-436019/2-A			Worklist Smp#:	10
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\11050010.D
Lims ID: LCS 280-436019/2-A
Client ID:
Sample Type: LCS
Inject. Date: 05-Nov-2018 17:57:52 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-436019/2
Misc. Info.: 280-0075851-010
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181105-75851.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Nov-2018 10:01:11 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0320

First Level Reviewer: fiedlerh Date: 06-Nov-2018 07:48:43

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2045	102.24

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DA2mw-115-181001-GW MS | Lab Sample ID: 280-116020-8 MS

Matrix: Water | Lab File ID: 11010021.D

Analysis Method: 8330B | Date Collected: 10/24/2018 12:45

Extraction Method: 3535 | Date Extracted: 10/30/2018 13:24

Sample wt/vol: 477.6(mL) | Date Analyzed: 11/01/2018 21:02

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435886 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	2.32		1.0	0.42	0.21
99-65-0	1,3-Dinitrobenzene	2.17		0.42	0.21	0.093
118-96-7	2,4,6-Trinitrotoluene	2.07		0.42	0.21	0.076
121-14-2	2,4-Dinitrotoluene	2.07		0.42	0.21	0.088
606-20-2	2,6-Dinitrotoluene	2.03		0.21	0.21	0.068
35572-78-2	2-Amino-4,6-dinitrotoluene	2.05		0.21	0.13	0.053
88-72-2	2-Nitrotoluene	1.61		0.42	0.21	0.090
99-08-1	3-Nitrotoluene	1.66		0.42	0.21	0.087
19406-51-0	4-Amino-2,6-dinitrotoluene	1.90		0.21	0.13	0.060
99-99-0	4-Nitrotoluene	1.90		1.0	0.42	0.21
2691-41-0	HMX	2.41		0.42	0.21	0.092
98-95-3	Nitrobenzene	1.82		0.42	0.21	0.095
55-63-0	Nitroglycerin	21.7		3.1	2.1	0.96
78-11-5	PETN	21.1		2.1	1.3	0.44
121-82-4	RDX	2.20		0.21	0.13	0.055
479-45-8	Tetryl	2.30		0.25	0.21	0.083

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	103		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010021.D
Lims ID: 280-116020-B-8-A MS
Client ID: DA2mw-115-181001-GW
Sample Type: MS
Inject. Date: 01-Nov-2018 21:02:05 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-B-8-A
Misc. Info.: 280-0075718-021
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 02-Nov-2018 16:14:28 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0315

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	1 2,6-diamino-4-nitrotoluene	1	6.394	6.513	-0.119	14606		0.0607	
	25 TNX	1		6.546				ND	
	2 HMX	1	6.667	6.669	-0.002	19564	0.2000	0.2303	
	3 2,4-diamino-6-nitrotoluene	1		6.700				ND	
	24 DNX	1		6.866				ND	
	4 MNX	1		7.326				ND	
	5 RDX	1	7.780	7.782	-0.002	21993	0.2000	0.2103	
	6 2,4,6-Trinitrophenol	1	8.087	8.095	-0.008	16950	0.2000	0.2010	
$	7 1,2-Dinitrobenzene	1	8.767	8.769	-0.002	26568	0.2000	0.2064	
	8 1,3,5-Trinitrobenzene	1	8.927	8.935	-0.008	50512	0.2000	0.2211	
	9 1,3-Dinitrobenzene	1	9.593	9.595	-0.002	62479	0.2000	0.2076	
	11 Nitrobenzene	1	9.980	9.982	-0.002	34637	0.2000	0.1742	
	10 3,5-Dinitroaniline	1		10.227				ND	
	12 Tetryl	1	10.313	10.308	0.005	35928	0.2000	0.2198	
	13 Nitroglycerin	2	10.820	10.815	0.005	140813	2.00	2.07	
	14 2,4,6-Trinitrotoluene	1	11.273	11.275	-0.002	42485	0.2000	0.1981	
	15 4-Amino-2,6-dinitrotoluene	1	11.460	11.462	-0.002	29977	0.2000	0.1811	
	16 2-Amino-4,6-dinitrotoluene	1	11.747	11.748	-0.001	39044	0.2000	0.1957	
	17 2,6-Dinitrotoluene	1	11.887	11.888	-0.001	29692	0.2000	0.1940	
	18 2,4-Dinitrotoluene	1	12.087	12.088	-0.001	59021	0.2000	0.1979	
	19 o-Nitrotoluene	1	12.933	12.935	-0.002	20357	0.2000	0.1540	
	20 p-Nitrotoluene	1	13.373	13.382	-0.009	20609	0.2000	0.1813	
	21 m-Nitrotoluene	1	13.973	13.982	-0.009	23532	0.2000	0.1589	
	22 PETN	2	15.093	15.102	-0.009	151013	2.00	2.01	
	23 Ammonium Picrate	1		0.000				ND	

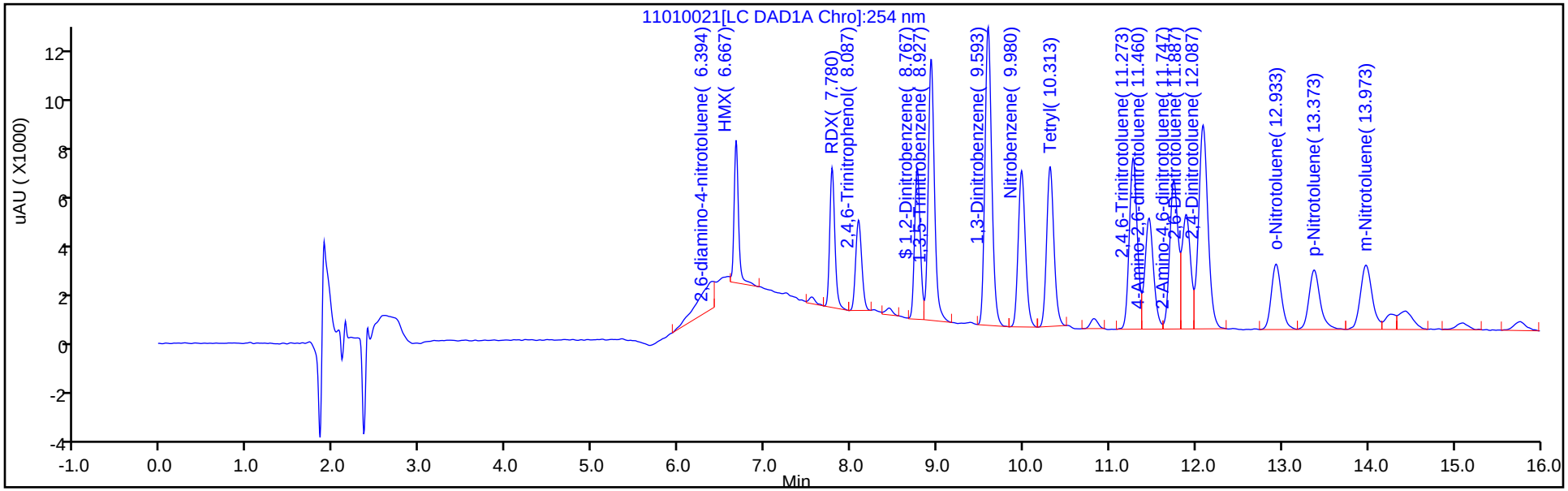
Report Date: 02-Nov-2018 16:14:29 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

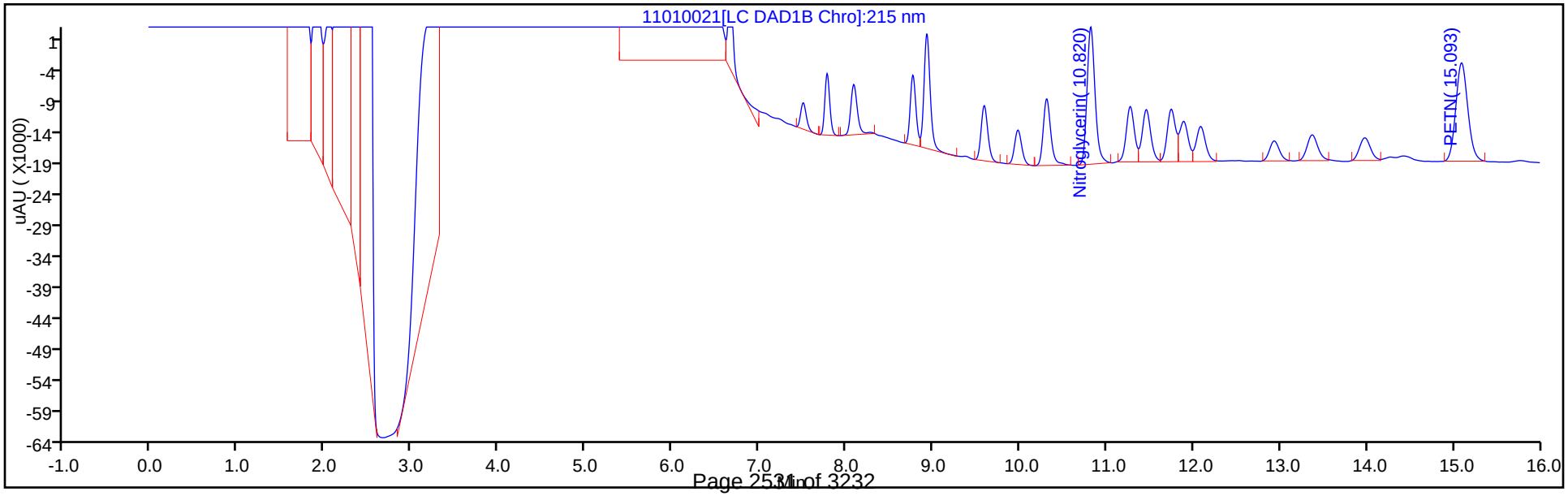
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010021.D

Injection Date:	01-Nov-2018 21:02:05	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-116020-B-8-A MS			Worklist Smp#:	21
Client ID:	DA2mw-115-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010021.D				
Lims ID:	280-116020-B-8-A MS				
Client ID:	DA2mw-115-181001-GW				
Sample Type:	MS				
Inject. Date:	01-Nov-2018 21:02:05	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-B-8-A				
Misc. Info.:	280-0075718-021				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	02-Nov-2018 16:14:28	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX0315				

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2064	103.19

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-116020-1

SDG No.:

Client Sample ID: DA2mw-115-181001-GW MSD | Lab Sample ID: 280-116020-8 MSD

Matrix: Water | Lab File ID: 11010022.D

Analysis Method: 8330B | Date Collected: 10/24/2018 12:45

Extraction Method: 3535 | Date Extracted: 10/30/2018 13:24

Sample wt/vol: 475.4(mL) | Date Analyzed: 11/01/2018 21:25

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435886 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	2.29		1.1	0.42	0.21
99-65-0	1,3-Dinitrobenzene	2.13		0.42	0.21	0.093
118-96-7	2,4,6-Trinitrotoluene	2.04		0.42	0.21	0.076
121-14-2	2,4-Dinitrotoluene	2.04		0.42	0.21	0.088
606-20-2	2,6-Dinitrotoluene	2.01		0.21	0.21	0.068
35572-78-2	2-Amino-4,6-dinitrotoluene	1.97		0.21	0.13	0.053
88-72-2	2-Nitrotoluene	1.62		0.42	0.21	0.090
99-08-1	3-Nitrotoluene	1.65		0.42	0.21	0.088
19406-51-0	4-Amino-2,6-dinitrotoluene	1.83		0.21	0.13	0.061
99-99-0	4-Nitrotoluene	1.91		1.1	0.42	0.21
2691-41-0	HMX	2.22		0.42	0.21	0.092
98-95-3	Nitrobenzene	0.846	J1	0.42	0.21	0.096
55-63-0	Nitroglycerin	21.3		3.2	2.1	0.97
78-11-5	PETN	20.8		2.1	1.3	0.44
121-82-4	RDX	2.17		0.21	0.13	0.055
479-45-8	Tetryl	2.26		0.25	0.21	0.083

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	105		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010022.D
Lims ID: 280-116020-A-8-B MSD
Client ID: DA2mw-115-181001-GW
Sample Type: MSD
Inject. Date: 01-Nov-2018 21:25:00 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-116020-A-8-B
Misc. Info.: 280-0075718-022
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 02-Nov-2018 16:14:28 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0315

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	1 2,6-diamino-4-nitrotoluene	1	6.376	6.513	-0.137	15023		0.0624	
	25 TNX	1		6.546				ND	
	2 HMX	1	6.663	6.669	-0.006	17911	0.2000	0.2109	
	3 2,4-diamino-6-nitrotoluene	1		6.700				ND	
	24 DNX	1		6.866				ND	
	4 MNX	1		7.326				ND	
	5 RDX	1	7.783	7.782	0.001	21581	0.2000	0.2064	
	6 2,4,6-Trinitrophenol	1	8.089	8.095	-0.006	15942	0.2000	0.1890	
$	7 1,2-Dinitrobenzene	1	8.769	8.769	0.000	26969	0.2000	0.2095	
	8 1,3,5-Trinitrobenzene	1	8.929	8.935	-0.006	49700	0.2000	0.2176	
	9 1,3-Dinitrobenzene	1	9.596	9.595	0.001	60988	0.2000	0.2026	
	11 Nitrobenzene	1	9.982	9.982	0.000	15992	0.2000	0.0805	
	10 3,5-Dinitroaniline	1		10.227				ND	
	12 Tetryl	1	10.309	10.308	0.001	35173	0.2000	0.2152	
	13 Nitroglycerin	2	10.822	10.815	0.007	137522	2.00	2.02	
	14 2,4,6-Trinitrotoluene	1	11.276	11.275	0.001	41569	0.2000	0.1938	
	15 4-Amino-2,6-dinitrotoluene	1	11.462	11.462	0.000	28835	0.2000	0.1742	
	16 2-Amino-4,6-dinitrotoluene	1	11.749	11.748	0.001	37416	0.2000	0.1876	
	17 2,6-Dinitrotoluene	1	11.896	11.888	0.008	29189	0.2000	0.1907	
	18 2,4-Dinitrotoluene	1	12.089	12.088	0.001	57753	0.2000	0.1936	
	19 o-Nitrotoluene	1	12.942	12.935	0.007	20419	0.2000	0.1544	
	20 p-Nitrotoluene	1	13.382	13.382	0.000	20643	0.2000	0.1816	
	21 m-Nitrotoluene	1	13.982	13.982	0.000	23291	0.2000	0.1573	
	22 PETN	2	15.102	15.102	0.000	148389	2.00	1.98	
	23 Ammonium Picrate	1		0.000				ND	

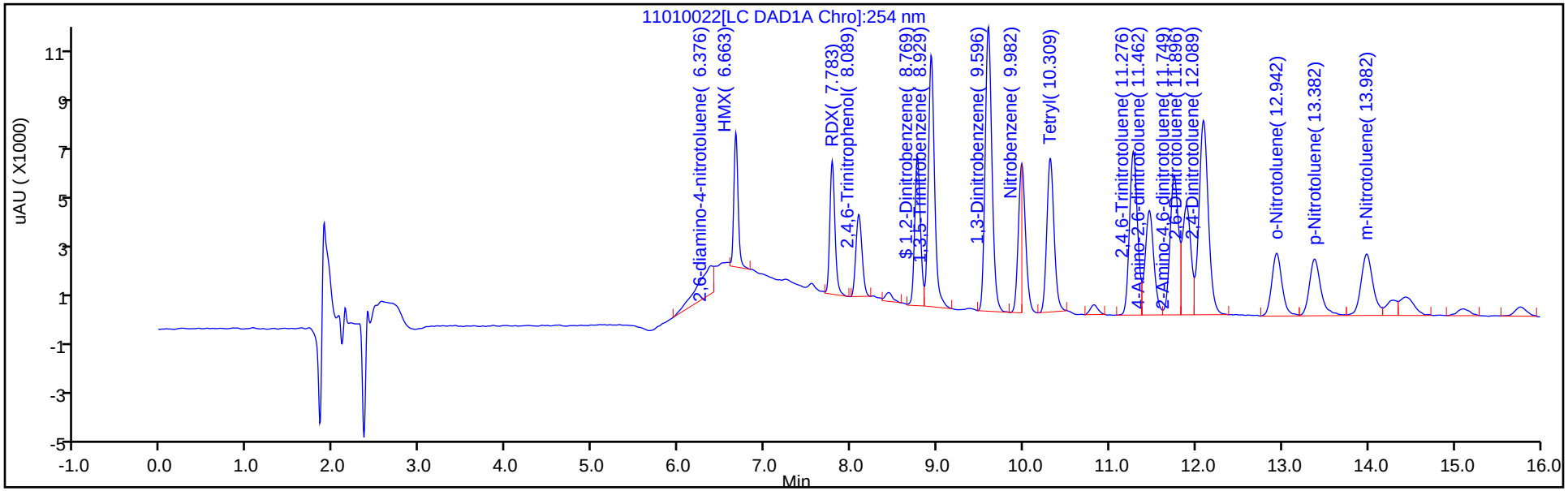
Report Date: 02-Nov-2018 16:14:30 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

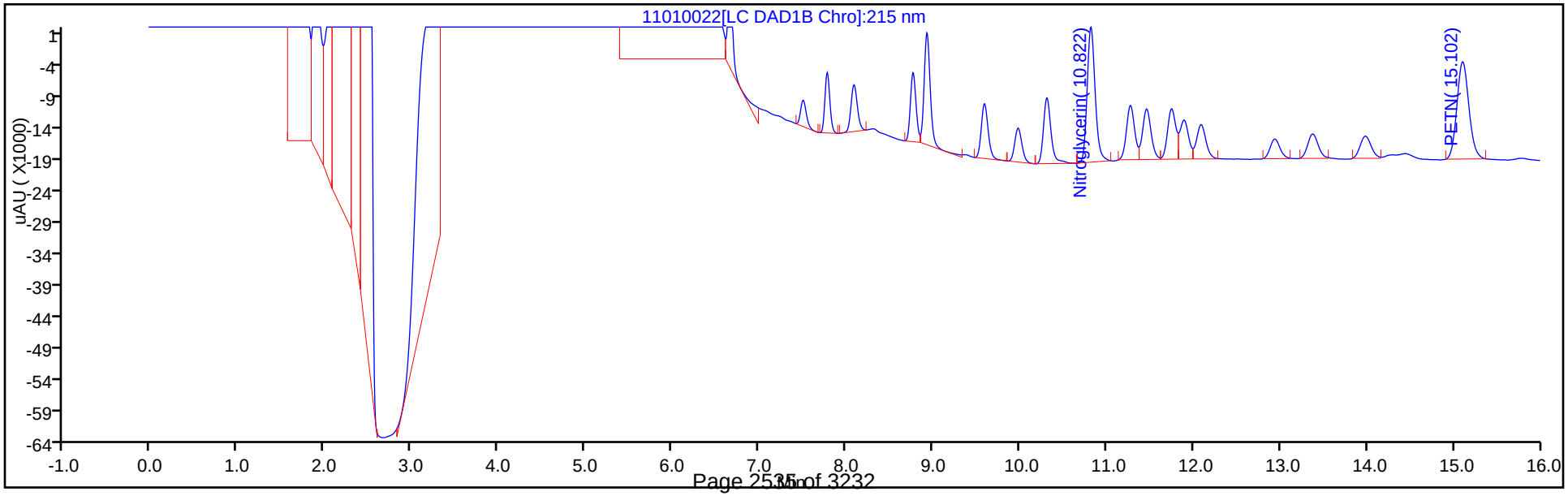
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010022.D

Injection Date:	01-Nov-2018 21:25:00	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-116020-A-8-B MSD			Worklist Smp#:	22
Client ID:	DA2mw-115-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\11010022.D				
Lims ID:	280-116020-A-8-B MSD				
Client ID:	DA2mw-115-181001-GW				
Sample Type:	MSD				
Inject. Date:	01-Nov-2018 21:25:00	ALS Bottle#:	22	Worklist Smp#:	22
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-116020-A-8-B				
Misc. Info.:	280-0075718-022				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181101-75718.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	02-Nov-2018 16:14:28	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX0315				

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2095	104.75

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 05/18/2018 10:34

Analysis Batch Number: 415256 End Date: 05/18/2018 18:36

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-415256/7		05/18/2018 10:34	1	05180007.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/8		05/18/2018 10:57	1	05180008.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/9		05/18/2018 11:19	1	05180009.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/10		05/18/2018 11:42	1	05180010.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/11		05/18/2018 12:05	1	05180011.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/12		05/18/2018 12:28	1	05180012.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/13		05/18/2018 12:51	1	05180013.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/14		05/18/2018 13:14	1	05180014.D	UltraCarb5uODS 4.6(mm)
ICV 280-415256/15		05/18/2018 13:37	1	05180015.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/16		05/18/2018 14:00	1		UltraCarb5uODS 4.6(mm)
IC 280-415256/17		05/18/2018 14:23	1		UltraCarb5uODS 4.6(mm)
IC 280-415256/18		05/18/2018 14:46	1		UltraCarb5uODS 4.6(mm)
IC 280-415256/19		05/18/2018 15:09	1		UltraCarb5uODS 4.6(mm)
IC 280-415256/20		05/18/2018 15:32	1		UltraCarb5uODS 4.6(mm)
IC 280-415256/21		05/18/2018 15:55	1		UltraCarb5uODS 4.6(mm)
IC 280-415256/22		05/18/2018 16:18	1		UltraCarb5uODS 4.6(mm)
IC 280-415256/23		05/18/2018 16:41	1		UltraCarb5uODS 4.6(mm)
ICV 280-415256/24		05/18/2018 17:04	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		05/18/2018 17:27	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		05/18/2018 17:50	10		UltraCarb5uODS 4.6(mm)
CCV 280-415256/27		05/18/2018 18:13	1		UltraCarb5uODS 4.6(mm)
CCV 280-415256/28		05/18/2018 18:36	1		UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Start Date: 10/13/2018 16:23

Analysis Batch Number: 433312 End Date: 10/14/2018 07:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-433312/7		10/13/2018 16:23	1	10130007.D	Luna-phenylhex 4.6(mm)
IC 280-433312/8		10/13/2018 16:58	1	10130008.D	Luna-phenylhex 4.6(mm)
IC 280-433312/9		10/13/2018 17:33	1	10130009.D	Luna-phenylhex 4.6(mm)
IC 280-433312/10		10/13/2018 18:08	1	10130010.D	Luna-phenylhex 4.6(mm)
IC 280-433312/11		10/13/2018 18:43	1	10130011.D	Luna-phenylhex 4.6(mm)
IC 280-433312/12		10/13/2018 19:18	1	10130012.D	Luna-phenylhex 4.6(mm)
IC 280-433312/13		10/13/2018 19:53	1	10130013.D	Luna-phenylhex 4.6(mm)
IC 280-433312/14		10/13/2018 20:28	1	10130014.D	Luna-phenylhex 4.6(mm)
ICV 280-433312/15		10/13/2018 21:03	1	10130015.D	Luna-phenylhex 4.6(mm)
IC 280-433312/16		10/13/2018 21:38	1		Luna-phenylhex 4.6(mm)
IC 280-433312/17		10/13/2018 22:13	1		Luna-phenylhex 4.6(mm)
IC 280-433312/18		10/13/2018 22:48	1		Luna-phenylhex 4.6(mm)
IC 280-433312/19		10/13/2018 23:23	1		Luna-phenylhex 4.6(mm)
IC 280-433312/20		10/13/2018 23:58	1		Luna-phenylhex 4.6(mm)
IC 280-433312/21		10/14/2018 00:33	1		Luna-phenylhex 4.6(mm)
IC 280-433312/22		10/14/2018 01:08	1		Luna-phenylhex 4.6(mm)
IC 280-433312/23		10/14/2018 01:43	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 02:18	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 02:53	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 03:28	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 04:02	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 04:37	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 05:12	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 05:47	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 06:22	1		Luna-phenylhex 4.6(mm)
CCV 280-433312/32		10/14/2018 06:57	1		Luna-phenylhex 4.6(mm)
CCV 280-433312/33		10/14/2018 07:32	1		Luna-phenylhex 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 10/30/2018 11:23

Analysis Batch Number: 435517 End Date: 10/30/2018 22:06

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-435517/7		10/30/2018 11:23	1		UltraCarb5uODS 4.6(mm)
CCV 280-435517/8		10/30/2018 11:46	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 12:09	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 12:55	20		UltraCarb5uODS 4.6(mm)
CCV 280-435517/12		10/30/2018 13:18	1	10300012.D	UltraCarb5uODS 4.6(mm)
CCV 280-435517/13		10/30/2018 13:41	1		UltraCarb5uODS 4.6(mm)
MB 280-435346/1-A		10/30/2018 14:04	1	10300014.D	UltraCarb5uODS 4.6(mm)
LCS 280-435346/2-A		10/30/2018 14:27	1	10300015.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 14:50	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 15:13	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 15:35	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 15:58	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 16:21	1		UltraCarb5uODS 4.6(mm)
280-116020-4		10/30/2018 16:44	1	10300021.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 17:07	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 17:30	1		UltraCarb5uODS 4.6(mm)
CCV 280-435517/24		10/30/2018 17:53	1	10300024.D	UltraCarb5uODS 4.6(mm)
CCV 280-435517/25		10/30/2018 18:16	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 18:39	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 19:02	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 19:25	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 19:48	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 20:11	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 20:34	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 20:57	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/30/2018 21:20	1		UltraCarb5uODS 4.6(mm)
CCV 280-435517/34		10/30/2018 21:43	1	10300034.D	UltraCarb5uODS 4.6(mm)
CCV 280-435517/35		10/30/2018 22:06	1		UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Start Date: 10/31/2018 21:35

Analysis Batch Number: 435757 End Date: 11/01/2018 01:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-435757/15		10/31/2018 21:35	1	10310015.D	Luna-phenylhex 4.6(mm)
ZZZZZ		10/31/2018 22:10	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/31/2018 22:45	1		Luna-phenylhex 4.6(mm)
280-116020-4		10/31/2018 23:20	1	10310018.D	Luna-phenylhex 4.6(mm)
ZZZZZ		10/31/2018 23:55	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/01/2018 00:30	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/01/2018 01:05	1		Luna-phenylhex 4.6(mm)
CCV 280-435757/22		11/01/2018 01:40	1	10310022.D	Luna-phenylhex 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 11/01/2018 15:40

Analysis Batch Number: 435886 End Date: 11/02/2018 04:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-435886/7		11/01/2018 15:40	1	11010007.D	UltraCarb5uODS 4.6(mm)
CCV 280-435886/8		11/01/2018 16:03	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/01/2018 16:26	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/01/2018 16:49	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/01/2018 17:12	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/01/2018 17:35	1		UltraCarb5uODS 4.6(mm)
MB 280-435504/1-A		11/01/2018 17:58	1	11010013.D	UltraCarb5uODS 4.6(mm)
LCS 280-435504/2-A		11/01/2018 18:21	1	11010014.D	UltraCarb5uODS 4.6(mm)
280-116020-1		11/01/2018 18:44	1	11010015.D	UltraCarb5uODS 4.6(mm)
280-116020-5		11/01/2018 19:07	1	11010016.D	UltraCarb5uODS 4.6(mm)
280-116020-6		11/01/2018 19:30	1	11010017.D	UltraCarb5uODS 4.6(mm)
CCV 280-435886/18		11/01/2018 19:53	1	11010018.D	UltraCarb5uODS 4.6(mm)
CCV 280-435886/19		11/01/2018 20:16	1		UltraCarb5uODS 4.6(mm)
280-116020-8		11/01/2018 20:39	1	11010020.D	UltraCarb5uODS 4.6(mm)
280-116020-8 MS		11/01/2018 21:02	1	11010021.D	UltraCarb5uODS 4.6(mm)
280-116020-8 MSD		11/01/2018 21:25	1	11010022.D	UltraCarb5uODS 4.6(mm)
280-116020-9		11/01/2018 21:47	1	11010023.D	UltraCarb5uODS 4.6(mm)
280-116020-12		11/01/2018 22:10	1	11010024.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		11/01/2018 22:33	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/01/2018 22:56	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/01/2018 23:19	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/01/2018 23:42	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/02/2018 00:05	1		UltraCarb5uODS 4.6(mm)
CCV 280-435886/30		11/02/2018 00:28	1	11010030.D	UltraCarb5uODS 4.6(mm)
CCV 280-435886/31		11/02/2018 00:51	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/02/2018 01:14	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/02/2018 01:37	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/02/2018 02:00	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/02/2018 02:23	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/02/2018 02:46	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/02/2018 03:09	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/02/2018 03:32	1		UltraCarb5uODS 4.6(mm)
CCV 280-435886/39		11/02/2018 03:55	1		UltraCarb5uODS 4.6(mm)
CCV 280-435886/40		11/02/2018 04:18	1		UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Start Date: 11/02/2018 21:15

Analysis Batch Number: 436120 End Date: 11/03/2018 06:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-436120/12		11/02/2018 21:15	1	11020012.D	Luna-phenylhex 4.6(mm)
ZZZZZ		11/02/2018 21:50	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/02/2018 22:25	1		Luna-phenylhex 4.6(mm)
280-116020-5		11/02/2018 23:00	1	11020015.D	Luna-phenylhex 4.6(mm)
280-116020-6		11/02/2018 23:35	1	11020016.D	Luna-phenylhex 4.6(mm)
280-116020-12		11/03/2018 00:10	1	11020017.D	Luna-phenylhex 4.6(mm)
ZZZZZ		11/03/2018 00:45	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/03/2018 01:20	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/03/2018 01:55	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/03/2018 02:30	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/03/2018 03:05	1		Luna-phenylhex 4.6(mm)
CCV 280-436120/23		11/03/2018 03:39	1	11020023.D	Luna-phenylhex 4.6(mm)
ZZZZZ		11/03/2018 04:14	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/03/2018 04:49	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/03/2018 05:24	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/03/2018 05:59	1		Luna-phenylhex 4.6(mm)
CCV 280-436120/28		11/03/2018 06:34	1		Luna-phenylhex 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 11/05/2018 16:48

Analysis Batch Number: 436368 End Date: 11/06/2018 01:59

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-436368/7		11/05/2018 16:48	1	11050007.D	UltraCarb5uODS 4.6(mm)
CCV 280-436368/8		11/05/2018 17:11	1		UltraCarb5uODS 4.6(mm)
MB 280-436019/1-A		11/05/2018 17:34	1	11050009.D	UltraCarb5uODS 4.6(mm)
LCS 280-436019/2-A		11/05/2018 17:57	1	11050010.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		11/05/2018 18:20	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/05/2018 18:43	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/05/2018 19:06	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/05/2018 19:29	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/05/2018 19:52	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/05/2018 20:15	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/05/2018 20:38	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/05/2018 21:01	1		UltraCarb5uODS 4.6(mm)
CCV 280-436368/19		11/05/2018 21:24	1	11050019.D	UltraCarb5uODS 4.6(mm)
CCV 280-436368/20		11/05/2018 21:47	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/05/2018 22:10	1		UltraCarb5uODS 4.6(mm)
280-116020-4 RE		11/05/2018 22:33	1	11050022.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		11/05/2018 22:56	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/05/2018 23:19	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/05/2018 23:42	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/06/2018 00:04	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/06/2018 00:27	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/06/2018 00:50	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/06/2018 01:13	1		UltraCarb5uODS 4.6(mm)
CCV 280-436368/30		11/06/2018 01:36	1	11050030.D	UltraCarb5uODS 4.6(mm)
CCV 280-436368/31		11/06/2018 01:59	1		UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Start Date: 11/06/2018 16:20

Analysis Batch Number: 436505 End Date: 11/07/2018 03:59

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-436505/7		11/06/2018 16:20	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/06/2018 16:55	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/06/2018 17:30	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/06/2018 18:05	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/06/2018 18:40	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/06/2018 19:15	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/06/2018 19:50	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/06/2018 20:25	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/06/2018 21:00	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/06/2018 21:35	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/06/2018 22:10	1		Luna-phenylhex 4.6(mm)
CCV 280-436505/18		11/06/2018 22:45	1	11060018.D	Luna-phenylhex 4.6(mm)
280-116020-4 RE		11/06/2018 23:20	1	11060019.D	Luna-phenylhex 4.6(mm)
ZZZZZ		11/06/2018 23:55	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/07/2018 00:30	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/07/2018 01:05	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/07/2018 01:40	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/07/2018 02:15	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/07/2018 02:50	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/07/2018 03:25	1		Luna-phenylhex 4.6(mm)
CCV 280-436505/27		11/07/2018 03:59	1	11060027.D	Luna-phenylhex 4.6(mm)

HPLC/IC BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435346 Batch Start Date: 10/29/18 15:30 Batch Analyst: Pepping, Andrew J

Batch Method: 3535 Batch End Date: 10/29/18 20:19

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	8330 LCS 00083	8330Surrogate 00100
MB 280-435346/1		3535, 8330B				500 mL	5 mL		0.1 mL
LCS 280-435346/2		3535, 8330B				500 mL	5 mL	0.1 mL	0.1 mL
280-116020-C-4	WBGmw-009-181001-GW	3535, 8330B	T	785.7 g	283.9 g	501.8 mL	5 mL		0.1 mL

Batch Notes	
Acid ID	0.1%AAinACN_00119
Acid Name	0.1%AAinACN
Balance ID	B318295195
Batch Comment	N. Elga, CaCl_Sol_00062 Reviewer: CR
First End time	10/29/2018 19:58
Pipette/Syringe/Dispenser ID	JiJi, soot
Solvent Lot #	Acetonitrile_00018, MeCl2_Cycl_00410
Solvent Name	ACN, MeCl2
SPE Cartridge Lot ID	004838184A
SPE Cartridge Type	Porapak Rdx WAT047220
Solid Phase Extraction Disk ID	S18-003691
Analyst ID - Spike Analyst	AP
Analyst ID - Spike Witness Analyst	CB
First Start time	10/29/2018 15:38

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435504 Batch Start Date: 10/30/18 13:24 Batch Analyst: Becker, Chad B

Batch Method: 3535 Batch End Date: 10/30/18 16:32

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	8330 LCS 00083	8330Surrogate 00100
MB 280-435504/1		3535, 8330B				500 mL	5 mL		0.1 mL
LCS 280-435504/2		3535, 8330B				500 mL	5 mL	0.1 mL	0.1 mL
280-116020-F-1	DET-003-181001-GW	3535, 8330B	T	756.5 g	286.0 g	470.5 mL	5 mL		0.1 mL
280-116020-F-5	LL1mw-083-181001-GW	3535, 8330B	T	706.9 g	285.2 g	421.7 mL	5 mL		0.1 mL
280-116020-E-6	LL1mw-084-181001-GW	3535, 8330B	T	759.9 g	284.3 g	475.6 mL	5 mL		0.1 mL
280-116020-C-8	DA2mw-115-181001-GW	3535, 8330B	T	738.7 g	286.3 g	452.4 mL	5 mL		0.1 mL
280-116020-B-8 MS	DA2mw-115-181001-GW	3535, 8330B	T	763.0 g	285.4 g	477.6 mL	5 mL	0.1 mL	0.1 mL
280-116020-A-8 MSD	DA2mw-115-181001-GW	3535, 8330B	T	761.1 g	285.7 g	475.4 mL	5 mL	0.1 mL	0.1 mL
280-116020-B-9	DA2mw-115-181002-GW	3535, 8330B	T	739.8 g	286.1 g	453.7 mL	5 mL		0.1 mL
280-116020-E-12	DET-004-181001-GW	3535, 8330B	T	730.8 g	285.4 g	445.4 mL	5 mL		0.1 mL

Batch Notes	
Acid ID	0.1%AAinACN_00119
Acid Name	0.1%AAinACN
Balance ID	24350888
Batch Comment	N. Elga, CaCl_Sol_00062 Reviewer: ka
First End time	10/30/2018 16:32
Pipette/Syringe/Dispenser ID	JiJi, soot
Solvent Lot #	Acetonitrile_00018, MeCl2_Cycl_00410
Solvent Name	ACN, MeCl2
SPE Cartridge Lot ID	004838184A
SPE Cartridge Type	Porapak Rdx WAT047220
Solid Phase Extraction Disk ID	S18-003691
Analyst ID - Spike Analyst	CB
First Start time	10/30/2018 13:42

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435504 Batch Start Date: 10/30/18 13:24 Batch Analyst: Becker, Chad B

Batch Method: 3535 Batch End Date: 10/30/18 16:32

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 436019 Batch Start Date: 11/02/18 12:09 Batch Analyst: Becker, Chad B

Batch Method: 3535 Batch End Date: 11/02/18 14:22

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	8330 LCS 00082	8330Surrogate 00100
MB 280-436019/1		3535, 8330B				500 mL	5 mL		0.1 mL
LCS 280-436019/2		3535, 8330B				500 mL	5 mL	0.1 mL	0.1 mL
280-116020-B-4	WBGmw-009-181001-GW	3535, 8330B	T	856.8 g	499.6 g	357.2 mL	5 mL		0.1 mL

Batch Notes	
Acid ID	0.1%AAinACN_00119
Acid Name	0.1%AAinACN
Balance ID	24350888
Batch Comment	N. Elga, CaCl_Sol_00062 Reviewer: MF
First End time	11/02/2018 14:22
Pipette/Syringe/Dispenser ID	JiJi, soot
Solvent Lot #	Acetonitrile_00018, MeCl2_Cycl_00410
Solvent Name	ACN, MeCl2
SPE Cartridge Lot ID	004838184A / 004938274A
SPE Cartridge Type	Porapak Rdx WAT047220
Solid Phase Extraction Disk ID	S18-003691
Analyst ID - Spike Analyst	CB
Analyst ID - Spike Witness Analyst	MF
First Start time	11/02/2018 12:30

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS

COVER PAGE
METALS

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG No.:

Project: Leidos RFP# 001088 - Ravenna AAP-66

Client Sample ID	Lab Sample ID
DET-003-181001-GW	280-116020-1
WBGmw-009-181001-GW	280-116020-4
LL1mw-084-181001-GW	280-116020-6
DA2mw-115-181001-GW	280-116020-8
DA2mw-115-181002-GW	280-116020-9
DET-004-181001-GW	280-116020-12

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: DET-003-181001-GW
Lab Sample ID: 280-116020-1
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG ID.:
Matrix: Water
Date Sampled: 10/24/2018 10:05
Reporting Basis: WET
Date Received: 10/24/2018 17:47

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	70	300	70	18	ug/L	U		1	6010C
Calcium	95000	1000	140	35	ug/L		Q	1	6010C
Iron	1900	100	85	22	ug/L			1	6010C
Magnesium	35000	500	40	11	ug/L			1	6010C
Potassium	2300	3000	940	240	ug/L	J		1	6010C
Sodium	13000	5000	350	120	ug/L			1	6010C
Antimony	1.0	6.0	1.0	0.40	ug/L	U		1	6020A
Arsenic	11	5.0	1.0	0.33	ug/L			1	6020A
Barium	49	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.30	1.0	0.30	0.080	ug/L	U		1	6020A
Cadmium	1.0	1.0	1.0	0.27	ug/L	U		1	6020A
Chromium	1.8	10	1.8	0.50	ug/L	U		1	6020A
Cobalt	0.36	1.0	0.20	0.054	ug/L	J		1	6020A
Copper	1.8	2.0	1.8	0.56	ug/L	U		1	6020A
Lead	0.70	3.0	0.70	0.18	ug/L	U		1	6020A
Manganese	260	3.5	0.95	0.31	ug/L			1	6020A
Nickel	1.0	3.0	1.0	0.30	ug/L	U		1	6020A
Selenium	2.0	5.0	2.0	0.70	ug/L	U		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.20	1.0	0.20	0.050	ug/L	U		1	6020A
Vanadium	2.0	6.0	2.0	0.50	ug/L	U		1	6020A
Zinc	8.0	20	8.0	2.0	ug/L	U		1	6020A
Mercury	0.080	0.20	0.080	0.027	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: WBGmw-009-181001-GW
Lab Sample ID: 280-116020-4
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG ID.:
Matrix: Water
Date Sampled: 10/23/2018 14:35
Reporting Basis: WET
Date Received: 10/24/2018 17:47

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	70	300	70	18	ug/L	U		1	6010C
Calcium	54000	1000	140	35	ug/L		Q	1	6010C
Iron	85	100	85	22	ug/L	U		1	6010C
Magnesium	16000	500	40	11	ug/L			1	6010C
Potassium	620	3000	940	240	ug/L	J		1	6010C
Sodium	3600	5000	350	120	ug/L	J		1	6010C
Antimony	1.0	6.0	1.0	0.40	ug/L	U		1	6020A
Arsenic	1.0	5.0	1.0	0.33	ug/L	U		1	6020A
Barium	11	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.30	1.0	0.30	0.080	ug/L	U		1	6020A
Cadmium	1.0	1.0	1.0	0.27	ug/L	U		1	6020A
Chromium	1.8	10	1.8	0.50	ug/L	U		1	6020A
Cobalt	0.16	1.0	0.20	0.054	ug/L	J		1	6020A
Copper	1.8	2.0	1.8	0.56	ug/L	U		1	6020A
Lead	0.70	3.0	0.70	0.18	ug/L	U		1	6020A
Manganese	22	3.5	0.95	0.31	ug/L			1	6020A
Nickel	0.92	3.0	1.0	0.30	ug/L	J		1	6020A
Selenium	2.0	5.0	2.0	0.70	ug/L	U		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.20	1.0	0.20	0.050	ug/L	U		1	6020A
Vanadium	2.0	6.0	2.0	0.50	ug/L	U		1	6020A
Zinc	2.4	20	8.0	2.0	ug/L	J		1	6020A
Mercury	0.080	0.20	0.080	0.027	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: LL1mw-084-181001-GW
Lab Sample ID: 280-116020-6
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG ID.:
Matrix: Water
Date Sampled: 10/24/2018 09:30
Reporting Basis: WET
Date Received: 10/24/2018 17:47

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	500	300	70	18	ug/L			1	6010C
Calcium	51000	1000	140	35	ug/L		Q	1	6010C
Iron	85	100	85	22	ug/L	U		1	6010C
Magnesium	3600	500	40	11	ug/L			1	6010C
Potassium	3600	3000	940	240	ug/L			1	6010C
Sodium	3700	5000	350	120	ug/L	J		1	6010C
Antimony	1.0	6.0	1.0	0.40	ug/L	U		1	6020A
Arsenic	1.0	5.0	1.0	0.33	ug/L	U		1	6020A
Barium	16	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.13	1.0	0.30	0.080	ug/L	J		1	6020A
Cadmium	1.7	1.0	1.0	0.27	ug/L			1	6020A
Chromium	1.8	10	1.8	0.50	ug/L	U		1	6020A
Cobalt	13	1.0	0.20	0.054	ug/L			1	6020A
Copper	5.3	2.0	1.8	0.56	ug/L			1	6020A
Lead	1.0	3.0	0.70	0.18	ug/L	J		1	6020A
Manganese	140	3.5	0.95	0.31	ug/L			1	6020A
Nickel	34	3.0	1.0	0.30	ug/L			1	6020A
Selenium	1.5	5.0	2.0	0.70	ug/L	J		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.46	1.0	0.20	0.050	ug/L	J		1	6020A
Vanadium	2.0	6.0	2.0	0.50	ug/L	U		1	6020A
Zinc	67	20	8.0	2.0	ug/L			1	6020A
Mercury	0.080	0.20	0.080	0.027	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: DA2mw-115-181001-GW
Lab Sample ID: 280-116020-8
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG ID.:
Matrix: Water
Date Sampled: 10/24/2018 12:45
Reporting Basis: WET
Date Received: 10/24/2018 17:47

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	70	300	70	18	ug/L	U		1	6010C
Calcium	120000	1000	140	35	ug/L		Q	1	6010C
Iron	1000	100	85	22	ug/L			1	6010C
Magnesium	32000	500	40	11	ug/L			1	6010C
Potassium	3800	3000	940	240	ug/L			1	6010C
Sodium	12000	5000	350	120	ug/L			1	6010C
Antimony	1.0	6.0	1.0	0.40	ug/L	U		1	6020A
Arsenic	1.6	5.0	1.0	0.33	ug/L	J		1	6020A
Barium	22	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.30	1.0	0.30	0.080	ug/L	U		1	6020A
Cadmium	1.0	1.0	1.0	0.27	ug/L	U		1	6020A
Chromium	1.8	10	1.8	0.50	ug/L	U		1	6020A
Cobalt	0.20	1.0	0.20	0.054	ug/L	U		1	6020A
Copper	1.8	2.0	1.8	0.56	ug/L	U		1	6020A
Lead	0.70	3.0	0.70	0.18	ug/L	U		1	6020A
Manganese	110	3.5	0.95	0.31	ug/L		J1	1	6020A
Nickel	1.0	3.0	1.0	0.30	ug/L	U		1	6020A
Selenium	2.0	5.0	2.0	0.70	ug/L	U		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.20	1.0	0.20	0.050	ug/L	U		1	6020A
Vanadium	2.0	6.0	2.0	0.50	ug/L	U		1	6020A
Zinc	2.2	20	8.0	2.0	ug/L	J		1	6020A
Mercury	0.080	0.20	0.080	0.027	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: DA2mw-115-181002-GW
Lab Sample ID: 280-116020-9
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG ID.:
Matrix: Water
Date Sampled: 10/24/2018 12:45
Reporting Basis: WET
Date Received: 10/24/2018 17:47

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	19	300	70	18	ug/L	J		1	6010C
Calcium	120000	1000	140	35	ug/L		Q	1	6010C
Iron	960	100	85	22	ug/L			1	6010C
Magnesium	32000	500	40	11	ug/L			1	6010C
Potassium	3900	3000	940	240	ug/L			1	6010C
Sodium	14000	5000	350	120	ug/L			1	6010C
Antimony	1.0	6.0	1.0	0.40	ug/L	U		1	6020A
Arsenic	1.5	5.0	1.0	0.33	ug/L	J		1	6020A
Barium	21	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.30	1.0	0.30	0.080	ug/L	U		1	6020A
Cadmium	1.0	1.0	1.0	0.27	ug/L	U		1	6020A
Chromium	1.8	10	1.8	0.50	ug/L	U		1	6020A
Cobalt	0.20	1.0	0.20	0.054	ug/L	U		1	6020A
Copper	1.8	2.0	1.8	0.56	ug/L	U		1	6020A
Lead	0.70	3.0	0.70	0.18	ug/L	U		1	6020A
Manganese	100	3.5	0.95	0.31	ug/L			1	6020A
Nickel	1.0	3.0	1.0	0.30	ug/L	U		1	6020A
Selenium	2.0	5.0	2.0	0.70	ug/L	U		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.20	1.0	0.20	0.050	ug/L	U		1	6020A
Vanadium	2.0	6.0	2.0	0.50	ug/L	U		1	6020A
Zinc	8.0	20	8.0	2.0	ug/L	U		1	6020A
Mercury	0.080	0.20	0.080	0.027	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: DET-004-181001-GW
Lab Sample ID: 280-116020-12
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG ID.:
Matrix: Water
Date Sampled: 10/24/2018 11:20
Reporting Basis: WET
Date Received: 10/24/2018 17:47

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	70	300	70	18	ug/L	U		1	6010C
Calcium	150000	1000	140	35	ug/L		Q	1	6010C
Iron	85	100	85	22	ug/L	U		1	6010C
Magnesium	29000	500	40	11	ug/L			1	6010C
Potassium	1700	3000	940	240	ug/L	J		1	6010C
Sodium	2300	5000	350	120	ug/L	J		1	6010C
Antimony	1.0	6.0	1.0	0.40	ug/L	U		1	6020A
Arsenic	1.0	5.0	1.0	0.33	ug/L	U		1	6020A
Barium	72	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.30	1.0	0.30	0.080	ug/L	U		1	6020A
Cadmium	1.0	1.0	1.0	0.27	ug/L	U		1	6020A
Chromium	1.8	10	1.8	0.50	ug/L	U		1	6020A
Cobalt	0.20	1.0	0.20	0.054	ug/L	U		1	6020A
Copper	1.3	2.0	1.8	0.56	ug/L	J		1	6020A
Lead	0.70	3.0	0.70	0.18	ug/L	U		1	6020A
Manganese	37	3.5	0.95	0.31	ug/L			1	6020A
Nickel	0.81	3.0	1.0	0.30	ug/L	J		1	6020A
Selenium	2.0	5.0	2.0	0.70	ug/L	U		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.20	1.0	0.20	0.050	ug/L	U		1	6020A
Vanadium	2.0	6.0	2.0	0.50	ug/L	U		1	6020A
Zinc	21	20	8.0	2.0	ug/L			1	6020A
Mercury	0.080	0.20	0.080	0.027	ug/L	U		1	7470A

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICV Source: ICP ICVH_00784 Concentration Units: ug/L

CCV Source: ICP CCVH_00612

Analyte	ICVH 280-435360/6 10/29/2018 08:43				ICVH 280-435360/7 10/29/2018 08:46				CCVH 280-435360/55 10/29/2018 11:21			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	40100		40000	100	39700		40000	99	49900		50000	100
Iron	80200		80000	100	79400		80000	99	49800		50000	100
Sodium	41400		40000	104	40700		40000	102	246000		250000	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICV Source: ICP ICVH_00784 Concentration Units: ug/L

CCV Source: ICP CCVH_00612

Analyte	CCVH 280-435360/67 10/29/2018 11:51				CCVH 280-435360/80 10/29/2018 12:23				CCVH 280-435360/94 10/29/2018 13:03			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	50700		50000	101	49200		50000	98	51400		50000	103
Iron	50100		50000	100	48700		50000	97	51800		50000	104
Sodium	249000		250000	100	245000		250000	98	257000		250000	103

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICV Source: ICP ICV_00671 Concentration Units: ug/L

CCV Source: ICP CCV_00349

Analyte	ICV 280-435360/8 10/29/2018 08:49				ICV 280-435360/9 10/29/2018 08:51				CCV 280-435360/56 10/29/2018 11:24			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	264	J	250	105	262	J	250	105	536		500	107
Calcium	2020		2000	101	2010		2000	101	5100		5000	102
Iron	252		250	101	246		250	98	2510		2500	101
Magnesium	10100		10000	101	10000		10000	100	20100		20000	101
Potassium	20200		20000	101	20100		20000	101	50000		50000	100
Sodium	2090	J	2000	105	2060	J	2000	103	5120		5000	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICV Source: ICP ICV_00671 Concentration Units: ug/L

CCV Source: ICP CCV_00349

Analyte	CCV 280-435360/68 10/29/2018 11:53				CCV 280-435360/81 10/29/2018 12:26				CCV 280-435360/95 10/29/2018 13:06			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	541		500	108	535		500	107	542		500	108
Calcium	5130		5000	103	5050		5000	101	5220		5000	104
Iron	2550		2500	102	2620		2500	105	2550		2500	102
Magnesium	20400		20000	102	20100		20000	100	20100		20000	100
Potassium	50800		50000	102	50000		50000	100	51500		50000	103
Sodium	5140		5000	103	5060		5000	101	5280		5000	106

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICV Source: ICP LLCCV_02387 Concentration Units: ug/L

CCV Source: ICP LLCCV_02387

Analyte	ICVL 280-435360/10 10/29/2018 08:54				CCVL 280-435360/58 10/29/2018 11:29				CCVL 280-435360/70 10/29/2018 11:58			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	112	J	100	112	111	J	100	111	115	J	100	115
Calcium	212	J	200	106	206	J	200	103	207	J	200	104
Iron	102		100	102	104		100	104	104		100	104
Magnesium	215	J	200	108	207	J	200	104	216	J	200	108
Potassium	3170		3000	106	3140		3000	105	3220		3000	107
Sodium	1070	J	1000	107	1050	J	1000	105	1040	J	1000	104

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICV Source: ICP LLCCV_02387 Concentration Units: ug/L

CCV Source: ICP LLCCV_02387

Analyte	CCVL 280-435360/83 10/29/2018 12:31				CCVL 280-435360/97 10/29/2018 13:11							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	121	J	100	121	115	J	100	115				
Calcium	277	J	200	138	298	J	200	149				
Iron	103		100	103	108		100	108				
Magnesium	216	J	200	108	213	J	200	106				
Potassium	3210		3000	107	3310		3000	110				
Sodium	1060	J	1000	106	1100	J	1000	110				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICV Source: MS 77 ICV_01902 Concentration Units: ug/L

CCV Source: ms 77 ccv_01905

Analyte	ICV 280-436227/8 11/02/2018 16:07				CCV 280-436227/51 11/02/2018 18:54				CCV 280-436227/72 11/02/2018 20:14			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	42.8		40.0	107	49.9		50.0	100	49.3		50.0	99
Arsenic	38.3		40.0	96	49.8		50.0	100	48.9		50.0	98
Barium	41.3		40.0	103	46.7		50.0	93	47.2		50.0	94
Beryllium	41.5		40.0	104	50.9		50.0	102	47.9		50.0	96
Cadmium	39.5		40.0	99	48.5		50.0	97	47.3		50.0	95
Chromium	40.7		40.0	102	49.8		50.0	100	48.6		50.0	97
Cobalt	40.4		40.0	101	50.6		50.0	101	49.8		50.0	100
Copper	41.3		40.0	103	49.8		50.0	100	48.5		50.0	97
Lead	40.2		40.0	101	49.9		50.0	100	49.2		50.0	98
Manganese	42.6		40.0	107	50.9		50.0	102	49.1		50.0	98
Nickel	40.9		40.0	102	50.8		50.0	102	50.0		50.0	100
Selenium	39.8		40.0	100	50.1		50.0	100	48.8		50.0	98
Silver	38.4		40.0	96	48.9		50.0	98	47.7		50.0	95
Thallium	40.8		40.0	102	50.0		50.0	100	49.5		50.0	99
Vanadium	40.9		40.0	102	51.1		50.0	102	49.5		50.0	99
Zinc	42.1		40.0	105	51.2		50.0	102	48.8		50.0	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICV Source: MS 77 ICV_01902 Concentration Units: ug/L

CCV Source: ms 77 ccv_01905

Analyte	CCV 280-436227/81 11/02/2018 20:48				CCV 280-436227/90 11/02/2018 21:22				CCV 280-436227/101 11/02/2018 22:04			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	49.7		50.0	99	50.2		50.0	100	49.7		50.0	99
Arsenic	47.7		50.0	95	48.1		50.0	96	49.2		50.0	98
Barium	50.0		50.0	100	47.6		50.0	95	49.2		50.0	98
Beryllium	49.6		50.0	99	50.9		50.0	102	49.4		50.0	99
Cadmium	49.6		50.0	99	48.1		50.0	96	47.0		50.0	94
Chromium	49.2		50.0	98	49.6		50.0	99	48.8		50.0	98
Cobalt	49.3		50.0	99	49.8		50.0	100	49.3		50.0	99
Copper	49.4		50.0	99	48.8		50.0	98	48.3		50.0	97
Lead	50.4		50.0	101	50.8		50.0	102	49.8		50.0	100
Manganese	51.0		50.0	102	51.8		50.0	104	50.1		50.0	100
Nickel	50.6		50.0	101	49.4		50.0	99	50.0		50.0	100
Selenium	49.8		50.0	100	49.1		50.0	98	49.6		50.0	99
Silver	48.4		50.0	97	47.6		50.0	95	47.9		50.0	96
Thallium	50.5		50.0	101	50.7		50.0	101	49.7		50.0	99
Vanadium	49.2		50.0	98	49.6		50.0	99	48.6		50.0	97
Zinc	50.2		50.0	100	48.7		50.0	97	49.1		50.0	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICV Source: MS 77 LLCCV_01708 Concentration Units: ug/L

CCV Source: MS 77 LLCCV_01708

Analyte	ICVL 280-436227/11 11/02/2018 16:20				CCVL 280-436227/53 11/02/2018 19:01				CCVL 280-436227/74 11/02/2018 20:21			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	2.11		2.00	106	2.24		2.00	112	2.17		2.00	108
Arsenic	4.18	J	5.00	84	5.02		5.00	100	4.43	J	5.00	89
Barium	0.869	J	1.00	87	0.972	J	1.00	97	0.840	J	1.00	84
Beryllium	0.981	J	1.00	98	0.907	J	1.00	91	0.948	J	1.00	95
Cadmium	0.916	J	1.00	92	0.779	J	1.00	78	0.927	J	1.00	93
Chromium	1.79	J	2.00	90	1.99	J	2.00	99	2.07		2.00	104
Cobalt	0.975	J	1.00	98	1.09		1.00	109	1.01		1.00	101
Copper	1.91	J	2.00	96	2.06		2.00	103	1.96	J	2.00	98
Lead	0.954	J	1.00	95	1.01		1.00	101	1.02		1.00	102
Manganese	0.852	J	1.00	85	0.838	J	1.00	84	1.22		1.00	122
Nickel	1.79	J	2.00	90	1.84	J	2.00	92	2.05		2.00	103
Selenium	4.66	J	5.00	93	4.76	J	5.00	95	5.18		5.00	104
Silver	5.02		5.00	100	5.12		5.00	102	5.12		5.00	102
Thallium	1.05		1.00	105	0.994	J	1.00	99	1.01		1.00	101
Vanadium	5.30		5.00	106	4.95	J	5.00	99	5.75		5.00	115
Zinc	9.98	J	10.0	100	10.6		10.0	106	11.0		10.0	110

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICV Source: MS 77 LLCCV_01708 Concentration Units: ug/L

CCV Source: MS 77 LLCCV_01708

Analyte	CCVL 280-436227/83 11/02/2018 20:56				CCVL 280-436227/92 11/02/2018 21:30				CCVL 280-436227/103 11/02/2018 22:11			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	1.98	J	2.00	99	2.22		2.00	111	2.06		2.00	103
Arsenic	4.77	J	5.00	95	4.64	J	5.00	93	4.72	J	5.00	94
Barium	1.08		1.00	108	0.790	J	1.00	79	1.11		1.00	111
Beryllium	0.897	J	1.00	90	0.975	J	1.00	98	0.954	J	1.00	95
Cadmium	0.890	J	1.00	89	1.01		1.00	101	0.905	J	1.00	91
Chromium	1.89	J	2.00	95	2.00		2.00	100	2.00		2.00	100
Cobalt	0.999	J	1.00	100	1.13		1.00	113	1.04		1.00	104
Copper	2.21		2.00	110	2.09		2.00	104	2.01		2.00	100
Lead	1.04		1.00	104	1.04		1.00	104	0.995	J	1.00	100
Manganese	1.00		1.00	100	1.08		1.00	108	0.853	J	1.00	85
Nickel	1.98	J	2.00	99	2.07		2.00	103	1.80	J	2.00	90
Selenium	4.86	J	5.00	97	5.10		5.00	102	4.69	J	5.00	94
Silver	4.84	J	5.00	97	5.03		5.00	101	4.86	J	5.00	97
Thallium	1.06		1.00	106	1.01		1.00	101	1.01		1.00	101
Vanadium	5.44		5.00	109	5.43		5.00	109	4.82	J	5.00	96
Zinc	10.6		10.0	106	10.5		10.0	105	11.2		10.0	112

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICV Source: Hg Biwk ICV_00260 Concentration Units: ug/L

CCV Source: Hg Daily Spk_02284

Analyte	ICV 280-436472/9-A 11/06/2018 16:52				CCV 280-436472/12-A 11/06/2018 20:05				CCV 280-436472/12-A 11/06/2018 20:32			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	4.04		4.00	101	5.05		5.00	101	5.09		5.00	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICV Source: Hg Biwk ICV_00260 Concentration Units: ug/L

CCV Source: Hg Daily Spk_02284

Analyte	CCV 280-436472/12-A 11/06/2018 20:59				CCV 280-436472/12-A 11/06/2018 21:26							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	5.07		5.00	101	5.09		5.00	102				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Method: 6010C Instrument ID: MT_025

Lab Sample ID: CRI 280-435360/15 Concentration Units: ug/L

CRQL Check Standard Source: ICP LLCCV_02387

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	100	111	J	111	80-120
Calcium	200	212	J	106	80-120
Iron	100	106		106	80-120
Magnesium	200	212	J	106	80-120
Potassium	3000	3070		102	80-120
Sodium	1000	1050	J	105	80-120

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Method: 6020A Instrument ID: MT_077

Lab Sample ID: CRI 280-436227/12 Concentration Units: ug/L

CRQL Check Standard Source: ms 77 RL_01790

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Antimony	1.00	0.955	J	96	80-120
Arsenic	1.00	0.903	J	90	80-120
Barium	1.00	0.905	J	91	80-120
Beryllium	1.00	0.886	J	89	80-120
Cadmium	1.00	0.980	J	98	80-120
Chromium	1.00	0.892	J	89	80-120
Cobalt	1.00	0.947	J	95	80-120
Copper	1.00	1.04	J	104	80-120
Lead	1.00	0.934	J	93	80-120
Manganese	1.00	1.07		107	80-120
Nickel	1.00	1.01	J	101	80-120
Selenium	1.00	1.02	J	102	80-120
Silver	1.00	1.00	J	100	80-120
Thallium	1.00	0.974	J	97	80-120
Zinc	1.00	8.0	U	115	80-120

Lab Sample ID: CRI 280-436227/13 Concentration Units: ug/L

CRQL Check Standard Source: ms 77 alt RL_01066

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Vanadium	5.00	5.46		109	80-120

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 280-435360/14 10/29/2018 09:06		CCB 280-435360/57 10/29/2018 11:26		CCB 280-435360/69 10/29/2018 11:56		CCB 280-435360/82 10/29/2018 12:28	
		Found	C	Found	C	Found	C	Found	C
Aluminum	300	70	U	70	U	70	U	70	U
Calcium	1000	140	U	140	U	140	U	140	U
Iron	100	85	U	85	U	85	U	47.1	J
Magnesium	500	40	U	40	U	40	U	40	U
Potassium	3000	940	U	940	U	940	U	940	U
Sodium	5000	350	U	350	U	350	U	350	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 280-435360/96 10/29/2018 13:08							
		Found	C	Found	C	Found	C	Found	C
Aluminum	300	70	U						
Calcium	1000	92.6	J						
Iron	100	85	U						
Magnesium	500	40	U						
Potassium	3000	940	U						
Sodium	5000	350	U						

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 280-436227/9 11/02/2018 16:11		CCB 280-436227/52 11/02/2018 18:57		CCB 280-436227/73 11/02/2018 20:18		CCB 280-436227/82 11/02/2018 20:52	
		Found	C	Found	C	Found	C	Found	C
Antimony	2.0	1.0	U	0.483	J	1.0	U	1.0	U
Arsenic	5.0	1.0	U	1.0	U	1.0	U	1.0	U
Barium	1.0	0.95	U	0.95	U	0.95	U	0.95	U
Beryllium	1.0	0.30	U	0.30	U	0.30	U	0.30	U
Cadmium	1.0	1.0	U	1.0	U	1.0	U	1.0	U
Chromium	2.0	1.8	U	1.8	U	1.8	U	1.8	U
Cobalt	1.0	0.20	U	0.20	U	0.20	U	0.20	U
Copper	2.0	1.8	U	1.8	U	1.8	U	1.8	U
Lead	1.0	0.70	U	0.70	U	0.70	U	0.70	U
Manganese	1.0	0.95	U	0.95	U	0.95	U	0.95	U
Nickel	2.0	1.0	U	1.0	U	1.0	U	1.0	U
Selenium	5.0	2.0	U	2.0	U	2.0	U	2.0	U
Silver	5.0	0.10	U	0.10	U	0.10	U	0.10	U
Thallium	1.0	0.20	U	0.20	U	0.20	U	0.20	U
Vanadium	5.0	1.11	J	0.544	J	0.835	J	0.567	J
Zinc	10	8.0	U	8.0	U	8.0	U	8.0	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 280-436227/91 11/02/2018 21:26		CCB 280-436227/102 11/02/2018 22:07					
		Found	C	Found	C	Found	C	Found	C
Antimony	2.0	1.0	U	1.0	U				
Arsenic	5.0	1.0	U	1.0	U				
Barium	1.0	0.95	U	0.95	U				
Beryllium	1.0	0.30	U	0.30	U				
Cadmium	1.0	1.0	U	1.0	U				
Chromium	2.0	1.8	U	1.8	U				
Cobalt	1.0	0.20	U	0.20	U				
Copper	2.0	1.8	U	1.8	U				
Lead	1.0	0.70	U	0.70	U				
Manganese	1.0	0.95	U	0.95	U				
Nickel	2.0	1.0	U	1.0	U				
Selenium	5.0	2.0	U	2.0	U				
Silver	5.0	0.10	U	0.10	U				
Thallium	1.0	0.20	U	0.20	U				
Vanadium	5.0	0.865	J	2.0	U				
Zinc	10	8.0	U	8.0	U				

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 280-436472/10-A 11/06/2018 16:54		CCB 280-436472/13-A 11/06/2018 20:08		CCB 280-436472/13-A 11/06/2018 20:34		CCB 280-436472/13-A 11/06/2018 21:01	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	0.080	U	0.080	U	0.080	U	0.080	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 280-436472/13-A 11/06/2018 21:28							
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	0.080	U						

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 280-435183/1-A

Instrument Code: MT_025 Batch No.: 435360

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	70	U		6010C_DOD5
7440-70-2	Calcium	219	J		6010C_DOD5
7439-89-6	Iron	85	U		6010C_DOD5
7439-95-4	Magnesium	40	U		6010C_DOD5
7440-09-7	Potassium	940	U		6010C_DOD5
7440-23-5	Sodium	207	J		6010C_DOD5

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 280-435184/1-A

Instrument Code: MT_077 Batch No.: 436227

CAS No.	Analyte	Concentration	C	Q	Method
7440-36-0	Antimony	1.0	U		6020A_DOD5
7440-38-2	Arsenic	1.0	U		6020A_DOD5
7440-39-3	Barium	0.95	U		6020A_DOD5
7440-41-7	Beryllium	0.30	U		6020A_DOD5
7440-43-9	Cadmium	1.0	U		6020A_DOD5
7440-47-3	Chromium	1.8	U		6020A_DOD5
7440-48-4	Cobalt	0.20	U		6020A_DOD5
7440-50-8	Copper	1.8	U		6020A_DOD5
7439-92-1	Lead	0.70	U		6020A_DOD5
7439-96-5	Manganese	0.351	J		6020A_DOD5
7440-02-0	Nickel	1.0	U		6020A_DOD5
7782-49-2	Selenium	2.0	U		6020A_DOD5
7440-22-4	Silver	0.10	U		6020A_DOD5
7440-28-0	Thallium	0.20	U		6020A_DOD5
7440-62-2	Vanadium	2.0	U		6020A_DOD5
7440-66-6	Zinc	8.0	U		6020A_DOD5

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 280-436463/1-A

Instrument Code: MT_033 Batch No.: 436628

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	0.080	U		7470A_DOD5

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICSA 280-435360/17 Instrument ID: MT_025

Lab File ID: 25A102918z.asc ICS Source: ICP ICSA_00173

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**500000**	**484470**	**97**
Calcium	**500000**	**473030**	**95**
Iron	**200000**	**182350**	**91**
Magnesium	**500000**	**505090**	**101**
Potassium		**-129**	
Sodium		**186**	
Antimony		*10.4*	
Arsenic		*-2.82*	
Barium		*-0.0400*	
Beryllium		*-0.0100*	
Boron		*-0.510*	
Cadmium		*0.810*	
Chromium		*1.90*	
Cobalt		*-1.29*	
Copper		*3.31*	
Lithium		*5.24*	
Molybdenum		*1.16*	
Phosphorus		*-4.67*	
Selenium		*-6.16*	
Silicon		*-46.6*	
Silver		*-0.810*	
SiO2		*-99.7*	
Thallium		*1.66*	
Tin		*0.550*	
Titanium		*0.190*	
Vanadium		*-0.670*	
Zinc		*-6.34*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICSAB 280-435360/18 Instrument ID: MT_025

Lab File ID: 25A102918z.asc ICS Source: ICP ICSAB_00193

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	**500000**	**484810**	**97**
Calcium	**500000**	**473520**	**95**
Iron	**200000**	**182380**	**91**
Magnesium	**500000**	**505200**	**101**
Potassium	**50000**	**51071**	**102**
Sodium	**50000**	**50297**	**101**
Antimony	*1000*	*1008*	*101*
Arsenic	*2000*	*1998*	*100*
Barium	*500*	*485*	*97*
Beryllium	*500*	*479*	*96*
Boron	*2000*	*1911*	*96*
Cadmium	*1000*	*1014*	*101*
Chromium	*500*	*480*	*96*
Cobalt	*500*	*456*	*91*
Copper	*500*	*524*	*105*
Lead	*1000*	*927*	*93*
Lithium	*1000*	*1003*	*100*
Manganese	*500*	*500*	*100*
Molybdenum	*1000*	*966*	*97*
Nickel	*1000*	*916*	*92*
Phosphorus	*2000*	*1995*	*100*
Selenium	*5000*	*4903*	*98*
Silicon	*10000*	*9884*	*99*
Silver	*1000*	*1096*	*110*
SiO2	*21400*	*21151*	*99*
Strontium	*1000*	*974*	*97*
Thallium	*10000*	*8772*	*88*
Tin	*10000*	*9265*	*93*
Titanium	*1000*	*1035*	*104*
Vanadium	*500*	*508*	*102*
Zinc	*1000*	*966*	*97*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICSA 280-436227/15 Instrument ID: MT_077

Lab File ID: 015ICSA_li110218.D ICS Source: ms 77 icsa_00385

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		**0.0640**	
Arsenic		**0.0930**	
Barium		**0.0610**	
Beryllium		**0.0230**	
Cadmium		**0.376**	
Chromium		**0.316**	
Cobalt		**0.0110**	
Copper		**0.380**	
Lead		**0.0600**	
Manganese		**0.784**	
Nickel		**0.258**	
Selenium		**-0.0020**	
Silver		**0.0440**	
Thallium		**0.0040**	
Vanadium		**1.34**	
Zinc		**0.761**	
Molybdenum	*2000*	*2057*	*103*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICSAB 280-436227/16 Instrument ID: MT_077

Lab File ID: 016ICSB_li110218.D ICS Source: ms 77 icsab_00384

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Antimony	**100**	**100**	**100**
Arsenic	**100**	**96.2**	**96**
Barium	**100**	**97.4**	**97**
Beryllium	**100**	**96.7**	**97**
Cadmium	**100**	**94.4**	**94**
Chromium	**100**	**97.4**	**97**
Cobalt	**100**	**97.6**	**98**
Copper	**100**	**97.7**	**98**
Lead	**100**	**93.0**	**93**
Manganese	**100**	**98.3**	**98**
Nickel	**100**	**95.7**	**96**
Selenium	**100**	**97.0**	**97**
Silver	**100**	**89.0**	**89**
Thallium	**100**	**93.4**	**93**
Vanadium	**100**	**101**	**101**
Zinc	**100**	**99.2**	**99**
Molybdenum	*2100*	*2062*	*98*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICSA 280-436227/148 Instrument ID: MT_077

Lab File ID: 148ICSA_li110218.D ICS Source: ms 77 icsa_00385

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		**0.123**	
Arsenic		**0.157**	
Barium		**0.0570**	
Beryllium		**-0.0070**	
Cadmium		**0.318**	
Chromium		**0.159**	
Cobalt		**0.0170**	
Copper		**0.422**	
Lead		**0.0720**	
Manganese		**0.642**	
Nickel		**0.177**	
Selenium		**0.111**	
Silver		**0.0140**	
Thallium		**0.0060**	
Vanadium		**-1.17**	
Zinc		**0.297**	
Molybdenum	*2000*	*1902*	*95*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Lab Sample ID: ICSAB 280-436227/149 Instrument ID: MT_077

Lab File ID: 149ICSB_li110218.D ICS Source: ms 77 icsab_00384

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Antimony	**100**	**97.1**	**97**
Arsenic	**100**	**89.5**	**90**
Barium	**100**	**95.3**	**95**
Beryllium	**100**	**96.3**	**96**
Cadmium	**100**	**87.9**	**88**
Chromium	**100**	**90.1**	**90**
Cobalt	**100**	**91.4**	**91**
Copper	**100**	**87.7**	**88**
Lead	**100**	**89.7**	**90**
Manganese	**100**	**98.1**	**98**
Nickel	**100**	**90.8**	**91**
Selenium	**100**	**90.9**	**91**
Silver	**100**	**79.9**	**80**
Thallium	**100**	**89.4**	**89**
Vanadium	**100**	**91.4**	**91**
Zinc	**100**	**92.4**	**92**
Molybdenum	*2100*	*1938*	*92*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: DA2mw-115-181001-GW MS
Lab ID: 280-116020-8 MS
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	2090		70	U	2000	104	86-115		6010C
Calcium	168000		120000		50000	98	87-113	Q	6010C
Iron	2010		1000		1000	102	87-115		6010C
Magnesium	82000		32000		50000	100	85-113		6010C
Potassium	56100		3800		50000	105	86-114		6010C
Sodium	63500		12000		50000	104	87-115		6010C
Antimony	39.2		1.0	U	40.0	98	85-117		6020A
Arsenic	39.2		1.6	J	40.0	94	84-116		6020A
Barium	57.8		22		40.0	90	86-114		6020A
Beryllium	39.6		0.30	U	40.0	99	83-121		6020A
Cadmium	37.2		1.0	U	40.0	93	87-115		6020A
Chromium	39.1		1.8	U	40.0	98	85-116		6020A
Cobalt	38.1		0.20	U	40.0	95	86-115		6020A
Copper	35.9		1.8	U	40.0	90	85-118		6020A
Lead	38.9		0.70	U	40.0	97	88-115		6020A
Manganese	146		110		40.0	86	87-115	J1	6020A
Nickel	38.0		1.0	U	40.0	95	85-117		6020A
Selenium	37.1		2.0	U	40.0	93	80-120		6020A
Silver	38.4		0.10	U	40.0	96	85-116		6020A
Thallium	39.1		0.20	U	40.0	98	82-116		6020A
Vanadium	36.5		2.0	U	40.0	91	86-115		6020A
Zinc	36.7		2.2	J	40.0	86	83-119		6020A
Mercury	4.80		0.080	U	5.00	96	82-119		7470A

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: DA2mw-115-181001-GW MSD
Lab ID: 280-116020-8 MSD
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Aluminum	2110		2000	106	86-115	1	20		6010C
Calcium	170000		50000	101	87-113	1	20	Q	6010C
Iron	2020		1000	103	87-115	0	20		6010C
Magnesium	82900		50000	101	85-113	1	20		6010C
Potassium	56800		50000	106	86-114	1	20		6010C
Sodium	63900		50000	104	87-115	1	20		6010C
Antimony	40.5		40.0	101	85-117	3	20		6020A
Arsenic	40.0		40.0	96	84-116	2	20		6020A
Barium	61.6		40.0	99	86-114	6	20		6020A
Beryllium	40.3		40.0	101	83-121	2	20		6020A
Cadmium	38.5		40.0	96	87-115	3	20		6020A
Chromium	40.3		40.0	101	85-116	3	20		6020A
Cobalt	39.1		40.0	98	86-115	2	20		6020A
Copper	38.0		40.0	95	85-118	6	20		6020A
Lead	40.2		40.0	101	88-115	3	20		6020A
Manganese	152		40.0	102	87-115	4	20		6020A
Nickel	39.8		40.0	99	85-117	5	20		6020A
Selenium	38.3		40.0	96	80-120	3	20		6020A
Silver	40.0		40.0	100	85-116	4	20		6020A
Thallium	40.4		40.0	101	82-116	3	20		6020A
Vanadium	38.9		40.0	97	86-115	7	20		6020A
Zinc	38.7		40.0	91	83-119	5	20		6020A
Mercury	5.14		5.00	103	82-119	7	20		7470A

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS

Client ID: DA2mw-115-181001-GW PDS Lab ID: 280-116020-8 PDS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water Concentration Units: ug/L

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Mercury	5.02		0.080	U	5.00	100	80-120		7470A

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VB - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 280-435183/2-A

Lab Name: TestAmerica Denver Job No.: 280-116020-1

Sample Matrix: Water LCS Source: ICP SPK 3A_00154

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Aluminum	2000	2090		105	86	115		6010C
Calcium	50000	50500		101	87	113		6010C
Iron	1000	1010		101	87	115		6010C
Magnesium	50000	49800		100	85	113		6010C
Potassium	50000	50500		101	86	114		6010C
Sodium	50000	50500		101	87	115		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS

Lab ID: LCSD 280-435183/3-A

Lab Name: TestAmerica Denver Job No.: 280-116020-1

Sample Matrix: Water LCS Source: ICP SPK 3A_00154

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Aluminum	2100		2000	105	86-115	1	20		6010C
Calcium	50900		50000	102	87-113	1	20		6010C
Iron	1020		1000	102	87-115	1	20		6010C
Magnesium	50200		50000	100	85-113	1	20		6010C
Potassium	51100		50000	102	86-114	1	20		6010C
Sodium	50200		50000	100	87-115	0	20		6010C

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 280-435184/2-A

Lab Name: TestAmerica Denver Job No.: 280-116020-1

Sample Matrix: Water LCS Source: MS spike 2_00072

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Antimony	40.0	39.6		99	85	117		6020A
Arsenic	40.0	38.2		95	84	116		6020A
Barium	40.0	39.8		100	86	114		6020A
Beryllium	40.0	39.9		100	83	121		6020A
Cadmium	40.0	38.8		97	87	115		6020A
Chromium	40.0	40.9		102	85	116		6020A
Cobalt	40.0	40.4		101	86	115		6020A
Copper	40.0	39.8		100	85	118		6020A
Lead	40.0	40.9		102	88	115		6020A
Manganese	40.0	42.7		107	87	115		6020A
Nickel	40.0	40.3		101	85	117		6020A
Selenium	40.0	39.2		98	80	120		6020A
Silver	40.0	40.5		101	85	116		6020A
Thallium	40.0	40.3		101	82	116		6020A
Vanadium	40.0	39.8		100	86	115		6020A
Zinc	40.0	40.4		101	83	119		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS

Lab ID: LCSD 280-435184/3-A

Lab Name: TestAmerica Denver Job No.: 280-116020-1

Sample Matrix: Water LCS Source: MS spike 2_00072

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Antimony	40.4		40.0	101	85-117	2	20		6020A
Arsenic	36.5		40.0	91	84-116	5	20		6020A
Barium	39.3		40.0	98	86-114	1	20		6020A
Beryllium	39.1		40.0	98	83-121	2	20		6020A
Cadmium	38.8		40.0	97	87-115	0	20		6020A
Chromium	40.1		40.0	100	85-116	2	20		6020A
Cobalt	39.7		40.0	99	86-115	2	20		6020A
Copper	39.6		40.0	99	85-118	1	20		6020A
Lead	40.7		40.0	102	88-115	0	20		6020A
Manganese	40.7		40.0	102	87-115	5	20		6020A
Nickel	40.1		40.0	100	85-117	1	20		6020A
Selenium	37.3		40.0	93	80-120	5	20		6020A
Silver	40.4		40.0	101	85-116	0	20		6020A
Thallium	40.4		40.0	101	82-116	0	20		6020A
Vanadium	37.8		40.0	95	86-115	5	20		6020A
Zinc	40.7		40.0	102	83-119	1	20		6020A

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 280-436463/2-A

Lab Name: TestAmerica Denver Job No.: 280-116020-1

Sample Matrix: Water LCS Source: Hg Daily Spk_02284

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	5.00	4.95		99	82	119		7470A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS

Lab ID: LCSD 280-436463/3-A

Lab Name: TestAmerica Denver Job No.: 280-116020-1

Sample Matrix: Water LCS Source: Hg Daily Spk_02284

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	5.17		5.00	103	82-119	4	20		7470A

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS

Lab ID: 280-116020-8

SDG No:

Lab Name: TestAmerica Denver Job No: 280-116020-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Mercury	0.080	U	0.40	U	NC		7470A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: MT_025

Method: 6010C DL Date: 08/01/2018 00:00

Prep Method: 3010A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Aluminum	167	300	18
Calcium	317.9	1000	34.5
Iron	259.9	100	22
Magnesium	279	500	10.7
Potassium	766.4	3000	237
Sodium	589.5	5000	117

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: MT_025

Method: 6010C XMDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Aluminum		300	18
Calcium		1000	34.5
Iron		100	22
Magnesium		500	10.7
Potassium		3000	237
Sodium		5000	117

9-IN
DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: MT_077

Method: 6020A DL Date: 08/01/2018 00:00

Prep Method: 3020A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Antimony	121	6	0.4
Arsenic	75	5	0.33
Barium	137	3	0.29
Beryllium	9	1	0.08
Cadmium	111	1	0.265
Chromium	52	10	0.5
Cobalt	59	1	0.054
Copper	63	2	0.56
Lead	208	3	0.18
Manganese	55	3.5	0.31
Nickel	60	3	0.3
Selenium	78	5	0.7
Silver	107	5	0.033
Thallium	205	1	0.05
Vanadium	51	6	0.5
Zinc	66	20	2

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: MT_077

Method: 6020A XMDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Antimony		2	0.4
Arsenic		5	0.33
Barium		1	0.29
Beryllium		1	0.08
Cadmium		1	0.265
Chromium		2	0.5
Cobalt		1	0.054
Copper		2	0.56
Lead		1	0.18
Manganese		1	0.31
Nickel		2	0.3
Selenium		5	0.7
Silver		5	0.033
Thallium		1	0.05
Vanadium		5	0.5
Zinc		10	2

9-IN
DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: MT_033

Method: 7470A DL Date: 08/09/2015 00:00

Prep Method: 7470A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Mercury	253.7	0.2	0.027

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: MT_033

Method: 7470A XMDL Date: 02/16/2014 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury		0.2	0.027

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG No.:

ICP-AES Instrument ID: MT_025 Date: 06/07/2018

Analyte	Wave Length	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K
Aluminum	167.079													0.001008	
Aluminum	309.271														
Antimony	206.833		0.000023						-0.000010			0.0145508		0.000024	
Arsenic	189.042		-0.000047						0.000003			0.000165		-0.000017	
Barium	455.403														
Beryllium	313.042														
Bismuth	223.061		-0.000012			-0.000360						0.001346		0.000223	
Boron	208.959														
Cadmium	228.802			0.00939373		-0.000082					0.000036				
Calcium	317.933										-0.000132				
Chromium	205.552						-0.001276								
Cobalt	228.616					0.000052						0.000001			
Copper	324.754														
Iron	259.940														
Iron	271.441										0.076500				
Lead	220.353		-0.000056					-0.000040	0.000001		-0.000504		0.000912		
Lithium	670.784								0.000009						
Magnesium	279.079													0.000221	
Manganese	257.610														
Molybdenum	202.030													-0.000006	
Nickel	231.604						-0.000094		-0.000007		-0.000384			0.000065	
Phosphorus	178.284														
Potassium	766.490														
Selenium	196.090		0.000025						-0.000023					-0.000005	
Silicon	288.158											-0.013955			
Silver	328.068														
Sodium	589.592														
Sodium	818.326														
Strontium	407.771														
Sulfur	182.034		-0.000163						0.000017						

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG No.:

ICP-AES Instrument ID: MT_025 Date: 06/07/2018

Analyte	Wave Length	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K
Thallium	190.856		-0.000009						0.000002		0.00381281	0.000274		-0.000032	
Thorium	283.730									-0.000364		-0.000133		0.000754	
Tin	189.989														
Titanium	334.904								0.000005			0.000255			
Uranium	370.152				0.001475				-0.000012			-0.001522		-0.0008058 9	
Vanadium	292.402														
Zinc	206.200		0.000014					-0.000075				-0.000208		0.000004	
Zirconium	339.198													-0.000029	

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG No.:

ICP-AES Instrument ID: MT_025 Date: 06/07/2018

Analyte	Wave Length	Li	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Se	Si	SiO2	Sn	Sr
Aluminum	309.271		0.001655												
Aluminum	167.079														
Antimony	206.833						-0.000251							0.000093	
Arsenic	189.042				-0.001115							-0.000100	-0.000100		
Barium	455.403														
Beryllium	313.042														
Bismuth	223.061														
Boron	208.959				0.023121										
Cadmium	228.802														
Calcium	317.933														
Chromium	205.552														
Cobalt	228.616			-0.000001	-0.001642		0.000125								
Copper	324.754				0.001137										
Iron	259.940														
Iron	271.441		0.000330												
Lead	220.353				-0.001347		0.000027					0.000437	0.0002261		
Lithium	670.784														
Magnesium	279.079			-0.004762											
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.604				0.000080										
Phosphorus	178.284				-0.001297										
Potassium	766.490														
Selenium	196.090			0.000462											
Silicon	288.158				-0.001696										
Silver	328.068			0.000114	-0.000029										
Sodium	818.326														
Sodium	589.592														
Strontium	407.771														
Sulfur	182.034			-0.002604	-0.004717										

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG No.:

ICP-AES Instrument ID: MT_025 Date: 06/07/2018

Analyte	Wave Length	Li	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Se	Si	SiO2	Sn	Sr
Thallium	190.856			-0.000130											
Thorium	283.730		-0.00000173		0.000298		0.000116								
Tin	189.989														
Titanium	334.904		0.000001		0.000220										
Uranium	370.152														
Vanadium	292.402			-0.000132	-0.026729										
Zinc	206.200				0.000123										
Zirconium	339.198				0.000270										

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG No.:

ICP-AES Instrument ID: MT_025 Date: 06/07/2018

Analyte	Wave Length	Th	Ti	Tl	U	V	Zn	Zr							
Aluminum	167.079														
Aluminum	309.271														
Antimony	206.833		0.000161		-0.0026793	0.000070		-0.000720							
Arsenic	189.042														
Barium	455.403							0.000631							
Beryllium	313.042		0		0.000024	0.000200									
Bismuth	223.061		-0.003027		-0.003000										
Boron	208.959														
Cadmium	228.802				-0.000172										
Calcium	317.933	-0.000543													
Chromium	205.552														
Cobalt	228.616		0.002396		0.000180										
Copper	324.754	0.002335	-0.000473		-0.000136	-0.000078		-0.003223							
Iron	259.940														
Iron	271.441					-0.209000		-0.033							
Lead	220.353		-0.000058		0.001102			-0.000169							
Lithium	670.784														
Magnesium	279.079		0.000196		0.001378										
Manganese	257.610	-0.000521			0.000099										
Molybdenum	202.030				-0.000094										
Nickel	231.604														
Phosphorus	178.284				0.000030										
Potassium	766.490														
Selenium	196.090	-0.000057			-0.000152										
Silicon	288.158														
Silver	328.068	-0.001313			0.00197826			0.009428							
Sodium	589.592														
Sodium	818.326														
Strontium	407.771														
Sulfur	182.034	0.000409				-0.001026									

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG No.:

ICP-AES Instrument ID: MT_025 Date: 06/07/2018

Analyte	Wave Length	Th	Ti	Tl	U	V	Zn	Zr							
Thallium	190.856	-0.000005			0.000038	0.000243									
Thorium	283.730				0.021530			0.007655							
Tin	189.989	-0.000081	-0.000188		0.000171										
Titanium	334.904	0.003538			-0.000638										
Uranium	370.152	-0.003546	0.005713			0.003176		0.003798							
Vanadium	292.402	0.0028125	0.000377		-0.000269										
Zinc	206.200														
Zirconium	339.198	0.00291904			-0.000206										

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Denver Job No: 280-116020-1

SDG No.:

Instrument ID: MT_025 Date: 10/07/2018 00:00

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Aluminum		900	6010C
Calcium		900	6010C
Iron		450	6010C
Magnesium		1350	6010C
Potassium		450	6010C
Sodium		9000	6010C

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Denver Job No: 280-116020-1

SDG No.:

Instrument ID: MT_077 Date: 10/07/2018 00:00

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony		3600	6020A
Arsenic		3600	6020A
Barium		4500	6020A
Beryllium		3600	6020A
Cadmium		3600	6020A
Chromium		4500	6020A
Cobalt		3600	6020A
Copper		4500	6020A
Lead		4500	6020A
Manganese		18000	6020A
Nickel		4500	6020A
Selenium		3600	6020A
Silver		270	6020A
Thallium		3600	6020A
Vanadium		3600	6020A
Zinc		4500	6020A

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Prep Method: 3010A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 280-435183/1-A	10/28/2018 13:00	435183		50	50
LCS 280-435183/2-A	10/28/2018 13:00	435183		50	50
LCSD 280-435183/3-A	10/28/2018 13:00	435183		50	50
280-116020-1	10/28/2018 13:00	435183		50	50
280-116020-4	10/28/2018 13:00	435183		50	50
280-116020-6	10/28/2018 13:00	435183		50	50
280-116020-8	10/28/2018 13:00	435183		50	50
280-116020-8 MS	10/28/2018 13:00	435183		50	50
280-116020-8 MSD	10/28/2018 13:00	435183		50	50
280-116020-9	10/28/2018 13:00	435183		50	50
280-116020-12	10/28/2018 13:00	435183		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Prep Method: 3020A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 280-435184/1-A	10/28/2018 13:00	435184		50	50
LCS 280-435184/2-A	10/28/2018 13:00	435184		50	50
LCSD 280-435184/3-A	10/28/2018 13:00	435184		50	50
280-116020-1	10/28/2018 13:00	435184		50	50
280-116020-4	10/28/2018 13:00	435184		50	50
280-116020-6	10/28/2018 13:00	435184		50	50
280-116020-8	10/28/2018 13:00	435184		50	50
280-116020-8 MS	10/28/2018 13:00	435184		50	50
280-116020-8 MSD	10/28/2018 13:00	435184		50	50
280-116020-9	10/28/2018 13:00	435184		50	50
280-116020-12	10/28/2018 13:00	435184		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 280-436463/1-A	11/06/2018 13:14	436463		30	50
LCS 280-436463/2-A	11/06/2018 13:14	436463		30	50
LCSD 280-436463/3-A	11/06/2018 13:14	436463		30	50
280-116020-1	11/06/2018 13:14	436463		30	50
280-116020-4	11/06/2018 13:14	436463		30	50
280-116020-6	11/06/2018 13:14	436463		30	50
280-116020-8	11/06/2018 13:14	436463		30	50
280-116020-8 MS	11/06/2018 13:14	436463		30	50
280-116020-8 MSD	11/06/2018 13:14	436463		30	50
280-116020-9	11/06/2018 13:14	436463		30	50
280-116020-12	11/06/2018 13:14	436463		30	50

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: MT_025 Analysis Method: 6010C

Start Date: 10/29/2018 08:31 End Date: 10/29/2018 13:20

Lab Sample Id	D/F	Type	Time	Analytes																								
				Al	Ca	Fe	K	Mg	Na																			
ICIS 280-435360/1	1		08:31	X	X	X	X	X	X																			
IC 280-435360/2			08:33	X	X	X	X	X	X																			
IC 280-435360/3			08:36	X	X	X	X	X	X																			
ZZZZZZ			08:38																									
ZZZZZZ			08:41																									
ICVH 280-435360/6	1		08:43	X	X	X	X	X	X																			
ICVH 280-435360/7	1		08:46	X	X	X	X	X	X																			
ICV 280-435360/8	1		08:49	X	X	X	X	X	X																			
ICV 280-435360/9	1		08:51	X	X	X	X	X	X																			
ICVL 280-435360/10	1		08:54	X	X	X	X	X	X																			
ZZZZZZ			08:58																									
ZZZZZZ			09:00																									
ZZZZZZ			09:02																									
ICB 280-435360/14	1		09:06	X	X	X	X	X	X																			
CRI 280-435360/15	1		09:08	X	X	X	X	X	X																			
CRI 280-435360/16			09:15																									
ICSA 280-435360/17	1		09:20	X	X	X	X	X	X																			
ICSAB 280-435360/18	1		09:23	X	X	X	X	X	X																			
LRA 280-435360/19			09:26																									
CCVH 280-435360/20			09:30																									
CCV 280-435360/21			09:33																									
CCB 280-435360/22			09:35																									
CCVL 280-435360/23			09:38																									
ZZZZZZ			09:50																									
ZZZZZZ			09:52																									
ZZZZZZ			09:55																									
ZZZZZZ			09:57																									
ZZZZZZ			10:00																									
ZZZZZZ			10:02																									
ZZZZZZ			10:05																									
ZZZZZZ			10:07																									
CCVH 280-435360/32			10:09																									
CCV 280-435360/33			10:12																									
CCB 280-435360/34			10:14																									
CCVL 280-435360/35			10:17																									
ZZZZZZ			10:20																									
ZZZZZZ			10:22																									
ZZZZZZ			10:24																									
ZZZZZZ			10:27																									
ZZZZZZ			10:30																									
ZZZZZZ			10:32																									
ZZZZZZ			10:34																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: MT_025 Analysis Method: 6010C

Start Date: 10/29/2018 08:31 End Date: 10/29/2018 13:20

Lab Sample Id	D/F	Type	Time	Analytes																								
				Al	Ca	Fe	K	Mg	Na																			
ZZZZZZ			10:37																									
CCVH 280-435360/44			10:39																									
CCV 280-435360/45			10:56																									
CCB 280-435360/46			10:59																									
CCVL 280-435360/47			11:01																									
ZZZZZZ			11:04																									
ZZZZZZ			11:07																									
ZZZZZZ			11:09																									
ZZZZZZ			11:11																									
ZZZZZZ			11:14																									
ZZZZZZ			11:16																									
ZZZZZZ			11:19																									
CCVH 280-435360/55	1		11:21	X	X	X	X	X	X																			
CCV 280-435360/56	1		11:24	X	X	X	X	X	X																			
CCB 280-435360/57	1		11:26	X	X	X	X	X	X																			
CCVL 280-435360/58	1		11:29	X	X	X	X	X	X																			
ZZZZZZ			11:31																									
ZZZZZZ			11:34																									
ZZZZZZ			11:37																									
ZZZZZZ			11:39																									
ZZZZZZ			11:41																									
MB 280-435183/1-A	1	T	11:44	X	X	X	X	X	X																			
LCS 280-435183/2-A	1	T	11:46	X	X	X	X	X	X																			
LCSD 280-435183/3-A	1	T	11:49	X	X	X	X	X	X																			
CCVH 280-435360/67	1		11:51	X	X	X	X	X	X																			
CCV 280-435360/68	1		11:53	X	X	X	X	X	X																			
CCB 280-435360/69	1		11:56	X	X	X	X	X	X																			
CCVL 280-435360/70	1		11:58	X	X	X	X	X	X																			
ZZZZZZ			12:01																									
ZZZZZZ			12:03																									
ZZZZZZ			12:06																									
ZZZZZZ			12:09																									
ZZZZZZ			12:11																									
ZZZZZZ			12:14																									
ZZZZZZ			12:16																									
ZZZZZZ			12:18																									
ZZZZZZ			12:21																									
CCVH 280-435360/80	1		12:23	X	X	X	X	X	X																			
CCV 280-435360/81	1		12:26	X	X	X	X	X	X																			
CCB 280-435360/82	1		12:28	X	X	X	X	X	X																			
CCVL 280-435360/83	1		12:31	X	X	X	X	X	X																			
280-116020-1	1	T	12:38	X	X	X	X	X	X																			

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: MT_025 Analysis Method: 6010C

Start Date: 10/29/2018 08:31 End Date: 10/29/2018 13:20

Lab Sample Id	D/F	Type	Time	Analytes																									
				Al	Ca	Fe	K	Mg	Na																					
280-116020-4	1	T	12:40	X	X	X	X	X	X																				
280-116020-6	1	T	12:43	X	X	X	X	X	X																				
280-116020-8	1	T	12:45	X	X	X	X	X	X																				
280-116020-8 MS	1	T	12:48	X	X	X	X	X	X																				
280-116020-8 MSD	1	T	12:50	X	X	X	X	X	X																				
280-116020-9	1	T	12:52	X	X	X	X	X	X																				
280-116020-12	1	T	12:55	X	X	X	X	X	X																				
ZZZZZZ			12:58																										
ZZZZZZ			13:01																										
CCVH 280-435360/94	1		13:03	X	X	X	X	X	X																				
CCV 280-435360/95	1		13:06	X	X	X	X	X	X																				
CCB 280-435360/96	1		13:08	X	X	X	X	X	X																				
CCVL 280-435360/97	1		13:11	X	X	X	X	X	X																				
ZZZZZZ			13:13																										
ZZZZZZ			13:17																										
ZZZZZZ			13:20																										

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/02/2018 15:39 End Date: 11/03/2018 14:20

Lab Sample Id	D/F	Type	Time	Analytes																							
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn								
RINSE 280-436227/1			15:39																								
RINSE 280-436227/2			15:43																								
RINSE 280-436227/3			15:47																								
RINSE 280-436227/4			15:51																								
RINSE 280-436227/5			15:55																								
ICIS 280-436227/6			15:59	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
IC 280-436227/7			16:03	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICV 280-436227/8	1		16:07	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICB 280-436227/9	1		16:11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ZZZZZZ			16:16																								
ICVL 280-436227/11	1		16:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CRI 280-436227/12	1		16:24	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X								
CRI 280-436227/13	1		16:29															X									
ZZZZZZ			16:33																								
ICSA 280-436227/15	1		16:37	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICSAB 280-436227/16	1		16:41	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
RINSE 280-436227/17			16:44																								
LRA 280-436227/18			16:48																								
RINSE 280-436227/19			16:52																								
CCV 280-436227/20			16:56																								
CCB 280-436227/21			16:59																								
CCVL 280-436227/22			17:03																								
ZZZZZZ			17:07																								
ZZZZZZ			17:11																								
ZZZZZZ			17:15																								
ZZZZZZ			17:18																								
ZZZZZZ			17:22																								
ZZZZZZ			17:26																								
ZZZZZZ			17:30																								
ZZZZZZ			17:33																								
CCV 280-436227/31			17:37																								
CCB 280-436227/32			17:41																								
CCVL 280-436227/33			17:45																								
ZZZZZZ			17:49																								
ZZZZZZ			17:52																								
ZZZZZZ			17:56																								
ZZZZZZ			18:00																								
ZZZZZZ			18:04																								
ZZZZZZ			18:08																								
ZZZZZZ			18:12																								
ZZZZZZ			18:16																								
CCV 280-436227/42			18:19																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/02/2018 15:39 End Date: 11/03/2018 14:20

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn									
CCB 280-436227/43			18:23																									
RINSE 280-436227/44			18:27																									
RINSE 280-436227/45			18:31																									
RINSE 280-436227/46			18:35																									
RINSE 280-436227/47			18:38																									
RINSE 280-436227/48			18:42																									
ICIS 280-436227/49			18:46	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
IC 280-436227/50	1		18:50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCV 280-436227/51	1		18:54	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCB 280-436227/52	1		18:57	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCVL 280-436227/53	1		19:01	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
ZZZZZZ			19:05																									
ZZZZZZ			19:09																									
ZZZZZZ			19:13																									
ZZZZZZ			19:17																									
ZZZZZZ			19:20																									
ZZZZZZ			19:24																									
ZZZZZZ			19:28																									
ZZZZZZ			19:32																									
ZZZZZZ			19:35																									
CCV 280-436227/63			19:39																									
CCB 280-436227/64			19:43																									
ZZZZZZ			19:47																									
ZZZZZZ			19:51																									
ZZZZZZ			19:55																									
ZZZZZZ			19:58																									
ZZZZZZ			20:02																									
ZZZZZZ			20:06																									
ZZZZZZ			20:10																									
CCV 280-436227/72	1		20:14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCB 280-436227/73	1		20:18	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCVL 280-436227/74	1		20:21	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
MB 280-435184/1-A	1	T	20:25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
LCS 280-435184/2-A	1	T	20:29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
LCSD 280-435184/3-A	1	T	20:33	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
ZZZZZZ			20:37																									
ZZZZZZ			20:40																									
ZZZZZZ			20:44																									
CCV 280-436227/81	1		20:48	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCB 280-436227/82	1		20:52	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCVL 280-436227/83	1		20:56	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
ZZZZZZ			20:59																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/02/2018 15:39 End Date: 11/03/2018 14:20

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn									
ZZZZZZ			21:03																									
ZZZZZZ			21:07																									
ZZZZZZ			21:11																									
ZZZZZZ			21:14																									
ZZZZZZ			21:18																									
CCV 280-436227/90	1		21:22	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCB 280-436227/91	1		21:26	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCVL 280-436227/92	1		21:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
280-116020-1	1	T	21:33	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
280-116020-4	1	T	21:37	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
280-116020-6	1	T	21:41	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
280-116020-8	1	T	21:45	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
280-116020-8 MS	1	T	21:49	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
280-116020-8 MSD	1	T	21:52	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
280-116020-9	1	T	21:56	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
280-116020-12	1	T	22:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCV 280-436227/101	1		22:04	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCB 280-436227/102	1		22:07	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCVL 280-436227/103	1		22:11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
ZZZZZZ			22:15																									
ZZZZZZ			22:19																									
ZZZZZZ			22:23																									
ZZZZZZ			22:26																									
ZZZZZZ			22:30																									
ZZZZZZ			22:34																									
ZZZZZZ			22:38																									
ZZZZZZ			22:42																									
ZZZZZZ			22:45																									
CCV 280-436227/113			22:49																									
CCB 280-436227/114			22:53																									
CCVL 280-436227/115			22:57																									
ZZZZZZ			23:01																									
ZZZZZZ			23:04																									
ZZZZZZ			23:08																									
ZZZZZZ			23:12																									
ZZZZZZ			23:16																									
ZZZZZZ			23:20																									
CCV 280-436227/122			23:23																									
CCB 280-436227/123			23:27																									
CCVL 280-436227/124			23:31																									
ZZZZZZ			23:35																									
ZZZZZZ			23:38																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/02/2018 15:39 End Date: 11/03/2018 14:20

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn									
ZZZZZZ			23:42																									
ZZZZZZ			23:46																									
ZZZZZZ			23:50																									
ZZZZZZ			23:54																									
ZZZZZZ			23:58																									
ZZZZZZ			00:01																									
ZZZZZZ			00:05																									
CCV 280-436227/134			00:09																									
CCB 280-436227/135			00:13																									
CCVL 280-436227/136			00:17																									
ZZZZZZ			00:20																									
ZZZZZZ			00:24																									
ZZZZZZ			00:28																									
ZZZZZZ			00:32																									
ZZZZZZ			00:36																									
ZZZZZZ			00:40																									
ZZZZZZ			00:43																									
ZZZZZZ			00:47																									
CCV 280-436227/145			00:51																									
CCB 280-436227/146			00:55																									
CCVL 280-436227/147			00:59																									
ICSA 280-436227/148	1		01:03	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
ICSAB 280-436227/149	1		01:06	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
RINSE 280-436227/150			01:10																									
RINSE 280-436227/151			01:59																									
CCV 280-436227/152			02:03																									
CCB 280-436227/153			02:07																									
RINSE 280-436227/154			02:10																									
RINSE 280-436227/155			02:14																									
RINSE 280-436227/156			02:18																									
RINSE 280-436227/157			02:22																									
ICIS 280-436227/158			02:26	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
IC 280-436227/159			02:29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCV 280-436227/160			02:33																									
CCB 280-436227/161			02:37																									
CCVL 280-436227/162			02:41																									
ZZZZZZ			02:44																									
ZZZZZZ			02:48																									
ZZZZZZ			02:52																									
ZZZZZZ			02:56																									
ZZZZZZ			03:00																									
ZZZZZZ			03:03																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/02/2018 15:39 End Date: 11/03/2018 14:20

Lab Sample Id	D/F	Type	Time	Analytes																									
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn										
ZZZZZZ			03:07																										
CCV 280-436227/170			03:11																										
CCB 280-436227/171			03:15																										
ZZZZZZ			03:19																										
ZZZZZZ			03:22																										
ZZZZZZ			03:26																										
ZZZZZZ			03:30																										
ZZZZZZ			03:34																										
ZZZZZZ			03:38																										
ZZZZZZ			03:42																										
ZZZZZZ			03:45																										
ZZZZZZ			03:49																										
CCV 280-436227/181			03:53																										
CCB 280-436227/182			03:57																										
ZZZZZZ			04:01																										
ZZZZZZ			04:04																										
ZZZZZZ			04:08																										
ZZZZZZ			04:12																										
ZZZZZZ			04:16																										
ZZZZZZ			04:20																										
ZZZZZZ			04:23																										
ZZZZZZ			04:27																										
ZZZZZZ			04:31																										
ZZZZZZ			04:35																										
CCV 280-436227/193			04:39																										
CCB 280-436227/194			04:42																										
RINSE 280-436227/195			13:31																										
RINSE 280-436227/196			13:34																										
RINSE 280-436227/197			13:38																										
RINSE 280-436227/198			13:42																										
RINSE 280-436227/199			13:46																										
RINSE 280-436227/200			13:50																										
ICIS 280-436227/201			13:53	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
IC 280-436227/202			13:57	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
CCV 280-436227/203			14:01																										
CCB 280-436227/204			14:05																										
CCVL 280-436227/205			14:09																										
ICSA 280-436227/206			14:12																										
ICSAB 280-436227/207			14:16																										
RINSE 280-436227/208			14:20																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/02/2018 15:39 End Date: 11/03/2018 14:20

Lab Sample Id	D/F	Type	Time	Analytes																										
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn											

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: MT_033 Analysis Method: 7470A

Start Date: 11/06/2018 16:33 End Date: 11/06/2018 22:17

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
IC 280-436472/1-A			16:33	X																								
IC 280-436472/2-A			16:35	X																								
IC 280-436472/3-A			16:38	X																								
IC 280-436472/4-A			16:40	X																								
IC 280-436472/5-A			16:42	X																								
IC 280-436472/6-A			16:44	X																								
IC 280-436472/7-A			16:47	X																								
IC 280-436472/8-A			16:49	X																								
ICV 280-436472/9-A	1		16:52	X																								
ICB 280-436472/10-A	1		16:54	X																								
CRA 280-436472/11-A			16:56																									
CCV 280-436472/12-A			16:58																									
CCB 280-436472/13-A			17:00																									
ZZZZZZ			17:03																									
ZZZZZZ			17:05																									
ZZZZZZ			17:07																									
ZZZZZZ			17:09																									
ZZZZZZ			17:12																									
ZZZZZZ			17:14																									
ZZZZZZ			17:16																									
ZZZZZZ			17:18																									
ZZZZZZ			17:20																									
ZZZZZZ			17:23																									
CCV 280-436472/12-A			17:25																									
CCB 280-436472/13-A			17:27																									
ZZZZZZ			17:29																									
ZZZZZZ			17:32																									
ZZZZZZ			17:34																									
ZZZZZZ			17:36																									
ZZZZZZ			17:38																									
ZZZZZZ			17:40																									
ZZZZZZ			17:43																									
ZZZZZZ			17:45																									
ZZZZZZ			17:47																									
ZZZZZZ			17:49																									
CCV 280-436472/12-A			17:52																									
CCB 280-436472/13-A			17:54																									
ZZZZZZ			17:56																									
ZZZZZZ			17:58																									
ZZZZZZ			18:01																									
ZZZZZZ			18:03																									
ZZZZZZ			18:05																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: MT_033 Analysis Method: 7470A

Start Date: 11/06/2018 16:33 End Date: 11/06/2018 22:17

Lab Sample Id	D/F	Type	Time	Analytes
				Hg
ZZZZZZ			18:07	
ZZZZZZ			18:09	
ZZZZZZ			18:12	
ZZZZZZ			18:14	
ZZZZZZ			18:16	
CCV 280-436472/12-A			18:18	
CCB 280-436472/13-A			18:21	
ZZZZZZ			18:23	
ZZZZZZ			18:25	
ZZZZZZ			18:27	
ZZZZZZ			18:30	
ZZZZZZ			18:32	
ZZZZZZ			18:34	
ZZZZZZ			18:36	
ZZZZZZ			18:38	
ZZZZZZ			18:41	
ZZZZZZ			18:43	
CCV 280-436472/12-A			18:45	
CCB 280-436472/13-A			18:47	
ZZZZZZ			18:50	
ZZZZZZ			18:52	
ZZZZZZ			18:54	
ZZZZZZ			18:56	
ZZZZZZ			18:58	
ZZZZZZ			19:01	
ZZZZZZ			19:03	
ZZZZZZ			19:05	
ZZZZZZ			19:07	
ZZZZZZ			19:10	
CCV 280-436472/12-A			19:12	
CCB 280-436472/13-A			19:14	
ZZZZZZ			19:16	
ZZZZZZ			19:19	
ZZZZZZ			19:21	
ZZZZZZ			19:23	
ZZZZZZ			19:25	
ZZZZZZ			19:27	
ZZZZZZ			19:30	
ZZZZZZ			19:32	
ZZZZZZ			19:34	
ZZZZZZ			19:36	
CCV 280-436472/12-A			19:39	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: MT_033 Analysis Method: 7470A

Start Date: 11/06/2018 16:33 End Date: 11/06/2018 22:17

Lab Sample Id	D/F	Type	Time	Analytes
				Hg
CCB 280-436472/13-A			19:41	
ZZZZZZ			19:43	
ZZZZZZ			19:45	
ZZZZZZ			19:48	
ZZZZZZ			19:50	
ZZZZZZ			19:52	
ZZZZZZ			19:54	
ZZZZZZ			19:56	
ZZZZZZ			19:59	
ZZZZZZ			20:01	
ZZZZZZ			20:03	
CCV 280-436472/12-A	1		20:05	X
CCB 280-436472/13-A	1		20:08	X
ZZZZZZ			20:10	
ZZZZZZ			20:12	
ZZZZZZ			20:14	
MB 280-436463/1-A	1	T	20:17	X
LCS 280-436463/2-A	1	T	20:19	X
LCSD 280-436463/3-A	1	T	20:21	X
ZZZZZZ			20:23	
ZZZZZZ			20:25	
ZZZZZZ			20:28	
ZZZZZZ			20:30	
CCV 280-436472/12-A	1		20:32	X
CCB 280-436472/13-A	1		20:34	X
ZZZZZZ			20:37	
ZZZZZZ			20:39	
ZZZZZZ			20:41	
ZZZZZZ			20:43	
ZZZZZZ			20:46	
ZZZZZZ			20:48	
ZZZZZZ			20:50	
280-116020-1	1	T	20:52	X
280-116020-4	1	T	20:54	X
280-116020-6	1	T	20:57	X
CCV 280-436472/12-A	1		20:59	X
CCB 280-436472/13-A	1		21:01	X
280-116020-8	1	T	21:03	X
280-116020-8 SD	5	T	21:06	X
280-116020-8 MS	1	T	21:08	X
280-116020-8 MSD	1	T	21:10	X
280-116020-8 PDS	1	T	21:12	X

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13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: MT_033 Analysis Method: 7470A

Start Date: 11/06/2018 16:33 End Date: 11/06/2018 22:17

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
280-116020-9	1	T	21:15	X																								
280-116020-12	1	T	21:17	X																								
ZZZZZZ			21:19																									
ZZZZZZ			21:21																									
ZZZZZZ			21:23																									
CCV 280-436472/12-A	1		21:26	X																								
CCB 280-436472/13-A	1		21:28	X																								
ZZZZZZ			21:30																									
ZZZZZZ			21:32																									
ZZZZZZ			21:35																									
ZZZZZZ			21:37																									
ZZZZZZ			21:39																									
ZZZZZZ			21:41																									
ZZZZZZ			21:44																									
ZZZZZZ			21:46																									
ZZZZZZ			21:48																									
ZZZZZZ			21:50																									
CCV 280-436472/12-A			21:53																									
CCB 280-436472/13-A			21:55																									
ZZZZZZ			21:57																									
ZZZZZZ			21:59																									
ZZZZZZ			22:02																									
ZZZZZZ			22:04																									
ZZZZZZ			22:06																									
ZZZZZZ			22:08																									
ZZZZZZ			22:11																									
ZZZZZZ			22:13																									
CCV 280-436472/12-A			22:15																									
CCB 280-436472/13-A			22:17																									

Prep Types:
T = Total/NA

FORM XIII-IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICP Instrument ID: MT_025 Start Date: 10/29/2018 End Date: 10/29/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Y 224.306	Q	Element Y 360.073	Q	Element Y 377.433	Q	Element	Q	Element	Q
ICIS 280-435360/1	08:31										
ICVH 280-435360/6	08:43	96		95		95					
ICVH 280-435360/7	08:46	98		97		99					
ICV 280-435360/8	08:49	99		99		98					
ICV 280-435360/9	08:51	99		99		100					
ICVL 280-435360/10	08:54	100		101		100					
ICB 280-435360/14	09:06	101		101		101					
CRI 280-435360/15	09:08	102		103		103					
ICSA 280-435360/17	09:20	92		87		101					
ICSAB 280-435360/18	09:23	91		86		101					
CCVH 280-435360/55	11:21	98		97		104					
CCV 280-435360/56	11:24	101		100		105					
CCB 280-435360/57	11:26	100		100		101					
CCVL 280-435360/58	11:29	102		102		102					
MB 280-435183/1-A	11:44	100		101		103					
LCS 280-435183/2-A	11:46	99		98		103					
LCSD 280-435183/3-A	11:49	97		96		104					
CCVH 280-435360/67	11:51	99		97		101					
CCV 280-435360/68	11:53	100		99		102					
CCB 280-435360/69	11:56	99		100		101					
CCVL 280-435360/70	11:58	103		103		104					
CCVH 280-435360/80	12:23	100		99		105					
CCV 280-435360/81	12:26	104		102		107					
CCB 280-435360/82	12:28	101		102		105					
CCVL 280-435360/83	12:31	102		101		104					
280-116020-1	12:38	97		96		101					
280-116020-4	12:40	99		99		102					
280-116020-6	12:43	102		101		106					
280-116020-8	12:45	97		97		103					
280-116020-8 MS	12:48	96		94		99					
280-116020-8 MSD	12:50	96		96		101					
280-116020-9	12:52	100		99		103					
280-116020-12	12:55	98		97		101					
CCVH 280-435360/94	13:03	99		98		103					
CCV 280-435360/95	13:06	101		100		102					
CCB 280-435360/96	13:08	102		102		102					
CCVL 280-435360/97	13:11	102		100		103					

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICP-MS Instrument ID: MT_077 Start Date: 11/02/2018 End Date: 11/03/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6/1	Q	Element Li-6/2	Q	Element Sc/1	Q	Element Sc/2	Q	Element Sc/3	Q
ICV 280-436227/8	16:07	96		99		99		97		98	
ICB 280-436227/9	16:11	101		101		101		100		102	
ICVL 280-436227/11	16:20	103		102		103		105		103	
CRI 280-436227/12	16:24	105		102		103		106		105	
CRI 280-436227/13	16:29	103		102		104		106		105	
ICSA 280-436227/15	16:37	96		94		95		91		95	
ICSAB 280-436227/16	16:41	94		93		95		92		94	
IC 280-436227/50	18:50	97		98		99		99		99	
CCV 280-436227/51	18:54	97		100		99		99		99	
CCB 280-436227/52	18:57	98		100		101		101		102	
CCVL 280-436227/53	19:01	100		100		101		101		102	
CCV 280-436227/72	20:14	96		98		95		96		94	
CCB 280-436227/73	20:18	97		97		94		96		95	
CCVL 280-436227/74	20:21	97		96		93		94		93	
MB 280-435184/1-A	20:25	95		96		94		96		96	
LCS 280-435184/2-A	20:29	94		97		93		97		96	
LCSD 280-435184/3-A	20:33	96		96		93		97		96	
CCV 280-436227/81	20:48	95		98		94		95		91	
CCB 280-436227/82	20:52	94		98		92		93		91	
CCVL 280-436227/83	20:56	96		95		91		93		92	
CCV 280-436227/90	21:22	91		92		90		92		89	
CCB 280-436227/91	21:26	92		91		89		91		89	
CCVL 280-436227/92	21:30	92		91		88		91		89	
280-116020-1	21:33	88		87		86		89		88	
280-116020-4	21:37	90		90		89		92		89	
280-116020-6	21:41	89		91		88		90		88	
280-116020-8	21:45	87		87		87		90		88	
280-116020-8 MS	21:49	87		89		87		90		89	
280-116020-8 MSD	21:52	87		87		87		90		88	
280-116020-9	21:56	87		87		87		91		88	
280-116020-12	22:00	88		88		88		93		89	
CCV 280-436227/101	22:04	90		89		88		90		86	
CCB 280-436227/102	22:07	91		89		88		89		86	
CCVL 280-436227/103	22:11	90		89		88		89		86	
ICSA 280-436227/148	01:03	81		79		81		87		80	
ICSAB 280-436227/149	01:06	79		77		82		87		80	

FORM XV - IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

ICP-MS Instrument ID: MT_077 Start Date: 11/02/2018 End Date: 11/03/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/1	Q	Element Ge/2	Q	Element In	Q	Element Ho-165	Q	Element	Q
ICV 280-436227/8	16:07	99		95		98		100			
ICB 280-436227/9	16:11	101		102		102		101			
ICVL 280-436227/11	16:20	102		105		102		102			
CRI 280-436227/12	16:24	103		104		102		101			
CRI 280-436227/13	16:29	103		104		103		102			
ICSA 280-436227/15	16:37	93		87		89		95			
ICSAB 280-436227/16	16:41	93		88		90		95			
IC 280-436227/50	18:50	98		99		98		100			
CCV 280-436227/51	18:54	99		99		100		100			
CCB 280-436227/52	18:57	101		102		102		101			
CCVL 280-436227/53	19:01	101		102		102		102			
CCV 280-436227/72	20:14	95		96		99		101			
CCB 280-436227/73	20:18	94		95		98		100			
CCVL 280-436227/74	20:21	93		94		97		99			
MB 280-435184/1-A	20:25	93		96		100		101			
LCS 280-435184/2-A	20:29	93		96		100		101			
LCSD 280-435184/3-A	20:33	92		95		98		101			
CCV 280-436227/81	20:48	93		94		97		99			
CCB 280-436227/82	20:52	92		93		97		99			
CCVL 280-436227/83	20:56	91		93		97		100			
CCV 280-436227/90	21:22	89		92		96		98			
CCB 280-436227/91	21:26	89		91		95		98			
CCVL 280-436227/92	21:30	89		91		95		98			
280-116020-1	21:33	87		90		94		96			
280-116020-4	21:37	89		92		96		99			
280-116020-6	21:41	88		91		95		97			
280-116020-8	21:45	87		89		94		98			
280-116020-8 MS	21:49	87		90		94		98			
280-116020-8 MSD	21:52	87		90		94		98			
280-116020-9	21:56	86		91		94		98			
280-116020-12	22:00	87		92		96		99			
CCV 280-436227/101	22:04	88		90		95		99			
CCB 280-436227/102	22:07	88		89		95		97			
CCVL 280-436227/103	22:11	88		89		94		97			
ICSA 280-436227/148	01:03	79		86		91		96			
ICSAB 280-436227/149	01:06	80		86		92		95			

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435183 Batch Start Date: 10/28/18 13:00 Batch Analyst: Lodl, Dagmara A

Batch Method: 3010A Batch End Date: 10/28/18 18:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ICP SPK 2B 00080	ICP SPK 3A 00154	
MB 280-435183/1		3010A, 6010C			50 mL	50 mL			
LCS 280-435183/2		3010A, 6010C			50 mL	50 mL	0.5 mL	0.5 mL	
LCSD 280-435183/3		3010A, 6010C			50 mL	50 mL	0.5 mL	0.5 mL	
280-116020-G-1	DET-003-181001-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL			
280-116020-E-4	WBGmw-009-181001-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL			
280-116020-G-6	LL1mw-084-181001-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL			
280-116020-E-8	DA2mw-115-181001-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL			
280-116020-C-8 MS	DA2mw-115-181001-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL	0.5 mL	0.5 mL	
280-116020-C-8 MSD	DA2mw-115-181001-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL	0.5 mL	0.5 mL	
280-116020-C-9	DA2mw-115-181002-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL			
280-116020-G-12	DET-004-181001-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL			

Batch Notes	
Temperature - Corrected - End	92 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion End Time	10/28/2018 18:45
Digestion Start Time	10/28/2018 13:00
Digestion Unit ID	05
Hydrochloric Acid ID	0000201226-03/23
Nitric Acid ID	0000200458-05/23
Pipette/Syringe/Dispenser ID	MET-109
Thermometer ID	MT2050
Digestion Tube/Cup ID	1807160
Temperature - Uncorrected - End	92 Degrees C
Temperature - Uncorrected - Start	95 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435183 Batch Start Date: 10/28/18 13:00 Batch Analyst: Lodl, Dagmara A

Batch Method: 3010A Batch End Date: 10/28/18 18:45

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435184 Batch Start Date: 10/28/18 13:00 Batch Analyst: Lodl, Dagmara A

Batch Method: 3020A Batch End Date: 10/28/18 18:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	MS CALSTD-1 00129	MS spike 2 00072	
MB 280-435184/1		3020A, 6020A			50 mL	50 mL			
LCS 280-435184/2		3020A, 6020A			50 mL	50 mL	0.1 mL	0.1 mL	
LCSD 280-435184/3		3020A, 6020A			50 mL	50 mL	0.1 mL	0.1 mL	
280-116020-G-1	DET-003-181001-GW	3020A, 6020A	T	<2	50 mL	50 mL			
280-116020-E-4	WBGmw-009-181001-GW	3020A, 6020A	T	<2	50 mL	50 mL			
280-116020-G-6	LL1mw-084-181001-GW	3020A, 6020A	T	<2	50 mL	50 mL			
280-116020-E-8	DA2mw-115-181001-GW	3020A, 6020A	T	<2	50 mL	50 mL			
280-116020-C-8 MS	DA2mw-115-181001-GW	3020A, 6020A	T	<2	50 mL	50 mL	0.1 mL	0.1 mL	
280-116020-C-8 MSD	DA2mw-115-181001-GW	3020A, 6020A	T	<2	50 mL	50 mL	0.1 mL	0.1 mL	
280-116020-C-9	DA2mw-115-181002-GW	3020A, 6020A	T	<2	50 mL	50 mL			
280-116020-G-12	DET-004-181001-GW	3020A, 6020A	T	<2	50 mL	50 mL			

Batch Notes	
Temperature - Corrected - End	95 Degrees C
Temperature - Corrected - Start	94 Degrees C
Digestion End Time	1845
Digestion Start Time	13:00
Digestion Unit ID	11
Lot # of Nitric Acid	0000200458-05/23
Pipette/Syringe/Dispenser ID	MET-88
Thermometer ID	QA-37
Digestion Tube/Cup ID	1807160
Temperature - Uncorrected - End	96 Degrees C
Temperature - Uncorrected - Start	95 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435184 Batch Start Date: 10/28/18 13:00 Batch Analyst: Lodl, Dagmara A

Batch Method: 3020A Batch End Date: 10/28/18 18:45

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 436463 Batch Start Date: 11/06/18 13:14 Batch Analyst: Jones, Micaela R

Batch Method: 7470A Batch End Date: 11/06/18 15:14

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	Hg Daily Spk 02284		
MB 280-436463/1		7470A, 7470A		<2 SU	30 mL	50 mL			
LCS 280-436463/2		7470A, 7470A		<2 SU	30 mL	50 mL	1.5 mL		
LCSD 280-436463/3		7470A, 7470A		<2 SU	30 mL	50 mL	1.5 mL		
280-116020-G-1	DET-003-181001-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL			
280-116020-E-4	WBGmw-009-181001-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL			
280-116020-G-6	LL1mw-084-181001-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL			
280-116020-E-8	DA2mw-115-181001-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL			
280-116020-E-8 MS	DA2mw-115-181001-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL	1.5 mL		
280-116020-E-8 MSD	DA2mw-115-181001-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL	1.5 mL		
280-116020-C-9	DA2mw-115-181002-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL			
280-116020-G-12	DET-004-181001-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 436463 Batch Start Date: 11/06/18 13:14 Batch Analyst: Jones, Micaela R

Batch Method: 7470A Batch End Date: 11/06/18 15:14

Batch Notes	
Batch Comment	DV-MT-0017
Temperature - Corrected - End	95 Degrees C
Temperature - Corrected - Start	92 Degrees C
Digestion End Time	11/06/18 15:14
Digestion Start Time	11/06/18 13:14
Digestion Unit ID	14
Sulfuric Acid ID	184525-10/17/19
Nitric Acid ID	200458-10/22/19
Hydroxylamine ID	166725A-11/03/19
Potassium Persulfate ID	178262-11/06/19
Potassium Permanganate ID	185903-11/05/19
Pipette/Syringe/Dispenser ID	MET-114
Analyst ID - Spike Analyst	MJ
Sufficient Volume for Batch QC	Yes
Thermometer ID	QA-9
Digestion Tube/Cup ID	1807160
Temperature - Uncorrected - End	95 Degrees C
Temperature - Uncorrected - Start	92 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 436472 Batch Start Date: 11/06/18 13:14 Batch Analyst: Jones, Micaela R

Batch Method: 245.1 Batch End Date: 11/06/18 15:14

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	Hg Biwk ICV 00260	Hg Daily Spk 02284	
ICV 280-436472/9		245.1, 7470A		<2	30 mL	50 mL	0.3 mL		
ICB 280-436472/10		245.1, 7470A		<2	30 mL	50 mL			
CCV 280-436472/12		245.1, 7470A		<2	30 mL	50 mL		1.5 mL	
CCB 280-436472/13		245.1, 7470A		<2	30 mL	50 mL			

Batch Notes	
Batch Comment	DV-MT-0015
Temperature - Corrected - End	95 Degrees C
Temperature - Corrected - Start	90 Degrees C
Digestion End Time	11/07/2018 15:14
Digestion Start Time	11/06/2018 13:14
Digestion Unit ID	15
Sulfuric Acid Lot Number	184525-10/17/19
Nitric Acid ID	200458-10/22/19
Hydroxylamine ID	166725A-11/03/19
Potassium Persulfate ID	178262-11/06/19
Potassium Permanganate ID	185903-11/05/19
Pipette/Syringe/Dispenser ID	MET-114
Analyst ID - Spike Analyst	MJ
Sufficient Volume for Batch QC	Yes
Thermometer ID	3967
Digestion Tube/Cup ID	1807160
Temperature - Uncorrected - End	95 Degrees C
Temperature - Uncorrected - Start	90 Degrees C

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Sample Name: ICIS Acquired: 10/29/2018 8:31:19 Type: Cal
Method: 6500_025(v5) Mode: IR Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00139**	**.00135**	**.00778**	**-.00051**	**.00108**	**-.00555**	**-.00422**	**-.00405**	**.00973**	**.00145**	**-.00074**	**-.00028**
Stddev	.00016	.00009	.00067	.00014	.00004	.00302	.00055	.00000	.00049	.00003	.00021	.00006
%RSD	11.441	6.7288	8.5654	28.018	3.7531	54.488	13.122	.00343	5.0217	2.3172	28.674	22.180
#1	-.00151	.00128	.00825	-.00041	.00111	-.00341	-.00383	-.00405	.00939	.00143	-.00089	-.00033
#2	-.00128	.00141	.00730	-.00061	.00105	-.00769	-.00461	-.00405	.01008	.00147	-.00059	-.00024

Elem	Cu3247	Fe2599	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Na8183	Ni2316	P_1782
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00452**	**.00075**	**.00002**	**.00895**	**.00779**	**.00038**	**.00028**	**.00070**	**.00321**	**-.01243**	**.00081**	**.00016**
Stddev	.00003	.00005	.00005	.00427	.00154	.00000	.00015	.00006	.00035	.00201	.00047	.00002
%RSD	.61741	6.6606	197.65	47.686	19.761	.91802	53.619	8.3989	10.942	16.148	57.352	10.847
#1	.00454	.00071	-.00001	.01197	.00670	.00038	.00017	.00074	.00296	-.01101	.00114	.00018
#2	.00450	.00078	.00006	.00593	.00888	.00037	.00039	.00066	.00346	-.01385	.00048	.00015

Elem	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00037**	**.00092**	**.00112**	**.00033**	**.00178**	**.00178**	**.00017**	**.00651**	**-.00050**	**-.00076**	**-.00005**	**-.00199**
Stddev	.00019	.00004	.00006	.00011	.00064	.00064	.00011	.00156	.00003	.00013	.00001	.00006
%RSD	52.691	3.8392	4.9533	32.489	36.286	36.286	65.613	23.995	5.7445	16.940	15.364	3.2354
#1	.00050	.00090	.00108	.00041	.00223	.00223	.00009	.00761	-.00052	-.00067	-.00004	-.00194
#2	.00023	.00095	.00116	.00026	.00132	.00132	.00025	.00540	-.00048	-.00085	-.00005	-.00203

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	**-.00070**	**.00048**	**-.00684**
Stddev	.00003	.00000	.00000
%RSD	4.6774	.93630	.03811
#1	-.00072	.00048	-.00684
#2	-.00068	.00048	-.00683

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3740.9**	**47210.**	**3280.5**
Stddev	11.6	40.	11.7
%RSD	.31125	.08473	.35595
#1	3732.6	47238.	3288.8
#2	3749.1	47181.	3272.3

Sample Name: ICAL1 Acquired: 10/29/2018 8:33:57 Type: Cal
Method: 6500_025(v5) Mode: IR Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.23204**	**.17054**	**.07088**	**.23717**	**5.1951**	**4.6103**	**1.6370**	**1.5490**	**.90642**	**.86507**	**.30462**	**.57955**	**3.9160**
Stddev	.00071	.00041	.00017	.00039	.0214	.0233	.0106	.0051	.00159	.00100	.00004	.00272	.0078
%RSD	.30573	.23868	.24358	.16577	.41244	.50656	.64601	.32960	.17487	.11603	.01313	.46902	.19998
#1	.23154	.17083	.07100	.23744	5.2103	4.6268	1.6445	1.5526	.90754	.86578	.30465	.58147	3.9216
#2	.23255	.17025	.07075	.23689	5.1800	4.5938	1.6295	1.5454	.90530	.86436	.30459	.57763	3.9105

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	Sb2068	Se1960	Si2881	SiO2	Sn1899
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.7999**	**1.0038**	**1.1973**	**.47774**	**1.7714**	**.71807**	**.09767**	**.46409**	**.16220**	**.06122**	**.22560**	**.22560**	**.20678**
Stddev	.0031	.0027	.0036	.00092	.0081	.00158	.00032	.00018	.00028	.00023	.00025	.00025	.00071
%RSD	.17322	.27119	.30381	.19160	.45513	.21984	.32624	.03926	.17440	.38108	.10993	.10993	.34431
#1	1.8021	1.0019	1.1948	.47839	1.7771	.71919	.09789	.46422	.16240	.06139	.22577	.22577	.20728
#2	1.7976	1.0057	1.1999	.47709	1.7657	.71696	.09744	.46396	.16200	.06106	.22542	.22542	.20628

Elem	Sr4077	Ti3349	Tl1908	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**8.5691**	**.27765**	**.17346**	**.23169**	**.02859**	**.32949**
Stddev	.0385	.00104	.00016	.00061	.00001	.00105
%RSD	.44946	.37306	.09379	.26275	.03151	.31802
#1	8.5963	.27691	.17358	.23126	.02858	.33023
#2	8.5418	.27838	.17335	.23212	.02859	.32875

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3634.1**	**45520.**	**3250.2**
Stddev	13.9	234.	17.6
%RSD	.38358	.51492	.54012
#1	3643.9	45686.	3237.8
#2	3624.2	45355.	3262.6

Sample Name: ICAL2 Acquired: 10/29/2018 8:36:20 Type: Cal
Method: 6500_025(v5) Mode: IR Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Al3092	Bi2230	Fe2714	Na8183	S_1820	Th2837	U_3701
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.2363**	**.17546**	**.45590**	**2.3940**	**.27942**	**.45628**	**.09702**
Stddev	.0030	.00046	.00049	.0055	.00151	.00004	.00014
%RSD	.07183	.26258	.10701	.23031	.54139	.00809	.14860
#1	4.2385	.17579	.45556	2.3979	.28049	.45625	.09712
#2	4.2342	.17514	.45625	2.3901	.27835	.45631	.09692

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3480.9**	**42742.**	**3133.2**
Stddev	46.1	169.	6.5
%RSD	1.3254	.39605	.20705
#1	3513.5	42622.	3137.8
#2	3448.3	42861.	3128.6

Sample Name: S1-5391052 Acquired: 10/29/2018 8:38:52 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.0100**	**1.0210**	**1.9983**	**1.0074**	**1.0179**	**1.0143**	**.00216**	**10.188**	**1.0080**	**1.0092**	**1.0140**	**1.0133**	**5.0927**
Stddev	.0029	.0071	.0128	.0050	.0024	.0026	.00024	.028	.0066	.0046	.0041	.0023	.0107
%RSD	.28196	.69870	.63863	.49259	.23460	.26059	11.077	.27476	.65463	.46118	.40021	.22792	.21011
#1	1.0120	1.0260	2.0073	1.0109	1.0162	1.0124	.00199	10.168	1.0126	1.0124	1.0169	1.0149	5.0851
#2	1.0080	1.0159	1.9893	1.0039	1.0196	1.0162	.00233	10.207	1.0033	1.0059	1.0111	1.0117	5.1003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**102.14**	**2.0383**	**40.454**	**1.0116**	**1.0102**	**10.369**	**10.265**	**1.0098**	**2.0180**	**2.0185**	**.00703**	**2.0152**	**2.0137**
Stddev	.01	.0020	.071	.0029	.0061	.012	.414	.0038	.0153	.0079	.00267	.0186	.0209
%RSD	.01362	.09866	.17574	.29149	.60403	.11376	4.0350	.37323	.75692	.38924	38.024	.92146	1.0356
#1	102.13	2.0369	40.505	1.0137	1.0145	10.377	9.9725	1.0125	2.0288	2.0241	.00892	2.0283	2.0285
#2	102.15	2.0397	40.404	1.0095	1.0059	10.360	10.558	1.0072	2.0072	2.0130	.00514	2.0021	1.9990
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value													
Range													

Elem	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.229**	**21.889**	**2.0195**	**1.0160**	**.01477**	**1.0111**	**2.0236**	**-.06015**	**1.0125**	**1.0072**	**1.0109**
Stddev	.022	.047	.0092	.0035	.00047	.0047	.0134	.02443	.0013	.0011	.0038
%RSD	.21563	.21563	.45528	.34382	3.1771	.46083	.66142	40.619	.13132	.10530	.37291
#1	10.244	21.923	2.0260	1.0136	.01443	1.0144	2.0331	-.07743	1.0135	1.0064	1.0083
#2	10.213	21.856	2.0130	1.0185	.01510	1.0078	2.0141	-.04287	1.0116	1.0079	1.0136
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3504.4**	**44160.**	**3097.7**
Stddev	54.8	47.	7.5
%RSD	1.5644	.10585	.24143
#1	3543.2	44127.	3103.0
#2	3465.7	44193.	3092.4

Sample Name: S2-5380933 Acquired: 10/29/2018 8:41:14 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00485**	**99.834**	**-.00155**	**.00468**	**-.00046**	**-.00031**	**1.9751**	**-.00187**	**-.00039**	**.00296**	**.00111**	**.00099**	**99.959**
Stddev	.00011	1.991	.00292	.00021	.00029	.00017	.0125	.00166	.00019	.00010	.00009	.00080	2.711
%RSD	2.2275	1.9942	187.98	4.5340	63.463	55.497	.63506	88.928	47.360	3.3570	8.5748	80.749	2.7124
#1	-.00477	98.426	.00051	.00453	-.00066	-.00044	1.9662	-.00305	-.00026	.00289	.00104	.00043	98.042
#2	-.00492	101.24	-.00362	.00483	-.00025	-.00019	1.9839	-.00069	-.00052	.00303	.00117	.00156	101.88
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09891**	**.00329**	**-.14309**	**.00545**	**.00026**	**500.87**	**.00793**	**.00772**	**.00007**	**9.9822**	**.00879**	**.01990**	**-.07381**
Stddev	.01782	.00356	.00788	.00011	.00041	9.57	.00041	.00502	.00202	.0490	.00364	.00740	.00270
%RSD	18.014	108.24	5.5050	1.9315	156.28	1.9103	5.2113	65.084	3018.3	.49109	41.476	37.174	3.6577
#1	.08631	.00580	-.14866	.00552	-.00003	494.10	.00764	.01127	.00149	9.9475	.01137	.01467	-.07190
#2	.11151	.00077	-.13752	.00537	.00055	507.63	.00822	.00416	-.00136	10.017	.00621	.02513	-.07572
Check ?	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None	None	None
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.15796**	**.00049**	**.00070**	**9.9383**	**.03767**	**-.00059**	**20.000**	**-.02101**	**.00297**	**.13118**
Stddev	.00578	.00100	.00009	.0595	.00039	.00104	.017	.00012	.00041	.01306
%RSD	3.6577	202.88	12.939	.59892	1.0377	178.10	.08313	.58086	13.673	9.9584
#1	-.15387	-.00021	.00064	9.9804	.03794	-.00132	19.988	-.02093	.00326	.12194
#2	-.16204	.00120	.00077	9.8963	.03739	.00015	20.011	-.02110	.00269	.14041
Check ?	None	None	None	Chk Pass	None	None	Chk Pass	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3400.0**	**42241.**	**3064.1**
Stddev	5.7	51.	50.5
%RSD	.16835	.12010	1.6493
#1	3404.0	42277.	3099.8
#2	3395.9	42205.	3028.4

Sample Name: ICVH-5398392 Acquired: 10/29/2018 8:43:47 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00133**	**40.129**	**.00340**	**.00115**	**-.00038**	**-.00038**	F **.56699**	**-.00347**	**.00014**	**-.00043**	**.00008**	**.00139**
Stddev	.00059	.158	.00024	.00061	.00020	.00014	.00420	.00866	.00007	.00016	.00042	.00028
%RSD	44.484	.39353	7.0011	53.323	52.104	35.224	.74106	249.79	47.329	36.295	559.23	20.506
#1	-.00175	40.240	.00356	.00072	-.00052	-.00029	.56996	.00266	.00019	-.00032	-.00022	.00119
#2	-.00091	40.017	.00323	.00158	-.00024	-.00048	.56402	-.00959	.00010	-.00055	.00037	.00159
Check ?	None	Chk Pass	None	None	None	None	Chk Fail	None	None	None	None	None
Value							.50000					
Range							10.490%					

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**80.231**	**-.00008**	**-.00004**	**-.03954**	**.00203**	**-.00021**	**41.430**	**.00160**	**.00299**	**-.00009**	**3.8518**	**.00170**
Stddev	.097	.03505	.00262	.00946	.00004	.00000	.145	.00020	.00540	.00185	.0318	.00147
%RSD	.12042	43923.	6801.0	23.918	2.0382	2.3074	.34989	12.648	180.85	2013.7	.82522	86.623
#1	80.163	.02470	.00181	-.03285	.00200	-.00021	41.532	.00146	.00681	-.00140	3.8743	.00066
#2	80.299	-.02486	-.00189	-.04623	.00206	-.00021	41.327	.00174	-.00083	.00122	3.8294	.00274
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00078**	**-.05528**	**-.11830**	**.00115**	**.00028**	**2.9856**	**.01145**	**-.00090**	**5.1628**	**-.00581**	**.00102**	**.03686**
Stddev	.00026	.02030	.04345	.00033	.00011	.0186	.00017	.00024	.0688	.00026	.00085	.00132
%RSD	33.763	36.730	36.730	28.655	41.263	.62364	1.4711	26.885	1.3320	4.5357	84.136	3.5859
#1	.00097	-.04092	-.08758	.00091	.00020	2.9724	.01133	-.00073	5.2114	-.00599	.00162	.03779
#2	.00060	-.06964	-.14903	.00138	.00036	2.9988	.01156	-.00107	5.1142	-.00562	.00041	.03592
Check ?	None	None	None	None	None	Chk Pass	None	None	Chk Pass	None	None	None
Value												
Range												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3603.1**	**44735.**	**3122.1**
Stddev	2.0	83.	17.4
%RSD	.05605	.18581	.55707
#1	3601.7	44676.	3109.8
#2	3604.5	44794.	3134.4

Sample Name: ICVH-5398392 Acquired: 10/29/2018 8:46:28 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00088**	**39.738**	**.00303**	**.00100**	**.00010**	**-.00042**	F **.56636**	**-.00459**	**-.00037**	**-.00090**	**.00044**	**.00150**
Stddev	.00114	.070	.00392	.00060	.00047	.00009	.00439	.00318	.00002	.00004	.00021	.00019
%RSD	129.23	.17564	129.30	59.864	486.03	22.287	.77579	69.192	5.7254	4.1375	47.180	12.623
#1	-.00008	39.787	.00026	.00058	-.00024	-.00049	.56326	-.00234	-.00035	-.00088	.00059	.00137
#2	-.00169	39.689	.00580	.00142	.00043	-.00036	.56947	-.00684	-.00038	-.00093	.00029	.00164
Check ?	None	Chk Pass	None	None	None	None	Chk Fail	None	None	None	None	None
Value							.50000					
Range							10.490%					

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**79.444**	**-.06346**	**.00248**	**-.04292**	**.00185**	**-.00028**	**40.678**	**.00154**	**.00221**	**.00019**	**3.8428**	**.00282**
Stddev	.468	.03580	.00164	.00190	.00009	.00097	.027	.00013	.00005	.00085	.0102	.00267
%RSD	.58926	56.420	66.210	4.4191	4.8252	343.32	.06729	8.3801	2.1031	440.08	.26545	94.704
#1	79.113	-.08877	.00132	-.04158	.00191	-.00097	40.697	.00145	.00217	-.00041	3.8500	.00093
#2	79.775	-.03814	.00365	-.04426	.00179	.00040	40.659	.00163	.00224	.00080	3.8356	.00471
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00029**	**-.03732**	**-.07987**	**-.00090**	**-.00016**	**2.9303**	**.01118**	**-.00044**	**5.1127**	**-.00502**	**-.00071**	**.03539**
Stddev	.00425	.02678	.05731	.00182	.00001	.0040	.00022	.00202	.0495	.00021	.00068	.00229
%RSD	1457.4	71.760	71.760	202.12	9.2299	.13773	1.9875	460.81	.96818	4.2478	95.470	6.4648
#1	-.00329	-.05626	-.12039	.00039	-.00017	2.9275	.01134	-.00187	5.0777	-.00518	-.00119	.03701
#2	.00271	-.01838	-.03934	-.00219	-.00015	2.9332	.01102	.00099	5.1477	-.00487	-.00023	.03377
Check ?	None	None	None	None	None	Chk Pass	None	None	Chk Pass	None	None	None
Value												
Range												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3675.7**	**45753.**	**3233.6**
Stddev	2.7	323.	2.5
%RSD	.07473	.70560	.07651
#1	3673.7	45524.	3231.9
#2	3677.6	45981.	3235.4

Sample Name: ICV-5398393 Acquired: 10/29/2018 8:49:15 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.25499**	**.26363**	**.24755**	**.25238**	**.25055**	**.24620**	**.00025**	**2.0247**	**.25366**	**.25313**	**.25129**	**.25651**
Stddev	.00050	.00070	.00418	.00011	.00093	.00079	.00335	.0034	.00143	.00157	.00114	.00009
%RSD	.19633	.26553	1.6868	.04346	.36939	.32115	1333.2	.16835	.56290	.62069	.45494	.03516
#1	.25534	.26412	.25050	.25246	.25120	.24564	-.00212	2.0223	.25467	.25424	.25209	.25657
#2	.25463	.26313	.24460	.25230	.24989	.24676	.00262	2.0272	.25265	.25202	.25048	.25644
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.25248**	**20.238**	**.26300**	**10.064**	**.25677**	**.24509**	**2.0944**	**.25299**	**1.9560**	**.25677**	**.00312**	**.24887**
Stddev	.00701	.026	.00345	.003	.00006	.00055	.0024	.00138	.0126	.00179	.00314	.00604
%RSD	2.7764	.12711	1.3126	.02720	.02194	.22511	.11380	.54691	.64481	.69556	100.69	2.4251
#1	.25744	20.256	.26544	10.062	.25681	.24548	2.0961	.25397	1.9649	.25803	.00090	.25314
#2	.24753	20.219	.26056	10.066	.25673	.24470	2.0927	.25202	1.9471	.25550	.00534	.24460
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50179**	**1.9721**	**4.2203**	**.50005**	**.25261**	**.00464**	**.24381**	W **.52906**	**-.05794**	**.24669**	**.24678**	**.24119**
Stddev	.00076	.0371	.0795	.00293	.00087	.00033	.00033	.00183	.04479	.00143	.00098	.00254
%RSD	.15129	1.8829	1.8829	.58682	.34618	7.0458	.13639	.34624	77.300	.57926	.39750	1.0527
#1	.50233	1.9459	4.1641	.50212	.25200	.00487	.24358	.52777	-.08962	.24770	.24748	.23939
#2	.50125	1.9984	4.2765	.49797	.25323	.00441	.24405	.53036	-.02627	.24568	.24609	.24298
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Warn	None	Chk Pass	Chk Pass	Chk Pass
Value								.50000				
Range								5.4900%				

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3699.7**	**46631.**	**3230.8**
Stddev	4.6	56.	8.0
%RSD	.12367	.12039	.24863
#1	3696.5	46592.	3225.1
#2	3702.9	46671.	3236.5

Sample Name: ICV-5398393 Acquired: 10/29/2018 8:51:46 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.25397**	**.26200**	**.25380**	**.25155**	**.24828**	**.24424**	**-.00056**	**2.0127**	**.25149**	**.25069**	**.25051**	**.25416**	**.24620**
Stddev	.00054	.00140	.00529	.00019	.00110	.00062	.00341	.0030	.00113	.00161	.00138	.00088	.00039
%RSD	.21104	.53357	2.0837	.07486	.44137	.25451	604.68	.14947	.44924	.64366	.55007	.34570	.15675
#1	.25435	.26298	.25006	.25142	.24905	.24380	-.00297	2.0106	.25229	.25183	.25149	.25478	.24647
#2	.25359	.26101	.25754	.25168	.24750	.24467	.00184	2.0149	.25069	.24954	.24954	.25354	.24593
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**20.149**	**.25679**	**10.028**	**.25556**	**.24345**	**2.0627**	**.25130**	**1.9460**	**.25467**	**-.00046**	**.25101**	**.49395**	**1.9346**
Stddev	.082	.00015	.009	.00021	.00112	.0032	.00089	.0092	.00176	.00354	.00258	.01166	.0103
%RSD	.40526	.05892	.08752	.08220	.46164	.15328	.35336	.47334	.68956	771.51	1.0294	2.3599	.53296
#1	20.207	.25668	10.035	.25570	.24425	2.0649	.25193	1.9525	.25592	.00205	.25284	.50220	1.9419
#2	20.091	.25689	10.022	.25541	.24266	2.0605	.25068	1.9395	.25343	-.00296	.24918	.48571	1.9273
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.1400**	**.49499**	**.25009**	**.00381**	**.24313**	**.52676**	**.00167**	**.24573**	**.24543**	**.23995**
Stddev	.0221	.00231	.00026	.00351	.00053	.00090	.05865	.00174	.00269	.00031
%RSD	.53296	.46660	.10471	92.139	.21816	.17040	3509.2	.70661	1.0972	.13081
#1	4.1556	.49663	.24990	.00629	.24275	.52739	-.03980	.24696	.24734	.23973
#2	4.1244	.49336	.25027	.00133	.24350	.52612	.04314	.24451	.24353	.24017
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3696.8**	**46638.**	**3265.3**
Stddev	7.2	180.	4.9
%RSD	.19362	.38646	.14854
#1	3701.8	46510.	3268.7
#2	3691.7	46765.	3261.9

Sample Name: ICVL-5398386 Acquired: 10/29/2018 8:54:26 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01043**	**.11165**	**.01439**	**.10192**	**.01040**	**.00082**	**.11759**	**.21200**	**.00532**	**.01055**	**.01021**	**.01658**
Stddev	.00112	.00025	.00163	.00058	.00050	.00015	.00754	.00453	.00007	.00038	.00042	.00023
%RSD	10.754	.22700	11.348	.57052	4.7802	18.126	6.4136	2.1355	1.2389	3.5972	4.1460	1.3572
#1	.01122	.11147	.01324	.10233	.01005	.00092	.11226	.20880	.00536	.01082	.01051	.01642
#2	.00963	.11183	.01555	.10151	.01076	.00071	.12292	.21520	.00527	.01028	.00991	.01674
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10208**	**3.1697**	**.02412**	**.21515**	**.01055**	**.02027**	**1.0748**	**.04234**	**2.9671**	**.01072**	**.10441**	**.01988**
Stddev	.00363	.1375	.00261	.00074	.00009	.00045	.0076	.00078	.0124	.00115	.00420	.00213
%RSD	3.5584	4.3377	10.802	.34276	.87134	2.2160	.70912	1.8306	.41621	10.751	4.0267	10.689
#1	.09951	3.0724	.02596	.21463	.01061	.02059	1.0694	.04289	2.9758	.01153	.10144	.02139
#2	.10465	3.2669	.02228	.21567	.01048	.01995	1.0802	.04179	2.9583	.00990	.10738	.01838
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01813**	**.52107**	**1.1151**	**.10445**	**.01052**	**.01744**	**.01018**	**.01741**	F **.02581**	**.00973**	**.02068**	**.01592**
Stddev	.00409	.00612	.0131	.00177	.00000	.00269	.00000	.00098	.00650	.00101	.00055	.00060
%RSD	22.556	1.1753	1.1753	1.6957	.04706	15.408	.04705	5.6476	25.189	10.373	2.6778	3.7735
#1	.02102	.51674	1.1058	.10571	.01052	.01934	.01017	.01671	.02121	.01045	.02107	.01634
#2	.01524	.52540	1.1244	.10320	.01053	.01554	.01018	.01810	.03040	.00902	.02029	.01549
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3755.4**	**47539.**	**3295.6**
Stddev	8.4	114.	1.4
%RSD	.22490	.23882	.04157
#1	3761.3	47619.	3294.6
#2	3749.4	47459.	3296.6

Sample Name: xCCVH-5380945 Acquired: 10/29/2018 8:58:01 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00319**	W **55.122**	**-.00090**	**.00248**	**.00026**	**.00013**	F **1.1186**	**.01928**	**-.00018**	**.00204**	**.00076**	**.00086**
Stddev	.00099	.104	.00228	.00096	.00082	.00012	.0048	.00115	.00022	.00026	.00043	.00049
%RSD	31.123	.18919	255.00	38.596	316.97	94.042	.42836	5.9682	122.17	12.904	55.757	57.449
#1	-.00389	55.196	-.00251	.00180	-.00032	.00021	1.1220	.01847	-.00033	.00185	.00046	.00051
#2	-.00249	55.048	.00072	.00316	.00083	.00004	1.1153	.02009	-.00002	.00222	.00107	.00120
Check ?	None	Chk Warn	None	None	None	None	Chk Fail	None	None	None	None	None
Value		50.000					1.0000					
Range		5.0000%					10.000%					

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **55.054**	**.03168**	**.00101**	**-.07757**	**.00304**	**-.00086**	W **275.99**	**.00405**	**.00486**	**.00042**	W **5.4972**	**.00420**
Stddev	.279	.05523	.00150	.00515	.00004	.00002	.66	.00018	.00011	.00033	.0277	.00015
%RSD	.50586	174.32	149.42	6.6356	1.4757	2.0803	.23896	4.4997	2.2348	78.429	.50462	3.4661
#1	54.857	.07074	-.00006	-.08121	.00301	-.00085	275.52	.00418	.00479	.00019	5.5168	.00409
#2	55.251	-.00737	.00207	-.07393	.00307	-.00087	276.45	.00392	.00494	.00066	5.4776	.00430
Check ?	Chk Warn	None	None	None	None	None	Chk Warn	None	None	None	Chk Warn	None
Value	50.000						250.00				5.0000	
Range	5.0000%						5.0000%				5.0000%	

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00418**	**-.01454**	**-.03112**	**.00077**	**.00049**	W **5.4424**	**.02057**	**-.00015**	F **11.262**	**-.01043**	**.00698**	**.07527**
Stddev	.00445	.03313	.07090	.00049	.00000	.0205	.00001	.00251	.044	.00087	.00008	.00290
%RSD	106.62	227.82	227.82	63.446	.48967	.37701	.02564	1719.4	.39238	8.3874	1.1923	3.8524
#1	.00103	.00888	.01901	.00042	.00049	5.4569	.02057	-.00192	11.293	-.00981	.00704	.07732
#2	.00733	-.03797	-.08125	.00111	.00049	5.4279	.02057	.00163	11.230	-.01105	.00692	.07322
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Fail	None	None	None
Value						5.0000			10.000			
Range						5.0000%			10.490%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3652.8**	**45452.**	**3298.2**
Stddev	14.1	215.	22.5
%RSD	.38568	.47361	.68139
#1	3642.9	45604.	3282.3
#2	3662.8	45300.	3314.1

Sample Name: xCCV-5391053 Acquired: 10/29/2018 9:00:32 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **.52630**	F **.56418**	**1.0405**	**.52230**	**.52372**	**.52465**	**.00637**	W **5.2687**	**.52385**	W **.52524**	**.52500**	W **.53332**
Stddev	.00211	.00324	.0050	.00103	.00069	.00006	.00368	.0066	.00522	.00424	.00599	.00152
%RSD	.40103	.57462	.48475	.19760	.13228	.01083	57.740	.12605	.99636	.80744	1.1401	.28463
#1	.52780	.56647	1.0441	.52303	.52323	.52461	.00898	5.2734	.52754	.52824	.52923	.53439
#2	.52481	.56189	1.0369	.52157	.52420	.52469	.00377	5.2640	.52016	.52224	.52076	.53224
Check ?	Chk Warn	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Warn	Chk Pass	Chk Warn	Chk Pass	Chk Warn
Value	.50000	.50000						5.0000		.50000		.50000
Range	5.0000%	10.000%						5.0000%		5.0000%		5.0000%

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.6425**	W **52.639**	W **1.0669**	**20.819**	**.52126**	**.52089**	W **5.4369**	W **.52509**	**1.0373**	W **1.0531**	**.00648**	**1.0386**
Stddev	.0065	.161	.0037	.002	.00072	.00616	.0176	.00477	.0119	.0079	.00307	.0164
%RSD	.24519	.30632	.34590	.01082	.13895	1.1819	.32457	.90841	1.1451	.75235	47.409	1.5762
#1	2.6471	52.525	1.0695	20.820	.52177	.52524	5.4494	.52846	1.0457	1.0587	.00430	1.0501
#2	2.6379	52.753	1.0642	20.817	.52075	.51654	5.4245	.52172	1.0289	1.0475	.00865	1.0270
Check ?	Chk Warn	Chk Warn	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Warn	Chk Pass	Chk Warn	None	Chk Pass
Value	2.5000	50.000	1.0000				5.0000	.50000		1.0000		
Range	5.0000%	5.0000%	5.0000%				5.0000%	5.0000%		5.0000%		

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **1.0530**	**5.1907**	**11.108**	**1.0464**	**.52441**	**.00963**	**.51933**	W **1.0726**	**-.05170**	**.52144**	**.51653**	**.52044**
Stddev	.0057	.0230	.049	.0107	.00061	.00169	.00112	.0144	.05107	.00199	.00287	.00715
%RSD	.53832	.44260	.44260	1.0176	.11636	17.576	.21503	1.3403	98.786	.38206	.55547	1.3747
#1	1.0570	5.1745	11.073	1.0539	.52398	.01082	.52012	1.0828	-.01559	.52285	.51855	.52550
#2	1.0490	5.2069	11.143	1.0388	.52484	.00843	.51854	1.0624	-.08781	.52003	.51450	.51538
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Warn	None	Chk Pass	Chk Pass	Chk Pass
Value	1.0000							1.0000				
Range	5.0000%							5.0000%				

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3746.3**	**47377.**	**3369.8**
Stddev	13.5	41.	13.5
%RSD	.35915	.08716	.39914
#1	3755.8	47406.	3360.2
#2	3736.8	47348.	3379.3

Sample Name: xICB Acquired: 10/29/2018 9:02:55 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00007**	**.01141**	**.00586**	**.00021**	**-.00040**	**-.00009**	**.00783**	F **.22691**	**.00033**	**-.00009**	**.00017**	**.00044**
Stddev	.00065	.00037	.00073	.00082	.00052	.00006	.00211	.00474	.00001	.00061	.00020	.00031
%RSD	909.71	3.2000	12.486	399.05	129.50	67.304	26.901	2.0873	1.9359	653.39	114.05	69.899
#1	-.00053	.01167	.00534	-.00038	-.00077	-.00005	.00932	.23026	.00033	.00034	.00031	.00066
#2	.00039	.01115	.00637	.00079	-.00003	-.00013	.00634	.22356	.00034	-.00052	.00003	.00022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								.13500				
Low Limit								-.13500				

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01525**	**.42661**	**.00294**	**.01225**	W **.00104**	**.00101**	F **1.6195**	**.00002**	**.00363**	**.00089**	**.04470**	**.00211**
Stddev	.00074	.00956	.00232	.00189	.00001	.00008	.0137	.00018	.00230	.00012	.00252	.00099
%RSD	4.8471	2.2419	78.781	15.467	.49065	7.9696	.84462	740.99	63.284	13.418	5.6348	46.713
#1	.01577	.41985	.00458	.01359	.00104	.00107	1.6291	-.00011	.00201	.00098	.04648	.00141
#2	.01473	.43338	.00130	.01091	.00104	.00096	1.6098	.00016	.00526	.00081	.04292	.00281
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					.00100		.50000					
Low Limit					-.01000		-.50000					

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00223**	**-.01350**	**-.02888**	**-.00033**	W **.00158**	**.00056**	**.00079**	**-.00127**	**.02952**	**.00018**	W **.01437**	**-.00102**
Stddev	.00096	.02154	.04609	.00066	.00017	.00177	.00005	.00144	.03454	.00042	.00026	.00166
%RSD	43.045	159.59	159.59	198.69	11.029	316.80	6.7976	113.85	116.99	236.11	1.7890	162.00
#1	-.00291	-.02873	-.06148	.00013	.00146	.00181	.00083	-.00025	.00510	-.00012	.01455	-.00220
#2	-.00155	.00173	.00371	-.00080	.00170	-.00069	.00075	-.00228	.05394	.00047	.01419	.00015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit					.00120						.01000	
Low Limit					-.00120						-.01000	

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3812.4**	**48453.**	**3425.0**
Stddev	9.2	131.	32.9
%RSD	.24251	.27061	.95925
#1	3819.0	48361.	3448.2
#2	3805.9	48546.	3401.7

Sample Name: ICB Acquired: 10/29/2018 9:06:04 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00002**	**.00059**	**.00466**	**.00002**	**-.00031**	**-.00003**	**.00330**	**.00116**	**-.00006**	**-.00009**	**.00018**
Stddev	.00035	.00023	.00140	.00027	.00027	.00021	.00109	.00328	.00020	.00009	.00021
%RSD	2127.2	38.438	30.097	1187.8	88.621	719.46	32.978	282.46	347.37	95.318	113.84
#1	-.00026	.00043	.00565	-.00017	-.00050	-.00018	.00407	.00348	-.00020	-.00016	.00033
#2	.00023	.00075	.00367	.00022	-.00011	.00012	.00253	-.00116	.00008	-.00003	.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00000**	**-.00027**	**-.07847**	**.00040**	**.00385**	**.00001**	**.00008**	**.01849**	**-.00029**	**.00346**	**.00273**
Stddev	.00066	.00329	.05773	.00104	.00096	.00010	.00016	.00212	.00010	.00252	.00038
%RSD	13956.	1207.3	73.573	258.78	24.924	1060.1	203.85	11.453	33.700	72.805	13.972
#1	.00047	-.00260	-.11930	.00114	.00317	.00008	-.00004	.01999	-.00022	.00168	.00300
#2	-.00046	.00206	-.03765	-.00033	.00453	-.00006	.00020	.01700	-.00036	.00524	.00246
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00319**	**-.00238**	**-.00365**	**-.06119**	W **-.13095**	**-.00116**	**-.00014**	**-.00057**	**.00016**	**-.00109**	**-.02293**
Stddev	.00718	.00286	.00155	.00176	.00377	.00089	.00018	.00277	.00012	.00178	.04566
%RSD	225.25	120.08	42.539	2.8786	2.8786	76.659	131.56	486.97	76.653	162.41	199.13
#1	-.00189	-.00036	-.00255	-.06244	-.13362	-.00053	-.00001	.00139	.00007	-.00235	.00936
#2	.00826	-.00440	-.00475	-.05995	-.12829	-.00178	-.00026	-.00252	.00024	.00016	-.05522
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					.13000						
Low Limit					-.13000						

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00025**	**.00031**	**.00223**
Stddev	.00100	.00009	.00090
%RSD	407.32	28.255	40.130
#1	.00096	.00025	.00286
#2	-.00046	.00038	.00160
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3792.0**	**47864.**	**3315.9**
Stddev	9.7	203.	39.9
%RSD	.25669	.42381	1.2033
#1	3798.8	47721.	3287.7
#2	3785.1	48008.	3344.2

Sample Name: CRI-5398386 Acquired: 10/29/2018 9:08:31 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01002**	**.11110**	**.01281**	**.10130**	**.00987**	**.00103**	**.11439**	**.21234**	**.00548**	**.01074**	**.01024**	**.01586**
Stddev	.00064	.00113	.00123	.00061	.00004	.00031	.00489	.00103	.00049	.00019	.00010	.00011
%RSD	6.3563	1.0210	9.6395	.59744	.38820	30.406	4.2743	.48436	8.8813	1.7916	.96440	.68600
#1	.01047	.11190	.01194	.10173	.00984	.00125	.11785	.21161	.00582	.01088	.01031	.01579
#2	.00957	.11030	.01368	.10087	.00989	.00081	.11093	.21307	.00514	.01060	.01017	.01594
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10604**	**3.0732**	W **.02422**	**.21229**	**.01054**	**.02006**	**1.0492**	**.04292**	**2.9818**	W **.01088**	**.09779**	**.01953**
Stddev	.00610	.0190	.00099	.00025	.00001	.00015	.0031	.00068	.0016	.00033	.00106	.00113
%RSD	5.7508	.61717	4.0950	.11610	.05710	.76987	.29518	1.5747	.05358	3.0311	1.0840	5.8092
#1	.10173	3.0867	.02352	.21246	.01055	.01995	1.0470	.04244	2.9829	.01065	.09704	.01872
#2	.11035	3.0598	.02493	.21211	.01054	.02017	1.0514	.04340	2.9806	.01111	.09854	.02033
Check ?	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
Value			.02000							.00900		
Range			20.490%							20.490%		

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02038**	**.45390**	**.97134**	**.10422**	**.01039**	**.01544**	**.01080**	**.01497**	W **.07750**	**.00985**	**.02085**	**.01713**
Stddev	.00350	.00663	.01419	.00047	.00027	.00343	.00046	.00167	.01836	.00003	.00055	.00051
%RSD	17.190	1.4608	1.4608	.44822	2.5594	22.180	4.2830	11.182	23.684	.32411	2.6566	2.9900
#1	.01791	.45859	.98138	.10389	.01020	.01786	.01112	.01378	.06452	.00983	.02045	.01676
#2	.02286	.44921	.96131	.10455	.01058	.01302	.01047	.01615	.09048	.00987	.02124	.01749
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									20.490%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3812.8**	**48456.**	**3387.6**
Stddev	21.6	8.	6.4
%RSD	.56634	.01568	.18849
#1	3828.1	48451.	3383.0
#2	3797.5	48461.	3392.1

Sample Name: CRI-5398570 Acquired: 10/29/2018 9:15:05 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: Alt CRI Li 20 Pb 9

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00017**	**-.00054**	**.00448**	**-.00141**	**-.00047**	**-.00023**	**.00587**	**.00350**	**-.00004**	**.00016**	**-.00002**	**.00017**
Stddev	.00002	.00080	.00700	.00022	.00041	.00008	.00026	.00313	.00025	.00023	.00013	.00009
%RSD	9.5809	148.20	156.07	15.810	87.107	34.926	4.4523	89.224	595.22	144.64	540.00	49.932
#1	.00018	-.00110	.00943	-.00125	-.00018	-.00018	.00605	.00571	-.00022	-.00000	-.00012	.00023
#2	.00016	.00003	-.00046	-.00156	-.00076	-.00029	.00568	.00129	.00013	.00033	.00007	.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00051**	**-.02351**	F **.02340**	**.00262**	**-.00004**	**-.00041**	**-.01061**	**.00013**	**.00280**	W **.00923**	**.00247**	**-.00045**
Stddev	.00283	.11345	.00114	.00145	.00014	.00019	.00333	.00019	.00070	.00026	.00132	.00003
%RSD	559.38	482.51	4.8914	55.487	339.25	46.581	31.402	137.98	24.850	2.7921	53.315	5.9811
#1	.00251	-.10374	.02421	.00365	-.00014	-.00027	-.00825	.00000	.00329	.00941	.00154	-.00047
#2	-.00150	.05671	.02259	.00159	.00006	-.00054	-.01296	.00027	.00231	.00905	.00340	-.00043
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit			.01000							.00450		
Low Limit			-.01000							-.00450		

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00353**	**-.05827**	**-.12470**	**.00121**	**-.00011**	**-.00028**	**.00035**	**-.00031**	**-.01873**	**-.00041**	**.00035**	**.00199**
Stddev	.00087	.00846	.01811	.00089	.00004	.00132	.00046	.00194	.01382	.00037	.00075	.00233
%RSD	24.738	14.525	14.525	74.053	34.356	474.00	132.39	622.76	73.778	91.830	215.54	117.50
#1	-.00414	-.05229	-.11189	.00184	-.00014	.00065	.00002	-.00169	-.02850	-.00014	-.00018	.00363
#2	-.00291	-.06425	-.13751	.00058	-.00009	-.00121	.00067	.00106	-.00896	-.00067	.00087	.00034
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3776.8**	**47802.**	**3342.6**
Stddev	10.1	132.	2.0
%RSD	.26843	.27639	.05916
#1	3783.9	47895.	3341.2
#2	3769.6	47708.	3344.0

Sample Name: ICSA-5374484 Acquired: 10/29/2018 9:20:57 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00081**	**484.47**	**-.00282**	**-.00051**	**-.00004**	**-.00001**	F **.14714**	**473.03**	**.00081**	**-.00129**	**.00190**	**.00331**
Stddev	.00041	.20	.00127	.00013	.00017	.00005	.00761	.51	.00000	.00009	.00019	.00096
%RSD	50.753	.04161	44.902	26.289	450.94	397.99	5.1698	.10784	.13816	6.8768	9.9289	28.932
#1	-.00111	484.32	-.00193	-.00042	.00008	-.00005	.14176	473.39	.00081	-.00123	.00204	.00399
#2	-.00052	484.61	-.00372	-.00061	-.00016	.00002	.15252	472.67	.00080	-.00136	.00177	.00264
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							.10000					
Low Limit							-.10000					

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**182.35**	**-.12914**	**.00524**	**505.09**	W **.00120**	**.00116**	**.18551**	W **.00660**	**-.00467**	W **.01183**	**.02672**	**.01035**
Stddev	.43	.11188	.00023	.01	.00010	.00072	.03859	.00054	.00840	.00216	.00302	.00762
%RSD	.23558	86.633	4.3267	.00191	8.1533	61.548	20.800	8.1621	179.94	18.231	11.317	73.587
#1	182.65	-.20825	.00540	505.09	.00113	.00066	.15822	.00622	.00127	.01335	.02886	.00497
#2	182.05	-.05003	.00508	505.10	.00127	.00167	.21279	.00698	-.01061	.01030	.02458	.01574
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit					.00100			.00500		.01000		
Low Limit					-.00100			-.00500		-.01000		

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00616**	**-.04657**	**-.09966**	**.00055**	W **.00398**	**.01356**	**.00019**	**.00166**	**.07836**	**-.00067**	**-.00634**	**.00374**
Stddev	.00092	.00516	.01105	.00299	.00015	.00059	.00051	.00366	.01573	.00041	.00131	.00043
%RSD	14.969	11.084	11.084	538.58	3.7445	4.3863	274.83	220.85	20.077	61.650	20.686	11.571
#1	-.00551	-.04292	-.09185	-.00156	.00387	.01398	.00055	-.00093	.08948	-.00038	-.00541	.00405
#2	-.00682	-.05022	-.10747	.00267	.00409	.01314	-.00018	.00424	.06724	-.00097	-.00727	.00343
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					.00120							
Low Limit					-.00120							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3431.5**	**41288.**	**3311.1**
Stddev	1.3	1.	.5
%RSD	.03824	.00304	.01632
#1	3432.4	41287.	3311.5
#2	3430.5	41289.	3310.7

Sample Name: ICSAB-5380667 Acquired: 10/29/2018 9:23:43 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.0955**	**484.81**	**1.9976**	**1.9107**	**.48534**	**.47926**	**1.0866**	**473.52**	**1.0135**	**.45555**	**.48036**	**.52416**	**182.38**	**51.071**
Stddev	.0003	2.06	.0127	.0068	.00176	.00296	.0033	2.17	.0004	.00064	.00085	.00086	.26	.399
%RSD	.02740	.42582	.63638	.35721	.36350	.61757	.30015	.45747	.04230	.14083	.17745	.16474	.13998	.78063
#1	1.0953	486.27	1.9886	1.9155	.48659	.48135	1.0843	475.05	1.0138	.45601	.48096	.52477	182.20	51.353
#2	1.0957	483.35	2.0066	1.9059	.48410	.47716	1.0889	471.99	1.0132	.45510	.47976	.52355	182.56	50.789
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.0030**	**505.20**	**.49966**	**.96617**	**50.297**	**.91615**	**1.9946**	**.92707**	**1.0182**	**1.0082**	**4.9034**	**9.8835**	**21.151**	**9.2648**
Stddev	.0102	1.07	.00003	.00245	.076	.00110	.0048	.00505	.0007	.0042	.0177	.0024	.005	.0124
%RSD	1.0151	.21207	.00682	.25392	.15191	.12017	.23844	.54501	.06873	.41402	.36114	.02460	.02460	.13368
#1	1.0102	505.95	.49969	.96791	50.243	.91692	1.9913	.93064	1.0187	1.0112	4.9160	9.8852	21.154	9.2736
#2	.99576	504.44	.49964	.96444	50.351	.91537	1.9980	.92349	1.0177	1.0052	4.8909	9.8818	21.147	9.2560
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.97389**	**2.0663**	**1.0350**	**8.7722**	**.06684**	**.50772**	**.96627**	**.99124**
Stddev	.00591	.0034	.0024	.0140	.04254	.00195	.00206	.00351
%RSD	.60708	.16478	.22951	.15938	63.653	.38405	.21300	.35390
#1	.97807	2.0687	1.0367	8.7821	.09692	.50910	.96772	.98876
#2	.96971	2.0639	1.0333	8.7623	.03675	.50634	.96481	.99372
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3387.9**	**40728.**	**3321.1**
Stddev	8.0	76.	15.7
%RSD	.23507	.18577	.47364
#1	3393.5	40675.	3309.9
#2	3382.2	40782.	3332.2

Sample Name: LRA-5347188 Acquired: 10/29/2018 9:26:05 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00072**	**-.30631**	**9.7170**	**9.6373**	**12.391**	**-.00147**	**.36788**	**.03407**	**1.9852**	**5.0386**	**10.035**	**10.517**	**493.42**
Stddev	.00037	.00000	.0815	.0643	.012	.00005	.00459	.00381	.0188	.0423	.090	.002	1.49
%RSD	51.133	.00161	.83907	.66677	.09678	3.5734	1.2472	11.183	.94599	.84058	.89556	.01583	.30172
#1	.00046	-.30632	9.7747	9.6827	12.400	-.00143	.37113	.03676	1.9985	5.0685	10.098	10.518	494.48
#2	.00098	-.30631	9.6593	9.5918	12.383	-.00151	.36464	.03138	1.9719	5.0086	9.9712	10.516	492.37
Check ?	None	None	Chk Pass	Chk Pass	Chk Pass	None	None	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.25347**	**-.00051**	**-.01736**	**10.029**	**4.9129**	**.12438**	**10.119**	**-.01819**	**10.133**	**.02274**	**-.04331**	**4.9575**	**48.866**
Stddev	.03096	.00025	.00227	.068	.0460	.03293	.080	.00295	.093	.00870	.00152	.0500	.226
%RSD	12.215	48.601	13.051	.67464	.93555	26.478	.79002	16.213	.91967	38.241	3.5101	1.0093	.46167
#1	-.27537	-.00033	-.01575	10.077	4.9454	.14767	10.176	-.01611	10.199	.01659	-.04224	4.9929	48.707
#2	-.23158	-.00068	-.01896	9.9816	4.8804	.10109	10.062	-.02028	10.067	.02889	-.04439	4.9221	49.026
Check ?	None	None	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**104.57**	**-.00363**	**10.142**	**.03847**	**10.024**	**5.0602**	**.47270**	**9.9177**	**9.8021**	**.00906**
Stddev	.48	.00064	.008	.00140	.008	.0401	.03502	.0103	.0118	.00032
%RSD	.46167	17.598	.08288	3.6324	.08225	.79204	7.4078	.10402	.11986	3.5442
#1	104.23	-.00408	10.148	.03748	10.030	5.0885	.49746	9.9250	9.8104	.00884
#2	104.92	-.00318	10.136	.03945	10.018	5.0318	.44794	9.9104	9.7938	.00929
Check ?	None	None	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	None
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3642.5**	**46314.**	**3294.5**
Stddev	4.5	105.	12.1
%RSD	.12247	.22693	.36677
#1	3639.3	46239.	3286.0
#2	3645.6	46388.	3303.1

Sample Name: CCVH-5380945 Acquired: 10/29/2018 9:30:39 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00283**	**49.511**	**-.00271**	**.01047**	**.00029**	**-.00006**	**1.0199**	**-.00206**	**-.00005**	**.00162**	**.00055**	**.00132**	**49.557**
Stddev	.00019	.114	.00217	.00120	.00007	.00010	.0056	.00064	.00033	.00025	.00023	.00086	.077
%RSD	6.6996	.23020	79.929	11.420	25.162	173.62	.54760	31.227	720.67	15.351	42.476	65.212	.15551
#1	-.00270	49.592	-.00118	.01131	.00024	.00001	1.0239	-.00161	-.00028	.00144	.00072	.00193	49.502
#2	-.00296	49.430	-.00424	.00962	.00035	-.00013	1.0160	-.00252	.00019	.00180	.00039	.00071	49.611
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.01433**	**.00007**	**-.07554**	**.00283**	**.00138**	**250.09**	**.00426**	**.00368**	**.00026**	**5.0186**	**.00314**	**.00670**	**-.04807**
Stddev	.06302	.00058	.00245	.00007	.00050	.07	.00053	.00143	.00162	.0043	.00221	.00113	.00853
%RSD	439.72	820.87	3.2424	2.4290	36.404	.02744	12.540	38.694	634.11	.08489	70.423	16.860	17.733
#1	-.05890	-.00034	-.07381	.00278	.00103	250.04	.00463	.00268	-.00089	5.0217	.00470	.00590	-.05410
#2	.03023	.00048	-.07727	.00288	.00174	250.14	.00388	.00469	.00140	5.0156	.00157	.00750	-.04205
Check ?	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None	None	None
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.10288**	**.00054**	**.00050**	**5.0136**	**.01895**	**-.00392**	**10.296**	**-.01062**	**.00239**	**.07212**
Stddev	.01824	.00083	.00011	.0027	.00063	.00072	.075	.00042	.00025	.00361
%RSD	17.733	154.96	22.565	.05359	3.3230	18.305	.72669	3.9297	10.528	5.0064
#1	-.11578	.00112	.00042	5.0117	.01939	-.00443	10.244	-.01033	.00221	.07467
#2	-.08998	-.00005	.00057	5.0155	.01850	-.00341	10.349	-.01092	.00257	.06957
Check ?	None	None	None	Chk Pass	None	None	Chk Pass	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3672.4**	**45889.**	**3386.9**
Stddev	1.9	156.	10.6
%RSD	.05096	.33983	.31422
#1	3673.8	45999.	3379.4
#2	3671.1	45778.	3394.4

Sample Name: CCV-5391053 Acquired: 10/29/2018 9:33:13 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50371**	**.52056**	**.99398**	**.50984**	**.50144**	**.49801**	**.00813**	**5.0378**	**.50466**	**.50453**	**.50376**	**.50705**	**2.5219**
Stddev	.00176	.00482	.01186	.00255	.00066	.00114	.00515	.0124	.00115	.00182	.00291	.00102	.0162
%RSD	.34999	.92509	1.1927	.49932	.13075	.22971	63.307	.24543	.22725	.35998	.57797	.20207	.64097
#1	.50496	.52396	1.0024	.51164	.50190	.49882	.01177	5.0465	.50547	.50581	.50582	.50777	2.5104
#2	.50246	.51715	.98560	.50804	.50097	.49720	.00449	5.0291	.50385	.50324	.50170	.50632	2.5333
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.394**	**1.0082**	**20.075**	**.50243**	**.49864**	**5.0556**	**.50553**	**1.0016**	**1.0180**	**.00550**	**1.0113**	**.99734**	**4.9915**
Stddev	.087	.0060	.008	.00075	.00387	.0069	.00163	.0048	.0026	.00193	.0067	.00010	.0525
%RSD	.17300	.59130	.03846	.14929	.77690	.13542	.32294	.47938	.25227	35.068	.66679	.00995	1.0527
#1	50.332	1.0125	20.080	.50296	.50138	5.0507	.50669	1.0049	1.0199	.00687	1.0161	.99741	4.9544
#2	50.456	1.0040	20.069	.50190	.49590	5.0604	.50438	.99816	1.0162	.00414	1.0066	.99727	5.0287
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.682**	**1.0019**	**.49926**	**.00871**	**.49992**	**1.0280**	**-.00160**	**.49600**	**.49922**	**.49750**
Stddev	.112	.0025	.00157	.00236	.00090	.0039	.03014	.00160	.00412	.00028
%RSD	1.0527	.25028	.31450	27.026	.17953	.38134	1880.8	.32184	.82466	.05629
#1	10.602	1.0037	.50037	.00705	.50056	1.0307	.01971	.49713	.50213	.49730
#2	10.761	1.0002	.49815	.01038	.49929	1.0252	-.02292	.49488	.49631	.49770
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3775.0**	**47178.**	**3350.3**
Stddev	8.6	10.	18.1
%RSD	.22871	.02117	.53965
#1	3768.9	47185.	3363.1
#2	3781.1	47171.	3337.5

Sample Name: CCB Acquired: 10/29/2018 9:35:38 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00041**	**.00151**	**.00155**	**.00537**	**-.00061**	**.00019**	**.00528**	**.01004**	**.00041**	**-.00010**	**-.00002**	**.00043**	**-.00141**
Stddev	.00034	.00004	.00553	.00063	.00010	.00019	.00723	.00668	.00046	.00031	.00012	.00045	.00007
%RSD	83.562	2.4035	356.64	11.693	16.454	100.08	136.73	66.495	113.04	313.59	591.83	105.42	4.9231
#1	.00065	.00149	-.00236	.00581	-.00068	.00033	.00018	.00532	.00073	.00012	-.00011	.00074	-.00136
#2	.00017	.00154	.00546	.00492	-.00054	.00006	.01039	.01477	.00008	-.00031	.00007	.00011	-.00146
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.11007**	**.00227**	**.00467**	**.00010**	**.00143**	**-.04062**	**-.00029**	**.00373**	**-.00115**	**-.00035**	**.00275**	**-.00453**	**-.01675**
Stddev	.04113	.00146	.01029	.00008	.00043	.02045	.00058	.00238	.00051	.00453	.00454	.00471	.00460
%RSD	37.363	64.352	220.41	74.502	30.051	50.333	201.04	63.784	44.552	1285.8	165.26	103.97	27.456
#1	-.13915	.00330	.01195	.00005	.00112	-.05508	-.00070	.00205	-.00079	.00285	.00596	-.00786	-.01350
#2	-.08099	.00124	-.00261	.00016	.00173	-.02617	.00012	.00541	-.00151	-.00356	-.00046	-.00120	-.02000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.03585**	**.00089**	**-.00025**	**.00242**	**.00054**	**.00022**	**-.01200**	**.00012**	**.00104**	**.00116**
Stddev	.00984	.00201	.00008	.00132	.00000	.00186	.00172	.00046	.00073	.00024
%RSD	27.456	224.84	32.714	54.492	.53794	851.73	14.372	382.79	70.724	20.953
#1	-.02889	.00231	-.00031	.00335	.00054	-.00110	-.01078	.00044	.00155	.00133
#2	-.04281	-.00053	-.00020	.00149	.00053	.00153	-.01322	-.00020	.00052	.00099
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3734.9**	**47579.**	**3355.6**
Stddev	11.4	289.	10.5
%RSD	.30589	.60813	.31275
#1	3742.9	47784.	3363.0
#2	3726.8	47375.	3348.2

Sample Name: CCVL-5398386 Acquired: 10/29/2018 9:38:15 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01056**	**.11145**	**.01847**	**.10484**	**.01008**	**.00085**	**.11420**	**.20550**	**.00531**	**.01068**	**.01031**	**.01640**
Stddev	.00028	.00070	.01425	.00030	.00054	.00011	.00261	.00218	.00029	.00013	.00044	.00023
%RSD	2.6361	.62368	77.170	.28598	5.3552	12.443	2.2848	1.0620	5.4865	1.2413	4.2825	1.4134
#1	.01036	.11194	.00839	.10462	.01046	.00078	.11235	.20704	.00551	.01059	.01063	.01656
#2	.01075	.11096	.02855	.10505	.00970	.00093	.11604	.20396	.00510	.01078	.01000	.01624
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10086**	**3.0879**	**.01705**	**.21545**	**.01050**	**.02054**	**.99588**	**.04198**	**2.9519**	**.00991**	**.09260**	**.01888**
Stddev	.00702	.0149	.00000	.00299	.00004	.00038	.00131	.00056	.0111	.00102	.00078	.00032
%RSD	6.9624	.48194	.01698	1.3860	.35206	1.8600	.13121	1.3365	.37559	10.343	.84232	1.7083
#1	.09590	3.0984	.01705	.21757	.01048	.02081	.99681	.04238	2.9598	.01063	.09315	.01910
#2	.10583	3.0774	.01705	.21334	.01053	.02027	.99496	.04159	2.9441	.00918	.09205	.01865
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01785**	**.50360**	**1.0777**	**.10366**	**.01009**	**.01420**	**.01039**	**.01679**	F **.03744**	**.01028**	**.02199**	**.01859**
Stddev	.00299	.01952	.0418	.00046	.00005	.00083	.00015	.00072	.03996	.00037	.00064	.00120
%RSD	16.728	3.8765	3.8765	.44303	.48240	5.8596	1.4051	4.2772	106.74	3.6352	2.9155	6.4723
#1	.01574	.48980	1.0482	.10334	.01013	.01479	.01029	.01628	.06570	.01001	.02244	.01944
#2	.01996	.51740	1.1072	.10399	.01006	.01362	.01049	.01729	.00918	.01054	.02153	.01774
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3797.6**	**47970.**	**3387.4**
Stddev	8.9	188.	10.9
%RSD	.23465	.39204	.32221
#1	3803.9	48103.	3395.1
#2	3791.3	47837.	3379.7

Sample Name: MB 280-435127/1-A Acquired: 10/29/2018 9:50:08 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 10/27 Custom ID2: Custom ID3:
Comment: 435127 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00059**	**.00261**	**.00426**	**.00179**	**-.00040**	**.00006**	**.00403**	**.00980**	**.00009**
Stddev	.00026	.00026	.00293	.00026	.00061	.00014	.00180	.00134	.00029
%RSD	44.584	9.8698	68.840	14.449	151.10	258.15	44.695	13.702	332.76
#1	-.00078	.00280	.00633	.00161	-.00083	-.00005	.00530	.00885	-.00012
#2	-.00040	.00243	.00219	.00197	.00003	.00016	.00276	.01075	.00030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00004**	**.00002**	**.00026**	**-.00014**	**-.05825**	**.00407**	**.00357**	**.00004**	**-.00035**
Stddev	.00007	.00012	.00062	.00148	.07279	.00289	.00165	.00003	.00030
%RSD	160.07	483.38	238.17	1060.6	124.98	71.038	46.278	66.996	86.879
#1	.00009	-.00006	.00070	.00091	-.10972	.00202	.00474	.00002	-.00056
#2	-.00001	.00011	-.00018	-.00118	-.00677	.00611	.00240	.00006	-.00013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.05168**	**.00002**	**.00187**	**.00019**	**-.00506**	**-.00248**	**-.00482**	**-.01838**	**-.03934**
Stddev	.00644	.00001	.00017	.00087	.00155	.00556	.00763	.00713	.01527
%RSD	12.468	67.821	9.0086	450.35	30.734	224.37	158.33	38.810	38.810
#1	-.04713	.00001	.00175	.00081	-.00616	-.00641	.00058	-.02343	-.05013
#2	-.05624	.00003	.00199	-.00042	-.00396	.00145	-.01022	-.01334	-.02854
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00018**	**-.00039**	**-.00045**	**.00035**	**.00149**	**-.00453**	**-.00030**	**.00116**	**.00350**
Stddev	.00020	.00002	.00137	.00031	.00187	.02026	.00057	.00002	.00203
%RSD	106.50	4.1274	305.88	87.306	125.53	447.53	190.80	1.5882	57.925
#1	-.00032	-.00040	.00052	.00057	.00281	.00980	-.00071	.00118	.00207
#2	-.00005	-.00038	-.00141	.00013	.00017	-.01885	.00011	.00115	.00493
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3877.5**	**49166.**	**3449.2**
Stddev	18.5	173.	6.1
%RSD	.47692	.35180	.17551
#1	3890.5	49288.	3444.9
#2	3864.4	49043.	3453.5

Sample Name: LCS 280-435127/2-A Acquired: 10/29/2018 9:52:46 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435127 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05077**	**2.0514**	**1.0046**	**1.0452**	**2.0774**	**.05069**	**1.9980**	**51.066**	**.10095**
Stddev	.00012	.0046	.0026	.0015	.0099	.00032	.0113	.235	.00044
%RSD	.24537	.22501	.25537	.14004	.47505	.63254	.56382	.46015	.43650
#1	.05068	2.0547	1.0064	1.0462	2.0844	.05091	2.0059	51.232	.10064
#2	.05085	2.0481	1.0028	1.0442	2.0705	.05046	1.9900	50.900	.10126
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.51122**	**.20724**	**.25911**	**1.0395**	**51.571**	**1.0257**	**50.949**	**.51650**	**1.0486**
Stddev	.00140	.00136	.00065	.0016	.121	.0031	.055	.00070	.0034
%RSD	.27456	.65535	.25270	.15682	.23422	.29805	.10810	.13558	.32305
#1	.51221	.20820	.25865	1.0383	51.656	1.0235	50.988	.51700	1.0510
#2	.51023	.20628	.25957	1.0406	51.485	1.0279	50.910	.51601	1.0462
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**51.747**	**.51039**	**10.622**	**.51444**	**2.0192**	**.52578**	**2.0654**	**10.063**	**21.535**
Stddev	.465	.00105	.002	.00126	.0021	.00330	.0005	.078	.166
%RSD	.89874	.20482	.01867	.24541	.10359	.62723	.02391	.77285	.77285
#1	51.419	.51112	10.621	.51354	2.0206	.52812	2.0651	10.118	21.653
#2	52.076	.50965	10.623	.51533	2.0177	.52345	2.0658	10.008	21.417
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0617**	**1.0184**	**1.0468**	**1.0427**	**2.0664**	**2.0723**	**.52351**	**.51509**	**.52304**
Stddev	.0028	.0045	.0016	.0006	.0035	.0070	.00122	.00012	.00254
%RSD	.13419	.44202	.15303	.05859	.16742	.33648	.23361	.02414	.48488
#1	2.0637	1.0215	1.0457	1.0431	2.0688	2.0773	.52438	.51518	.52484
#2	2.0597	1.0152	1.0479	1.0422	2.0639	2.0674	.52265	.51500	.52125
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3683.1**	**46220.**	**3370.2**
Stddev	4.5	98.	19.6
%RSD	.12346	.21291	.58096
#1	3679.9	46150.	3356.3
#2	3686.3	46289.	3384.0

Sample Name: LCSD 280-435127/3-A Acquired: 10/29/2018 9:55:08 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435127 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.03873**	F **1.6295**	F **.78012**	**1.0439**	F **1.6321**	F **.03973**	**1.5566**	F **40.194**	F **.07838**
Stddev	.00029	.0060	.01082	.0053	.0133	.00006	.0118	.290	.00052
%RSD	.74727	.36666	1.3872	.50341	.81560	.14727	.75770	.72063	.66917
#1	.03894	1.6337	.78778	1.0476	1.6415	.03977	1.5649	40.399	.07875
#2	.03853	1.6252	.77247	1.0402	1.6227	.03969	1.5482	39.989	.07801
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Pass	Chk Fail	Chk Fail	None	Chk Fail	Chk Fail
High Limit	.05750	2.2299	1.1050		2.2499	.05650		55.500	.11100
Low Limit	.04275	1.7300	.87500		1.7900	.04450		44.750	.08800

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.39809**	F **.16136**	F **.20286**	F **.81803**	F **40.634**	F **.80553**	F **39.813**	F **.40462**	**1.0496**
Stddev	.00269	.00035	.00016	.00007	.322	.00689	.106	.00053	.0072
%RSD	.67623	.21558	.07824	.00861	.79256	.85528	.26527	.13092	.68800
#1	.39999	.16161	.20297	.81798	40.861	.81040	39.888	.40499	1.0547
#2	.39618	.16112	.20275	.81808	40.406	.80066	39.738	.40424	1.0445
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Pass
High Limit	.55500	.22000	.28000	1.1500	57.000	1.1400	56.500	.55000	
Low Limit	.44500	.18000	.21500	.89000	44.500	.89000	46.000	.45000	

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **40.966**	F **.39675**	F **8.1631**	F **.40063**	**2.0109**	**.52581**	F **1.5973**	**10.297**	**22.036**
Stddev	.138	.00290	.0502	.00549	.0125	.00262	.0137	.063	.135
%RSD	.33748	.73165	.61519	1.3696	.62363	.49900	.85855	.61097	.61097
#1	41.063	.39881	8.1986	.40451	2.0197	.52766	1.6070	10.341	22.131
#2	40.868	.39470	8.1276	.39675	2.0020	.52395	1.5876	10.253	21.940
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	None	Chk Pass	Chk Fail	Chk Pass	None
High Limit	56.000	.55500	11.100	.55000			2.2400		
Low Limit	45.500	.44500	9.1000	.44500			1.7000		

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0692**	F **.80194**	**.81437**	**1.0463**	F **1.6209**	F **1.6059**	F **.40957**	F **.40261**	**.52709**
Stddev	.0161	.00501	.00390	.0018	.0162	.0446	.00040	.00345	.00199
%RSD	.77727	.62533	.47922	.16993	1.0019	2.7795	.09788	.85781	.37802
#1	2.0806	.80548	.81713	1.0476	1.6324	1.5744	.40929	.40506	.52850
#2	2.0579	.79839	.81161	1.0451	1.6094	1.6375	.40986	.40017	.52568
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Pass
High Limit		1.1100			2.2000	2.3000	.55500	.55500	
Low Limit		.90000			1.7600	1.7000	.45000	.42500	

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3683.9**	**46580.**	**3423.4**
Stddev	18.3	157.	42.9
%RSD	.49754	.33747	1.2521
#1	3696.9	46691.	3393.1
#2	3671.0	46468.	3453.7

Sample Name: 280-115625-E-5-F Acquired: 10/29/2018 9:57:41 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435127 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00033**	**.48711**	**.00005**	**.11301**	**.02618**	**-.00009**	**.04087**	**2.4485**	**.16412**
Stddev	.00028	.00336	.00305	.00051	.00045	.00005	.00351	.0083	.00092
%RSD	85.164	.68924	6628.0	.44919	1.7285	62.656	8.5956	.33873	.56087
#1	.00013	.48949	.00220	.11337	.02586	-.00005	.03838	2.4427	.16477
#2	.00053	.48474	-.00211	.11265	.02650	-.00012	.04335	2.4544	.16347
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00075**	**.01663**	**.14357**	**1.7927**	**.73869**	**.00960**	**.44000**	**.01694**	**.06483**
Stddev	.00043	.00031	.00179	.0050	.01841	.00341	.00178	.00004	.00036
%RSD	57.021	1.8940	1.2457	.27610	2.4923	35.487	.40444	.23330	.54820
#1	.00045	.01685	.14484	1.7892	.75170	.00719	.44125	.01696	.06508
#2	.00105	.01641	.14231	1.7962	.72567	.01200	.43874	.01691	.06458
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.1249**	**.00727**	**.14282**	**.05418**	**.94142**	**.00262**	**.00038**	**3.5943**	**7.6917**
Stddev	.0180	.00024	.00461	.00113	.00279	.00021	.00148	.0203	.0435
%RSD	.57741	3.2580	3.2248	2.0918	.29617	8.0854	392.90	.56502	.56502
#1	3.1376	.00710	.14608	.05498	.94340	.00247	.00142	3.5799	7.6610
#2	3.1121	.00744	.13956	.05337	.93945	.00277	-.00067	3.6086	7.7225
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00666**	**.01870**	**-.00120**	**.02127**	**.00158**	**.01505**	**.00232**	**.58221**	**.00410**
Stddev	.00064	.00022	.00152	.00062	.00021	.08786	.00010	.00091	.00158
%RSD	9.5863	1.1751	126.50	2.9075	13.325	583.84	4.4956	.15609	38.432
#1	.00711	.01886	-.00013	.02083	.00143	-.04708	.00240	.58157	.00299
#2	.00621	.01854	-.00228	.02171	.00173	.07717	.00225	.58286	.00522
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3914.8**	**49190.**	**3492.0**
Stddev	14.3	13.	16.4
%RSD	.36546	.02626	.47105
#1	3904.7	49199.	3503.6
#2	3924.9	49180.	3480.4

Sample Name: 115625-E-5-F SD@5 Acquired: 10/29/2018 10:00:15 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435127 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00074**	**.09251**	**-.00513**	**.02254**	**.00527**	**.00000**	**.00983**	**.47377**	**.03073**
Stddev	.00013	.00222	.00009	.00076	.00009	.00010	.00246	.00266	.00028
%RSD	17.001	2.4027	1.7633	3.3799	1.7427	4890.6	25.042	.56227	.92228
#1	-.00065	.09409	-.00507	.02308	.00520	.00007	.00809	.47565	.03093
#2	-.00083	.09094	-.00520	.02200	.00533	-.00007	.01156	.47189	.03053
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00012**	**.00311**	**.02894**	**.33569**	**.09297**	**.00156**	**.08925**	**.00324**	**.01227**
Stddev	.00008	.00036	.00029	.00535	.07860	.00468	.00165	.00006	.00036
%RSD	67.503	11.494	.99796	1.5929	84.540	300.47	1.8523	1.8517	2.9590
#1	.00017	.00286	.02873	.33191	.14854	.00487	.08808	.00320	.01253
#2	.00006	.00337	.02914	.33947	.03739	-.00175	.09042	.00328	.01202
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.56388**	**.00140**	**.02847**	**.01163**	**.17583**	**.00081**	**-.00410**	**.66944**	**1.4326**
Stddev	.00883	.00057	.00023	.00061	.00302	.00183	.00191	.00016	.0004
%RSD	1.5661	40.581	.81971	5.2173	1.7187	226.65	46.558	.02431	.02431
#1	.55763	.00180	.02863	.01206	.17369	-.00049	-.00275	.66933	1.4324
#2	.57012	.00100	.02830	.01120	.17797	.00210	-.00545	.66956	1.4329
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00101**	**.00361**	**-.00260**	**.00403**	**-.00091**	**.04737**	**.00016**	**.11139**	**.00186**
Stddev	.00159	.00026	.00031	.00067	.00166	.02139	.00015	.00080	.00007
%RSD	157.93	7.1451	11.801	16.690	182.12	45.154	89.420	.72094	3.5248
#1	.00213	.00379	-.00281	.00356	.00026	.03224	.00006	.11196	.00191
#2	-.00012	.00343	-.00238	.00451	-.00209	.06249	.00027	.11082	.00181
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3844.2**	**47669.**	**3373.3**
Stddev	23.5	153.	6.4
%RSD	.61219	.32182	.19027
#1	3827.6	47560.	3377.9
#2	3860.8	47777.	3368.8

Sample Name: 280-115625-E-5-G MS Acquired: 10/29/2018 10:02:51 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435127 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05023**	W **2.7971**	**1.0037**	**1.1936**	**2.0840**	**.05075**	W **2.0415**	**53.756**	**.31970**
Stddev	.00069	.0107	.0009	.0008	.0100	.00002	.0053	.234	.00129
%RSD	1.3777	.38298	.08772	.06657	.47929	.04081	.26112	.43605	.40389
#1	.04974	2.8047	1.0030	1.1942	2.0911	.05074	2.0377	53.922	.32062
#2	.05072	2.7895	1.0043	1.1931	2.0770	.05077	2.0453	53.590	.31879
Check ?	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit		500.00					2.0000		
Low Limit		3.2000					-.20000		

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50722**	**.22620**	**.43727**	**3.5226**	**51.581**	**1.0209**	**50.796**	**.52927**	**1.1115**
Stddev	.00218	.00060	.00065	.0027	.144	.0046	.026	.00061	.0039
%RSD	.43014	.26334	.14920	.07514	.27883	.45437	.05057	.11496	.34655
#1	.50876	.22662	.43681	3.5245	51.683	1.0242	50.778	.52970	1.1143
#2	.50567	.22578	.43773	3.5208	51.480	1.0176	50.815	.52884	1.1088
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**54.937**	**.51365**	**10.673**	**.57257**	**3.3475**	**.52713**	**2.0592**	**17.901**	**38.308**
Stddev	.251	.00313	.021	.00204	.0001	.00045	.0006	.025	.055
%RSD	.45738	.60906	.19339	.35699	.00202	.08485	.02954	.14231	.14231
#1	54.759	.51586	10.688	.57402	3.3475	.52681	2.0588	17.883	38.270
#2	55.114	.51144	10.659	.57113	3.3476	.52745	2.0597	17.919	38.347
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.0248**	**1.0347**	**1.0178**	**1.0471**	**2.0213**	**2.0696**	**.51412**	**1.3045**	**.52237**
Stddev	.0070	.0054	.0054	.0003	.0034	.0281	.00005	.0019	.00155
%RSD	.34377	.52467	.53300	.02493	.16676	1.3560	.01054	.14463	.29697
#1	2.0298	1.0385	1.0216	1.0470	2.0236	2.0497	.51416	1.3058	.52127
#2	2.0199	1.0309	1.0140	1.0473	2.0189	2.0894	.51408	1.3032	.52347
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3754.4**	**47164.**	**3439.3**
Stddev	16.1	55.	6.4
%RSD	.42947	.11610	.18637
#1	3743.0	47125.	3434.7
#2	3765.8	47202.	3443.8

Sample Name: 280-115625-E-5-H MSD Acquired: 10/29/2018 10:05:10 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435127 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05016**	W **2.8086**	**.99735**	**1.1877**	**2.1048**	**.05145**	W **2.0277**	**54.192**	**.29364**
Stddev	.00053	.0459	.00302	.0077	.0057	.00018	.0170	.133	.00230
%RSD	1.0512	1.6352	.30230	.64477	.26949	.35162	.83990	.24471	.78264
#1	.04979	2.8410	.99522	1.1931	2.1088	.05133	2.0397	54.286	.29526
#2	.05053	2.7761	.99948	1.1823	2.1008	.05158	2.0157	54.098	.29201
Check ?	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit		500.00					2.0000		
Low Limit		3.2000					-.20000		

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50704**	**.22295**	**.41600**	**3.3905**	**52.054**	**1.0347**	**51.253**	**.53450**	**1.1042**
Stddev	.00495	.00257	.00156	.0045	.217	.0008	.139	.00162	.0106
%RSD	.97698	1.1520	.37619	.13234	.41743	.07684	.27090	.30394	.95736
#1	.51055	.22477	.41489	3.3936	52.208	1.0352	51.351	.53565	1.1116
#2	.50354	.22113	.41711	3.3873	51.901	1.0341	51.155	.53335	1.0967
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**55.307**	**.51105**	**10.673**	**.56685**	**3.3004**	**.52413**	**2.0735**	**17.427**	**37.293**
Stddev	1.005	.00392	.074	.00273	.0301	.00955	.0062	.020	.043
%RSD	1.8180	.76712	.69528	.48094	.91079	1.8218	.30083	.11395	.11395
#1	56.018	.51382	10.726	.56877	3.3217	.53088	2.0779	17.413	37.263
#2	54.596	.50828	10.621	.56492	3.2792	.51738	2.0691	17.441	37.323
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.0292**	**1.0459**	**1.0226**	**1.0520**	**2.0242**	**2.1283**	**.52062**	**1.2311**	**.53139**
Stddev	.0236	.0022	.0043	.0052	.0204	.0155	.00081	.0009	.00778
%RSD	1.1616	.21104	.41742	.49760	1.0054	.72726	.15603	.07176	1.4639
#1	2.0459	1.0475	1.0256	1.0557	2.0386	2.1174	.52119	1.2318	.52589
#2	2.0125	1.0444	1.0196	1.0483	2.0098	2.1392	.52005	1.2305	.53689
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3738.3**	**46807.**	**3462.7**
Stddev	3.2	16.	3.2
%RSD	.08572	.03414	.09249
#1	3736.0	46796.	3465.0
#2	3740.6	46818.	3460.4

Sample Name: 280-115625-E-5-F PDS Acquired: 10/29/2018 10:07:27 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435127 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05094**	**1.4805**	**.20095**	**.22151**	**.12602**	**.04978**	**.03684**	**22.344**	**.20732**
Stddev	.00066	.0269	.00602	.00270	.00055	.00019	.00306	.020	.00300
%RSD	1.2970	1.8173	2.9953	1.2196	.43321	.38915	8.2919	.08855	1.4489
#1	.05048	1.4995	.20521	.22342	.12641	.04964	.03468	22.330	.20944
#2	.05141	1.4615	.19670	.21960	.12564	.04992	.03900	22.358	.20519
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04994**	**.06548**	**.19041**	**2.7331**	**20.749**	**.11113**	**20.411**	**.06612**	**.11693**
Stddev	.00097	.00120	.00059	.0019	.022	.00016	.157	.00047	.00208
%RSD	1.9457	1.8389	.30809	.06858	.10420	.14439	.76689	.70657	1.7795
#1	.05063	.06633	.19082	2.7318	20.734	.11124	20.522	.06645	.11840
#2	.04925	.06463	.18999	2.7344	20.764	.11102	20.300	.06579	.11546
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**22.886**	**.05622**	**2.1709**	**.14744**	**.93287**	**.11154**	**.19882**	**9.0457**	**19.358**
Stddev	.214	.00120	.0303	.00208	.02438	.00110	.00087	.1259	.269
%RSD	.93605	2.1398	1.3980	1.4130	2.6140	.98369	.43723	1.3922	1.3922
#1	23.037	.05708	2.1924	.14891	.95012	.11231	.19820	8.9566	19.167
#2	22.734	.05537	2.1494	.14596	.91563	.11076	.19943	9.1347	19.548
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.11520**	**.06851**	**.19689**	**.07679**	**.20929**	**.51316**	**.05162**	**.76034**	**.06044**
Stddev	.00209	.00006	.00483	.00085	.00457	.04870	.00006	.00727	.00027
%RSD	1.8113	.08070	2.4523	1.1014	2.1847	9.4903	.10811	.95642	.44174
#1	.11668	.06855	.20031	.07739	.21252	.47872	.05165	.76549	.06025
#2	.11372	.06847	.19348	.07619	.20605	.54759	.05158	.75520	.06063
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3837.8**	**49195.**	**3517.6**
Stddev	21.0	452.	24.1
%RSD	.54756	.91784	.68567
#1	3852.7	48876.	3534.7
#2	3822.9	49515.	3500.6

Sample Name: CCVH-5380945 Acquired: 10/29/2018 10:09:55 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00282**	**49.312**	**-.00186**	**.00395**	**-.00022**	**-.00024**	**.98251**	**.01711**	**-.00014**	**.00147**	**.00056**	**.00114**	**49.117**
Stddev	.00140	.082	.00944	.00109	.00033	.00001	.02295	.00021	.00017	.00014	.00019	.00135	.015
%RSD	49.743	.16534	507.28	27.484	154.53	4.1169	2.3355	1.2564	124.53	9.8689	34.775	117.97	.03058
#1	-.00382	49.369	-.00854	.00472	-.00045	-.00025	.99874	.01696	-.00002	.00137	.00042	.00210	49.107
#2	-.00183	49.254	.00482	.00318	.00002	-.00023	.96629	.01726	-.00026	.00157	.00070	.00019	49.128
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.01696**	**-.00128**	**-.06800**	**.00268**	**-.00047**	**246.94**	**.00390**	**.00488**	**.00065**	**4.8647**	**.00596**	**.00623**	**-.01924**
Stddev	.05038	.00158	.00149	.00007	.00019	.72	.00065	.00206	.00124	.0469	.00066	.00188	.00038
%RSD	297.16	123.30	2.1881	2.5355	40.921	.28980	16.786	42.240	191.80	.96384	11.144	30.238	1.9516
#1	-.05258	-.00240	-.06905	.00264	-.00061	246.43	.00436	.00634	.00153	4.8979	.00643	.00490	-.01897
#2	.01867	-.00016	-.06695	.00273	-.00034	247.44	.00343	.00342	-.00023	4.8316	.00549	.00757	-.01950
Check ?	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None	None	None
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.04117**	**.00018**	**.00032**	**4.9185**	**.01866**	**.00032**	**10.211**	**-.01041**	**.00331**	**.06701**
Stddev	.00080	.00076	.00013	.0194	.00075	.00188	.061	.00076	.00071	.00177
%RSD	1.9516	429.50	41.503	.39534	4.0442	578.38	.59468	7.3263	21.335	2.6417
#1	-.04060	-.00036	.00041	4.9322	.01812	.00165	10.254	-.00987	.00380	.06826
#2	-.04174	.00071	.00023	4.9047	.01919	-.00100	10.168	-.01094	.00281	.06576
Check ?	None	None	None	Chk Pass	None	None	Chk Pass	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3663.6**	**45398.**	**3328.2**
Stddev	32.5	445.	12.1
%RSD	.88750	.98090	.36294
#1	3640.6	45713.	3336.7
#2	3686.6	45083.	3319.6

Sample Name: CCV-5391053 Acquired: 10/29/2018 10:12:25 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50176**	**.52535**	**.98964**	**.49690**	**.50087**	**.49874**	**.00611**	**5.0302**	**.49784**	**.49800**	**.49943**	**.50534**	**2.5131**
Stddev	.00036	.00612	.02173	.00718	.00067	.00135	.00060	.0082	.00476	.00430	.00531	.00049	.0083
%RSD	.07219	1.1650	2.1958	1.4446	.13356	.27113	9.7716	.16363	.95661	.86254	1.0640	.09601	.33086
#1	.50150	.52968	1.0050	.50198	.50040	.49778	.00569	5.0244	.50120	.50104	.50319	.50569	2.5072
#2	.50201	.52103	.97427	.49183	.50134	.49969	.00654	5.0361	.49447	.49496	.49567	.50500	2.5189
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.125**	**1.0042**	**20.056**	**.50193**	**.49352**	**5.0028**	**.50073**	**.98981**	**1.0084**	**.00351**	**.99503**	**.99573**	**4.9731**
Stddev	.026	.0004	.021	.00119	.00576	.0034	.00552	.01194	.0124	.00042	.01690	.01716	.0380
%RSD	.05202	.03498	.10348	.23719	1.1677	.06716	1.1023	1.2063	1.2306	11.846	1.6982	1.7230	.76381
#1	50.107	1.0045	20.041	.50109	.49760	5.0004	.50463	.99825	1.0172	.00322	1.0070	1.0079	4.9462
#2	50.144	1.0040	20.071	.50277	.48945	5.0052	.49682	.98137	.99963	.00380	.98308	.98360	4.9999
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.642**	**.99431**	**.49973**	**.01025**	**.49710**	**1.0251**	**-.03373**	**.49271**	**.49863**	**.49666**
Stddev	.081	.01396	.00090	.00143	.00002	.0085	.01302	.00003	.00271	.00440
%RSD	.76381	1.4040	.18070	13.982	.00387	.83224	38.584	.00621	.54403	.88497
#1	10.585	1.0042	.49910	.01126	.49711	1.0311	-.04294	.49269	.49671	.49355
#2	10.700	.98444	.50037	.00923	.49708	1.0191	-.02453	.49273	.50055	.49977
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3745.7**	**47042.**	**3397.7**
Stddev	7.3	266.	1.8
%RSD	.19390	.56491	.05401
#1	3750.9	47230.	3399.0
#2	3740.6	46855.	3396.4

Sample Name: CCB Acquired: 10/29/2018 10:14:49 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00080**	**.00508**	**.00257**	**.00297**	**-.00012**	**-.00013**	**.00233**	**.00309**	**.00020**	**.00008**	**.00012**	**.00006**	**-.00450**
Stddev	.00001	.00003	.00465	.00082	.00043	.00004	.00177	.00884	.00023	.00029	.00049	.00034	.00104
%RSD	1.3176	.53421	181.04	27.563	352.40	29.830	75.935	286.51	116.73	370.71	427.95	530.92	23.139
#1	-.00080	.00510	.00586	.00239	-.00043	-.00016	.00108	.00934	.00036	-.00013	.00047	.00030	-.00377
#2	-.00079	.00506	-.00072	.00355	.00018	-.00011	.00357	-.00317	.00003	.00029	-.00023	-.00018	-.00524
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.04965**	**-.00006**	**.00723**	**-.00003**	**.00153**	**-.02030**	**.00011**	**.00375**	**.00093**	**.00255**	**.00134**	**-.00396**	**-.02781**
Stddev	.06391	.00190	.00434	.00006	.00033	.01030	.00098	.00200	.00020	.00580	.00163	.00546	.02078
%RSD	128.71	3238.7	60.014	213.87	21.664	50.731	882.49	53.409	21.059	227.01	121.07	137.76	74.732
#1	-.00446	.00128	.00416	.00001	.00176	-.01302	-.00058	.00233	.00079	.00665	.00019	-.00010	-.01311
#2	-.09485	-.00140	.01029	-.00007	.00129	-.02758	.00080	.00516	.00107	-.00155	.00249	-.00782	-.04250
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.05951**	**.00202**	**-.00026**	**-.00198**	**.00006**	**-.00205**	**.00445**	**.00037**	**-.00076**	**.00092**
Stddev	.04447	.00030	.00019	.00019	.00028	.00043	.06999	.00023	.00098	.00018
%RSD	74.732	15.047	70.328	9.5424	458.43	20.882	1572.4	61.925	129.16	19.684
#1	-.02806	.00224	-.00040	-.00185	.00026	-.00235	-.04504	.00053	-.00007	.00105
#2	-.09096	.00181	-.00013	-.00211	-.00014	-.00175	.05394	.00021	-.00145	.00079
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3770.9**	**47359.**	**3316.6**
Stddev	2.0	55.	11.0
%RSD	.05403	.11622	.33276
#1	3772.4	47320.	3308.8
#2	3769.5	47398.	3324.4

Sample Name: CCVL-5398386 Acquired: 10/29/2018 10:17:24 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00956**	**.10933**	**.01522**	**.09921**	**.00988**	**.00071**	**.11349**	**.20832**	**.00526**	**.01056**	**.01027**	**.01588**
Stddev	.00013	.00205	.00257	.00339	.00008	.00029	.00256	.00110	.00008	.00017	.00030	.00067
%RSD	1.3568	1.8706	16.876	3.4139	.77768	41.549	2.2548	.52621	1.5907	1.5703	2.9244	4.2495
#1	.00965	.11077	.01704	.10160	.00994	.00092	.11530	.20909	.00532	.01044	.01048	.01636
#2	.00946	.10788	.01341	.09681	.00983	.00050	.11168	.20754	.00520	.01068	.01005	.01540
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10246**	**3.0634**	**.02180**	**.21330**	**.01046**	**.01954**	**.99134**	**.04148**	**2.8814**	**.00937**	**.09184**	**.02050**
Stddev	.00132	.0499	.00176	.00099	.00002	.00034	.00274	.00036	.0395	.00041	.00365	.00061
%RSD	1.2853	1.6287	8.0586	.46334	.14482	1.7202	.27619	.85803	1.3694	4.3973	3.9700	2.9533
#1	.10339	3.0281	.02304	.21400	.01047	.01978	.99328	.04173	2.9093	.00966	.09442	.02007
#2	.10153	3.0987	.02055	.21261	.01045	.01931	.98941	.04123	2.8535	.00908	.08926	.02093
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01722**	**.46416**	**.99330**	**.10013**	**.01001**	**.01328**	**.01020**	**.01481**	F **.09413**	**.00942**	**.02048**	**.01823**
Stddev	.00465	.02939	.06289	.00225	.00008	.00062	.00008	.00208	.04351	.00032	.00014	.00199
%RSD	26.990	6.3312	6.3312	2.2429	.80385	4.6662	.79774	14.031	46.222	3.3991	.70589	10.929
#1	.01393	.44338	.94883	.10172	.00995	.01371	.01014	.01628	.06336	.00920	.02038	.01682
#2	.02050	.48494	1.0378	.09854	.01006	.01284	.01026	.01334	.12490	.00965	.02058	.01963
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3848.5**	**48476.**	**3364.6**
Stddev	11.9	212.	14.5
%RSD	.30983	.43830	.43144
#1	3840.1	48326.	3374.8
#2	3856.9	48627.	3354.3

Sample Name: MB 280-435209/1-A Acquired: 10/29/2018 10:20:03 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 10/28 Custom ID2: Custom ID3:
Comment: 435209 6010C Q5 (Mn)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00057**	**.00496**	**.00083**	**.00202**	**-.00030**	**-.00029**	**.00657**	**.00980**	**.00046**
Stddev	.00042	.00009	.00026	.00022	.00041	.00009	.00591	.00437	.00005
%RSD	74.504	1.8108	31.238	10.954	137.91	29.783	89.910	44.584	11.398
#1	-.00086	.00502	.00065	.00187	-.00001	-.00023	.01074	.01289	.00042
#2	-.00027	.00490	.00102	.00218	-.00059	-.00035	.00239	.00671	.00050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00010**	**-.00002**	**.00017**	**.00890**	**-.03275**	**.00027**	**.00241**	**.00015**	**-.00020**
Stddev	.00022	.00002	.00099	.00156	.00898	.00485	.00220	.00000	.00031
%RSD	224.42	90.171	573.32	17.524	27.404	1773.3	91.161	1.8429	155.28
#1	.00025	-.00001	.00087	.00780	-.03910	.00370	.00086	.00014	-.00042
#2	-.00006	-.00003	-.00053	.01000	-.02641	-.00315	.00397	.00015	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.05326**	**-.00051**	**.00387**	**.00069**	**.00204**	**.00227**	**-.00333**	**-.01416**	**-.03031**
Stddev	.00704	.00065	.00008	.00071	.00169	.00173	.00573	.06440	.13782
%RSD	13.220	128.20	2.1871	103.91	82.711	76.344	172.08	454.74	454.74
#1	-.05824	-.00097	.00381	.00018	.00085	.00104	-.00738	.03138	.06715
#2	-.04828	-.00005	.00393	.00119	.00323	.00349	.00072	-.05970	-.12777
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00002**	**.00011**	**.00106**	**-.00018**	**-.00016**	**.02719**	**.00005**	**.00141**	**.00128**
Stddev	.00031	.00002	.00038	.00001	.00297	.01142	.00005	.00030	.00034
%RSD	1411.3	19.888	35.566	6.4743	1874.6	42.005	93.849	21.621	26.562
#1	.00020	.00012	.00079	-.00019	.00194	.03527	.00002	.00119	.00104
#2	-.00024	.00009	.00133	-.00017	-.00226	.01912	.00009	.00162	.00152
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3912.0**	**49796.**	**3478.3**
Stddev	9.5	64.	19.6
%RSD	.24269	.12830	.56247
#1	3918.8	49841.	3464.5
#2	3905.3	49750.	3492.1

Sample Name: LCS 280-435209/2-A Acquired: 10/29/2018 10:22:38 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435209 6010C Q5 (Mn)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04982**	**2.0552**	**1.0010**	**1.0397**	**2.0798**	**.05151**	**2.0048**	**51.020**	**.09910**
Stddev	.00047	.0199	.0081	.0053	.0048	.00012	.0194	.095	.00059
%RSD	.93695	.96829	.81168	.50605	.22896	.23985	.96668	.18593	.59097
#1	.04949	2.0692	1.0067	1.0434	2.0832	.05142	2.0185	51.087	.09951
#2	.05015	2.0411	.99525	1.0360	2.0765	.05160	1.9911	50.953	.09868
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50110**	**.20403**	**.25992**	**1.0276**	**51.615**	**1.0247**	**50.465**	**.50618**	**1.0197**
Stddev	.00406	.00138	.00100	.0046	.076	.0000	.116	.00027	.0086
%RSD	.80981	.67788	.38550	.45064	.14696	.00153	.23052	.05356	.84475
#1	.50396	.20501	.26063	1.0244	51.562	1.0248	50.547	.50637	1.0258
#2	.49823	.20305	.25922	1.0309	51.669	1.0247	50.383	.50599	1.0137
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**51.647**	**.49971**	**10.519**	**.50657**	**2.0222**	**.51704**	**2.0970**	**10.177**	**21.778**
Stddev	.446	.00275	.098	.00661	.0100	.00177	.0273	.038	.081
%RSD	.86262	.55084	.93401	1.3039	.49250	.34321	1.3015	.37154	.37154
#1	51.332	.50166	10.589	.51124	2.0292	.51578	2.1163	10.203	21.835
#2	51.962	.49776	10.450	.50190	2.0151	.51829	2.0777	10.150	21.721
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0158**	**1.0279**	**1.0136**	**1.0055**	**2.0426**	**2.0842**	**.51857**	**.50471**	**.51600**
Stddev	.0127	.0013	.0042	.0037	.0219	.0338	.00209	.00441	.00305
%RSD	.63097	.12699	.41564	.37228	1.0709	1.6238	.40213	.87316	.59030
#1	2.0248	1.0288	1.0107	1.0081	2.0580	2.0603	.52004	.50782	.51385
#2	2.0068	1.0270	1.0166	1.0028	2.0271	2.1081	.51709	.50159	.51815
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3793.9**	**47163.**	**3455.9**
Stddev	8.9	86.	1.8
%RSD	.23435	.18283	.05341
#1	3800.2	47102.	3457.2
#2	3787.6	47223.	3454.6

Sample Name: 280-115901-A-4-C Acquired: 10/29/2018 10:24:58 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435209 6010C Q5 (Mn)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.00054**	F **.00834**	F **.00082**	F **.00883**	F **.00217**	F **-.00014**	**.00291**	F **97.043**	F **.00045**
Stddev	.00001	.00068	.00086	.00079	.00011	.00018	.00041	.164	.00016
%RSD	1.6977	8.1423	104.62	8.8898	5.0518	128.53	14.017	.16946	35.553
#1	-.00055	.00786	.00021	.00939	.00225	-.00026	.00320	96.927	.00056
#2	-.00054	.00882	.00143	.00828	.00210	-.00001	.00262	97.160	.00034
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	None	Chk Fail	Chk Fail
High Limit	.05750	2.2299	1.1050	1.1050	2.2499	.05650		55.500	.11100
Low Limit	.04275	1.7300	.87500	.86000	1.7900	.04450		44.750	.08800

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.00027**	F **.02124**	F **.00205**	F **.01318**	F **1.6863**	F **.00546**	F **23.565**	F **.02069**	F **.00166**
Stddev	.00040	.00007	.00024	.00415	.0027	.00237	.014	.00004	.00009
%RSD	146.21	.31277	11.548	31.459	.15733	43.374	.06058	.17292	5.6405
#1	-.00056	.02128	.00188	.01025	1.6844	.00379	23.555	.02072	.00159
#2	.00001	.02119	.00221	.01611	1.6882	.00713	23.576	.02066	.00172
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
High Limit	.55500	.22000	.28000	1.1500	57.000	1.1400	56.500	.55000	1.1000
Low Limit	.44500	.18000	.21500	.89000	44.500	.89000	46.000	.45000	.90000

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **37.913**	F **.00013**	F **.03817**	F **-.00321**	**5.7318**	F **.00126**	F **-.00676**	F **16.940**	**36.251**
Stddev	.329	.00024	.00164	.00000	.0698	.00419	.00312	.051	.109
%RSD	.86825	180.39	4.2849	.00714	1.2186	333.80	46.158	.30149	.30149
#1	38.145	-.00004	.03702	-.00321	5.7812	-.00171	-.00456	16.903	36.173
#2	37.680	.00030	.03933	-.00321	5.6825	.00422	-.00897	16.976	36.328
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	None	Chk Fail	Chk Fail	Chk Fail	None
High Limit	56.000	.55500	11.100	.55000		.55499	2.2400	11.000	
Low Limit	45.500	.44500	9.1000	.44500		.44000	1.7000	9.0000	

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.00104**	F **.54027**	F **-.00027**	F **.00066**	F **-.00119**	F **.00508**	F **.00075**	F **.00161**	F **.00230**
Stddev	.00024	.00035	.00179	.00027	.00119	.04443	.00048	.00058	.00076
%RSD	23.064	.06499	666.25	41.239	99.745	874.92	64.169	35.976	33.001
#1	-.00121	.54002	-.00154	.00047	-.00035	-.02634	.00041	.00202	.00284
#2	-.00087	.54052	.00100	.00085	-.00203	.03650	.00110	.00120	.00177
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
High Limit	2.2600	1.1100	1.2000	1.1100	2.2000	2.3000	.55500	.55500	.57500
Low Limit	1.7000	.90000	.80000	.90000	1.7600	1.7000	.45000	.42500	.42500

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3836.7**	**48392.**	**3526.1**
Stddev	26.0	27.	10.1
%RSD	.67770	.05499	.28700
#1	3855.1	48411.	3519.0
#2	3818.3	48373.	3533.3

Sample Name: 115901-A-4-C SD@5 Acquired: 10/29/2018 10:27:33 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435209 6010C Q5 (Mn)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00054**	**.00137**	**.00285**	**.00238**	**-.00014**	**-.00025**	**.00367**	**19.345**	**.00038**
Stddev	.00039	.00064	.00444	.00049	.00008	.00009	.00135	.045	.00025
%RSD	72.529	46.848	155.93	20.659	58.979	37.297	36.839	.23065	67.235
#1	-.00082	.00183	-.00029	.00203	-.00008	-.00032	.00272	19.377	.00056
#2	-.00026	.00092	.00599	.00273	-.00020	-.00019	.00463	19.314	.00020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00031**	**.00426**	**.00096**	**.00165**	**.29322**	**.00122**	**4.7582**	**.00405**	**-.00044**
Stddev	.00014	.00029	.00032	.00115	.05643	.00035	.0329	.00007	.00002
%RSD	45.690	6.8933	32.717	69.839	19.244	28.294	.69237	1.7232	3.5086
#1	-.00041	.00447	.00074	.00083	.33312	.00098	4.7815	.00400	-.00043
#2	-.00021	.00405	.00119	.00246	.25332	.00147	4.7349	.00410	-.00045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.5014**	**-.00013**	**.00695**	**-.00134**	**1.0429**	**.00276**	**-.00543**	**3.3165**	**7.0973**
Stddev	.0468	.00027	.00208	.00003	.0236	.00146	.00262	.0597	.1277
%RSD	.62326	203.37	29.864	2.1768	2.2588	52.728	48.375	1.7994	1.7994
#1	7.5345	.00006	.00842	-.00132	1.0596	.00173	-.00357	3.2743	7.0070
#2	7.4683	-.00033	.00549	-.00136	1.0263	.00379	-.00728	3.3587	7.1876
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00057**	**.10791**	**-.00102**	**.00096**	**-.00006**	**-.01312**	**.00029**	**.00103**	**.00100**
Stddev	.00090	.00038	.00369	.00016	.00063	.03120	.00053	.00045	.00106
%RSD	159.37	.35348	362.12	17.087	1094.0	237.71	183.75	43.303	105.57
#1	.00120	.10818	.00159	.00084	.00039	-.03518	-.00009	.00072	.00175
#2	-.00007	.10764	-.00363	.00107	-.00050	.00894	.00066	.00135	.00025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3795.5**	**48124.**	**3418.2**
Stddev	15.4	107.	.6
%RSD	.40576	.22236	.01676
#1	3806.4	48049.	3418.6
#2	3784.6	48200.	3417.8

Sample Name: 280-115901-A-4-D MS Acquired: 10/29/2018 10:30:10 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435209 6010C Q5 (Mn)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04996**	**2.0896**	**1.0328**	**1.0625**	**2.1162**	**.05276**	W **2.0304**	**151.83**	**.10089**
Stddev	.00091	.0196	.0135	.0032	.0000	.00011	.0140	.14	.00046
%RSD	1.8247	.93834	1.3036	.30470	.00204	.20292	.68976	.09090	.45247
#1	.05060	2.1034	1.0423	1.0648	2.1161	.05269	2.0403	151.73	.10121
#2	.04931	2.0757	1.0233	1.0602	2.1162	.05284	2.0205	151.92	.10056
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit							2.0000		
Low Limit							-.20000		

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50535**	**.23119**	**.26328**	**1.1077**	**54.807**	**1.0475**	**75.398**	**.53420**	**1.0485**
Stddev	.00492	.00143	.00099	.0119	.101	.0033	.104	.00059	.0093
%RSD	.97390	.62009	.37694	1.0707	.18459	.31642	.13779	.11116	.88857
#1	.50883	.23220	.26398	1.0993	54.736	1.0451	75.472	.53378	1.0551
#2	.50187	.23018	.26258	1.1161	54.879	1.0498	75.325	.53462	1.0420
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**90.808**	**.50429**	**10.897**	**.50425**	**8.1045**	**.52751**	**2.1426**	**27.915**	**59.738**
Stddev	.129	.00533	.094	.00495	.0472	.00368	.0179	.078	.167
%RSD	.14160	1.0567	.86098	.98212	.58273	.69798	.83456	.27963	.27963
#1	90.717	.50806	10.963	.50776	8.1379	.53011	2.1552	27.860	59.619
#2	90.899	.50053	10.830	.50075	8.0711	.52490	2.1299	27.970	59.856
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.0580**	**1.6091**	**1.0329**	**1.0328**	**2.0245**	**2.1136**	**.53193**	**.51524**	**.53113**
Stddev	.0205	.0038	.0035	.0029	.0156	.0476	.00178	.00173	.00119
%RSD	.99801	.23386	.33856	.28008	.77179	2.2522	.33445	.33538	.22467
#1	2.0726	1.6065	1.0304	1.0308	2.0355	2.1472	.53319	.51402	.53198
#2	2.0435	1.6118	1.0354	1.0349	2.0134	2.0799	.53067	.51646	.53029
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3647.0**	**45076.**	**3255.6**
Stddev	11.5	4.	10.3
%RSD	.31655	.00855	.31602
#1	3638.8	45073.	3248.3
#2	3655.2	45079.	3262.9

Sample Name: 280-115901-A-4-E MSD Acquired: 10/29/2018 10:32:31 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435209 6010C Q5 (Mn)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05069**	**2.0931**	**1.0457**	**1.0549**	**2.1160**	**.05274**	W **2.0389**	**151.28**	**.10195**
Stddev	.00076	.0081	.0085	.0039	.0017	.00029	.0219	.11	.00017
%RSD	1.4925	.38548	.81650	.36936	.07968	.54562	1.0737	.07595	.17085
#1	.05123	2.0988	1.0517	1.0576	2.1171	.05294	2.0544	151.37	.10207
#2	.05016	2.0874	1.0396	1.0521	2.1148	.05253	2.0234	151.20	.10182
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit							2.0000		
Low Limit							-.20000		

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50810**	**.23051**	**.26429**	**1.0680**	**54.549**	**1.0448**	**75.437**	**.53526**	**1.0396**
Stddev	.00230	.00129	.00064	.0108	.040	.0003	.088	.00085	.0052
%RSD	.45175	.55785	.24286	1.0100	.07264	.02983	.11611	.15951	.50317
#1	.50972	.23142	.26474	1.0756	54.521	1.0446	75.499	.53586	1.0433
#2	.50648	.22960	.26384	1.0604	54.577	1.0450	75.375	.53466	1.0359
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**90.491**	**.50703**	**10.974**	**.50526**	**8.1049**	**.52474**	**2.1300**	**27.845**	**59.587**
Stddev	.188	.00152	.050	.00064	.0469	.00098	.0009	.087	.185
%RSD	.20794	.29947	.45291	.12740	.57909	.18745	.04177	.31104	.31104
#1	90.358	.50810	11.009	.50480	8.1380	.52404	2.1293	27.906	59.719
#2	90.624	.50595	10.939	.50571	8.0717	.52543	2.1306	27.783	59.456
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.0307**	**1.6058**	**1.0372**	**1.0273**	**2.0214**	**2.1721**	**.53035**	**.51720**	**.52164**
Stddev	.0103	.0016	.0004	.0003	.0012	.0038	.00018	.00127	.00241
%RSD	.50559	.10131	.03903	.02698	.05716	.17480	.03312	.24648	.46277
#1	2.0379	1.6069	1.0374	1.0271	2.0222	2.1694	.53023	.51810	.51994
#2	2.0234	1.6046	1.0369	1.0275	2.0206	2.1748	.53047	.51630	.52335
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3674.1**	**45716.**	**3371.7**
Stddev	22.8	197.	16.5
%RSD	.61942	.43125	.48931
#1	3690.2	45855.	3360.1
#2	3658.0	45577.	3383.4

Sample Name: 280-115901-A-4-C PDS Acquired: 10/29/2018 10:34:52 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435209 6010C Q5 (Mn)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05008**	**1.0249**	**.20428**	**.10879**	**.10179**	**.04973**	**.00454**	**114.76**	**.04958**
Stddev	.00048	.0083	.00772	.00107	.00070	.00017	.00460	.12	.00016
%RSD	.96270	.80857	3.7792	.98402	.68695	.35181	101.40	.10510	.32406
#1	.05042	1.0308	.20974	.10954	.10228	.04986	.00128	114.68	.04947
#2	.04974	1.0191	.19883	.10803	.10130	.04961	.00779	114.85	.04969
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04744**	**.07085**	**.05233**	**1.0165**	**21.829**	**.10468**	**42.611**	**.06926**	**.05072**
Stddev	.00054	.00005	.00001	.0043	.009	.00015	.048	.00009	.00067
%RSD	1.1387	.06925	.01702	.42689	.04056	.13967	.11313	.12977	1.3197
#1	.04782	.07088	.05234	1.0196	21.835	.10458	42.577	.06932	.05024
#2	.04705	.07081	.05232	1.0135	21.823	.10479	42.645	.06919	.05119
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**56.776**	**.04873**	**2.0970**	**.09103**	**5.6926**	**.09813**	**.19558**	**21.500**	**46.010**
Stddev	.131	.00008	.0043	.00111	.0078	.00123	.00309	.006	.012
%RSD	.23054	.17162	.20524	1.2172	.13676	1.2484	1.5787	.02697	.02697
#1	56.683	.04879	2.1001	.09025	5.6981	.09899	.19340	21.504	46.019
#2	56.868	.04868	2.0940	.09182	5.6871	.09726	.19776	21.496	46.001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09731**	**.57884**	**.19428**	**.04966**	**.19761**	**.42319**	**.05031**	**.19773**	**.05276**
Stddev	.00232	.00069	.00017	.00011	.00133	.05145	.00096	.00062	.00158
%RSD	2.3804	.11918	.08883	.22482	.67471	12.157	1.9159	.31251	2.9969
#1	.09568	.57933	.19440	.04974	.19667	.38681	.05099	.19817	.05164
#2	.09895	.57836	.19416	.04958	.19855	.45957	.04963	.19729	.05388
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3751.7**	**46389.**	**3382.9**
Stddev	33.7	276.	11.0
%RSD	.89861	.59544	.32611
#1	3727.8	46584.	3390.7
#2	3775.5	46194.	3375.1

Sample Name: 280-115901-A-5-C Acquired: 10/29/2018 10:37:22 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435209 6010C Q5 (Mn)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00083**	**.00676**	**.00732**	**.00375**	**.03230**	**-.00006**	**.00584**	**16.599**	**.00011**
Stddev	.00024	.00000	.00283	.00026	.00076	.00022	.00503	.047	.00024
%RSD	28.272	.04720	38.692	6.8646	2.3497	372.62	86.138	.28301	215.96
#1	-.00100	.00676	.00532	.00393	.03177	.00009	.00228	16.566	.00028
#2	-.00067	.00676	.00932	.00357	.03284	-.00021	.00940	16.633	-.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00046**	**.00035**	**.00081**	**.00705**	**1.1189**	**.00395**	**3.4209**	**.00042**	**.00131**
Stddev	.00056	.00000	.00083	.00442	.0897	.00103	.0043	.00001	.00033
%RSD	121.39	.67649	102.07	62.708	8.0165	26.122	.12556	2.8055	25.124
#1	-.00006	.00035	.00023	.00393	1.1823	.00322	3.4239	.00041	.00108
#2	-.00085	.00035	.00140	.01018	1.0555	.00468	3.4178	.00042	.00154
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**31.850**	**.00006**	**.08436**	**-.00493**	**2.2608**	**-.00137**	**.00354**	**15.032**	**32.168**
Stddev	.217	.00064	.00103	.00095	.0157	.00141	.00447	.065	.139
%RSD	.68263	1069.0	1.2237	19.203	.69606	102.91	126.12	.43253	.43253
#1	32.004	-.00039	.08509	-.00559	2.2720	-.00236	.00670	14.986	32.069
#2	31.696	.00051	.08363	-.00426	2.2497	-.00037	.00038	15.078	32.266
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00073**	**.07942**	**-.00069**	**.00040**	**-.00138**	**.03593**	**.00751**	**.00977**	**.00184**
Stddev	.00038	.00047	.00197	.00004	.00336	.01452	.00063	.00082	.00482
%RSD	52.141	.59153	285.09	10.202	243.31	40.424	8.4310	8.4288	261.38
#1	.00046	.07909	.00070	.00043	-.00375	.02566	.00795	.00919	-.00156
#2	.00100	.07975	-.00208	.00038	.00099	.04620	.00706	.01035	.00525
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3837.9**	**48297.**	**3458.1**
Stddev	5.1	322.	24.7
%RSD	.13295	.66662	.71446
#1	3841.5	48525.	3475.6
#2	3834.3	48070.	3440.6

Sample Name: CCVH-5380945 Acquired: 10/29/2018 10:39:56 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00306**	**49.395**	**-.00822**	**.00192**	**.00012**	**-.00024**	**.99972**	**.00714**	**.00023**	**.00171**	**.00059**	**.00069**	**49.355**
Stddev	.00060	.110	.00161	.00089	.00038	.00007	.00115	.00341	.00001	.00036	.00019	.00028	.407
%RSD	19.622	.22329	19.555	46.239	311.16	30.723	.11543	47.670	2.3107	21.097	31.366	40.542	.82465
#1	-.00349	49.317	-.00935	.00129	.00039	-.00018	.99890	.00474	.00024	.00197	.00046	.00088	49.642
#2	-.00264	49.473	-.00708	.00255	-.00015	-.00029	1.0005	.00955	.00023	.00146	.00072	.00049	49.067
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.01112**	**.00061**	**-.06828**	**.00260**	**-.00043**	**246.23**	**.00359**	**.00816**	**-.00035**	**4.9610**	**-.00043**	**.00508**	**-.06795**
Stddev	.05595	.00061	.00302	.00009	.00036	.19	.00047	.00040	.00238	.0364	.00010	.01494	.01540
%RSD	503.21	100.40	4.4250	3.6445	83.093	.07860	13.154	4.9486	688.99	.73330	23.249	294.09	22.667
#1	-.05068	.00018	-.06615	.00267	-.00069	246.09	.00326	.00787	.00134	4.9868	-.00050	.01564	-.05706
#2	.02844	.00104	-.07042	.00253	-.00018	246.36	.00393	.00845	-.00203	4.9353	-.00036	-.00548	-.07884
Check ?	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None	None	None
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.14541**	**.00067**	**.00030**	**4.8993**	**.01938**	**.00253**	**10.169**	**-.01034**	**.00281**	**.06549**
Stddev	.03296	.00148	.00000	.0053	.00034	.00118	.037	.00043	.00029	.00422
%RSD	22.667	220.00	.30139	.10812	1.7478	46.507	.36109	4.1403	10.276	6.4437
#1	-.12210	-.00037	.00030	4.8955	.01914	.00170	10.143	-.01064	.00260	.06251
#2	-.16871	.00172	.00030	4.9030	.01962	.00336	10.195	-.01004	.00301	.06848
Check ?	None	None	None	Chk Pass	None	None	Chk Pass	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3708.2**	**46087.**	**3363.3**
Stddev	3.1	7.	2.4
%RSD	.08344	.01456	.07095
#1	3710.4	46083.	3361.6
#2	3706.1	46092.	3365.0

Sample Name: CCV-5391053 Acquired: 10/29/2018 10:56:46 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50758**	**.53785**	**1.0067**	**.50753**	**.50225**	**.50161**	**.00270**	**5.0676**	**.51007**	**.51034**	**.51167**	**.51160**	**2.5269**	**49.930**
Stddev	.00045	.00025	.0055	.00029	.00097	.00084	.00020	.0023	.00113	.00002	.00009	.00026	.0172	.008
%RSD	.08850	.04640	.54728	.05693	.19225	.16732	7.3435	.04584	.22241	.00333	.01712	.05120	.68179	.01570
#1	.50726	.53803	1.0106	.50733	.50157	.50101	.00284	5.0659	.51087	.51033	.51161	.51142	2.5391	49.935
#2	.50789	.53768	1.0028	.50774	.50293	.50220	.00256	5.0692	.50927	.51036	.51174	.51179	2.5147	49.924
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.0003**	**20.234**	**.50873**	**.50489**	**4.9331**	**.51378**	**1.0232**	**1.0320**	**.00107**	**1.0236**	**1.0249**	**4.9844**	**10.667**	**1.0155**
Stddev	.0030	.012	.00031	.00229	.0090	.00078	.0022	.0010	.00460	.0068	.0004	.0445	.095	.0052
%RSD	.30113	.05910	.06084	.45407	.18212	.15128	.21933	.09609	430.45	.66813	.04003	.89281	.89281	.51644
#1	.99814	20.243	.50851	.50651	4.9268	.51433	1.0248	1.0327	-.00218	1.0284	1.0252	4.9530	10.599	1.0192
#2	1.0024	20.226	.50895	.50327	4.9395	.51323	1.0216	1.0313	.00432	1.0188	1.0246	5.0159	10.734	1.0118
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50098**	**.00299**	**.50450**	**1.0381**	**.00850**	**.50016**	**.50904**	**.49831**
Stddev	.00153	.00103	.00139	.0012	.01871	.00067	.00149	.00225
%RSD	.30444	34.452	.27587	.11959	220.13	.13439	.29350	.45159
#1	.49990	.00226	.50549	1.0390	.02173	.49968	.51010	.49672
#2	.50206	.00372	.50352	1.0372	-.00473	.50063	.50798	.49991
Check ?	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3837.4**	**48408.**	**3514.0**
Stddev	27.5	109.	2.7
%RSD	.71670	.22585	.07623
#1	3856.9	48485.	3512.1
#2	3818.0	48330.	3515.9

Sample Name: CCB Acquired: 10/29/2018 10:59:12 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00022**	**-.00137**	**.00463**	**.00114**	**-.00043**	**.00009**	**.00666**	**.00305**	**.00031**	**.00002**	**-.00008**	**.00009**	**.00589**
Stddev	.00019	.00007	.00217	.00059	.00050	.00012	.00067	.00185	.00012	.00038	.00014	.00094	.00022
%RSD	84.744	5.1040	46.854	52.008	116.09	133.86	10.111	60.548	39.915	1813.1	169.22	1081.4	3.7708
#1	-.00009	-.00142	.00309	.00072	-.00008	.00017	.00714	.00436	.00040	-.00025	.00002	-.00058	.00574
#2	-.00036	-.00133	.00616	.00156	-.00078	.00000	.00619	.00175	.00022	.00029	-.00018	.00075	.00605
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00270**	**-.00080**	**.00472**	**.00006**	**.00118**	**-.03641**	**-.00010**	**.00033**	**.00032**	**-.00215**	**-.00084**	**-.00345**	**-.02895**
Stddev	.17767	.00213	.00532	.00002	.00018	.03358	.00018	.00454	.00071	.00051	.00239	.00283	.01937
%RSD	6581.8	266.14	112.70	35.118	14.947	92.224	177.10	1394.6	223.69	23.759	284.87	82.069	66.908
#1	.12833	-.00231	.00096	.00004	.00130	-.06016	-.00023	-.00289	.00082	-.00179	.00085	-.00545	-.01525
#2	-.12293	.00071	.00848	.00007	.00105	-.01267	.00003	.00354	-.00018	-.00251	-.00253	-.00145	-.04264
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.06195**	**.00015**	**-.00007**	**-.00249**	**.00001**	**-.00180**	**.00660**	**-.00000**	**.00144**	**.00011**
Stddev	.04145	.00081	.00035	.00041	.00057	.00245	.01694	.00011	.00018	.00089
%RSD	66.908	550.04	539.08	16.527	8997.7	135.67	256.66	3545.9	12.408	831.56
#1	-.03264	.00072	.00018	-.00220	.00041	-.00353	-.00538	-.00008	.00157	-.00053
#2	-.09126	-.00042	-.00031	-.00278	-.00040	-.00007	.01858	.00007	.00132	.00074
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3795.3**	**48109.**	**3381.5**
Stddev	26.6	69.	8.7
%RSD	.69956	.14259	.25743
#1	3814.1	48157.	3375.4
#2	3776.6	48060.	3387.7

Sample Name: CCVL-5398386 Acquired: 10/29/2018 11:01:49 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00907**	**.10985**	**.01482**	**.09671**	**.01064**	**.00077**	**.10769**	**.20611**	**.00540**	**.01073**	**.01011**	**.01653**
Stddev	.00064	.00162	.00365	.00281	.00018	.00014	.00903	.00073	.00011	.00003	.00029	.00005
%RSD	7.0138	1.4762	24.616	2.9031	1.7234	17.762	8.3892	.35597	2.0863	.24926	2.8721	.27642
#1	.00952	.11100	.01740	.09870	.01077	.00067	.11408	.20663	.00548	.01071	.01032	.01656
#2	.00862	.10870	.01224	.09473	.01051	.00086	.10130	.20559	.00532	.01075	.00990	.01650
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10836**	**3.1071**	**.01973**	**.21102**	**.01056**	**.01937**	**1.0011**	**.04202**	**2.8848**	**.01066**	**.08809**	**.02006**
Stddev	.00595	.0599	.00121	.00071	.00009	.00000	.0247	.00095	.0445	.00141	.00644	.00114
%RSD	5.4943	1.9261	6.1195	.33433	.81754	.01812	2.4710	2.2521	1.5431	13.221	7.3064	5.6608
#1	.10415	3.1494	.01888	.21052	.01062	.01937	1.0186	.04269	2.9163	.01166	.09265	.01925
#2	.11257	3.0648	.02059	.21152	.01050	.01937	.98358	.04135	2.8534	.00967	.08354	.02086
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.01345**	**.47151**	**1.0090**	**.10001**	**.01012**	**.01348**	**.01029**	**.01668**	F **.09041**	**.00961**	**.02213**	**.01634**
Stddev	.00005	.01238	.0265	.00097	.00003	.00031	.00007	.00265	.01832	.00047	.00027	.00137
%RSD	.39307	2.6261	2.6261	.97356	.26180	2.3145	.64638	15.881	20.265	4.8564	1.2087	8.3943
#1	.01349	.48027	1.0278	.10070	.01014	.01326	.01034	.01855	.10336	.00928	.02232	.01730
#2	.01341	.46276	.99030	.09933	.01010	.01370	.01025	.01480	.07745	.00994	.02194	.01537
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value	.02000								.06000			
Range	-30.000%								30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3816.7**	**48703.**	**3428.8**
Stddev	39.7	98.	8.2
%RSD	1.0398	.20050	.24035
#1	3844.8	48634.	3434.7
#2	3788.7	48772.	3423.0

Sample Name: MB 280-435185/1-A Acquired: 10/29/2018 11:04:24 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 10/28 Custom ID2: Custom ID3:
Comment: 435185 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00029**	**.00097**	**.00295**	**.00037**	**.00033**	**-.00019**	**.00477**	**.00316**	**.00014**
Stddev	.00066	.00044	.00069	.00010	.00039	.00020	.00175	.00347	.00012
%RSD	223.10	45.337	23.342	26.757	117.38	109.25	36.574	109.93	87.522
#1	.00017	.00129	.00344	.00044	.00061	-.00033	.00601	.00070	.00023
#2	-.00076	.00066	.00247	.00030	.00006	-.00004	.00354	.00562	.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00004**	**.00075**	**.00059**	**.00273**	**.01802**	**.00264**	**.00032**	**.00020**	**-.00011**
Stddev	.00016	.00033	.00017	.00022	.04392	.00137	.00362	.00005	.00019
%RSD	352.01	44.372	27.986	8.0799	243.69	52.078	1145.5	24.100	177.07
#1	.00015	.00098	.00071	.00289	.04908	.00361	.00288	.00017	-.00025
#2	-.00007	.00051	.00048	.00258	-.01303	.00167	-.00224	.00023	.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.05061**	**-.00021**	**.00034**	**-.00063**	**-.00659**	**-.00300**	**.00005**	**-.01648**	**-.03526**
Stddev	.01685	.00024	.00269	.00055	.00559	.00340	.00507	.01815	.03884
%RSD	33.296	114.29	788.00	87.930	84.786	113.50	9274.9	110.17	110.17
#1	-.06253	-.00038	-.00156	-.00024	-.01054	-.00059	.00364	-.00364	-.00779
#2	-.03870	-.00004	.00224	-.00102	-.00264	-.00540	-.00353	-.02931	-.06272
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00064**	**-.00025**	**.00076**	**.00051**	**-.00181**	**.02471**	**-.00008**	**.00086**	**.00299**
Stddev	.00131	.00005	.00318	.00021	.00176	.03464	.00000	.00050	.00015
%RSD	203.13	19.112	416.46	41.925	97.222	140.16	2.6398	57.873	5.0125
#1	.00157	-.00028	-.00148	.00036	-.00057	.04920	-.00008	.00121	.00289
#2	-.00028	-.00022	.00301	.00066	-.00305	.00022	-.00007	.00051	.00310
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3822.8**	**48271.**	**3398.5**
Stddev	3.2	218.	9.0
%RSD	.08271	.45211	.26460
#1	3820.6	48426.	3392.2
#2	3825.1	48117.	3404.9

Sample Name: LCS 280-435185/2-A Acquired: 10/29/2018 11:07:00 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435185 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04978**	**2.1255**	**1.0283**	**1.0154**	**2.1072**	**.05180**	**2.0472**	**51.965**	**.10084**
Stddev	.00009	.0193	.0089	.0066	.0028	.00015	.0066	.038	.00065
%RSD	.18676	.90700	.86642	.64546	.13471	.28212	.32293	.07238	.64274
#1	.04985	2.1391	1.0346	1.0200	2.1052	.05191	2.0519	51.991	.10129
#2	.04972	2.1119	1.0220	1.0108	2.1093	.05170	2.0426	51.938	.10038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.51353**	**.20920**	**.26320**	**1.0442**	**52.095**	**1.0299**	**51.523**	**.51814**	**1.0035**
Stddev	.00294	.00214	.00031	.0017	.078	.0033	.041	.00103	.0070
%RSD	.57313	1.0245	.11813	.16583	.14888	.31637	.08001	.19820	.69569
#1	.51561	.21072	.26298	1.0430	52.040	1.0276	51.552	.51887	1.0085
#2	.51144	.20769	.26342	1.0454	52.150	1.0322	51.494	.51742	.99858
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**51.428**	**.51178**	**10.806**	**.52023**	**1.9928**	**.50521**	**2.1331**	**10.021**	**21.446**
Stddev	.077	.00211	.049	.00432	.0081	.00253	.0203	.006	.012
%RSD	.14959	.41168	.44965	.83026	.40559	.50011	.95023	.05623	.05623
#1	51.373	.51327	10.840	.52328	1.9986	.50343	2.1475	10.017	21.437
#2	51.482	.51029	10.771	.51717	1.9871	.50700	2.1188	10.025	21.454
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.9768**	**1.0415**	**1.0341**	**.99050**	**2.0768**	**2.1235**	**.52556**	**.52218**	**.50677**
Stddev	.0102	.0004	.0023	.00233	.0132	.0294	.00069	.00041	.00147
%RSD	.51700	.03505	.22367	.23487	.63343	1.3846	.13106	.07939	.29012
#1	1.9840	1.0413	1.0357	.99215	2.0861	2.1443	.52605	.52247	.50573
#2	1.9696	1.0418	1.0324	.98886	2.0675	2.1027	.52507	.52189	.50781
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3719.6**	**45978.**	**3336.0**
Stddev	11.5	227.	1.0
%RSD	.30848	.49438	.02949
#1	3711.5	45817.	3336.7
#2	3727.7	46138.	3335.3

Sample Name: LCSD 280-435185/3-A Acquired: 10/29/2018 11:09:20 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435185 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04915**	**2.1059**	**1.0259**	**1.0533**	**2.0984**	**.05182**	**2.0289**	**51.789**	**.10010**
Stddev	.00064	.0138	.0032	.0066	.0042	.00005	.0108	.136	.00067
%RSD	1.2942	.65410	.30906	.62357	.20224	.10290	.53029	.26274	.67012
#1	.04960	2.1157	1.0281	1.0580	2.0954	.05178	2.0365	51.693	.10057
#2	.04870	2.0962	1.0236	1.0487	2.1014	.05185	2.0213	51.885	.09962
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50928**	**.20738**	**.26100**	**1.0626**	**51.669**	**1.0251**	**51.105**	**.51226**	**1.0428**
Stddev	.00255	.00160	.00161	.0032	.045	.0063	.058	.00038	.0079
%RSD	.50119	.77237	.61496	.29605	.08754	.61412	.11285	.07345	.76100
#1	.51109	.20851	.25987	1.0648	51.637	1.0206	51.146	.51253	1.0484
#2	.50748	.20624	.26214	1.0603	51.701	1.0295	51.065	.51200	1.0372
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**51.353**	**.50793**	**10.726**	**.51249**	**2.0695**	**.51627**	**2.1250**	**10.405**	**22.266**
Stddev	.885	.00251	.051	.00148	.0321	.00562	.0129	.061	.131
%RSD	1.7241	.49492	.47646	.28913	1.5487	1.0880	.60901	.58614	.58614
#1	50.727	.50971	10.762	.51354	2.0922	.52024	2.1342	10.361	22.173
#2	51.979	.50616	10.690	.51144	2.0469	.51230	2.1159	10.448	22.358
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0574**	**1.0392**	**1.0250**	**1.0235**	**2.0619**	**2.1584**	**.52192**	**.51566**	**.52761**
Stddev	.0114	.0029	.0028	.0027	.0122	.0110	.00178	.00126	.00562
%RSD	.55245	.27381	.27000	.26453	.59181	.50747	.34139	.24481	1.0648
#1	2.0654	1.0372	1.0269	1.0216	2.0706	2.1506	.52066	.51655	.52364
#2	2.0494	1.0412	1.0230	1.0254	2.0533	2.1661	.52318	.51476	.53158
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3734.6**	**46658.**	**3411.7**
Stddev	5.4	309.	3.9
%RSD	.14374	.66294	.11286
#1	3738.4	46439.	3409.0
#2	3730.8	46876.	3414.4

Sample Name: 280-115816-D-1-B Acquired: 10/29/2018 11:11:39 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435185 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00042**	**.00350**	**.00233**	**.03359**	**.11364**	**-.00019**	**-.00013**	**108.76**	**.00021**
Stddev	.00003	.00124	.00680	.00011	.00002	.00001	.00330	.00	.00010
%RSD	7.3013	35.337	291.51	.32922	.01464	5.8937	2597.4	.00197	46.595
#1	-.00045	.00263	.00714	.03366	.11363	-.00019	.00220	108.76	.00014
#2	-.00040	.00438	-.00248	.03351	.11365	-.00020	-.00246	108.76	.00027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00028**	**.00152**	**.00194**	**-.00449**	**3.5155**	**.02089**	**17.685**	**.00015**	**.00235**
Stddev	.00025	.00013	.00021	.00471	.0125	.00081	.005	.00008	.00083
%RSD	90.245	8.8102	10.941	104.86	.35530	3.8856	.02687	51.745	35.176
#1	-.00010	.00143	.00209	-.00783	3.5243	.02146	17.682	.00021	.00176
#2	-.00045	.00162	.00179	-.00116	3.5067	.02031	17.689	.00010	.00293
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**33.400**	**.00057**	**.00773**	**-.00168**	**31.287**	**-.00133**	**-.00879**	**13.886**	**29.716**
Stddev	.532	.00034	.00024	.00151	.197	.00259	.00453	.044	.094
%RSD	1.5938	59.066	3.1647	89.490	.62920	193.93	51.512	.31709	.31709
#1	33.776	.00033	.00790	-.00275	31.426	-.00316	-.01199	13.855	29.649
#2	33.023	.00081	.00756	-.00062	31.148	.00050	-.00559	13.917	29.782
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00122**	**.65428**	**.00113**	**.00077**	**-.00102**	**-.03773**	**.00349**	**.00200**	**.00285**
Stddev	.00082	.00011	.00036	.00003	.00107	.06068	.00104	.00034	.00121
%RSD	67.396	.01701	31.622	3.9183	105.07	160.84	29.810	16.879	42.463
#1	.00064	.65420	.00138	.00074	-.00026	.00518	.00275	.00176	.00371
#2	.00180	.65436	.00087	.00079	-.00177	-.08064	.00422	.00224	.00200
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3743.9**	**46883.**	**3439.8**
Stddev	3.2	198.	6.5
%RSD	.08450	.42283	.18813
#1	3741.7	46742.	3444.4
#2	3746.2	47023.	3435.2

Sample Name: 280-115968-D-1-B Acquired: 10/29/2018 11:14:12 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435185 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00061**	**.00178**	**.00423**	**.05861**	**.14998**	**-.00027**	**.00484**	**43.172**	**.00039**
Stddev	.00093	.00081	.00425	.00068	.00024	.00034	.00159	.157	.00008
%RSD	152.87	45.767	100.52	1.1520	.15688	127.87	32.899	.36414	21.449
#1	.00005	.00235	.00122	.05909	.15015	-.00003	.00597	43.283	.00045
#2	-.00126	.00120	.00724	.05813	.14981	-.00051	.00372	43.061	.00033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00029**	**.00330**	**.00137**	**.00132**	**2.5657**	**.01116**	**6.3114**	**.00020**	**.00298**
Stddev	.00012	.00031	.00056	.00296	.0425	.00174	.0211	.00002	.00008
%RSD	39.857	9.4921	40.961	223.18	1.6574	15.613	.33423	12.599	2.7702
#1	-.00038	.00352	.00098	.00341	2.5958	.00992	6.3263	.00021	.00292
#2	-.00021	.00307	.00177	-.00077	2.5357	.01239	6.2965	.00018	.00303
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**27.594**	**-.00013**	**.01171**	**-.00608**	**10.097**	**-.00188**	**-.00732**	**15.917**	**34.063**
Stddev	.395	.00035	.00283	.00300	.113	.00113	.00269	.001	.003
%RSD	1.4321	271.49	24.210	49.351	1.1170	60.059	36.797	.00733	.00733
#1	27.315	-.00037	.01371	-.00820	10.177	-.00108	-.00541	15.917	34.061
#2	27.874	.00012	.00970	-.00396	10.017	-.00268	-.00922	15.918	34.065
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00040**	**.28980**	**-.00045**	**-.00002**	**-.00421**	**.00139**	**.00546**	**.00193**	**.00073**
Stddev	.00051	.00032	.00222	.00010	.00105	.02898	.00038	.00008	.00041
%RSD	128.44	.11096	498.14	543.46	25.008	2085.2	7.0145	3.9282	57.013
#1	.00004	.29003	.00112	.00005	-.00495	-.01910	.00519	.00199	.00102
#2	.00076	.28957	-.00202	-.00009	-.00347	.02188	.00573	.00188	.00043
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3788.1**	**47887.**	**3414.1**
Stddev	5.6	91.	20.4
%RSD	.14801	.18950	.59623
#1	3784.1	47822.	3399.7
#2	3792.0	47951.	3428.5

Sample Name: 280-116051-D-1-A Acquired: 10/29/2018 11:16:45 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435185 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00092**	**.46735**	**.02767**	**.38370**	**.01248**	**-.00007**	**.00186**	**28.701**	**.00005**
Stddev	.00002	.01072	.00300	.00400	.00104	.00002	.00088	.157	.00018
%RSD	2.3507	2.2943	10.837	1.0435	8.2988	24.693	47.095	.54727	328.65
#1	-.00094	.47493	.02555	.38653	.01321	-.00006	.00124	28.812	-.00007
#2	-.00091	.45977	.02979	.38087	.01175	-.00008	.00248	28.590	.00018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00030**	**.01795**	**.00339**	**.68934**	**4.3541**	**.16910**	**1.5065**	**.02104**	**.01470**
Stddev	.00030	.00078	.00002	.00355	.0163	.00190	.0048	.00013	.00009
%RSD	99.976	4.3419	.72194	.51467	.37433	1.1249	.31908	.63238	.62391
#1	-.00009	.01850	.00337	.69185	4.3426	.17044	1.5099	.02095	.01476
#2	-.00051	.01740	.00340	.68684	4.3656	.16775	1.5031	.02114	.01463
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**188.58**	**.00179**	**.05137**	**-.00767**	**52.009**	**.00258**	**-.00407**	**24.065**	**51.500**
Stddev	.32	.00032	.00276	.00178	.835	.00349	.00226	.002	.005
%RSD	.17096	17.967	5.3692	23.250	1.6055	135.29	55.623	.01032	.01032
#1	188.81	.00156	.04942	-.00641	52.599	.00504	-.00247	24.067	51.504
#2	188.36	.00202	.05332	-.00893	51.418	.00011	-.00567	24.064	51.496
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00032**	**.25254**	**.00016**	**.00941**	**-.00353**	**-.04146**	**.01748**	**.00822**	**.00131**
Stddev	.00074	.00177	.00286	.00030	.00132	.00979	.00037	.00001	.00232
%RSD	231.40	.70091	1807.3	3.1551	37.308	23.619	2.1130	.14780	177.40
#1	-.00020	.25379	-.00187	.00920	-.00260	-.03454	.01774	.00821	.00295
#2	.00085	.25129	.00218	.00962	-.00446	-.04838	.01722	.00823	-.00033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3708.4**	**46108.**	**3432.9**
Stddev	30.3	59.	66.7
%RSD	.81734	.12742	1.9438
#1	3687.0	46066.	3385.8
#2	3729.8	46149.	3480.1

Sample Name: 280-116051-D-2-A Acquired: 10/29/2018 11:19:18 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435185 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00137**	**5.1865**	**.03060**	**.36154**	**.04174**	**.00025**	**.00817**	**27.978**	**.00003**
Stddev	.00066	.0398	.00152	.00066	.00009	.00023	.00138	.057	.00003
%RSD	48.563	.76670	4.9600	.18348	.21937	93.323	16.938	.20455	85.348
#1	-.00183	5.1584	.02952	.36201	.04168	.00008	.00915	28.019	.00005
#2	-.00090	5.2146	.03167	.36107	.04181	.00041	.00719	27.938	.00001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00195**	**.05634**	**.02105**	**8.2251**	**5.0915**	**.15930**	**1.9422**	**.12716**	**.01604**
Stddev	.00017	.00025	.00031	.0448	.0454	.00363	.0053	.00050	.00002
%RSD	8.7806	.44070	1.4815	.54475	.89247	2.2788	.27083	.39306	.12345
#1	.00183	.05652	.02127	8.2568	5.1237	.16187	1.9385	.12681	.01602
#2	.00207	.05617	.02083	8.1935	5.0594	.15673	1.9459	.12752	.01605
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**175.65**	**.01881**	**.06819**	**-.00276**	**49.601**	**.00113**	**-.00137**	**32.604**	**69.772**
Stddev	.06	.00009	.00241	.00033	.161	.00260	.00091	.040	.086
%RSD	.03646	.47753	3.5372	11.895	.32463	229.62	66.428	.12351	.12351
#1	175.69	.01874	.06990	-.00253	49.715	.00297	-.00073	32.632	69.833
#2	175.60	.01887	.06648	-.00300	49.487	-.00071	-.00201	32.575	69.711
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00112**	**.25377**	**.00352**	**.10436**	**-.00036**	**.01781**	**.02159**	**.09154**	**.00876**
Stddev	.00013	.00008	.00253	.00203	.00288	.02512	.00019	.00099	.00253
%RSD	11.342	.02962	71.726	1.9413	806.31	141.02	.90089	1.0836	28.915
#1	.00121	.25382	.00174	.10293	-.00240	.03558	.02173	.09084	.01055
#2	.00103	.25372	.00531	.10580	.00168	.00005	.02145	.09224	.00697
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3754.1**	**46960.**	**3484.4**
Stddev	3.4	39.	47.4
%RSD	.09066	.08214	1.3615
#1	3751.7	46933.	3450.9
#2	3756.5	46987.	3518.0

Sample Name: CCVH-5380945 Acquired: 10/29/2018 11:21:50 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00313**	**49.920**	**-.00010**	**.00250**	**.00050**	**-.00022**	**1.0243**	**.01408**	**-.00002**	**.00156**	**.00047**	**.00060**	**49.804**
Stddev	.00118	.013	.00215	.00027	.00057	.00034	.0010	.00029	.00019	.00022	.00024	.00091	.116
%RSD	37.800	.02698	2255.8	10.633	113.60	157.02	.10209	2.0908	874.00	14.194	51.315	151.87	.23259
#1	-.00396	49.911	-.00161	.00269	.00010	.00002	1.0235	.01429	-.00016	.00141	.00030	.00125	49.722
#2	-.00229	49.930	.00142	.00232	.00090	-.00046	1.0250	.01388	.00012	.00172	.00064	-.00004	49.886
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.12436**	**.00027**	**-.07040**	**.00295**	**-.00068**	**246.23**	**.00407**	**.00537**	**-.00036**	**5.0540**	**.00576**	**.00608**	**-.03098**
Stddev	.00836	.00122	.00148	.00006	.00013	.38	.00091	.00017	.00261	.0194	.00537	.00572	.01402
%RSD	6.7236	448.76	2.1064	2.0224	19.231	.15254	22.408	3.1620	730.68	.38383	93.164	94.008	45.255
#1	.11845	-.00059	-.07145	.00300	-.00059	245.96	.00472	.00525	-.00220	5.0677	.00956	.01012	-.04089
#2	.13028	.00114	-.06935	.00291	-.00077	246.49	.00343	.00549	.00149	5.0403	.00197	.00204	-.02107
Check ?	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None	None	None
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.06630**	**-.00009**	**.00032**	**4.9649**	**.01902**	**.00060**	**10.288**	**-.01028**	**.00307**	**.06855**
Stddev	.03000	.00191	.00005	.0077	.00051	.00024	.007	.00011	.00120	.00564
%RSD	45.255	2234.1	16.926	.15438	2.6969	39.845	.07227	1.1012	39.107	8.2292
#1	-.08751	-.00144	.00029	4.9703	.01938	.00043	10.282	-.01036	.00222	.07254
#2	-.04508	.00127	.00036	4.9595	.01865	.00077	10.293	-.01020	.00392	.06456
Check ?	None	None	None	Chk Pass	None	None	Chk Pass	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3683.0**	**45786.**	**3404.8**
Stddev	12.9	195.	10.8
%RSD	.34928	.42538	.31826
#1	3692.1	45924.	3397.1
#2	3673.9	45649.	3412.4

Sample Name: CCV-5391053 Acquired: 10/29/2018 11:24:23 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50127**	**.53642**	**1.0047**	**.50266**	**.49955**	**.50257**	**.00692**	**5.1008**	**.50238**	**.50391**	**.50736**	**.50715**	**2.5128**
Stddev	.00067	.00160	.0011	.00005	.00242	.00037	.00144	.0192	.00134	.00240	.00288	.00197	.0020
%RSD	.13397	.29806	.10571	.00965	.48454	.07334	20.819	.37544	.26695	.47627	.56787	.38903	.07954
#1	.50174	.53755	1.0054	.50270	.49784	.50283	.00590	5.0873	.50333	.50561	.50940	.50855	2.5142
#2	.50079	.53528	1.0039	.50263	.50126	.50231	.00793	5.1143	.50143	.50222	.50532	.50576	2.5114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.985**	**1.0016**	**20.132**	**.50278**	**.50065**	**5.1183**	**.50685**	**1.0051**	**1.0194**	**.01625**	**.99939**	**1.0124**	**5.0115**
Stddev	.127	.0025	.003	.00079	.00324	.0018	.00146	.0097	.0046	.00043	.01157	.0091	.0035
%RSD	.25406	.25332	.01556	.15657	.64758	.03546	.28761	.96308	.44609	2.6543	1.1576	.90233	.06938
#1	49.895	.99984	20.134	.50334	.50294	5.1171	.50789	1.0120	1.0226	.01594	1.0076	1.0188	5.0140
#2	50.075	1.0034	20.129	.50222	.49836	5.1196	.50582	.99829	1.0162	.01655	.99121	1.0059	5.0090
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.725**	**1.0097**	**.50211**	**.00983**	**.49515**	**1.0305**	**-.00143**	**.49640**	**.50441**	**.49621**
Stddev	.007	.0046	.00037	.00200	.00043	.0030	.01671	.00046	.00104	.00348
%RSD	.06938	.45725	.07271	20.350	.08740	.28910	1165.5	.09192	.20674	.70207
#1	10.730	1.0130	.50185	.00841	.49546	1.0326	-.01325	.49672	.50515	.49375
#2	10.719	1.0064	.50237	.01124	.49485	1.0284	.01038	.49608	.50368	.49867
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3767.2**	**47329.**	**3432.6**
Stddev	9.5	600.	11.2
%RSD	.25111	1.2686	.32598
#1	3773.9	47754.	3440.5
#2	3760.5	46905.	3424.7

Sample Name: CCB Acquired: 10/29/2018 11:26:45 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00007**	**.00060**	**.00492**	**.00021**	**-.00056**	**-.00016**	**.00903**	**-.00214**	**.00025**	**-.00001**	**.00003**	**.00039**	**-.00635**
Stddev	.00025	.00014	.00213	.00150	.00055	.00003	.00049	.00012	.00014	.00050	.00021	.00013	.00465
%RSD	339.09	23.655	43.242	718.59	97.748	19.497	5.4300	5.8306	55.448	5526.4	765.43	33.312	73.319
#1	.00010	.00050	.00342	.00127	-.00017	-.00018	.00938	-.00205	.00035	.00034	-.00012	.00029	-.00964
#2	-.00025	.00070	.00642	-.00085	-.00095	-.00014	.00869	-.00222	.00015	-.00036	.00018	.00048	-.00306
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00871**	**-.00047**	**.00785**	**.00004**	**.00052**	**.04857**	**.00009**	**.00342**	**.00152**	**.00401**	**.00265**	**-.00097**	**-.05743**
Stddev	.04630	.00390	.00278	.00002	.00052	.00483	.00047	.00100	.00106	.00293	.00184	.00598	.00937
%RSD	531.76	820.61	35.450	42.882	99.873	9.9435	514.35	29.383	69.827	73.120	69.546	614.65	16.317
#1	-.04144	.00228	.00982	.00003	.00015	.05198	-.00024	.00413	.00077	.00194	.00134	-.00520	-.05080
#2	.02403	-.00323	.00589	.00005	.00089	.04515	.00042	.00271	.00226	.00609	.00395	.00326	-.06405
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.12289**	**.00006**	**-.00006**	**.00043**	**.00051**	**-.00068**	**.00743**	**.00031**	**.00026**	**.00115**
Stddev	.02005	.00009	.00008	.00278	.00016	.00063	.01406	.00004	.00069	.00573
%RSD	16.317	149.42	136.27	650.94	30.739	92.760	189.31	11.435	270.07	496.94
#1	-.10871	.00013	-.00000	-.00154	.00062	-.00113	-.00252	.00028	-.00023	.00520
#2	-.13707	-.00000	-.00011	.00239	.00040	-.00024	.01737	.00034	.00074	-.00290
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3731.5**	**47249.**	**3322.3**
Stddev	9.1	219.	12.0
%RSD	.24418	.46245	.36045
#1	3737.9	47095.	3313.8
#2	3725.0	47404.	3330.7

Sample Name: CCVL-5398386 Acquired: 10/29/2018 11:29:21 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00876**	**.11078**	**.01415**	**.09765**	**.01027**	**.00085**	**.11147**	**.20611**	**.00531**	**.01066**	**.01051**	**.01640**	**.10350**	**3.1418**
Stddev	.00116	.00152	.00220	.00183	.00044	.00039	.00423	.00318	.00005	.00026	.00014	.00016	.00329	.0162
%RSD	13.248	1.3732	15.574	1.8788	4.2579	45.691	3.7966	1.5429	.95776	2.4106	1.3348	.99403	3.1791	.51478
#1	.00958	.11186	.01259	.09895	.00996	.00057	.10848	.20386	.00535	.01084	.01060	.01629	.10118	3.1304
#2	.00794	.10970	.01571	.09635	.01058	.00112	.11446	.20836	.00528	.01048	.01041	.01652	.10583	3.1532
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01995**	**.20735**	**.01036**	**.01973**	**1.0455**	**.04163**	**2.8923**	**.00794**	**.09565**	**.01817**	**.01819**	**.47085**	**1.0076**	**.09963**
Stddev	.00133	.00541	.00001	.00043	.0081	.00065	.0381	.00040	.00258	.00415	.00725	.01659	.0355	.00237
%RSD	6.6779	2.6089	.09862	2.1901	.77621	1.5503	1.3180	5.0256	2.6929	22.825	39.837	3.5242	3.5242	2.3808
#1	.02089	.21117	.01035	.02004	1.0398	.04209	2.9192	.00823	.09747	.02111	.01306	.45912	.98251	.10131
#2	.01901	.20352	.01036	.01943	1.0513	.04118	2.8653	.00766	.09383	.01524	.02331	.48258	1.0327	.09796
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01012**	**.01400**	**.00999**	**.01531**	**.06660**	**.01016**	**.02175**	**.01739**
Stddev	.00025	.00018	.00018	.00145	.05122	.00006	.00095	.00129
%RSD	2.4341	1.2651	1.8014	9.4618	76.909	.56289	4.3458	7.4035
#1	.00995	.01388	.00986	.01428	.03038	.01012	.02242	.01831
#2	.01030	.01413	.01011	.01633	.10281	.01020	.02109	.01648
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3816.5**	**48095.**	**3357.6**
Stddev	7.1	62.	17.6
%RSD	.18542	.12857	.52281
#1	3821.5	48051.	3345.2
#2	3811.5	48138.	3370.0

Sample Name: 280-116051-D-4-A Acquired: 10/29/2018 11:31:55 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435185 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00043**	**.04055**	**.02483**	**.31089**	**.01380**	**-.00024**	**.00306**	**57.735**	**-.00008**
Stddev	.00068	.00028	.00555	.00434	.00008	.00003	.00188	.072	.00039
%RSD	160.18	.69996	22.342	1.3958	.58264	13.182	61.537	.12487	494.81
#1	.00006	.04075	.02091	.31396	.01375	-.00022	.00438	57.685	.00020
#2	-.00091	.04034	.02875	.30782	.01386	-.00027	.00173	57.786	-.00036
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00079**	**.02634**	**.00243**	**.03787**	**6.5140**	**.09447**	**1.7073**	**.00208**	**.00670**
Stddev	.00026	.00077	.00072	.00124	.0133	.00269	.0023	.00007	.00020
%RSD	32.408	2.9426	29.559	3.2723	.20363	2.8475	.13611	3.2948	2.9176
#1	-.00098	.02688	.00192	.03700	6.5046	.09637	1.7056	.00212	.00684
#2	-.00061	.02579	.00294	.03875	6.5233	.09256	1.7089	.00203	.00656
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**180.16**	**.00191**	**.04321**	**-.00384**	**55.528**	**-.00007**	**-.00926**	**20.737**	**44.378**
Stddev	.06	.00048	.00100	.00064	.761	.00045	.00452	.048	.103
%RSD	.03539	25.329	2.3232	16.719	1.3707	660.05	48.797	.23172	.23172
#1	180.21	.00157	.04250	-.00338	56.067	-.00039	-.00607	20.771	44.451
#2	180.12	.00225	.04392	-.00429	54.990	.00025	-.01246	20.703	44.305
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00177**	**.80913**	**-.00024**	**.00151**	**-.00029**	**-.02798**	**.01258**	**.01683**	**.00261**
Stddev	.00046	.00048	.00423	.00064	.00326	.00065	.00045	.00095	.00226
%RSD	25.930	.05904	1800.8	42.383	1126.8	2.3366	3.5941	5.6271	86.481
#1	.00209	.80947	.00276	.00106	.00202	-.02751	.01226	.01616	.00101
#2	.00144	.80879	-.00323	.00197	-.00260	-.02844	.01290	.01750	.00421
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3622.2**	**45422.**	**3411.8**
Stddev	3.0	218.	7.5
%RSD	.08312	.47949	.22070
#1	3624.3	45576.	3406.5
#2	3620.0	45268.	3417.1

Sample Name: 116051-D-4-A SD@5 Acquired: 10/29/2018 11:34:29 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435185 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00009**	**.00796**	**.01010**	**.06260**	**.00272**	**-.00006**	**.00164**	**11.810**	**.00021**
Stddev	.00043	.00125	.00341	.00108	.00006	.00011	.00048	.044	.00006
%RSD	501.87	15.687	33.789	1.7225	2.2866	187.07	29.055	.37544	27.886
#1	.00039	.00884	.00769	.06337	.00267	.00002	.00198	11.779	.00025
#2	-.00022	.00708	.01251	.06184	.00276	-.00014	.00130	11.842	.00017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00014**	**.00550**	**.00071**	**.01383**	**1.3490**	**.02258**	**.35804**	**.00042**	**.00120**
Stddev	.00022	.00016	.00020	.00350	.0165	.00234	.00157	.00010	.00001
%RSD	157.39	2.9580	28.568	25.326	1.2258	10.381	.43936	24.598	.41629
#1	-.00002	.00561	.00057	.01135	1.3374	.02424	.35693	.00049	.00120
#2	.00030	.00538	.00086	.01630	1.3607	.02092	.35915	.00034	.00121
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**37.884**	**.00081**	**.00978**	**-.00014**	**10.861**	**-.00178**	**-.00099**	**4.1700**	**8.9238**
Stddev	1.077	.00035	.00244	.00238	.129	.00530	.00075	.0188	.0403
%RSD	2.8437	42.437	24.943	1752.2	1.1888	296.96	76.281	.45173	.45173
#1	38.646	.00057	.01150	.00155	10.952	.00196	-.00046	4.1567	8.8953
#2	37.122	.00106	.00805	-.00182	10.770	-.00553	-.00152	4.1833	8.9523
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00051**	**.16473**	**-.00043**	**.00012**	**.00082**	**-.03207**	**.00294**	**.00515**	**.00015**
Stddev	.00001	.00076	.00141	.00053	.00071	.04880	.00029	.00066	.00784
%RSD	2.4430	.45875	328.88	422.89	87.559	152.15	9.8262	12.795	5154.8
#1	.00052	.16420	-.00143	.00050	.00132	.00243	.00314	.00561	-.00539
#2	.00050	.16527	.00057	-.00025	.00031	-.06658	.00274	.00468	.00570
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3708.4**	**45874.**	**3299.6**
Stddev	4.1	52.	8.8
%RSD	.10947	.11394	.26638
#1	3711.2	45837.	3305.8
#2	3705.5	45911.	3293.4

Sample Name: 280-116051-D-4-B MS Acquired: 10/29/2018 11:37:02 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435185 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04883**	**2.0726**	**1.0322**	**1.3187**	**2.0582**	**.05119**	**1.9414**	**107.06**	**.09661**
Stddev	.00023	.0141	.0058	.0064	.0043	.00020	.0109	.30	.00113
%RSD	.46296	.67842	.56485	.48751	.20968	.39588	.56179	.28222	1.1666
#1	.04867	2.0825	1.0364	1.3233	2.0612	.05133	1.9491	107.28	.09741
#2	.04899	2.0626	1.0281	1.3142	2.0551	.05105	1.9337	106.85	.09581
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49173**	**.22674**	**.25306**	**1.0538**	**57.055**	**1.0809**	**50.795**	**.50345**	**1.0235**
Stddev	.00422	.00283	.00059	.0056	.062	.0023	.075	.00068	.0075
%RSD	.85902	1.2469	.23479	.53136	.10840	.21614	.14780	.13482	.72770
#1	.49471	.22874	.25264	1.0498	57.099	1.0792	50.848	.50393	1.0288
#2	.48874	.22474	.25348	1.0577	57.011	1.0826	50.742	.50298	1.0182
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**224.14**	**.49078**	**10.622**	**.48127**	**56.298**	**.50587**	**2.0770**	**30.535**	**65.346**
Stddev	.12	.00445	.074	.00977	.238	.00337	.0096	.053	.114
%RSD	.05434	.90770	.70078	2.0297	.42215	.66555	.46422	.17423	.17423
#1	224.23	.49393	10.674	.48818	56.466	.50825	2.0838	30.573	65.426
#2	224.06	.48763	10.569	.47437	56.130	.50349	2.0702	30.498	65.265
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.0003**	**1.8111**	**1.0059**	**1.0118**	**1.9133**	**2.0209**	**.52862**	**.52335**	**.51680**
Stddev	.0192	.0085	.0011	.0010	.0150	.0032	.00133	.00180	.00258
%RSD	.96001	.47051	.11195	.09436	.78601	.16031	.25106	.34430	.49874
#1	2.0139	1.8171	1.0051	1.0125	1.9239	2.0232	.52956	.52462	.51863
#2	1.9867	1.8051	1.0067	1.0111	1.9026	2.0186	.52768	.52207	.51498
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3601.9**	**44284.**	**3369.7**
Stddev	4.1	55.	10.9
%RSD	.11449	.12349	.32312
#1	3599.0	44323.	3377.4
#2	3604.8	44246.	3362.0

Sample Name: 280-116051-D-4-C MSD Acquired: 10/29/2018 11:39:22 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435185 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04957**	**2.1075**	**1.0505**	**1.3435**	**2.0800**	**.05148**	**1.9838**	**107.99**	**.09899**
Stddev	.00123	.0111	.0019	.0042	.0016	.00010	.0210	.08	.00066
%RSD	2.4745	.52852	.18405	.31450	.07846	.18868	1.0562	.07565	.66868
#1	.04871	2.1154	1.0519	1.3465	2.0811	.05155	1.9986	108.05	.09946
#2	.05044	2.0996	1.0492	1.3405	2.0788	.05141	1.9690	107.94	.09853
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50122**	**.23055**	**.25791**	**1.0590**	**57.498**	**1.0880**	**51.467**	**.50947**	**1.0452**
Stddev	.00173	.00172	.00160	.0070	.013	.0025	.025	.00023	.0082
%RSD	.34429	.74392	.62035	.66168	.02302	.23023	.04877	.04607	.78541
#1	.50244	.23177	.25904	1.0541	57.488	1.0863	51.484	.50964	1.0510
#2	.50000	.22934	.25678	1.0640	57.507	1.0898	51.449	.50930	1.0394
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**226.08**	**.49985**	**10.837**	**.49352**	**57.325**	**.51357**	**2.0966**	**30.714**	**65.729**
Stddev	.25	.00326	.048	.00294	.417	.00341	.0099	.061	.131
%RSD	.11162	.65287	.44484	.59575	.72768	.66483	.47059	.19899	.19899
#1	226.26	.50216	10.871	.49560	57.620	.51116	2.1035	30.758	65.821
#2	225.90	.49754	10.803	.49144	57.030	.51599	2.0896	30.671	65.636
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.0330**	**1.8293**	**1.0248**	**1.0263**	**1.9388**	**2.0276**	**.53539**	**.52893**	**.52350**
Stddev	.0134	.0005	.0054	.0006	.0113	.0069	.00058	.00130	.00077
%RSD	.65965	.02570	.52273	.05738	.58041	.33768	.10848	.24543	.14620
#1	2.0425	1.8296	1.0210	1.0267	1.9468	2.0324	.53580	.52985	.52296
#2	2.0235	1.8289	1.0286	1.0258	1.9309	2.0228	.53498	.52801	.52404
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3594.0**	**44643.**	**3379.1**
Stddev	12.8	80.	15.1
%RSD	.35687	.17996	.44707
#1	3603.1	44586.	3368.5
#2	3584.9	44699.	3389.8

Sample Name: 280-116051-D-4-A PDS Acquired: 10/29/2018 11:41:41 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435185 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04965**	**1.0505**	**.22951**	**.40390**	**.11394**	**.05111**	**.00453**	**77.376**	**.04862**
Stddev	.00080	.0274	.00335	.00922	.00007	.00006	.00183	.397	.00174
%RSD	1.6079	2.6077	1.4585	2.2825	.06275	.11789	40.378	.51286	3.5793
#1	.04909	1.0698	.23187	.41042	.11399	.05107	.00582	77.095	.04985
#2	.05022	1.0311	.22714	.39738	.11389	.05116	.00324	77.656	.04739
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04787**	**.07484**	**.05351**	**1.0827**	**26.832**	**.19414**	**21.277**	**.05266**	**.05926**
Stddev	.00120	.00190	.00044	.0059	.134	.00035	.004	.00006	.00186
%RSD	2.5069	2.5351	.82762	.54814	.50047	.18203	.01698	.10949	3.1425
#1	.04872	.07618	.05383	1.0869	26.737	.19389	21.274	.05270	.06057
#2	.04702	.07349	.05320	1.0785	26.927	.19438	21.279	.05262	.05794
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**197.88**	**.05063**	**2.1172**	**.08900**	**54.051**	**.10463**	**.20182**	**25.900**	**55.426**
Stddev	1.45	.00110	.0644	.00328	1.322	.00318	.00047	.182	.390
%RSD	.73101	2.1776	3.0420	3.6824	2.4455	3.0348	.23304	.70434	.70434
#1	196.85	.05141	2.1628	.09132	54.985	.10687	.20215	25.771	55.150
#2	198.90	.04986	2.0717	.08669	53.116	.10238	.20148	26.029	55.702
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10002**	**.85222**	**.19973**	**.05381**	**.18737**	**.53361**	**.06234**	**.22520**	**.05684**
Stddev	.00024	.00583	.00017	.00067	.00396	.01770	.00015	.00112	.00104
%RSD	.24144	.68418	.08415	1.2520	2.1121	3.3171	.23952	.49752	1.8340
#1	.10019	.84809	.19961	.05333	.19017	.54612	.06245	.22600	.05610
#2	.09984	.85634	.19985	.05429	.18457	.52109	.06224	.22441	.05758
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3617.6**	**44835.**	**3350.4**
Stddev	16.9	615.	18.0
%RSD	.46831	1.3725	.53806
#1	3605.7	45270.	3363.1
#2	3629.6	44400.	3337.6

Sample Name: MB 280-435183/1-A Acquired: 10/29/2018 11:44:08 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 10/28 Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00032**	**.00347**	**.00039**	**.00330**	**-.00054**	**.00017**	**.00209**	**.21875**	**.00013**
Stddev	.00000	.00009	.00070	.00007	.00014	.00005	.00004	.00161	.00002
%RSD	.46482	2.5764	179.92	2.2148	26.687	28.915	2.0806	.73442	14.274
#1	-.00032	.00341	.00089	.00325	-.00044	.00020	.00206	.21988	.00012
#2	-.00032	.00354	-.00011	.00336	-.00064	.00013	.00212	.21761	.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00033**	**.00044**	**.00048**	**.00595**	**.14564**	**.00167**	**.00989**	**.00032**	**.00003**
Stddev	.00026	.00025	.00006	.00509	.06373	.00195	.00812	.00016	.00052
%RSD	80.284	56.882	13.216	85.598	43.760	117.07	82.144	50.454	1781.2
#1	.00014	.00026	.00043	.00235	.10058	.00029	.00414	.00044	.00039
#2	.00051	.00061	.00052	.00955	.19071	.00305	.01563	.00021	-.00034
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20688**	**-.00007**	**.00338**	**.00060**	**.03474**	**-.00071**	**.00101**	**.02106**	**.04507**
Stddev	.00535	.00055	.00103	.00079	.00515	.00393	.00767	.02086	.04463
%RSD	2.5838	779.45	30.488	131.96	14.820	551.23	759.56	99.021	99.021
#1	.20310	-.00046	.00265	.00115	.03838	.00206	.00643	.00631	.01351
#2	.21066	.00032	.00411	.00004	.03110	-.00349	-.00441	.03581	.07663
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00036**	**-.00002**	**.00147**	**.00055**	**-.00189**	**.00798**	**.00036**	**.00290**	**.00099**
Stddev	.00024	.00008	.00086	.00008	.00005	.00769	.00003	.00009	.00240
%RSD	68.552	372.02	58.761	14.631	2.8856	96.324	6.8818	3.2035	242.82
#1	-.00053	-.00008	.00086	.00061	-.00193	.00254	.00035	.00283	.00268
#2	-.00018	.00004	.00208	.00050	-.00185	.01341	.00038	.00296	-.00071
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3752.7**	**47609.**	**3363.6**
Stddev	1.7	305.	11.4
%RSD	.04605	.64049	.34026
#1	3751.5	47825.	3355.5
#2	3753.9	47394.	3371.7

Sample Name: LCS 280-435183/2-A Acquired: 10/29/2018 11:46:45 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04833**	**2.0901**	**1.0058**	**1.0327**	**2.0452**	**.05092**	**1.9865**	**50.532**	**.09762**
Stddev	.00028	.0198	.0042	.0071	.0016	.00012	.0153	.017	.00069
%RSD	.58825	.94719	.41687	.68943	.07781	.23170	.76887	.03446	.71133
#1	.04813	2.1041	1.0028	1.0377	2.0441	.05084	1.9973	50.545	.09811
#2	.04853	2.0761	1.0087	1.0276	2.0463	.05100	1.9757	50.520	.09713
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49763**	**.20261**	**.25391**	**1.0099**	**50.482**	**1.0034**	**49.796**	**.49913**	**1.0283**
Stddev	.00313	.00165	.00075	.0012	.096	.0047	.131	.00113	.0086
%RSD	.62838	.81650	.29423	.11883	.19028	.46977	.26400	.22582	.83942
#1	.49984	.20378	.25443	1.0091	50.414	1.0001	49.889	.49992	1.0344
#2	.49542	.20144	.25338	1.0108	50.550	1.0068	49.704	.49833	1.0222
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.490**	**.49762**	**10.459**	**.50134**	**2.0452**	**.51167**	**2.0738**	**10.197**	**21.822**
Stddev	.117	.00333	.069	.00125	.0230	.00530	.0164	.026	.056
%RSD	.23245	.66866	.66087	.24877	1.1266	1.0363	.78972	.25531	.25531
#1	50.407	.49997	10.508	.50222	2.0615	.51542	2.0853	10.179	21.783
#2	50.573	.49527	10.410	.50046	2.0289	.50792	2.0622	10.216	21.862
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.0329**	**1.0160**	**.99330**	**1.0002**	**2.0175**	**2.0519**	**.51057**	**.50247**	**.51412**
Stddev	.0116	.0021	.00754	.0013	.0235	.0586	.00174	.00349	.00164
%RSD	.56912	.20724	.75870	.13000	1.1661	2.8574	.34074	.69496	.31848
#1	2.0411	1.0145	.99863	1.0011	2.0342	2.0933	.51180	.50494	.51528
#2	2.0248	1.0175	.98797	.99930	2.0009	2.0104	.50934	.50000	.51296
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3697.4**	**46200.**	**3385.4**
Stddev	3.7	6.	29.6
%RSD	.09937	.01321	.87429
#1	3694.8	46204.	3364.4
#2	3700.0	46195.	3406.3

Sample Name: LCSD 280-435183/3-A Acquired: 10/29/2018 11:49:05 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04839**	**2.1039**	**.99777**	**1.0306**	**2.0662**	**.05079**	**1.9813**	**50.905**	**.09729**
Stddev	.00022	.0165	.00730	.0092	.0012	.00008	.0199	.111	.00084
%RSD	.45076	.78378	.73209	.89547	.05859	.15693	1.0047	.21800	.86325
#1	.04824	2.1155	1.0029	1.0371	2.0653	.05084	1.9954	50.827	.09789
#2	.04855	2.0922	.99261	1.0241	2.0670	.05073	1.9672	50.984	.09670
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49958**	**.20514**	**.25268**	**1.0165**	**51.099**	**1.0097**	**50.175**	**.50410**	**1.0371**
Stddev	.00528	.00208	.00073	.0025	.050	.0035	.246	.00186	.0138
%RSD	1.0573	1.0142	.28728	.24444	.09756	.34596	.49057	.36935	1.3301
#1	.50332	.20661	.25320	1.0148	51.064	1.0073	50.349	.50542	1.0469
#2	.49585	.20367	.25217	1.0183	51.134	1.0122	50.001	.50279	1.0274
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.242**	**.50005**	**10.437**	**.50447**	**2.0443**	**.51574**	**2.0761**	**10.221**	**21.872**
Stddev	.403	.00454	.089	.00351	.0190	.00179	.0286	.010	.022
%RSD	.80178	.90707	.85446	.69644	.92901	.34669	1.3774	.09850	.09850
#1	49.958	.50325	10.500	.50696	2.0577	.51701	2.0963	10.228	21.887
#2	50.527	.49684	10.373	.50199	2.0309	.51448	2.0559	10.213	21.857
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.0476**	**1.0235**	**1.0033**	**1.0132**	**2.0239**	**2.1231**	**.51314**	**.50601**	**.52330**
Stddev	.0214	.0000	.0044	.0046	.0211	.0807	.00173	.00305	.00360
%RSD	1.0437	.00013	.43507	.45047	1.0409	3.8020	.33674	.60316	.68795
#1	2.0627	1.0235	1.0064	1.0165	2.0388	2.0660	.51437	.50817	.52076
#2	2.0325	1.0235	1.0003	1.0100	2.0090	2.1802	.51192	.50385	.52585
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3620.7**	**45367.**	**3404.9**
Stddev	18.5	61.	5.3
%RSD	.51018	.13498	.15503
#1	3607.6	45324.	3401.1
#2	3633.7	45411.	3408.6

Sample Name: CCVH-5380945 Acquired: 10/29/2018 11:51:25 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00363**	**50.690**	**-.00142**	**.00529**	**.00084**	**-.00009**	**1.0069**	**.00072**	**-.00018**	**.00140**	**.00066**	**.00011**	**50.133**
Stddev	.00086	.103	.00401	.00057	.00050	.00008	.0199	.01152	.00002	.00026	.00035	.00065	.249
%RSD	23.648	.20315	281.58	10.821	58.962	85.610	1.9722	1604.5	8.8718	18.833	52.262	572.91	.49580
#1	-.00424	50.617	.00141	.00570	.00119	-.00014	1.0209	.00886	-.00019	.00159	.00091	-.00034	49.957
#2	-.00303	50.762	-.00426	.00489	.00049	-.00004	.99283	-.00743	-.00017	.00121	.00042	.00057	50.309
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.31884**	**-.00055**	**-.07458**	**.00257**	**.00111**	**249.41**	**.00357**	**.00298**	**.00010**	**5.0730**	**.00208**	**.00899**	**-.02571**
Stddev	.04014	.00325	.00590	.00006	.00002	.43	.00034	.00106	.00089	.0674	.00277	.00101	.01921
%RSD	12.590	584.86	7.9132	2.3324	1.8795	.17410	9.4879	35.520	869.17	1.3284	132.91	11.252	74.689
#1	.34722	.00174	-.07041	.00262	.00109	249.11	.00381	.00223	-.00053	5.1206	.00013	.00827	-.01213
#2	.29045	-.00285	-.07876	.00253	.00112	249.72	.00333	.00372	.00073	5.0253	.00404	.00970	-.03929
Check ?	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None	None	None
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.05503**	**.00120**	**.00032**	**4.9781**	**.02063**	**.00010**	**10.337**	**-.00974**	**.00154**	**.06652**
Stddev	.04110	.00007	.00003	.0020	.00011	.00284	.061	.00089	.00077	.00518
%RSD	74.689	5.9430	8.5374	.03955	.55069	2748.8	.59011	9.0925	49.877	7.7871
#1	-.02597	.00125	.00034	4.9767	.02071	.00211	10.380	-.00911	.00208	.06286
#2	-.08409	.00115	.00030	4.9795	.02055	-.00191	10.294	-.01036	.00100	.07018
Check ?	None	None	None	Chk Pass	None	None	Chk Pass	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3694.4**	**45621.**	**3298.5**
Stddev	29.1	201.	5.1
%RSD	.78831	.44016	.15485
#1	3715.0	45479.	3294.9
#2	3673.8	45763.	3302.1

Sample Name: CCV-5391053 Acquired: 10/29/2018 11:53:56 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50465**	**.54139**	**1.0096**	**.50360**	**.50958**	**.51110**	**.00579**	**5.1318**	**.50290**	**.50649**	**.50822**	**.50975**	**2.5529**
Stddev	.00225	.00628	.0214	.00416	.00086	.00117	.00149	.0117	.00514	.00535	.00684	.00093	.0030
%RSD	.44514	1.1606	2.1186	.82563	.16971	.22835	25.806	.22795	1.0221	1.0568	1.3465	.18206	.11816
#1	.50624	.54583	1.0247	.50654	.51019	.51028	.00473	5.1401	.50654	.51027	.51306	.51040	2.5550
#2	.50306	.53695	.99448	.50066	.50897	.51193	.00684	5.1236	.49927	.50270	.50338	.50909	2.5507
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.846**	**1.0132**	**20.383**	**.50786**	**.50280**	**5.1355**	**.51096**	**1.0128**	**1.0292**	**.00945**	**.99467**	**1.0116**	**5.0459**
Stddev	.181	.0018	.027	.00068	.00602	.0078	.00651	.0144	.0103	.00316	.01420	.0141	.0501
%RSD	.35553	.17267	.13095	.13383	1.1967	.15217	1.2746	1.4255	.99703	33.449	1.4277	1.3944	.99203
#1	50.719	1.0120	20.402	.50834	.50705	5.1300	.51556	1.0230	1.0364	.00722	1.0047	1.0215	5.0105
#2	50.974	1.0144	20.364	.50738	.49854	5.1411	.50635	1.0026	1.0219	.01169	.98463	1.0016	5.0813
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.798**	**1.0110**	**.51067**	**.01207**	**.50063**	**1.0375**	**-.02610**	**.49879**	**.50522**	**.51021**
Stddev	.107	.0111	.00175	.00345	.00066	.0091	.04931	.00157	.00147	.00094
%RSD	.99203	1.0988	.34333	28.626	.13217	.87940	188.96	.31505	.29168	.18438
#1	10.723	1.0188	.50943	.01451	.50110	1.0440	-.06097	.49768	.50418	.51087
#2	10.874	1.0031	.51191	.00963	.50016	1.0310	.00877	.49990	.50626	.50954
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3732.2**	**46955.**	**3356.3**
Stddev	17.8	170.	29.2
%RSD	.47824	.36303	.87106
#1	3744.8	46835.	3377.0
#2	3719.6	47076.	3335.6

Sample Name: CCB Acquired: 10/29/2018 11:56:20 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00007**	**-.00037**	**.00611**	**.00175**	**-.00045**	**-.00012**	**.00261**	**-.00024**	**.00030**	**.00006**	**-.00051**	**.00034**	**-.00251**
Stddev	.00027	.00015	.00613	.00003	.00031	.00004	.00235	.01003	.00019	.00080	.00010	.00032	.00438
%RSD	389.38	40.513	100.32	1.7194	69.631	34.792	90.255	4167.3	61.845	1377.6	20.060	94.583	174.70
#1	-.00012	-.00048	.00178	.00177	-.00067	-.00009	.00094	.00685	.00043	-.00051	-.00043	.00057	-.00560
#2	.00026	-.00027	.01045	.00173	-.00023	-.00015	.00427	-.00733	.00017	.00062	-.00058	.00011	.00059
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.06664**	**.00039**	**-.00012**	**.00005**	**.00103**	**.00735**	**.00011**	**.00255**	**-.00038**	**.00294**	**.00142**	**.00064**	**-.01343**
Stddev	.04475	.00032	.00233	.00004	.00021	.00808	.00000	.00249	.00047	.00324	.00104	.00654	.02083
%RSD	67.147	80.905	1988.8	79.174	20.083	109.82	4.1327	97.921	122.78	110.12	72.897	1021.3	155.13
#1	.09829	.00017	.00153	.00008	.00088	.00164	.00012	.00078	-.00005	.00523	.00216	.00526	-.02816
#2	.03500	.00061	-.00176	.00002	.00117	.01306	.00011	.00431	-.00072	.00065	.00069	-.00398	.00130
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.02873**	**.00169**	**-.00009**	**-.00062**	**.00036**	**-.00245**	**.06307**	**.00057**	**.00075**	**.00103**
Stddev	.04457	.00071	.00019	.00136	.00013	.00061	.00365	.00090	.00045	.00198
%RSD	155.13	41.821	202.29	221.07	36.244	24.808	5.7797	159.13	59.851	191.64
#1	-.06025	.00219	-.00023	.00035	.00045	-.00288	.06049	.00121	.00043	-.00037
#2	.00278	.00119	.00004	-.00158	.00026	-.00202	.06564	-.00007	.00106	.00243
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3721.6**	**47035.**	**3300.9**
Stddev	6.6	3.	11.4
%RSD	.17729	.00722	.34538
#1	3717.0	47033.	3308.9
#2	3726.3	47037.	3292.8

Sample Name: CCVL-5398386 Acquired: 10/29/2018 11:58:58 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00951**	**.11488**	**.01415**	**.09970**	**.01049**	**.00089**	**.11675**	**.20741**	**.00534**	**.01075**	**.01014**	**.01723**	**.10436**	**3.2183**
Stddev	.00119	.00123	.00080	.00090	.00039	.00031	.00177	.00351	.00015	.00026	.00016	.00047	.00322	.0464
%RSD	12.501	1.0677	5.6446	.89817	3.7313	35.207	1.5173	1.6909	2.7472	2.4343	1.5455	2.7394	3.0809	1.4429
#1	.00867	.11575	.01358	.10033	.01077	.00111	.11550	.20493	.00544	.01057	.01025	.01757	.10663	3.1855
#2	.01035	.11401	.01471	.09906	.01021	.00067	.11801	.20989	.00523	.01094	.01003	.01690	.10208	3.2511
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02210**	**.21617**	**.01073**	**.01955**	**1.0405**	**.04315**	**2.9731**	**.01110**	**.09974**	**.01649**	**.02202**	**.47207**	**1.0102**	**.10231**
Stddev	.00238	.00382	.00002	.00008	.0108	.00009	.0054	.00206	.00365	.00304	.00603	.01044	.0223	.00054
%RSD	10.749	1.7667	.21089	.43339	1.0419	.20004	.18013	18.585	3.6574	18.439	27.389	2.2121	2.2121	.53077
#1	.02378	.21887	.01075	.01961	1.0329	.04309	2.9769	.00964	.09716	.01864	.01775	.46468	.99442	.10192
#2	.02042	.21346	.01072	.01949	1.0482	.04321	2.9693	.01255	.10231	.01434	.02628	.47945	1.0260	.10269
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01023**	**.01425**	**.01064**	**.01698**	**.07770**	**.01034**	**.02201**	**.01745**
Stddev	.00002	.00093	.00013	.00245	.06066	.00075	.00066	.00191
%RSD	.21468	6.5037	1.2524	14.419	78.074	7.2642	2.9936	10.941
#1	.01022	.01360	.01073	.01525	.12059	.01087	.02154	.01880
#2	.01025	.01491	.01054	.01871	.03480	.00981	.02247	.01610
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3840.6**	**48579.**	**3420.7**
Stddev	2.9	393.	17.4
%RSD	.07572	.80984	.50962
#1	3842.6	48301.	3408.3
#2	3838.5	48857.	3433.0

Sample Name: 280-116051-C-1-A Acquired: 10/29/2018 12:01:31 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00131**	**24.582**	**.06688**	**.33113**	**.19769**	**.00270**	**.04287**	**32.330**	**.00001**
Stddev	.00022	.030	.00721	.00258	.00057	.00020	.00158	.061	.00025
%RSD	16.369	.12133	10.785	.78040	.28937	7.3973	3.6892	.18886	4560.1
#1	-.00147	24.560	.06178	.33295	.19728	.00284	.04399	32.287	-.00017
#2	-.00116	24.603	.07198	.32930	.19809	.00256	.04175	32.373	.00018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01612**	**.28258**	**.13167**	**54.140**	**8.6476**	**.16634**	**4.5380**	**.88856**	**.02757**
Stddev	.00016	.00365	.00030	.211	.0314	.00202	.0181	.00045	.00020
%RSD	1.0044	1.2913	.22704	.39000	.36276	1.2128	.39771	.05071	.73849
#1	.01601	.28516	.13188	53.990	8.6254	.16777	4.5507	.88888	.02743
#2	.01623	.28000	.13146	54.289	8.6698	.16491	4.5252	.88824	.02771
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**164.93**	**.12514**	**.39112**	**.02235**	**45.683**	**-.00334**	**-.00246**	W **55.835**	**119.49**
Stddev	.40	.00136	.00768	.00133	.593	.00017	.00169	.348	.74
%RSD	.24133	1.0829	1.9635	5.9619	1.2991	5.0519	68.939	.62243	.62243
#1	164.65	.12610	.39656	.02329	46.102	-.00346	-.00366	56.080	120.01
#2	165.21	.12418	.38569	.02140	45.263	-.00322	-.00126	55.589	118.96
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit								50.000	
Low Limit								-1.0000	

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01020**	**.34280**	**.03525**	**.44153**	**-.00143**	**-.02444**	**.06383**	**.49983**	**.03313**
Stddev	.00152	.00052	.00326	.00132	.00084	.02704	.00106	.00183	.00041
%RSD	14.939	.15066	9.2374	.29884	58.653	110.61	1.6615	.36572	1.2497
#1	.01127	.34244	.03295	.44059	-.00083	-.00533	.06458	.49853	.03283
#2	.00912	.34317	.03755	.44246	-.00202	-.04356	.06308	.50112	.03342
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3968.1**	**49181.**	**3649.3**
Stddev	5.0	12.	5.2
%RSD	.12564	.02501	.14151
#1	3971.6	49172.	3645.7
#2	3964.6	49190.	3653.0

Sample Name: 280-116051-C-2-A Acquired: 10/29/2018 12:03:57 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00148**	**21.402**	**.06177**	**.32950**	**.16577**	**.00226**	**.03743**	**31.195**	**.00022**
Stddev	.00049	.035	.00340	.00324	.00029	.00006	.00117	.036	.00037
%RSD	32.921	.16358	5.5119	.98331	.17682	2.7392	3.1208	.11469	163.47
#1	-.00114	21.427	.05937	.33179	.16557	.00222	.03826	31.220	.00048
#2	-.00182	21.378	.06418	.32721	.16598	.00231	.03661	31.170	-.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01387**	**.24146**	**.11495**	**48.242**	**7.7760**	**.16058**	**4.0888**	**.71838**	**.02578**
Stddev	.00017	.00278	.00035	.030	.0335	.00373	.0118	.00089	.00017
%RSD	1.2230	1.1499	.30355	.06307	.43099	2.3249	.28791	.12427	.64451
#1	.01399	.24342	.11520	48.220	7.7523	.15794	4.0971	.71901	.02566
#2	.01375	.23949	.11470	48.263	7.7997	.16322	4.0805	.71775	.02590
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**162.97**	**.10462**	**.32078**	**.02164**	**45.720**	**-.00273**	**-.00446**	W **50.273**	**107.59**
Stddev	.41	.00081	.00417	.00035	.260	.00427	.00222	.033	.07
%RSD	.24993	.77600	1.3002	1.6238	.56935	156.00	49.719	.06620	.06620
#1	163.25	.10519	.32373	.02139	45.904	-.00575	-.00603	50.297	107.64
#2	162.68	.10404	.31783	.02189	45.536	.00028	-.00289	50.250	107.53
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit								50.000	
Low Limit								-1.0000	

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00514**	**.32117**	**.03035**	**.33401**	**-.00031**	**.04304**	**.05440**	**.50426**	**.03295**
Stddev	.00157	.00010	.00201	.00031	.00313	.02788	.00072	.00015	.00071
%RSD	30.524	.03019	6.6300	.09142	994.05	64.766	1.3258	.03000	2.1657
#1	.00403	.32110	.03178	.33380	-.00252	.06275	.05491	.50415	.03345
#2	.00625	.32123	.02893	.33423	.00190	.02333	.05389	.50437	.03244
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3849.4**	**47381.**	**3530.5**
Stddev	.4	37.	5.7
%RSD	.01166	.07879	.16123
#1	3849.1	47354.	3534.5
#2	3849.7	47407.	3526.5

Sample Name: 280-116051-C-3-A Acquired: 10/29/2018 12:06:24 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00083**	**.00264**	**.00254**	**.00200**	**.00001**	**-.00017**	**.00023**	**.01538**	**-.00001**
Stddev	.00041	.00059	.00230	.00027	.00016	.00000	.00223	.00979	.00023
%RSD	48.853	22.385	90.658	13.392	1808.6	2.7539	949.34	63.646	4532.4
#1	-.00112	.00223	.00091	.00181	.00013	-.00017	.00181	.00846	.00016
#2	-.00055	.00306	.00417	.00219	-.00011	-.00017	-.00134	.02231	-.00017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00024**	**-.00008**	**.00094**	**-.00216**	**.08236**	**.00107**	**-.00502**	**-.00006**	**.00037**
Stddev	.00019	.00006	.00006	.00172	.01305	.00270	.00659	.00004	.00011
%RSD	80.478	74.954	6.8689	79.745	15.849	253.23	131.41	58.382	30.394
#1	.00038	-.00004	.00099	-.00337	.07313	-.00084	-.00968	-.00004	.00029
#2	.00010	-.00012	.00090	-.00094	.09159	.00298	-.00036	-.00009	.00045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.08209**	**-.00050**	**.00109**	**-.00057**	**.01503**	**.00009**	**-.00079**	**.23588**	**.50478**
Stddev	.01814	.00058	.00157	.00090	.00538	.00110	.00263	.02001	.04281
%RSD	22.097	115.95	143.81	157.04	35.766	1217.5	331.93	8.4812	8.4812
#1	.09491	-.00091	.00220	.00006	.01123	.00087	.00107	.25002	.53505
#2	.06926	-.00009	-.00002	-.00121	.01883	-.00069	-.00266	.22173	.47450
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00067**	**-.00024**	**.00026**	**.00018**	**.00073**	**.04192**	**.00037**	**.00115**	**.00098**
Stddev	.00077	.00007	.00050	.00030	.00212	.05006	.00002	.00076	.00452
%RSD	114.20	30.356	188.10	173.13	292.26	119.43	6.0137	65.956	459.80
#1	-.00013	-.00029	.00061	.00039	.00223	.07731	.00035	.00169	.00418
#2	-.00122	-.00018	-.00009	-.00004	-.00077	.00652	.00039	.00062	-.00221
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3788.4**	**47928.**	**3369.8**
Stddev	6.4	248.	6.5
%RSD	.17003	.51665	.19145
#1	3792.9	48103.	3365.2
#2	3783.8	47753.	3374.3

Sample Name: 280-116051-C-4-A Acquired: 10/29/2018 12:09:00 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00102**	**11.988**	**.03670**	**.31099**	**.13817**	**.00099**	**.01554**	**72.173**	**.00024**
Stddev	.00104	.011	.00181	.00196	.00056	.00024	.00556	.075	.00020
%RSD	101.91	.09239	4.9408	.62957	.40235	23.917	35.764	.10359	84.845
#1	-.00029	11.996	.03541	.31238	.13778	.00116	.01947	72.226	.00010
#2	-.00176	11.981	.03798	.30961	.13856	.00082	.01161	72.120	.00038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00563**	**.12748**	**.02324**	**15.672**	**10.012**	**.12249**	**5.0750**	**.31700**	**.01068**
Stddev	.00058	.00183	.00076	.040	.036	.00049	.0066	.00007	.00020
%RSD	10.317	1.4323	3.2642	.25816	.36365	.40306	.12992	.02140	1.8630
#1	.00604	.12877	.02377	15.644	9.9859	.12284	5.0797	.31695	.01082
#2	.00522	.12619	.02270	15.701	10.037	.12214	5.0704	.31704	.01054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**177.77**	**.02331**	**.24281**	**-.00152**	**54.921**	**.00053**	**-.00597**	**40.806**	**87.325**
Stddev	.43	.00083	.00252	.00001	.786	.00341	.00271	.057	.122
%RSD	.24099	3.5613	1.0360	.70642	1.4316	643.23	45.337	.14011	.14011
#1	178.07	.02390	.24459	-.00151	55.477	.00294	-.00406	40.846	87.411
#2	177.46	.02273	.24103	-.00153	54.365	-.00188	-.00789	40.765	87.238
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00279**	**1.0829**	**.00705**	**.37995**	**-.00151**	**.00136**	**.02978**	**.57263**	**.01530**
Stddev	.00091	.0026	.00093	.00283	.00050	.05850	.00061	.00034	.00379
%RSD	32.456	.24354	13.240	.74503	33.088	4306.8	2.0400	.05957	24.781
#1	.00215	1.0848	.00772	.38195	-.00115	-.04001	.02936	.57239	.01798
#2	.00343	1.0811	.00639	.37794	-.00186	.04272	.03021	.57287	.01262
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3674.0**	**46041.**	**3442.1**
Stddev	78.7	25.	10.9
%RSD	2.1431	.05414	.31616
#1	3729.7	46059.	3449.8
#2	3618.4	46024.	3434.4

Sample Name: 116051-C-4-A SD@5 Acquired: 10/29/2018 12:11:31 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Line	328.068 {103}	167.079 {502}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00103**	W **2.6227**	W **2.4718**	**.00774**	**.06675**	**.02854**	**.00009**	**.00493**	**15.008**
Stddev	.00036	.0163	.0315	.00743	.00074	.00007	.00007	.00101	.063
%RSD	34.750	.62287	1.2734	95.935	1.1158	.23104	74.563	20.399	.42053
#1	-.00078	2.6343	2.4495	.01300	.06728	.02849	.00004	.00422	14.964
#2	-.00128	2.6112	2.4940	.00249	.06623	.02858	.00014	.00564	15.053
Check ?	Chk Pass	Chk Warn	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		2.5000	500.00						
Low Limit		-.20000	3.2000						

Elem	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Line	228.802 {447}	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00014**	**.00151**	**.02698**	**.00511**	**3.2331**	**2.1176**	**.02711**	**1.0746**	**.06586**
Stddev	.00020	.00014	.00036	.00015	.0126	.0109	.00462	.0038	.00023
%RSD	138.30	9.1609	1.3192	2.9246	.38858	.51412	17.043	.35685	.35446
#1	.00000	.00142	.02724	.00501	3.2242	2.1253	.02384	1.0773	.06603
#2	.00028	.00161	.02673	.00522	3.2420	2.1099	.03037	1.0719	.06570
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Line	202.030 {467}	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00192**	**37.828**	**.00495**	**.04824**	**-.00090**	**11.165**	**.00223**	**-.00031**	**8.3882**
Stddev	.00013	.495	.00009	.00080	.00083	.053	.00104	.00022	.0287
%RSD	6.9004	1.3096	1.8911	1.6615	92.184	.47523	46.490	69.916	.34199
#1	.00201	37.478	.00502	.04767	-.00031	11.202	.00297	-.00047	8.4085
#2	.00183	38.179	.00489	.04881	-.00148	11.127	.00150	-.00016	8.3679
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062
Line	288.158 {117}2	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**17.951**	**.00080**	**.22466**	**.00467**	**.07764**	**-.00011**	**-.03869**	**.00577**	**.12012**
Stddev	.061	.00098	.00050	.00128	.00179	.00284	.03253	.00040	.00026
%RSD	.34199	123.47	.22450	27.417	2.3118	2533.2	84.078	6.9035	.21634
#1	17.994	.00149	.22431	.00376	.07891	.00190	-.01569	.00549	.11993
#2	17.907	.00010	.22502	.00557	.07637	-.00212	-.06170	.00605	.12030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Zr3391
Line	339.198 { 99}
Units	ppm
Avg	**.00227**
Stddev	.00010
%RSD	4.3612
#1	.00234
#2	.00220
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: 116051-C-4-A SD@5 Acquired: 10/29/2018 12:11:31 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3724.7**	**46248.**	**3249.0**
Stddev	5.2	182.	19.5
%RSD	.14037	.39360	.59885
#1	3721.0	46119.	3235.2
#2	3728.4	46376.	3262.7

Sample Name: 280-116051-C-4-B MS Acquired: 10/29/2018 12:14:02 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04758**	**23.829**	**1.0338**	**1.3266**	**2.2162**	**.05161**	**1.9295**	**124.52**	**.09680**
Stddev	.00118	.022	.0011	.0022	.0055	.00004	.0158	.08	.00042
%RSD	2.4747	.09134	.10460	.16289	.24620	.06965	.81920	.06549	.43364
#1	.04841	23.844	1.0346	1.3281	2.2123	.05159	1.9407	124.47	.09709
#2	.04675	23.814	1.0330	1.3251	2.2200	.05164	1.9183	124.58	.09650
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49607**	**.33034**	**.27318**	**18.092**	**61.478**	**1.1073**	**54.777**	**.82725**	**1.0314**
Stddev	.00071	.00146	.00095	.044	.189	.0052	.008	.00061	.0073
%RSD	.14395	.44157	.34852	.24378	.30754	.46768	.01468	.07367	.70578
#1	.49658	.33137	.27386	18.061	61.345	1.1037	54.771	.82768	1.0365
#2	.49557	.32931	.27251	18.123	61.612	1.1110	54.782	.82682	1.0262
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**228.27**	**.51339**	**10.716**	**.48262**	**58.816**	**.49725**	**2.0574**	W **59.727**	**127.82**
Stddev	.21	.00281	.025	.00140	.249	.00328	.0046	.076	.16
%RSD	.09413	.54823	.23117	.28949	.42329	.66037	.22167	.12654	.12654
#1	228.12	.51538	10.734	.48361	58.992	.49957	2.0606	59.674	127.70
#2	228.42	.51140	10.699	.48163	58.640	.49493	2.0542	59.781	127.93
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit								50.000	
Low Limit								-1.0000	

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.9805**	**2.1508**	**1.0270**	**1.4605**	**1.8937**	**2.0998**	**.54199**	**1.0805**	**.55128**
Stddev	.0086	.0034	.0019	.0025	.0175	.0187	.00043	.0045	.00202
%RSD	.43220	.15845	.18637	.17119	.92417	.88937	.07886	.41676	.36626
#1	1.9866	2.1484	1.0256	1.4622	1.9060	2.1130	.54229	1.0773	.55270
#2	1.9745	2.1532	1.0283	1.4587	1.8813	2.0866	.54169	1.0837	.54985
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3669.1**	**45345.**	**3399.3**
Stddev	10.1	66.	6.1
%RSD	.27552	.14631	.17945
#1	3661.9	45392.	3395.0
#2	3676.2	45298.	3403.6

Sample Name: 280-116051-C-4-C MSD Acquired: 10/29/2018 12:16:21 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04607**	**22.438**	**1.0123**	**1.2568**	**2.1669**	**.05025**	**1.9004**	**120.93**	**.09466**
Stddev	.00019	.089	.0094	.0053	.0094	.00052	.0096	.58	.00053
%RSD	.42109	.39697	.92386	.41956	.43287	1.0411	.50631	.47795	.55741
#1	.04593	22.501	1.0189	1.2606	2.1735	.05062	1.9072	121.34	.09503
#2	.04621	22.375	1.0056	1.2531	2.1602	.04988	1.8936	120.52	.09428
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48622**	**.31936**	**.26811**	**17.153**	**60.102**	**1.0858**	**53.828**	**.80434**	**.96611**
Stddev	.00396	.00152	.00087	.097	.216	.0084	.068	.00041	.00697
%RSD	.81433	.47526	.32275	.56306	.35882	.77444	.12548	.05042	.72133
#1	.48902	.32044	.26872	17.221	60.255	1.0918	53.876	.80405	.97103
#2	.48342	.31829	.26750	17.084	59.950	1.0799	53.780	.80462	.96118
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**221.23**	**.50092**	**10.485**	**.47163**	**56.910**	**.46236**	**2.0227**	W **61.565**	**131.75**
Stddev	1.50	.00405	.070	.00025	.401	.00516	.0136	.329	.70
%RSD	.67880	.80827	.66491	.05347	.70541	1.1168	.67291	.53509	.53509
#1	222.29	.50378	10.535	.47181	57.194	.46601	2.0323	61.798	132.25
#2	220.17	.49806	10.436	.47145	56.626	.45871	2.0131	61.332	131.25
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit								50.000	
Low Limit								-1.0000	

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.8538**	**2.0870**	**1.0112**	**1.3818**	**1.8557**	**2.0834**	**.53240**	**1.0540**	**.51356**
Stddev	.0101	.0108	.0020	.0017	.0129	.0114	.00007	.0059	.00082
%RSD	.54611	.51571	.19929	.11985	.69346	.54540	.01254	.55740	.15917
#1	1.8609	2.0946	1.0127	1.3830	1.8648	2.0915	.53235	1.0498	.51299
#2	1.8466	2.0794	1.0098	1.3806	1.8466	2.0754	.53245	1.0581	.51414
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3714.6**	**45967.**	**3478.5**
Stddev	20.0	135.	13.1
%RSD	.53765	.29329	.37713
#1	3728.7	46062.	3487.8
#2	3700.4	45872.	3469.3

Sample Name: 280-116051-C-4-A PDS Acquired: 10/29/2018 12:18:39 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04753**	**12.706**	**.23148**	**.40426**	**.23742**	**.05014**	**.01046**	**90.110**	**.04811**
Stddev	.00069	.045	.00476	.00418	.00002	.00017	.00082	.016	.00069
%RSD	1.4540	.35521	2.0548	1.0351	.01037	.33444	7.8381	.01725	1.4243
#1	.04704	12.738	.22811	.40722	.23743	.05026	.00988	90.099	.04859
#2	.04802	12.674	.23484	.40130	.23740	.05002	.01104	90.121	.04763
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05308**	**.17238**	**.07179**	**16.239**	**29.622**	**.21558**	**23.999**	**.35563**	**.06038**
Stddev	.00061	.00141	.00032	.004	.021	.00093	.123	.00147	.00067
%RSD	1.1409	.81843	.44531	.02507	.07090	.43140	.51049	.41337	1.1050
#1	.05351	.17338	.07201	16.242	29.607	.21624	24.085	.35667	.06085
#2	.05266	.17138	.07156	16.236	29.637	.21492	23.912	.35459	.05990
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**193.12**	**.07071**	**2.2581**	**.09076**	**54.121**	**.10184**	**.19530**	**44.973**	**96.243**
Stddev	.18	.00177	.0304	.00042	.340	.00002	.00490	.011	.023
%RSD	.09456	2.5101	1.3472	.45978	.62838	.02357	2.5088	.02394	.02394
#1	193.25	.07196	2.2796	.09106	54.362	.10183	.19183	44.981	96.259
#2	192.99	.06945	2.2366	.09047	53.881	.10186	.19876	44.966	96.226
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09700**	**1.1075**	**.20376**	**.42051**	**.18519**	**.51399**	**.07801**	**.75156**	**.07209**
Stddev	.00033	.0019	.00061	.00001	.00241	.04229	.00043	.00167	.00140
%RSD	.33916	.16853	.29800	.00340	1.2989	8.2282	.54496	.22168	1.9369
#1	.09724	1.1062	.20333	.42050	.18689	.54390	.07831	.75274	.07307
#2	.09677	1.1088	.20419	.42052	.18349	.48409	.07771	.75038	.07110
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3774.0**	**46523.**	**3493.6**
Stddev	1.4	404.	22.8
%RSD	.03755	.86864	.65279
#1	3775.0	46237.	3477.4
#2	3773.0	46809.	3509.7

Sample Name: 280-116051-C-5-A Acquired: 10/29/2018 12:21:02 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00074**	**.00476**	**.00390**	**.00337**	**.00032**	**-.00031**	**.00905**	**.08770**	**.00008**
Stddev	.00060	.00174	.00487	.00138	.00027	.00002	.00205	.01131	.00014
%RSD	81.296	36.588	125.02	41.032	85.049	6.6046	22.712	12.891	162.44
#1	-.00116	.00353	.00734	.00434	.00013	-.00030	.00759	.09570	.00018
#2	-.00031	.00599	.00045	.00239	.00050	-.00032	.01050	.07971	-.00001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00031**	**.00005**	**.00059**	**.00660**	**.20980**	**.00301**	**.00556**	**.00012**	**.00068**
Stddev	.00003	.00012	.00059	.00107	.01706	.00049	.00116	.00012	.00091
%RSD	8.1505	259.16	100.46	16.266	8.1334	16.198	20.765	92.143	134.93
#1	.00029	-.00004	.00101	.00584	.19774	.00336	.00638	.00021	.00132
#2	.00033	.00013	.00017	.00736	.22187	.00267	.00475	.00004	.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.29093**	**-.00008**	**.00456**	**.00224**	**.07075**	**.00095**	**-.00315**	**.07924**	**.16957**
Stddev	.02462	.00006	.00026	.00056	.00073	.00276	.00255	.02378	.05089
%RSD	8.4638	75.029	5.6707	24.760	1.0263	289.37	81.099	30.011	30.011
#1	.30834	-.00012	.00474	.00263	.07126	-.00100	-.00134	.06242	.13358
#2	.27351	-.00004	.00438	.00185	.07024	.00290	-.00495	.09605	.20555
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00022**	**.00065**	**-.00126**	**.00086**	**-.00147**	**.00818**	**.00068**	**.00303**	**.00113**
Stddev	.00082	.00010	.00371	.00007	.00154	.03934	.00029	.00046	.00158
%RSD	366.66	14.771	293.35	8.6325	104.55	480.99	42.078	15.333	140.15
#1	-.00081	.00058	.00136	.00092	-.00256	-.01964	.00088	.00270	.00001
#2	.00036	.00072	-.00389	.00081	-.00038	.03600	.00048	.00336	.00225
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3877.9**	**48882.**	**3373.8**
Stddev	18.1	4.	22.4
%RSD	.46801	.00918	.66306
#1	3865.0	48879.	3358.0
#2	3890.7	48885.	3389.6

Sample Name: CCVH-5380945 Acquired: 10/29/2018 12:23:38 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00402**	**49.198**	**-.00247**	**.00322**	**.00034**	**.00016**	**.97042**	**.00533**	**-.00018**	**.00154**	**.00038**	**.00104**	**48.654**
Stddev	.00006	.303	.00089	.00063	.00033	.00001	.03532	.00278	.00002	.00012	.00005	.00065	.151
%RSD	1.4720	.61617	35.974	19.731	96.796	4.4028	3.6394	52.087	13.588	8.0119	13.881	62.321	.31087
#1	-.00397	48.984	-.00184	.00367	.00011	.00016	.99540	.00337	-.00020	.00163	.00034	.00150	48.547
#2	-.00406	49.412	-.00310	.00277	.00057	.00015	.94545	.00730	-.00016	.00145	.00042	.00058	48.761
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.27553**	**.00248**	**-.07080**	**.00280**	**-.00024**	**244.62**	**.00313**	**.00379**	**.00012**	**4.9241**	**.00592**	**-.00130**	**.00226**
Stddev	.03175	.00255	.00504	.00016	.00001	2.44	.00020	.00148	.00112	.1288	.00070	.01188	.03668
%RSD	11.523	102.57	7.1132	5.6513	5.8559	.99655	6.3863	39.177	944.09	2.6158	11.844	912.15	1625.0
#1	.25308	.00068	-.07436	.00269	-.00023	242.90	.00328	.00484	-.00067	5.0152	.00542	.00710	.02819
#2	.29798	.00429	-.06724	.00292	-.00025	246.34	.00299	.00274	.00091	4.8330	.00641	-.00970	-.02368
Check ?	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None	None	None
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00483**	**.00136**	**.00038**	**4.9280**	**.01921**	**-.00083**	**10.195**	**-.01032**	**.00258**	**.06572**
Stddev	.07849	.00100	.00005	.0087	.00035	.00138	.009	.00028	.00134	.00210
%RSD	1625.0	73.856	12.499	.17731	1.8253	165.52	.08988	2.7263	52.036	3.1900
#1	.06033	.00207	.00035	4.9342	.01896	.00014	10.189	-.01051	.00163	.06721
#2	-.05067	.00065	.00042	4.9218	.01946	-.00181	10.202	-.01012	.00353	.06424
Check ?	None	None	None	Chk Pass	None	None	Chk Pass	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3758.5**	**46592.**	**3446.3**
Stddev	6.1	101.	5.5
%RSD	.16357	.21683	.15821
#1	3754.1	46521.	3450.1
#2	3762.8	46664.	3442.4

Sample Name: CCV-5391053 Acquired: 10/29/2018 12:26:09 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49856**	**.53518**	**.99016**	**.49429**	**.50270**	**.49838**	**.00478**	**5.0470**	**.49301**	**.49672**	**.49591**	**.50175**	**2.6224**	**49.994**
Stddev	.00107	.00785	.01251	.00198	.00110	.00251	.00181	.0110	.00543	.00609	.00675	.00137	.0093	.192
%RSD	.21406	1.4669	1.2633	.39993	.21947	.50347	37.817	.21822	1.1023	1.2250	1.3615	.27303	.35461	.38426
#1	.49931	.54073	.99900	.49568	.50348	.50016	.00606	5.0548	.49686	.50103	.50069	.50272	2.6158	50.130
#2	.49780	.52963	.98131	.49289	.50192	.49661	.00350	5.0392	.48917	.49242	.49114	.50078	2.6290	49.858
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.99232**	**20.089**	**.50420**	**.49135**	**5.0623**	**.49989**	**1.0020**	**1.0062**	**.01849**	**.98191**	**.99451**	**5.0323**	**10.769**	**.98667**
Stddev	.00485	.056	.00113	.00722	.0272	.00598	.0087	.0117	.00725	.00839	.01338	.0370	.079	.01678
%RSD	.48830	.27792	.22458	1.4698	.53752	1.1965	.86742	1.1650	39.232	.85472	1.3449	.73527	.73527	1.7004
#1	.99575	20.129	.50500	.49646	5.0816	.50411	1.0081	1.0145	.02362	.98784	1.0040	5.0061	10.713	.99854
#2	.98890	20.050	.50340	.48624	5.0431	.49566	.99582	.99796	.01336	.97597	.98505	5.0584	10.825	.97481
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49982**	**.00683**	**.49739**	**1.0161**	**.04227**	**.49098**	**.50153**	**.49876**
Stddev	.00074	.00048	.00235	.0125	.05203	.00048	.00328	.00156
%RSD	.14832	6.9724	.47275	1.2313	123.07	.09809	.65400	.31189
#1	.50034	.00650	.49905	1.0250	.00549	.49132	.50384	.49766
#2	.49929	.00717	.49572	1.0073	.07906	.49064	.49921	.49986
Check ?	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3880.9**	**48156.**	**3500.9**
Stddev	17.0	329.	24.9
%RSD	.43922	.68230	.71228
#1	3868.9	47924.	3483.3
#2	3893.0	48388.	3518.6

Sample Name: CCB Acquired: 10/29/2018 12:28:32 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00078**	**.00163**	**.00538**	**.00164**	**-.00057**	**-.00011**	**.00521**	**.00278**	**.00028**	**-.00002**	**-.00015**	**.00033**	**.04712**
Stddev	.00027	.00072	.00001	.00110	.00036	.00016	.00360	.00213	.00014	.00007	.00000	.00050	.00071
%RSD	34.583	44.280	.19477	67.223	62.980	153.19	69.055	76.607	50.837	297.55	3.0591	150.53	1.5109
#1	-.00098	.00213	.00538	.00242	-.00082	-.00022	.00775	.00429	.00018	.00003	-.00016	-.00002	.04661
#2	-.00059	.00112	.00537	.00086	-.00031	.00001	.00267	.00128	.00039	-.00008	-.00015	.00068	.04762
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.15071**	**.00042**	**.00073**	**.00040**	**.00104**	**.02081**	**.00012**	**.00133**	**.00168**	**.00678**	**.00299**	**-.00190**	**.01121**
Stddev	.00038	.00296	.00070	.00005	.00003	.00598	.00061	.00410	.00062	.00221	.00015	.00299	.00202
%RSD	.24955	697.70	95.640	11.201	2.9666	28.748	498.99	307.57	36.610	32.620	4.9286	157.35	18.030
#1	.15097	-.00167	.00024	.00037	.00106	.01658	-.00031	-.00157	.00212	.00835	.00288	.00021	.01264
#2	.15044	.00252	.00123	.00043	.00102	.02503	.00055	.00423	.00125	.00522	.00309	-.00401	.00978
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02399**	**-.00009**	**-.00026**	**-.00039**	**.00018**	**-.00106**	**-.03096**	**-.00001**	**.00040**	**.00047**
Stddev	.00432	.00000	.00019	.00041	.00026	.00014	.03613	.00099	.00019	.00023
%RSD	18.030	2.0087	75.028	104.73	145.89	13.598	116.69	7346.0	46.617	48.392
#1	.02704	-.00009	-.00039	-.00010	.00036	-.00116	-.00541	-.00071	.00027	.00031
#2	.02093	-.00009	-.00012	-.00068	-.00001	-.00095	-.05651	.00068	.00053	.00063
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3793.5**	**48305.**	**3430.8**
Stddev	14.3	412.	18.5
%RSD	.37613	.85290	.54032
#1	3803.5	48597.	3417.7
#2	3783.4	48014.	3443.9

Sample Name: CCVL-5398386 Acquired: 10/29/2018 12:31:08 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00934**	**.12084**	**.01744**	**.10039**	**.01021**	**.00085**	**.11458**	F **.27698**	**.00531**	**.01068**	**.01038**	**.01675**
Stddev	.00050	.00271	.00068	.00138	.00010	.00022	.00123	.00717	.00012	.00031	.00026	.00023
%RSD	5.3575	2.2430	3.9164	1.3767	1.0169	26.032	1.0737	2.5888	2.2160	2.9077	2.4952	1.3733
#1	.00899	.12276	.01792	.10137	.01014	.00069	.11545	.27191	.00539	.01046	.01056	.01658
#2	.00970	.11892	.01695	.09942	.01028	.00101	.11371	.28205	.00523	.01090	.01019	.01691
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								.20000				
Range								30.000%				

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10300**	**3.2058**	**.02434**	**.21552**	**.01064**	**.01981**	**1.0559**	**.04284**	**2.9623**	**.00967**	**.10458**	**.01709**
Stddev	.00007	.0877	.00234	.00211	.00007	.00022	.0110	.00042	.0355	.00127	.00114	.00387
%RSD	.06780	2.7363	9.6135	.98129	.65580	1.1336	1.0439	.97719	1.1972	13.128	1.0889	22.674
#1	.10295	3.1438	.02269	.21403	.01059	.01965	1.0481	.04313	2.9874	.00878	.10378	.01435
#2	.10305	3.2678	.02600	.21702	.01069	.01997	1.0637	.04254	2.9372	.01057	.10539	.01983
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01880**	**.47329**	**1.0128**	**.10334**	**.01012**	**.01414**	**.01051**	**.01443**	**.06871**	**.01017**	**.02168**	**.01656**
Stddev	.00254	.03492	.0747	.00179	.00019	.00113	.00105	.00046	.03501	.00080	.00029	.00084
%RSD	13.505	7.3779	7.3779	1.7289	1.8919	7.9803	9.9705	3.1927	50.950	7.8604	1.3562	5.0823
#1	.01701	.44860	.95999	.10461	.00999	.01335	.00977	.01410	.04396	.00961	.02148	.01716
#2	.02060	.49798	1.0657	.10208	.01026	.01494	.01125	.01475	.09347	.01074	.02189	.01597
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3804.1**	**47814.**	**3412.8**
Stddev	13.9	116.	24.8
%RSD	.36445	.24251	.72799
#1	3794.3	47732.	3430.4
#2	3814.0	47896.	3395.3

Sample Name: 280-116020-G-1-A Acquired: 10/29/2018 12:38:00 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00018**	**.00239**	**.02180**	**.03561**	**.05246**	**-.00016**	**.00216**	**95.479**	**.00035**
Stddev	.00077	.00040	.00777	.00014	.00024	.00007	.00355	.374	.00014
%RSD	430.16	16.838	35.662	.38980	.45648	46.769	164.45	.39212	40.796
#1	.00037	.00268	.02729	.03571	.05263	-.00011	-.00035	95.744	.00025
#2	-.00072	.00211	.01630	.03551	.05229	-.00021	.00467	95.214	.00045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00024**	**-.00008**	**.00168**	**1.8881**	**2.3099**	**.02824**	**34.857**	**.26884**	**.00071**
Stddev	.00007	.00044	.00043	.0003	.0782	.00174	.069	.00042	.00003
%RSD	29.703	543.70	25.483	.01356	3.3847	6.1553	.19750	.15460	4.2920
#1	.00029	.00023	.00137	1.8883	2.2546	.02702	34.906	.26913	.00069
#2	.00019	-.00039	.00198	1.8879	2.3652	.02947	34.808	.26854	.00073
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.557**	**.00016**	**.03103**	**.00066**	**34.778**	**.00268**	**-.00207**	**9.1862**	**19.658**
Stddev	.602	.00091	.00034	.00024	.134	.00089	.00449	.0219	.047
%RSD	4.7964	577.73	1.0868	35.930	.38639	33.410	217.32	.23880	.23880
#1	12.983	-.00048	.03079	.00049	34.683	.00204	-.00524	9.2017	19.692
#2	12.131	.00080	.03127	.00083	34.873	.00331	.00111	9.1707	19.625
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00019**	**.15883**	**-.00489**	**.00056**	**-.00206**	**.00091**	**-.00012**	**.00128**	**.00424**
Stddev	.00072	.00091	.00224	.00000	.00368	.00715	.00034	.00050	.00136
%RSD	386.81	.57546	45.781	.60164	178.92	784.32	272.10	39.476	31.995
#1	.00070	.15948	-.00331	.00056	-.00466	.00597	-.00036	.00092	.00328
#2	-.00033	.15819	-.00648	.00056	.00055	-.00415	.00011	.00163	.00520
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3646.1**	**45496.**	**3323.9**
Stddev	22.9	326.	22.5
%RSD	.62851	.71548	.67669
#1	3629.9	45266.	3308.0
#2	3662.3	45727.	3339.8

Sample Name: 280-116020-E-4-A Acquired: 10/29/2018 12:40:34 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00030**	**.01544**	**-.00060**	**.02769**	**.01192**	**-.00020**	**.00267**	**53.931**	**.00055**
Stddev	.00012	.00046	.00111	.00047	.00003	.00017	.00079	.151	.00010
%RSD	38.635	2.9701	185.29	1.6913	.21155	85.620	29.572	.27988	18.755
#1	-.00039	.01576	-.00139	.02736	.01190	-.00008	.00211	54.038	.00063
#2	-.00022	.01511	.00019	.02803	.01193	-.00032	.00323	53.824	.00048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00013**	**-.00024**	**.00136**	**.01412**	**.62300**	**.01876**	**15.561**	**.02501**	**-.00023**
Stddev	.00024	.00054	.00076	.00293	.10333	.00230	.013	.00024	.00021
%RSD	177.89	221.20	56.249	20.721	16.585	12.261	.08535	.94451	91.049
#1	-.00030	.00014	.00190	.01619	.69606	.02038	15.552	.02517	-.00037
#2	.00003	-.00062	.00082	.01205	.54993	.01713	15.571	.02484	-.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.5734**	**.00108**	**.01269**	**-.00033**	**6.0034**	**.00335**	**-.00531**	**8.8516**	**18.943**
Stddev	.0167	.00060	.00035	.00036	.0236	.00151	.00406	.0233	.050
%RSD	.46742	55.789	2.7211	107.67	.39383	45.067	76.401	.26278	.26278
#1	3.5852	.00151	.01293	-.00008	6.0201	.00228	-.00818	8.8352	18.907
#2	3.5616	.00065	.01245	-.00059	5.9866	.00442	-.00244	8.8681	18.978
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00025**	**.09279**	**-.00036**	**.00011**	**-.00037**	**-.03173**	**-.00078**	**.00283**	**.00015**
Stddev	.00053	.00000	.00093	.00075	.00167	.06200	.00028	.00042	.00020
%RSD	214.69	.00241	258.61	696.79	447.81	195.44	35.298	14.697	127.10
#1	-.00063	.09279	.00030	-.00042	-.00155	-.07557	-.00059	.00254	.00029
#2	.00013	.09278	-.00102	.00063	.00081	.01212	-.00098	.00312	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3712.0**	**46585.**	**3338.5**
Stddev	3.7	77.	33.6
%RSD	.10079	.16486	1.0067
#1	3709.4	46639.	3314.8
#2	3714.6	46531.	3362.3

Sample Name: 280-116020-G-6-A Acquired: 10/29/2018 12:43:07 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00078**	**.49536**	**.00289**	**.09825**	**.01660**	**.00027**	**.00574**	**50.544**	**.00232**
Stddev	.00093	.00853	.00184	.00052	.00041	.00021	.00008	.053	.00006
%RSD	120.22	1.7229	63.614	.52945	2.4495	75.102	1.3824	.10566	2.6322
#1	-.00012	.50140	.00420	.09862	.01688	.00013	.00568	50.582	.00227
#2	-.00144	.48933	.00159	.09789	.01631	.00042	.00579	50.506	.00236
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01402**	**.00040**	**.01104**	**.01847**	**3.6303**	**.00964**	**3.6385**	**.14577**	**-.00048**
Stddev	.00012	.00021	.00009	.00422	.0186	.00123	.0064	.00045	.00025
%RSD	.87782	52.706	.78973	22.826	.51090	12.736	.17567	.30745	51.405
#1	.01410	.00054	.01110	.01549	3.6172	.00877	3.6340	.14609	-.00066
#2	.01393	.00025	.01097	.02145	3.6434	.01051	3.6430	.14545	-.00031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.7120**	**.03621**	**.00054**	**.00098**	**41.587**	**.00004**	**-.00510**	**6.2455**	**13.365**
Stddev	.0099	.00087	.00337	.00006	.574	.00200	.00615	.0291	.062
%RSD	.26660	2.4032	625.56	6.0264	1.3810	5668.4	120.56	.46543	.46543
#1	3.7050	.03683	-.00184	.00094	41.993	.00145	-.00946	6.2661	13.409
#2	3.7190	.03560	.00292	.00102	41.181	-.00138	-.00075	6.2249	13.321
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00168**	**.14331**	**-.00011**	**.00031**	**-.00268**	**.01044**	**.00007**	**.07546**	**.00259**
Stddev	.00017	.00029	.00057	.00020	.00043	.01235	.00016	.00174	.00276
%RSD	10.070	.20068	518.40	63.492	16.147	118.27	225.15	2.3025	106.61
#1	.00156	.14310	.00029	.00017	-.00299	.00171	-.00004	.07669	.00454
#2	.00180	.14351	-.00051	.00045	-.00238	.01918	.00019	.07423	.00064
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3806.3**	**47917.**	**3461.6**
Stddev	18.0	111.	2.0
%RSD	.47412	.23181	.05664
#1	3793.5	47838.	3462.9
#2	3819.0	47995.	3460.2

Sample Name: 280-116020-E-8-A Acquired: 10/29/2018 12:45:40 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00028**	**.00529**	**.01149**	**.09108**	**.02194**	**-.00024**	**.00132**	**119.57**	**.00033**
Stddev	.00011	.00184	.00231	.00148	.00014	.00002	.00048	.04	.00033
%RSD	39.894	34.806	20.113	1.6210	.65704	8.5475	36.252	.03681	98.534
#1	-.00035	.00399	.00986	.09213	.02184	-.00022	.00166	119.60	.00057
#2	-.00020	.00660	.01313	.09004	.02204	-.00025	.00098	119.54	.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00003**	**.00039**	**.00186**	**.99537**	**3.8001**	**.03541**	**32.252**	**.10991**	**.00001**
Stddev	.00029	.00013	.00021	.00323	.0194	.00212	.017	.00001	.00013
%RSD	1068.6	32.241	11.496	.32421	.51022	5.9984	.05199	.00917	1132.9
#1	-.00018	.00048	.00201	.99765	3.7864	.03391	32.240	.10990	-.00008
#2	.00023	.00030	.00171	.99309	3.8138	.03691	32.264	.10992	.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.705**	**.00075**	**.02056**	**-.00013**	**52.767**	**.00118**	**-.01311**	**7.4580**	**15.960**
Stddev	.004	.00050	.00196	.00166	1.275	.00507	.00517	.0185	.040
%RSD	.03343	66.530	9.5481	1248.1	2.4162	428.38	39.416	.24823	.24823
#1	11.708	.00040	.02195	-.00131	53.669	-.00240	-.01677	7.4711	15.988
#2	11.702	.00110	.01917	.00104	51.866	.00477	-.00946	7.4449	15.932
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00077**	**.38338**	**-.00072**	**.00004**	**-.00186**	**-.02499**	**.00023**	**.00092**	**-.00077**
Stddev	.00064	.00069	.00514	.00021	.00014	.08786	.00027	.00060	.00198
%RSD	83.208	.17889	713.24	480.67	7.7200	351.52	117.35	65.096	256.79
#1	.00031	.38289	-.00435	.00019	-.00176	.03713	.00043	.00049	-.00217
#2	.00122	.38386	.00291	-.00010	-.00196	-.08712	.00004	.00134	.00063
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3633.1**	**45912.**	**3365.9**
Stddev	2.4	175.	11.9
%RSD	.06597	.38147	.35280
#1	3634.8	46035.	3374.3
#2	3631.5	45788.	3357.5

Sample Name: 280-116020-C-8-A MS Acquired: 10/29/2018 12:48:13 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04890**	**2.0871**	**1.0287**	**1.1531**	**2.1093**	**.05134**	**1.9895**	**168.47**	**.09905**
Stddev	.00035	.0081	.0048	.0036	.0031	.00055	.0154	.30	.00103
%RSD	.71858	.38848	.46301	.31556	.14744	1.0763	.77200	.17902	1.0363
#1	.04915	2.0928	1.0321	1.1556	2.1115	.05173	2.0003	168.69	.09977
#2	.04865	2.0813	1.0254	1.1505	2.1071	.05095	1.9786	168.26	.09832
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49799**	**.20672**	**.25888**	**2.0138**	**56.097**	**1.0701**	**82.006**	**.61479**	**1.0701**
Stddev	.00414	.00214	.00115	.0064	.054	.0006	.014	.00044	.0104
%RSD	.83107	1.0364	.44298	.31995	.09705	.05197	.01734	.07169	.97272
#1	.50091	.20824	.25807	2.0093	56.136	1.0705	81.996	.61510	1.0775
#2	.49506	.20521	.25969	2.0184	56.059	1.0697	82.017	.61448	1.0627
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**63.477**	**.49733**	**10.737**	**.50350**	**55.301**	**.53175**	**2.0771**	**17.975**	**38.466**
Stddev	.610	.00316	.066	.00391	.174	.00489	.0156	.051	.110
%RSD	.96152	.63547	.61144	.77589	.31415	.91883	.75237	.28576	.28576
#1	63.908	.49956	10.784	.50626	55.424	.53520	2.0882	18.011	38.543
#2	63.045	.49509	10.691	.50074	55.179	.52829	2.0661	17.938	38.388
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.0931**	**1.4151**	**1.0184**	**1.0524**	**1.9866**	**2.0735**	**.52648**	**.50521**	**.53896**
Stddev	.0203	.0019	.0032	.0020	.0162	.0534	.00076	.00136	.00205
%RSD	.97180	.13640	.31086	.19152	.81720	2.5755	.14352	.26866	.38040
#1	2.1075	1.4164	1.0162	1.0539	1.9981	2.0357	.52701	.50617	.54041
#2	2.0787	1.4137	1.0206	1.0510	1.9751	2.1112	.52594	.50425	.53751
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3576.0**	**44226.**	**3240.8**
Stddev	21.1	124.	10.5
%RSD	.59066	.28092	.32259
#1	3561.0	44314.	3233.4
#2	3590.9	44138.	3248.2

Sample Name: 280-116020-C-8-B MSD Acquired: 10/29/2018 12:50:31 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05011**	**2.1131**	**1.0392**	**1.1524**	**2.1346**	**.05215**	W **2.0328**	**169.98**	**.09990**
Stddev	.00012	.0179	.0110	.0070	.0027	.00006	.0141	.14	.00079
%RSD	.24528	.84893	1.0550	.60449	.12444	.11070	.69098	.08420	.78651
#1	.05003	2.1258	1.0470	1.1573	2.1365	.05211	2.0427	170.08	.10046
#2	.05020	2.1004	1.0315	1.1474	2.1327	.05219	2.0229	169.88	.09935
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit							2.0000		
Low Limit							-.20000		

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50466**	**.20904**	**.26441**	**2.0218**	**56.795**	**1.0807**	**82.893**	**.62030**	**1.0646**
Stddev	.00445	.00202	.00062	.0071	.169	.0027	.044	.00051	.0105
%RSD	.88223	.96863	.23437	.35276	.29712	.25249	.05253	.08262	.98733
#1	.50781	.21048	.26485	2.0167	56.914	1.0827	82.923	.62066	1.0720
#2	.50151	.20761	.26397	2.0268	56.676	1.0788	82.862	.61994	1.0571
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**63.944**	**.50388**	**10.915**	**.50814**	**56.224**	**.53349**	**2.1084**	**17.979**	**38.475**
Stddev	.176	.00254	.082	.00167	.380	.00678	.0256	.094	.202
%RSD	.27567	.50327	.75060	.32874	.67546	1.2712	1.2147	.52434	.52434
#1	63.820	.50567	10.973	.50932	56.492	.53829	2.1265	18.046	38.618
#2	64.069	.50208	10.857	.50696	55.955	.52870	2.0902	17.912	38.333
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.0768**	**1.4325**	**1.0316**	**1.0394**	**2.0216**	**2.0658**	**.53126**	**.51151**	**.53408**
Stddev	.0169	.0024	.0005	.0012	.0198	.0126	.00160	.00323	.00105
%RSD	.81128	.16955	.04544	.11796	.97912	.60889	.30073	.63080	.19625
#1	2.0887	1.4343	1.0313	1.0403	2.0356	2.0747	.53239	.50923	.53334
#2	2.0649	1.4308	1.0319	1.0386	2.0076	2.0569	.53013	.51379	.53482
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3601.0**	**45123.**	**3318.4**
Stddev	16.2	22.	13.6
%RSD	.44959	.04809	.41013
#1	3589.6	45108.	3308.8
#2	3612.5	45139.	3328.1

Sample Name: 280-116020-C-9-A Acquired: 10/29/2018 12:52:51 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00048**	**.01904**	**.00567**	**.09443**	**.02141**	**-.00014**	**.00139**	**119.04**	**.00033**
Stddev	.00003	.00048	.00800	.00146	.00009	.00041	.00339	.33	.00005
%RSD	6.3968	2.5472	141.18	1.5491	.40677	297.79	244.29	.27848	16.297
#1	-.00050	.01938	.00001	.09547	.02135	.00015	.00378	118.81	.00037
#2	-.00046	.01870	.01132	.09340	.02148	-.00043	-.00101	119.28	.00029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00031**	**.00009**	**.00221**	**.95748**	**3.9337**	**.03644**	**31.909**	**.10644**	**.00174**
Stddev	.00010	.00006	.00129	.00312	.0438	.00076	.079	.00054	.00014
%RSD	32.950	71.840	58.430	.32611	1.1132	2.0819	.24644	.50563	8.2410
#1	.00024	.00004	.00130	.95527	3.9028	.03590	31.964	.10682	.00164
#2	.00038	.00013	.00313	.95968	3.9647	.03697	31.853	.10606	.00184
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**13.530**	**.00095**	**.02580**	**-.00096**	**52.853**	**.00193**	**-.00925**	**7.4638**	**15.973**
Stddev	.037	.00007	.00124	.00044	.765	.00267	.00130	.0215	.046
%RSD	.27593	7.7560	4.8124	45.522	1.4483	138.87	14.014	.28823	.28823
#1	13.504	.00100	.02668	-.00127	53.395	.00382	-.01016	7.4486	15.940
#2	13.556	.00090	.02492	-.00065	52.312	.00003	-.00833	7.4790	16.005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00176**	**.38218**	**-.00015**	**.00076**	**-.00188**	**.02712**	**-.00003**	**.00185**	**-.00002**
Stddev	.00192	.00084	.00205	.00034	.00101	.04525	.00077	.00056	.00487
%RSD	109.25	.21935	1368.0	45.430	53.787	166.87	3025.8	30.059	30343.
#1	.00040	.38158	-.00160	.00100	-.00116	-.00488	-.00057	.00145	.00343
#2	.00312	.38277	.00130	.00052	-.00259	.05911	.00052	.00224	-.00346
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3733.8**	**46770.**	**3385.4**
Stddev	20.9	170.	19.3
%RSD	.55892	.36290	.56887
#1	3719.0	46650.	3399.0
#2	3748.5	46890.	3371.8

Sample Name: 280-116020-G-12-A Acquired: 10/29/2018 12:55:29 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00053**	**.00603**	**.00437**	**.07505**	**.07491**	**-.00031**	**-.00080**	**153.86**	**.00052**
Stddev	.00023	.00016	.00345	.00016	.00084	.00001	.00137	.40	.00032
%RSD	43.717	2.7025	79.097	.20839	1.1248	4.7730	170.57	.25721	61.901
#1	-.00069	.00614	.00192	.07516	.07551	-.00032	-.00177	154.14	.00074
#2	-.00036	.00591	.00681	.07494	.07431	-.00030	.00017	153.58	.00029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00006**	**.00030**	**.00210**	**.00491**	**1.6724**	**.00663**	**29.430**	**.03843**	**.00000**
Stddev	.00018	.00041	.00000	.00122	.0849	.00301	.080	.00023	.00027
%RSD	283.39	138.01	.16999	24.859	5.0758	45.323	.27270	.58970	7083.9
#1	.00006	.00059	.00210	.00577	1.7324	.00451	29.373	.03827	.00019
#2	-.00019	.00001	.00210	.00404	1.6124	.00876	29.487	.03859	-.00018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.3385**	**.00137**	**.00878**	**.00278**	**12.370**	**.00050**	**-.00691**	**6.9196**	**14.808**
Stddev	.0147	.00030	.00352	.00062	.046	.00163	.00263	.0343	.073
%RSD	.63018	22.150	40.104	22.437	.37343	328.78	38.095	.49591	.49591
#1	2.3280	.00158	.00629	.00322	12.403	.00165	-.00505	6.8954	14.756
#2	2.3489	.00115	.01127	.00234	12.337	-.00066	-.00877	6.9439	14.860
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00017**	**.35693**	**.00123**	**.00044**	**-.00256**	**-.05468**	**.00015**	**.02314**	**.00295**
Stddev	.00149	.00039	.00268	.00004	.00214	.05858	.00053	.00083	.00218
%RSD	866.84	.11010	217.79	8.9696	83.751	107.12	343.91	3.5987	73.751
#1	.00123	.35721	.00313	.00041	-.00407	-.09611	-.00022	.02255	.00141
#2	-.00088	.35665	-.00067	.00046	-.00104	-.01326	.00053	.02373	.00449
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3681.2**	**45955.**	**3320.2**
Stddev	4.3	72.	11.6
%RSD	.11675	.15670	.34917
#1	3678.2	45904.	3328.4
#2	3684.2	46006.	3312.0

Sample Name: 280-115787-E-5-C Acquired: 10/29/2018 12:58:14 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 435183 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00042**	**.14024**	**-.00055**	**1.7061**	**.04077**	**-.00028**	**.00206**	**41.542**	**.00054**
Stddev	.00003	.00043	.00479	.0026	.00007	.00011	.00100	.145	.00015
%RSD	7.4113	.30595	879.26	.15466	.16314	37.198	48.431	.35025	27.324
#1	-.00044	.14054	.00284	1.7080	.04082	-.00036	.00277	41.645	.00044
#2	-.00040	.13994	-.00394	1.7042	.04072	-.00021	.00136	41.439	.00065
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00015**	**.00066**	**.00503**	**.08589**	**1.0299**	**.02977**	**10.207**	**.15392**	**.01722**
Stddev	.00038	.00002	.00049	.00188	.0846	.00248	.038	.00061	.00057
%RSD	248.13	2.3002	9.7750	2.1908	8.2180	8.3208	.37238	.39443	3.3131
#1	.00012	.00068	.00538	.08722	1.0898	.02802	10.234	.15435	.01681
#2	-.00042	.00065	.00468	.08456	.97009	.03152	10.180	.15349	.01762
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **1064.8**	**.00289**	**.05311**	**.00058**	F **201.07**	**.00082**	**-.00601**	**4.8759**	**10.434**
Stddev	2.3	.00014	.00465	.00284	.17	.00224	.00427	.0192	.041
%RSD	.21884	4.9818	8.7521	492.38	.08513	272.80	71.084	.39274	.39274
#1	1066.5	.00299	.04982	.00258	201.19	.00240	-.00903	4.8624	10.405
#2	1063.2	.00279	.05639	-.00143	200.95	-.00076	-.00299	4.8894	10.463
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00053**	**1.1289**	**.00185**	**.00430**	**-.00089**	**.06581**	**.00255**	**.01371**	**-.00007**
Stddev	.00094	.0035	.00346	.00025	.00417	.02252	.00022	.00085	.00070
%RSD	175.76	.30882	187.29	5.9232	470.09	34.228	8.4576	6.1775	953.20
#1	.00013	1.1313	-.00060	.00412	-.00383	.08174	.00240	.01431	.00042
#2	-.00120	1.1264	.00430	.00448	.00206	.04988	.00271	.01311	-.00057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3292.8**	**40956.**	**3198.2**
Stddev	52.6	563.	3.0
%RSD	1.5979	1.3737	.09309
#1	3255.6	40558.	3196.1
#2	3330.0	41354.	3200.3

Sample Name: 280-115962-D-8-A Acquired: 10/29/2018 13:01:00 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 10/26 Custom ID2: Custom ID3:
Comment: 434769 6010B (Ca)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00158**	**.03365**	**-.00157**	**.04210**	**.10864**	**.00025**	**.00407**	**5.0265**	**.00035**
Stddev	.00018	.00080	.00160	.00058	.00044	.00025	.00393	.0034	.00011
%RSD	11.522	2.3855	101.59	1.3738	.40881	97.140	96.411	.06805	31.338
#1	-.00145	.03421	-.00044	.04251	.10833	.00008	.00685	5.0240	.00043
#2	-.00171	.03308	-.00270	.04169	.10895	.00043	.00130	5.0289	.00027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00497**	**.00038**	**.00221**	**.43822**	**.93645**	**.06144**	**2.8262**	**.02392**	**-.00014**
Stddev	.00013	.00003	.00002	.00414	.12450	.00070	.0011	.00003	.00022
%RSD	2.6663	7.5428	.77622	.94552	13.295	1.1389	.03801	.11398	162.76
#1	.00487	.00036	.00220	.43529	1.0245	.06094	2.8254	.02390	.00002
#2	.00506	.00040	.00222	.44115	.84842	.06193	2.8269	.02394	-.00029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**51.976**	**.00411**	**.00875**	**-.01573**	**7.1797**	**-.00104**	**-.00077**	**46.645**	**99.820**
Stddev	.738	.00034	.00133	.00089	.0502	.00263	.00146	.187	.401
%RSD	1.4197	8.3401	15.191	5.6344	.69951	253.29	189.82	.40156	.40156
#1	51.454	.00435	.00781	-.01636	7.2152	.00082	.00026	46.512	99.536
#2	52.498	.00387	.00969	-.01511	7.1442	-.00290	-.00180	46.777	100.10
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00009**	**.07397**	**-.00139**	**.00034**	**.00072**	**.11006**	**.00035**	**.00477**	**-.00035**
Stddev	.00076	.00036	.00112	.00065	.00193	.01097	.00040	.00057	.00210
%RSD	821.33	.48802	80.512	187.82	269.68	9.9678	112.70	11.949	605.02
#1	-.00045	.07372	-.00060	.00080	.00208	.11781	.00064	.00437	-.00184
#2	.00063	.07423	-.00218	-.00011	-.00065	.10230	.00007	.00517	.00114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3783.8**	**46971.**	**3335.5**
Stddev	.4	109.	7.8
%RSD	.00925	.23165	.23476
#1	3783.5	46894.	3341.0
#2	3784.0	47048.	3330.0

Sample Name: CCVH-5380945 Acquired: 10/29/2018 13:03:33 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00391**	**51.405**	**-.00396**	**.00398**	**.00036**	**-.00007**	**1.0213**	**.00330**	**.00006**	**.00178**	**.00045**	**-.00063**	**51.778**
Stddev	.00062	.288	.00152	.00022	.00067	.00020	.0121	.01233	.00002	.00021	.00024	.00066	.235
%RSD	15.980	.56059	38.467	5.4475	186.82	308.40	1.1828	374.02	25.661	11.622	54.393	104.78	.45293
#1	-.00435	51.609	-.00288	.00382	.00084	.00008	1.0298	-.00542	.00008	.00163	.00027	-.00016	51.944
#2	-.00347	51.202	-.00503	.00413	-.00012	-.00021	1.0127	.01201	.00005	.00192	.00062	-.00109	51.613
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.13444**	**-.00038**	**-.07320**	**.00252**	**-.00061**	**256.59**	**.00393**	**.00248**	**-.00040**	**5.1352**	**.00184**	**.00779**	**.08679**
Stddev	.03315	.00135	.00702	.00008	.00020	.20	.00020	.00271	.00061	.0577	.00025	.00148	.01982
%RSD	24.659	351.07	9.5948	3.3355	32.108	.07621	5.1565	109.24	150.83	1.1241	13.829	19.038	22.838
#1	.11100	.00057	-.07817	.00258	-.00075	256.45	.00379	.00057	-.00083	5.1760	.00202	.00884	.07277
#2	.15788	-.00133	-.06824	.00246	-.00047	256.72	.00407	.00440	.00003	5.0943	.00166	.00674	.10081
Check ?	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None	None	None
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.18573**	**-.00001**	**.00060**	**4.9118**	**.02017**	**.00059**	**10.355**	**-.00984**	**.00081**	**.06598**
Stddev	.04242	.00169	.00007	.0244	.00010	.00061	.040	.00099	.00147	.00109
%RSD	22.838	12018.	12.005	.49741	.49157	103.55	.38192	10.017	181.33	1.6555
#1	.15574	-.00121	.00065	4.9290	.02024	.00102	10.383	-.00914	-.00023	.06521
#2	.21572	.00118	.00055	4.8945	.02010	.00016	10.327	-.01053	.00184	.06675
Check ?	None	None	None	Chk Pass	None	None	Chk Pass	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3720.3**	**46347.**	**3363.2**
Stddev	39.4	184.	32.1
%RSD	1.0588	.39776	.95445
#1	3748.1	46217.	3340.5
#2	3692.4	46477.	3385.9

Sample Name: CCV-5391053 Acquired: 10/29/2018 13:06:03 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50307**	**.54244**	**.99400**	**.49524**	**.51225**	**.51915**	**.00786**	**5.2239**	**.49220**	**.49819**	**.50357**	**.51375**	**2.5472**	**51.505**
Stddev	.00091	.01386	.01679	.00821	.00030	.00013	.00324	.0070	.00896	.00897	.01081	.00104	.0086	.016
%RSD	.18122	2.5549	1.6889	1.6577	.05837	.02429	41.219	.13326	1.8213	1.8002	2.1470	.20170	.33633	.03068
#1	.50242	.55224	1.0059	.50104	.51246	.51906	.00557	5.2288	.49854	.50453	.51122	.51302	2.5411	51.516
#2	.50371	.53265	.98213	.48943	.51204	.51924	.01015	5.2189	.48586	.49185	.49593	.51449	2.5533	51.494
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.0379**	**20.077**	**.50116**	**.49560**	**5.2756**	**.50078**	**.99433**	**1.0088**	**.03706**	**.97847**	**1.0086**	**5.1552**	**11.032**	**.99905**
Stddev	.0047	.022	.00067	.01307	.0036	.00904	.01824	.0180	.01905	.01269	.0282	.0496	.106	.01851
%RSD	.45575	.10736	.13428	2.6369	.06813	1.8045	1.8344	1.7869	51.409	1.2966	2.7936	.96291	.96291	1.8524
#1	1.0413	20.092	.50163	.50484	5.2782	.50717	1.0072	1.0216	.05053	.98744	1.0285	5.1201	10.957	1.0121
#2	1.0346	20.062	.50068	.48636	5.2731	.49439	.98143	.99606	.02359	.96950	.98865	5.1903	11.107	.98596
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.51785**	**.00998**	**.49330**	**1.0206**	**.06179**	**.50337**	**.50215**	**.50944**
Stddev	.00051	.00117	.00071	.0172	.00273	.00213	.00047	.00191
%RSD	.09758	11.724	.14378	1.6829	4.4224	.42319	.09285	.37576
#1	.51821	.01081	.49380	1.0327	.05986	.50488	.50248	.51080
#2	.51750	.00915	.49280	1.0084	.06372	.50187	.50182	.50809
Check ?	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3766.4**	**47286.**	**3347.2**
Stddev	6.6	24.	2.2
%RSD	.17620	.05174	.06641
#1	3771.1	47269.	3348.8
#2	3761.7	47304.	3345.6

Sample Name: CCB Acquired: 10/29/2018 13:08:25 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00076**	**.00446**	**.00188**	**.00193**	**-.00015**	**-.00007**	**.00824**	**.09256**	**.00041**	**.00019**	**-.00005**	**.00012**	**.01651**
Stddev	.00039	.00057	.00297	.00158	.00044	.00011	.00371	.00240	.00016	.00023	.00039	.00087	.00310
%RSD	52.274	12.690	158.25	82.035	302.37	153.97	45.081	2.5970	38.247	118.97	737.77	739.34	18.796
#1	-.00048	.00486	-.00022	.00305	.00017	-.00015	.01086	.09426	.00030	.00003	-.00033	.00074	.01870
#2	-.00103	.00406	.00398	.00081	-.00046	.00001	.00561	.09086	.00053	.00036	.00022	-.00050	.01431
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09276**	**-.00291**	**.00315**	**.00015**	**.00083**	**.05961**	**-.00034**	**.00269**	**.00053**	**.01775**	**.00213**	**-.00278**	**.00527**
Stddev	.05090	.00102	.00707	.00012	.00016	.00413	.00058	.00085	.00154	.00427	.00090	.00442	.00727
%RSD	54.877	35.178	224.66	76.712	19.146	6.9242	171.49	31.460	288.90	24.028	42.488	159.14	137.76
#1	.05676	-.00218	.00815	.00007	.00095	.05669	.00007	.00210	.00162	.02077	.00277	-.00590	.00014
#2	.12875	-.00363	-.00185	.00023	.00072	.06253	-.00075	.00329	-.00055	.01474	.00149	.00035	.01041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01129**	**-.00076**	**-.00021**	**-.00129**	**.00034**	**-.00024**	**.07987**	**.00011**	**.00171**	**-.00090**
Stddev	.01555	.00138	.00006	.00129	.00055	.00144	.04180	.00024	.00013	.00069
%RSD	137.76	182.74	27.299	100.67	161.99	604.69	52.333	227.43	7.5229	76.387
#1	.00029	-.00173	-.00025	-.00220	-.00005	-.00126	.10943	.00028	.00181	-.00041
#2	.02228	.00022	-.00017	-.00037	.00073	.00078	.05031	-.00007	.00162	-.00138
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3800.5**	**47967.**	**3349.7**
Stddev	1.5	233.	3.8
%RSD	.04041	.48532	.11246
#1	3799.4	47803.	3347.1
#2	3801.6	48132.	3352.4

Sample Name: CCVL-5398386 Acquired: 10/29/2018 13:11:01 Type: QC
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00823**	**.11496**	**.01240**	**.09930**	**.01089**	**.00092**	**.11613**	F **.29789**	**.00519**	**.01026**	**.01027**	**.01646**
Stddev	.00073	.00290	.00477	.00233	.00010	.00002	.00111	.02085	.00027	.00004	.00031	.00012
%RSD	8.8785	2.5239	38.449	2.3510	.89725	2.2736	.95496	6.9979	5.2544	.42691	2.9898	.75527
#1	.00771	.11701	.00903	.10095	.01096	.00090	.11535	.28315	.00539	.01030	.01049	.01637
#2	.00874	.11291	.01577	.09765	.01082	.00093	.11692	.31263	.00500	.01023	.01005	.01655
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								.20000				
Range								30.000%				

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10764**	**3.3073**	**.02435**	**.21291**	**.01038**	**.01958**	**1.1042**	**.04134**	**2.8732**	**.00784**	**.11366**	**.01886**
Stddev	.00723	.1049	.00274	.00901	.00003	.00134	.0535	.00119	.0918	.00066	.00521	.00336
%RSD	6.7213	3.1711	11.267	4.2310	.29344	6.8642	4.8413	2.8876	3.1959	8.4084	4.5849	17.812
#1	.10252	3.2331	.02241	.21928	.01041	.02053	1.0664	.04218	2.9381	.00738	.11735	.01648
#2	.11275	3.3814	.02628	.20654	.01036	.01863	1.1420	.04049	2.8082	.00831	.10998	.02123
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02063**	**.48831**	**1.0450**	**.10218**	**.01072**	**.01627**	**.01068**	**.01634**	F **.08209**	**.01065**	**.02119**	F **.02051**
Stddev	.00246	.02384	.0510	.00579	.00035	.00200	.00107	.00103	.05079	.00036	.00029	.00264
%RSD	11.932	4.8830	4.8830	5.6689	3.2478	12.313	10.032	6.3278	61.868	3.4105	1.3743	12.887
#1	.02237	.50517	1.0811	.10627	.01047	.01768	.01143	.01707	.04618	.01091	.02140	.02237
#2	.01889	.47145	1.0089	.09808	.01097	.01485	.00992	.01561	.11800	.01039	.02099	.01864
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Fail
Value									.06000			.01500
Range									30.000%			30.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3798.6**	**47251.**	**3367.3**
Stddev	58.9	268.	103.0
%RSD	1.5517	.56720	3.0598
#1	3757.0	47062.	3440.2
#2	3840.3	47441.	3294.5

Sample Name: Bottle 115962-D-8 Acquired: 10/29/2018 13:13:48 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: Bottle check 115962 Diss Ca 5 ppm

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00095**	**.03145**	**.00566**	**.04033**	**.10586**	**.00039**	**.00668**	**4.8673**	**.00045**
Stddev	.00048	.00080	.00327	.00010	.00008	.00003	.00201	.0189	.00012
%RSD	50.656	2.5289	57.680	.23663	.07699	8.0846	30.062	.38809	27.216
#1	-.00129	.03089	.00798	.04040	.10592	.00037	.00810	4.8540	.00036
#2	-.00061	.03201	.00335	.04026	.10580	.00041	.00526	4.8807	.00054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00496**	**.00020**	**.00152**	**.36303**	**1.0122**	**.06012**	**2.8333**	**.02306**	**-.00019**
Stddev	.00018	.00005	.00012	.00140	.0083	.00195	.0088	.00001	.00045
%RSD	3.6225	27.916	7.8648	.38511	.82396	3.2382	.30886	.05055	229.37
#1	.00484	.00023	.00144	.36402	1.0181	.06149	2.8395	.02307	.00012
#2	.00509	.00016	.00161	.36205	1.0063	.05874	2.8271	.02305	-.00051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.555**	**.00499**	**.01305**	**-.01472**	**7.1758**	**-.00475**	**-.00294**	**47.023**	**100.63**
Stddev	.007	.00003	.00114	.00120	.0826	.00144	.01044	.192	.41
%RSD	.01401	.61666	8.7512	8.1383	1.1508	30.213	354.85	.40919	.40919
#1	49.560	.00496	.01224	-.01387	7.2341	-.00374	-.01032	46.887	100.34
#2	49.550	.00501	.01386	-.01557	7.1174	-.00577	.00444	47.159	100.92
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00012**	**.07160**	**.00108**	**.00084**	**-.00084**	**-.00517**	**-.00032**	**.00335**	**.00265**
Stddev	.00082	.00012	.00183	.00043	.00188	.00930	.00054	.00100	.00165
%RSD	699.76	.17456	169.14	50.732	223.27	179.92	169.26	29.924	62.095
#1	.00046	.07151	.00237	.00114	.00049	-.01175	-.00070	.00405	.00382
#2	-.00069	.07169	-.00021	.00054	-.00217	.00141	.00006	.00264	.00149
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3934.6**	**48623.**	**3431.6**
Stddev	38.5	235.	68.2
%RSD	.97947	.48331	1.9880
#1	3907.4	48789.	3479.8
#2	3961.9	48457.	3383.4

Sample Name: Al 1000 Acquired: 10/29/2018 13:17:08 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: IEC adjustement Al on Pb

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00153**	**987.28**	**-.00417**	**.00174**	**-.00025**	**-.00022**	**.00437**	**.00590**	**.00043**
Stddev	.00090	3.58	.00010	.00106	.00026	.00001	.00437	.00348	.00029
%RSD	58.809	.36304	2.3188	60.465	100.82	4.4493	99.965	58.941	67.600
#1	-.00089	989.81	-.00410	.00100	-.00007	-.00023	.00746	.00836	.00064
#2	-.00217	984.74	-.00424	.00249	-.00043	-.00022	.00128	.00344	.00022
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00033**	**-.00108**	W **.00903**	**.00241**	**.21683**	**-.00116**	**.00995**	**.00149**	**.00142**
Stddev	.00004	.00005	.00009	.00376	.01179	.00171	.00530	.00003	.00007
%RSD	11.287	4.2718	.94610	156.01	5.4355	147.31	53.271	2.0857	4.9553
#1	-.00035	-.00105	.00897	.00507	.22517	-.00238	.01370	.00147	.00147
#2	-.00030	-.00112	.00909	-.00025	.20850	.00005	.00620	.00152	.00137
Check ?	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			.00750						
Low Limit			-.00750						

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.15125**	**-.00091**	**-.00291**	F **.01436**	F **.17665**	W **.00532**	F **-.02136**	**.00378**	**.00810**
Stddev	.01795	.00011	.00306	.00176	.00312	.00265	.01391	.00128	.00274
%RSD	11.869	11.635	105.25	12.249	1.7668	49.772	65.127	33.862	33.862
#1	.13855	-.00099	-.00508	.01311	.17444	.00345	-.03119	.00288	.00616
#2	.16394	-.00084	-.00074	.01560	.17886	.00719	-.01152	.00469	.01004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Warn	Chk Fail	Chk Pass	None
High Limit				.00900	.10000	.00500	.01500		
Low Limit				-.00300	-.10000	-.00500	-.01500		

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00214**	**-.00010**	**-.00238**	**.00048**	W **.01049**	**-.02796**	**-.00134**	W **-.01039**	**.00280**
Stddev	.00076	.00016	.00268	.00072	.00159	.02813	.00033	.00096	.00122
%RSD	35.398	155.44	112.36	151.67	15.111	100.60	24.648	9.2606	43.531
#1	-.00161	-.00021	-.00427	-.00003	.00937	-.00807	-.00157	-.00970	.00194
#2	-.00268	.00001	-.00049	.00099	.01162	-.04785	-.00110	-.01107	.00366
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit					.00750			.01000	
Low Limit					-.00750			-.01000	

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3763.1**	**43051.**	**3551.3**
Stddev	4.4	76.	11.7
%RSD	.11754	.17683	.33040
#1	3766.2	43105.	3543.0
#2	3760.0	42997.	3559.6

Sample Name: Ca 1000 Acquired: 10/29/2018 13:20:08 Type: Unk
Method: 6500_025(v5) Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: IEC adjustement Ca on Pb

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00057**	**.01096**	**.00709**	**.00087**	**.00152**	**-.00022**	**.00643**	F **1010.2**	**-.00133**
Stddev	.00024	.00020	.00269	.00074	.00054	.00040	.00572	16.0	.00034
%RSD	42.839	1.8074	37.897	84.894	35.441	178.73	88.995	1.5795	25.500
#1	.00039	.01082	.00519	.00035	.00190	.00006	.01048	1021.4	-.00157
#2	.00074	.01110	.00899	.00140	.00114	-.00050	.00238	998.88	-.00109
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit								.20000	
Low Limit								-.20000	

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00034**	**.00036**	**.00237**	**.00205**	**.37747**	**.00274**	**.00719**	**.00008**	**-.00081**
Stddev	.00018	.00007	.00042	.00033	.02360	.00256	.00015	.00006	.00004
%RSD	51.027	19.220	17.688	16.168	6.2511	93.529	2.1172	65.256	4.6074
#1	.00047	.00031	.00208	.00182	.36079	.00455	.00730	.00005	-.00078
#2	.00022	.00040	.00267	.00229	.39416	.00093	.00708	.00012	-.00083
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.33162**	**.00712**	**-.00014**	F **.01172**	**.01567**	W **.00745**	W **.00858**	**-.02624**	**-.05616**
Stddev	.01894	.00031	.00217	.00242	.00149	.00376	.00210	.02062	.04412
%RSD	5.7099	4.3079	1524.9	20.662	9.5347	50.407	24.445	78.565	78.565
#1	.34501	.00733	-.00168	.01344	.01462	.00480	.01007	-.04082	-.08736
#2	.31823	.00690	.00139	.01001	.01673	.01011	.00710	-.01166	-.02496
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Warn	Chk Warn	Chk Pass	None
High Limit				.00900		.00500	.00750		
Low Limit				-.00300		-.00500	-.00750		

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00039**	F **.06842**	**-.00076**	**.00104**	**-.00379**	W **-.05827**	**.00038**	**.00217**	**.00041**
Stddev	.00077	.00031	.00154	.00015	.00208	.01880	.00063	.00005	.00029
%RSD	200.40	.45146	203.22	14.475	54.700	32.263	167.22	2.4736	71.114
#1	.00093	.06820	-.00184	.00115	-.00526	-.07156	-.00007	.00221	.00020
#2	-.00016	.06863	.00033	.00093	-.00233	-.04497	.00082	.00214	.00062
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass
High Limit		.01000				.05000			
Low Limit		-.01000				-.05000			

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3438.4**	**43178.**	**3225.6**
Stddev	26.4	239.	2.6
%RSD	.76659	.55447	.07980
#1	3457.0	43009.	3227.4
#2	3419.8	43348.	3223.8

PAFactor.txt

P/A Factor Tuning Report

===Current Sample===
Sample Name: 280-116021-a-6-b ms
Data File: 039SMPL.d
Acquired: 11/02/2018 18:08:05

===Detector Parameters and P/A Factors===
Discriminator: 4.5 mV
AnalogHV: 1987 V
PulseHV: 989 V

Acquired: 11/02/2018 15:35:07

Mass[u]	Element	P/A Factor
9		0.095774
23		0.102364
24		0.106734
27		0.109121
39		0.111391
45		0.111722
51		0.112707
55		0.119697
56		0.110821
59		0.121915
60		0.121190
63		0.123736
66		0.122940
72		0.122259
75		0.121180
95		0.121687
101		0.124645
100		0.124652
102		0.126716
104		0.126959
105		0.127626
106		0.128735
111		0.128440

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PAFactor.txt

114	0.131981
115	0.131616
118	0.129804
121	0.129419
175	0.135635
193	0.137580
208	0.138181
209	0.137427
232	0.139229
238	0.138956
77	Signal too low
82	Signal too low
137	Signal too low

US EPA Tune Check Sample Report

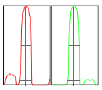
Batch Folder D:\MassHunter Data\li110218.b
Report Comment
Instrument Name G3281A JP09320047

[HMI H2]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	3568	1.15	5.00	
9	12750	0.49	5.00	

Mas	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	3562	3540	3534	3637	3565
9	12692	12749	12690	12839	12778

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	587	6.95	6.9 - 7.1		0.773	0.750	[F]
9	2027	8.90	8.9 - 9.1		0.779	0.750	[F]

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 60.9 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.75	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.14	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.7	V	Deflect	1.8	V
Extract 2	-140.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-65	V	Cell Exit	-58	V			

Cell Parameters

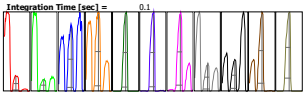
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-18.0	V	He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP RF	160	V	H2 Flow	4.0	mL/min			
Use Gas	true		3rd Gas Flow	0	%			

[HMI He]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	4223	2.54	5.00	
25	612	4.28	5.00	
26	728	4.32	5.00	
59	17473	2.42	5.00	
103	48613	2.30	5.00	
115	14412	3.90	5.00	
205	52944	2.45	5.00	
206	18625	2.95	5.00	
207	16159	2.73	5.00	
208	38773	3.25	5.00	
238	92470	2.60	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
24	4062	4231	4183	4322	4315
25	600	588	625	652	596
26	680	727	722	757	757
59	16947	17129	17650	17668	17971
103	47003	48214	48527	49481	49841
115	13574	14185	14568	14674	15058
205	51252	52376	52810	53571	54709
206	17937	18263	18608	19029	19287
207	15614	15826	16250	16388	16718
208	37099	37975	39008	39470	40314
238	88895	91464	92784	94332	94876

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	717	23.900	23.9 - 24.1		0.732	0.750	
25	108	24.950	24.9 - 25.1		0.729	0.750	
26	128	26.000	25.9 - 26.1		0.736	0.750	
59	3107	59.000	58.9 - 59.1		0.721	0.750	
103	9473	103.000	102.9 - 103.1		0.697	0.750	
115	2735	115.050	114.9 - 115.1		0.702	0.750	
205	10073	205.000	204.9 - 205.1		0.732	0.750	
206	3513	206.000	205.9 - 206.1		0.737	0.750	
207	2976	207.000	206.9 - 207.1		0.722	0.750	
208	7469	208.000	207.9 - 208.1		0.723	0.750	
238	16920	238.000	237.9 - 238.1		0.725	0.750	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 283 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.66	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.23	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.8	V	Deflect	0.8	V
Extract 2	-145.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-65	V	Cell Exit	-60	V			

Cell Parameters

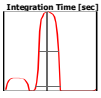
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-18.0	V	He Flow	5.0	mL/min	Energy Discrimination	3.0	V
OctP RF	160	V	H2 Flow	0.0	mL/min			
Use Gas	true		3rd Gas Flow	0	%			

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	119234	1.34	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	121880	119196	119068	118384	117642

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
7	19869	6.900	6.9 - 7.1		0.772	0.750	[F]

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 36.9 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.90	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.00	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.4	V	Deflect	15.6	V
Extract 2	-130.0	V	Cell Entrance	-40	V	Plate Bias	-50	V
Omega Bias	-60	V	Cell Exit	-60	V			

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-8.0	V	He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP RF	160	V	H2 Flow	0.0	mL/min			
Use Gas	false		3rd Gas Flow	0	%			

US EPA Tune Check Sample Report

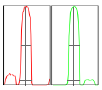
Batch Folder D:\MassHunter Data\ji110218.b
Report Comment
Instrument Name G3281A JP09320047

[HMI H2]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	3568	1.15	5.00	
9	12750	0.49	5.00	

Mas	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	3562	3540	3534	3637	3565
9	12692	12749	12690	12839	12778

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	587	6.95	6.9 - 7.1		0.773	0.750	[F]
9	2027	8.90	8.9 - 9.1		0.779	0.750	[F]

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 60.9 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.75	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.14	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.7	V	Deflect	1.8	V
Extract 2	-140.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-65	V	Cell Exit	-58	V			

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-18.0	V	He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP RF	160	V	H2 Flow	4.0	mL/min			
Use Gas	true		3rd Gas Flow	0	%			

[HMI He]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	4223	2.54	5.00	
25	612	4.28	5.00	
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59	17473	2.42	5.00	
103	48613	2.30	5.00	
115	14412	3.90	5.00	
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206	18625	2.95	5.00	
207	16159	2.73	5.00	
208	38773	3.25	5.00	
238	92470	2.60	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
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25	600	588	625	652	596
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59	16947	17129	17650	17668	17971
103	47003	48214	48527	49481	49841
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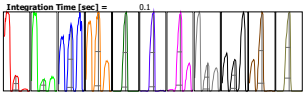
206	17937	18263	18608	19029	19287
207	15614	15826	16250	16388	16718
208	37099	37975	39008	39470	40314
238	88895	91464	92784	94332	94876

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	717	23.900	23.9 - 24.1		0.732	0.750	
25	108	24.950	24.9 - 25.1		0.729	0.750	
26	128	26.000	25.9 - 26.1		0.736	0.750	
59	3107	59.000	58.9 - 59.1		0.721	0.750	
103	9473	103.000	102.9 - 103.1		0.697	0.750	
115	2735	115.050	114.9 - 115.1		0.702	0.750	
205	10073	205.000	204.9 - 205.1		0.732	0.750	
206	3513	206.000	205.9 - 206.1		0.737	0.750	
207	2976	207.000	206.9 - 207.1		0.722	0.750	
208	7469	208.000	207.9 - 208.1		0.723	0.750	
238	16920	238.000	237.9 - 238.1		0.725	0.750	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 283 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.66	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.23	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.8	V	Deflect	0.8	V
Extract 2	-145.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-65	V	Cell Exit	-60	V			

Cell Parameters

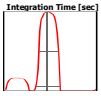
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-18.0	V	He Flow	5.0	mL/min	Energy Discrimination	3.0	V
OctP RF	160	V	H2 Flow	0.0	mL/min			
Use Gas	true		3rd Gas Flow	0	%			

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	119234	1.34	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	121880	119196	119068	118384	117642

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
7	19869	6.900	6.9 - 7.1		0.772	0.750	[F]

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 36.9 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.90	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.00	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.4	V	Deflect	15.6	V
Extract 2	-130.0	V	Cell Entrance	-40	V	Plate Bias	-50	V
Omega Bias	-60	V	Cell Exit	-60	V			

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-8.0	V	He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP RF	160	V	H2 Flow	0.0	mL/min			
Use Gas	false		3rd Gas Flow	0	%			

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	001WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T15:39:20-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	002WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T15:43:08-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	003WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T15:47:26-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	004WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T15:51:16-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	005WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T15:55:38-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Calibration Blank Report

Sample Table

Sample Name	ICIS-5408711
Data File Name	006CALB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T15:59:46-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	184334	0.00
Li	7	2	HMI He	10051	0.05
Li	7	3	No Gas	6622513	0.00
Be	9	1	HMI H2	10	1732.05
B	11	1	HMI H2	613	1.07
Na	23	1	HMI H2	383599	0.00
Na	23	2	HMI He	27536	0.01
Mg	24	2	HMI He	187	8.28
Al	27	2	HMI He	110	28.63
K	39	2	HMI He	20942	0.01
Ca	44	2	HMI He	50	105.83
Ti	47	2	HMI He	10	1000.00
V	51	2	HMI He	2110	0.38
Cr	52	2	HMI He	273	3.86
Mn	55	2	HMI He	70	54.00
Fe	57	2	HMI He	220	0.00
Co	59	2	HMI He	20	250.00
Ni	60	2	HMI He	180	19.27
Cu	63	2	HMI He	1567	0.33
Zn	66	2	HMI He	290	7.80
As	75	2	HMI He	28	14.33
Se	78	1	HMI H2	27	32.48
Sr	88	2	HMI He	27	292.73
Zr	90	2	HMI He	140	51.78
Nb	93	2	HMI He	160	20.67
Mo	95	2	HMI He	30	333.33
Pd	105	2	HMI He	17	207.85
Ag	107	2	HMI He	33	51.96
Cd	111	2	HMI He	7	1299.04
Sn	120	2	HMI He	150	23.51
Sb	121	2	HMI He	37	227.24
Ba	137	2	HMI He	10	1732.05
W	182	2	HMI He	1797	0.20
Pt	195	2	HMI He	7	1299.04
Tl	205	2	HMI He	103	78.54
Pb	208	2	HMI He	1153	0.04
Th	232	2	HMI He	317	3.05
U	238	2	HMI He	113	49.44

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li-6 Internal Standard	6	1	HMI H2	1719455	0.88
Sc (IS)	45	1	HMI H2	32996152	0.28
Sc (IS)	45	2	HMI He	1019192	1.88
Sc (IS)	45	3	No Gas	56217091	0.38
Ge Internal Standard	72	1	HMI H2	13920513	1.08
Ge Internal Standard	72	2	HMI He	1242268	2.81
In Internal Standard	115	2	HMI He	4043894	0.86
Ho-165	165	2	HMI He	19631094	0.35

Calibration Standard Report

Sample Table

Sample Name	IC-5408712
Data File Name	007CALS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:03:35-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	673204	0.00
Li	7	2	HMI He	36141	0.00
Li	7	3	No Gas	23487577	0.00
Be	9	1	HMI H2	45680	0.01
B	11	1	HMI H2	48694	0.00
Na	23	1	HMI H2	38324971	0.00
Na	23	2	HMI He	2413136	0.00
Mg	24	2	HMI He	1131118	0.00
Al	27	2	HMI He	263755	0.00
K	39	1	HMI H2	49913384	0.00
K	39	2	HMI He	577608	0.00
Ca	40	1	HMI H2	57467666	0.00
Ca	44	2	HMI He	30840	0.00
Ti	47	2	HMI He	2687	0.30
V	51	2	HMI He	117837	0.00
Cr	52	2	HMI He	151628	0.00
Mn	55	2	HMI He	56926	0.00
Fe	57	2	HMI He	277671	0.00
Co	59	2	HMI He	265689	0.00
Ni	60	2	HMI He	76468	0.00
Cu	63	2	HMI He	209884	0.00
Zn	66	2	HMI He	27170	0.00
As	75	2	HMI He	19693	0.01
Se	78	1	HMI H2	33448	0.00
Sr	88	2	HMI He	63868	0.00
Zr	90	2	HMI He	1400	1.10
Nb	93	2	HMI He	784881	0.00
Mo	95	2	HMI He	103741	0.00
Pd	105	2	HMI He	169284	0.00
Ag	107	2	HMI He	346726	0.00
Cd	111	2	HMI He	44278	0.01
Sn	120	2	HMI He	117946	0.00
Sb	121	2	HMI He	108158	0.00
Ba	137	2	HMI He	37171	0.01
Nd	146	2	HMI He	134145	0.00
Sm	147	2	HMI He	116559	0.00
Sm	150	2	HMI He	113949	0.00
Gd	156	1	HMI H2	787472	0.00
Gd	157	1	HMI H2	598823	0.00
W	182	2	HMI He	500682	0.00
Pt	195	2	HMI He	413181	0.00
Tl	205	2	HMI He	909637	0.00
Pb	208	2	HMI He	1230878	0.00
Th	232	2	HMI He	1555895	0.00
U	238	2	HMI He	1664574	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1674442	1.25	1719455	97.38	60	120	
Sc (IS)	45	1	HMI H2	32850460	0.74	32996152	99.56	60	120	
Sc (IS)	45	2	HMI He	981998	0.74	1019192	96.35	60	120	
Sc (IS)	45	3	No Gas	54636769	0.19	56217091	97.19	60	120	
Ge Internal Standard	72	1	HMI H2	13793661	0.50	13920513	99.09	60	120	
Ge Internal Standard	72	2	HMI He	1190378	2.39	1242268	95.82	60	120	
In Internal Standard	115	2	HMI He	3903658	1.71	4043894	96.53	60	120	
Ho-165	165	2	HMI He	19628015	0.29	19631094	99.98	60	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV-5408714
Data File Name	008_ICV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:07:22-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	475.920	ppb	0.738	414951	400	119.0	90	110	>+\-10%
Li	7	2	45	465.469	ppb	1.404	22097	400	116.4	90	110	>+\-10%
Li	7	3	45	478.734	ppb	3.280	14708067	400	119.7	90	110	>+\-10%
Be	9	1	6	41.475	ppb	6.531	18672	40	103.7	90	110	
B	11	1	6	35.754	ppb	3.941	17544	40	89.4	90	110	>+\-10%
Na	23	1	45	3983.181	ppb	0.246	15434187	4000	99.6	90	110	>+\-10%
Na	23	2	45	4069.437	ppb	0.493	1002233	4000	101.7	90	110	
Mg	24	2	45	3716.968	ppb	0.857	422482	4000	92.9	90	110	
Al	27	2	45	7982.978	ppb	1.480	211544	4000	199.6	90	110	>+\-10%
K	39	1	45	3955.455	ppb	0.542	26970069	4000	98.9	90	110	
K	39	2	45	4066.791	ppb	0.643	247985	4000	101.7	90	110	
Ca	40	1	45	4041.429	ppb	1.162	23166642	4000	101.0	90	110	
Ca	44	2	45	3887.347	ppb	4.422	12072	4000	97.2	90	110	
Ti	47	2	45	41.406	ppb	4.906	1123	40	103.5	90	110	
V	51	2	72	40.851	ppb	1.022	48726	40	102.1	90	110	
Cr	52	2	72	40.739	ppb	0.758	61159	40	101.8	90	110	
Mn	55	2	72	42.620	ppb	2.397	23994	40	106.5	90	110	
Fe	57	2	72	8140.047	ppb	2.211	223186	4000	203.5	90	110	>+\-10%
Co	59	2	72	40.395	ppb	2.575	105979	40	101.0	90	110	
Ni	60	2	72	40.858	ppb	0.949	30964	40	102.1	90	110	
Cu	63	2	72	41.288	ppb	0.567	86455	40	103.2	90	110	
Zn	66	2	72	42.077	ppb	3.671	11455	40	105.2	90	110	
As	75	2	72	38.299	ppb	0.678	7464	40	95.7	90	110	
Se	78	1	72	39.843	ppb	0.678	13313	40	99.6	90	110	
Sr	88	2	72	42.333	ppb	0.820	26713	40	105.8	90	110	
Zr	90	2	72	9.083	ppb	78.808	243	40	22.7	90	110	>+\-10%
Nb	93	2	72	73.800	ppb	1.203	286134	80	92.2	90	110	
Mo	95	2	115	39.645	ppb	2.694	41545	40	99.1	90	110	
Pd	105	2	115	40.002	ppb	0.982	68387	40	100.0	90	110	
Ag	107	2	115	38.392	ppb	0.887	134434	40	96.0	90	110	
Cd	111	2	115	39.481	ppb	5.406	17655	40	98.7	90	110	
Sn	120	2	115	40.829	ppb	2.086	48707	40	102.1	90	110	
Sb	121	2	115	42.788	ppb	1.404	46746	40	107.0	90	110	
Ba	137	2	115	41.273	ppb	1.702	15493	40	103.2	90	110	
W	182	2	165	80.652	ppb	0.886	402545	40	201.6	90	110	>+\-10%
Pt	195	2	165	39.215	ppb	1.294	161380	40	98.0	90	110	
Tl	205	2	165	40.820	ppb	1.918	369878	40	102.0	90	110	
Pb	208	2	165	40.245	ppb	1.198	494071	40	100.6	90	110	
Th	232	2	165	37.565	ppb	1.972	582326	40	93.9	90	110	
U	238	2	165	37.521	ppb	1.497	622106	40	93.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1651092	2.26	1719455	96.02	60	120	
Sc (IS)	45	1	HMI H2	32721101	0.46	32996152	99.17	60	120	
Sc (IS)	45	2	HMI He	986412	0.49	1019192	96.78	60	120	
Sc (IS)	45	3	No Gas	55047651	0.60	56217091	97.92	60	120	
Ge Internal Standard	72	1	HMI H2	13762856	0.25	13920513	98.87	60	120	
Ge Internal Standard	72	2	HMI He	1175315	1.44	1242268	94.61	60	120	
In Internal Standard	115	2	HMI He	3941376	1.23	4043894	97.46	60	120	
Ho-165	165	2	HMI He	19550560	0.92	19631094	99.59	60	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB-5408711
Data File Name	009_ICB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:11:36-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	-9.710	ppb	-26.7	6551827	10	
Be	9	1	0.014	ppb	235.7	17	0.5	
B	11	1	0.387	ppb	53.5	817	0.5	
Na	23	1	4.309	ppb	45.0	404243	25	
Na	23	2	2.989	ppb	57.6	28271	25	
Mg	24	2	0.843	ppb	64.5	287	25	
Al	27	2	25.967	ppb	4.8	820	15	>RL
K	39	1	-62.110	ppb	-32.8	12078180	50	
K	39	2	2.616	ppb	662.7	21093	50	
Ca	40	1	1.550	ppb	5.7	65504	50	
Ca	44	2	-2.262	ppb	-338.4	43	25	
Ti	47	2	-0.361	ppb	0.0	0	0.5	
V	51	2	1.105	ppb	3.4	3521	1	>RL
Cr	52	2	0.034	ppb	142.2	333	1	
Mn	55	2	-0.018	ppb	-184.8	60	0.5	
Fe	57	2	2.881	ppb	53.4	310	25	
Co	59	2	-0.004	ppb	-169.4	10	0.5	
Ni	60	2	-0.002	ppb	-7777.6	183	1	
Cu	63	2	-0.015	ppb	-479.0	1567	1	
Zn	66	2	-0.054	ppb	-118.5	280	5	
As	75	2	0.047	ppb	45.1	39	1	
Se	78	1	0.042	ppb	42.6	41	1	
Sr	88	2	0.023	ppb	221.7	43	0.5	
Zr	90	2	-4.053	ppb	-41.6	87	1	
Nb	93	2	3.613	ppb	8.1	15292	2	>RL
Mo	95	2	0.021	ppb	67.9	53	0.5	
Pd	105	2	0.039	ppb	33.4	87	1	
Ag	107	2	0.015	ppb	17.7	90	1	
Cd	111	2	-0.007	ppb	-171.8	3	0.5	
Sn	120	2	0.135	ppb	45.9	320	1	
Sb	121	2	0.252	ppb	35.0	323	0.6	
Ba	137	2	-0.009	ppb	-163.8	7	0.5	
W	182	2	0.123	ppb	41.4	2437	1	
Pt	195	2	0.017	ppb	51.1	77	1	
Tl	205	2	0.015	ppb	20.1	247	0.1	
Pb	208	2	0.007	ppb	90.2	1253	0.5	
Th	232	2	0.042	ppb	19.2	977	1	
U	238	2	0.018	ppb	39.6	420	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1742636	1.47	1719455	101.35	60	120	
Sc (IS)	45	1	HMI H2	33347871	0.96	32996152	101.07	60	120	
Sc (IS)	45	2	HMI He	1019243	1.66	1019192	100.00	60	120	
Sc (IS)	45	3	No Gas	57085014	0.31	56217091	101.54	60	120	
Ge Internal Standard	72	1	HMI H2	14050560	0.15	13920513	100.93	60	120	
Ge Internal Standard	72	2	HMI He	1269500	0.83	1242268	102.19	60	120	
In Internal Standard	115	2	HMI He	4107191	0.63	4043894	101.57	60	120	
Ho-165	165	2	HMI He	19865056	1.48	19631094	101.19	60	120	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	ICVL-5408715
Data File Name	010LICV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:16:18-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	3.610	ppb	371.879	10998319	50	7.2	70	130	>+/-30%
Be	9	1	6	-0.008	ppb	-157.147	10	1	-0.8	70	130	>+/-30%
Na	23	2	45	-31.144	ppb	-39.962	30529	50	-62.3	70	130	>+/-30%
Mg	24	2	45	0.482	ppb	290.908	367	50	1.0	70	130	>+/-30%
Al	27	2	45	0.539	ppb	517.773	190	30	1.8	70	130	>+/-30%
K	39	2	45	-161.625	ppb	-14.316	17942	100	-161.6	70	130	>+/-30%
Ca	44	2	45	-5.745	ppb	-128.716	50	50	-11.5	70	130	>+/-30%
V	51	2	72	-0.552	ppb	-11.212	2177	5	-11.0	70	130	>+/-30%
Cr	52	2	72	-0.048	ppb	-77.323	290	2	-2.4	70	130	>+/-30%
Mn	55	2	72	-0.052	ppb	-25.221	60	1	-5.2	70	130	>+/-30%
Fe	57	2	72	1.216	ppb	113.606	383	50	2.4	70	130	>+/-30%
Co	59	2	72	0.008	ppb	147.047	63	1	0.8	70	130	>+/-30%
Ni	60	2	72	-0.025	ppb	-354.884	250	2	-1.2	70	130	>+/-30%
Cu	63	2	72	-0.105	ppb	-31.445	2034	2	-5.2	70	130	>+/-30%
Zn	66	2	72	-0.405	ppb	-50.219	273	10	-4.1	70	130	>+/-30%
As	75	2	72	-0.060	ppb	-51.105	25	5	-1.2	70	130	>+/-30%
Se	78	1	72	-0.019	ppb	-115.073	29	5	-0.4	70	130	>+/-30%
Sr	88	2	72	0.004	ppb	516.141	47	1	0.4	70	130	>+/-30%
Zr	90	2	72	8.578	ppb	106.049	383	0.5	1715.6	70	130	>+/-30%
Nb	93	2	72	1.112	ppb	63.649	6841	2	55.6	70	130	>+/-30%
Mo	95	2	115	0.024	ppb	136.235	77	2	1.2	70	130	>+/-30%
Pd	105	2	115	0.053	ppb	75.766	153	1	5.3	70	130	>+/-30%
Ag	107	2	115	0.008	ppb	216.822	83	5	0.2	70	130	>+/-30%
Cd	111	2	115	-0.002	ppb	-1294.964	10	1	-0.2	70	130	>+/-30%
Sn	120	2	115	0.069	ppb	45.264	347	10	0.7	70	130	>+/-30%
Sb	121	2	115	0.108	ppb	71.796	217	2	5.4	70	130	>+/-30%
Ba	137	2	115	-0.006	ppb	-616.719	13	1	-0.6	70	130	>+/-30%
W	182	2	165	-0.018	ppb	-79.602	2567	1	-1.8	70	130	>+/-30%
Pt	195	2	165	0.025	ppb	73.823	157	1	2.5	70	130	>+/-30%
Tl	205	2	165	0.020	ppb	59.899	413	1	2.0	70	130	>+/-30%
Pb	208	2	165	-0.013	ppb	-177.043	1493	1	-1.3	70	130	>+/-30%
Th	232	2	165	0.041	ppb	33.866	1424	2	2.1	70	130	>+/-30%
U	238	2	165	0.012	ppb	92.675	447	1	1.2	70	130	>+/-30%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	2835978	0.79	1719455	164.93	60	120	IS Failed
Sc (IS)	45	1	HMI H2	49096448	2.93	32996152	148.79	60	120	IS Failed
Sc (IS)	45	2	HMI He	1592789	14.11	1019192	156.28	60	120	IS Failed
Sc (IS)	45	3	No Gas	92582445	8.07	56217091	164.69	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	20327314	3.09	13920513	146.02	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	1877578	14.90	1242268	151.14	60	120	IS Failed
In Internal Standard	115	2	HMI He	5881873	15.95	4043894	145.45	60	120	IS Failed
Ho-165	165	2	HMI He	29574433	15.21	19631094	150.65	60	120	IS Failed

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	ICVL-5408715
Data File Name	011LICV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:20:39-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	10.409	ppb	14.643	7033602	50	20.8	70	130	>+/-30%
Be	9	1	6	0.981	ppb	21.032	483	1	98.1	70	130	
Na	23	2	45	42.933	ppb	17.651	39804	50	85.9	70	130	>+/-30%
Mg	24	2	45	45.566	ppb	7.928	5768	50	91.1	70	130	
Al	27	2	45	32.644	ppb	3.445	1047	30	108.8	70	130	
K	39	2	45	95.276	ppb	25.885	27594	100	95.3	70	130	
Ca	44	2	45	27.514	ppb	81.338	147	50	55.0	70	130	>+/-30%
V	51	2	72	5.301	ppb	11.460	8933	5	106.0	70	130	
Cr	52	2	72	1.793	ppb	14.361	3254	2	89.7	70	130	
Mn	55	2	72	0.852	ppb	21.638	603	1	85.2	70	130	
Fe	57	2	72	45.739	ppb	21.378	1617	50	91.5	70	130	
Co	59	2	72	0.975	ppb	8.188	2854	1	97.5	70	130	
Ni	60	2	72	1.792	ppb	14.686	1687	2	89.6	70	130	
Cu	63	2	72	1.914	ppb	11.883	6002	2	95.7	70	130	
Zn	66	2	72	9.980	ppb	7.376	3241	10	99.8	70	130	
As	75	2	72	4.176	ppb	6.136	927	5	83.5	70	130	
Se	78	1	72	4.657	ppb	4.728	1633	5	93.1	70	130	
Sr	88	2	72	0.975	ppb	14.761	710	1	97.5	70	130	
Zr	90	2	72	12.407	ppb	18.768	317	0.5	2481.3	70	130	>+/-30%
Nb	93	2	72	4.704	ppb	6.578	20372	2	235.2	70	130	>+/-30%
Mo	95	2	115	1.884	ppb	8.925	2087	2	94.2	70	130	
Pd	105	2	115	0.007	ppb	201.284	30	1	0.7	70	130	>+/-30%
Ag	107	2	115	5.015	ppb	6.317	18333	5	100.3	70	130	
Cd	111	2	115	0.916	ppb	15.669	433	1	91.6	70	130	
Sn	120	2	115	9.986	ppb	5.259	12536	10	99.9	70	130	
Sb	121	2	115	2.114	ppb	10.918	2444	2	105.7	70	130	
Ba	137	2	115	0.869	ppb	10.826	350	1	86.9	70	130	
W	182	2	165	4.844	ppb	2.590	26357	1	484.4	70	130	>+/-30%
Pt	195	2	165	0.038	ppb	32.188	167	1	3.8	70	130	>+/-30%
Tl	205	2	165	1.046	ppb	6.660	9764	1	104.6	70	130	
Pb	208	2	165	0.954	ppb	0.880	13087	1	95.4	70	130	
Th	232	2	165	1.915	ppb	2.105	30571	2	95.8	70	130	
U	238	2	165	0.972	ppb	0.923	16545	1	97.2	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1767929	0.53	1719455	102.82	60	120	
Sc (IS)	45	1	HMI H2	34008028	0.84	32996152	103.07	60	120	
Sc (IS)	45	2	HMI He	1064608	4.91	1019192	104.46	60	120	
Sc (IS)	45	3	No Gas	58103214	1.27	56217091	103.36	60	120	
Ge Internal Standard	72	1	HMI H2	14232784	0.59	13920513	102.24	60	120	
Ge Internal Standard	72	2	HMI He	1301929	1.07	1242268	104.80	60	120	
In Internal Standard	115	2	HMI He	4110279	1.52	4043894	101.64	60	120	
Ho-165	165	2	HMI He	19930081	0.82	19631094	101.52	60	120	

CRI Report

Sample Table

Sample Name	CRI-5408716
Data File Name	012RLST_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:24:52-06:00
Sample Type	CRI
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	10.865	ppb	30.923	195854	10	108.7	80	120	
Li	7	2	45	-9.384	ppb	-90.902	10324	10	-93.8	80	120	>+\-20%
Li	7	3	45	3.225	ppb	26.102	7030013	10	32.3	80	120	>+\-20%
Be	9	1	6	0.886	ppb	3.144	447	1	88.6	80	120	
B	11	1	6	0.942	ppb	54.199	1133	1	94.2	80	120	
Na	23	1	45	98.310	ppb	1.752	782960	100	98.3	80	120	
Na	23	2	45	88.089	ppb	6.951	52022	100	88.1	80	120	
Mg	24	2	45	93.505	ppb	3.959	11772	100	93.5	80	120	
Al	27	2	45	95.134	ppb	5.522	2860	100	95.1	80	120	
K	39	2	45	99.891	ppb	20.528	28168	100	99.9	80	120	
Ca	40	1	45	105.128	ppb	0.410	683689	100	105.1	80	120	
Ca	44	2	45	93.942	ppb	9.285	370	100	93.9	80	120	
Ti	47	2	45	0.894	ppb	25.342	37	1	89.4	80	120	
V	51	2	72	1.485	ppb	5.762	4044	1	148.5	80	120	>+\-20%
Cr	52	2	72	0.892	ppb	11.313	1744	1	89.2	80	120	
Mn	55	2	72	1.070	ppb	12.861	730	1	107.0	80	120	
Fe	57	2	72	97.551	ppb	17.325	3151	100	97.6	80	120	
Co	59	2	72	0.947	ppb	10.976	2744	1	94.7	80	120	
Ni	60	2	72	1.009	ppb	4.131	1020	1	100.9	80	120	
Cu	63	2	72	1.035	ppb	4.266	3954	1	103.5	80	120	
Zn	66	2	72	1.147	ppb	25.874	633	1	114.7	80	120	
As	75	2	72	0.903	ppb	11.178	221	1	90.3	80	120	
Se	78	1	72	1.024	ppb	9.057	384	1	102.4	80	120	
Sr	88	2	72	0.957	ppb	22.647	690	1	95.7	80	120	
Zr	90	2	72	-1.951	ppb	-72.549	117	1	-195.1	80	120	>+\-20%
Nb	93	2	72	2.220	ppb	0.372	9584	2	111.0	80	120	
Mo	95	2	115	0.955	ppb	5.286	1080	1	95.5	80	120	
Pd	105	2	115	0.838	ppb	10.185	1520	1	83.8	80	120	
Ag	107	2	115	1.003	ppb	4.692	3717	1	100.3	80	120	
Cd	111	2	115	0.980	ppb	30.140	467	1	98.0	80	120	
Sn	120	2	115	1.029	ppb	9.529	1437	1	102.9	80	120	
Sb	121	2	115	0.955	ppb	19.342	1133	1	95.5	80	120	
Ba	137	2	115	0.905	ppb	7.785	367	1	90.5	80	120	
W	182	2	165	0.962	ppb	6.590	6675	1	96.2	80	120	
Pt	195	2	165	0.954	ppb	3.835	3997	1	95.4	80	120	
Tl	205	2	165	0.974	ppb	2.741	9067	1	97.4	80	120	
Pb	208	2	165	0.934	ppb	1.793	12790	1	93.4	80	120	
Th	232	2	165	0.841	ppb	6.315	13561	1	84.1	80	120	
U	238	2	165	0.910	ppb	3.289	15447	1	91.0	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1804447	0.66	1719455	104.94	60	120	
Sc (IS)	45	1	HMI H2	34070302	0.19	32996152	103.26	60	120	
Sc (IS)	45	2	HMI He	1074965	2.98	1019192	105.47	60	120	
Sc (IS)	45	3	No Gas	59171764	0.88	56217091	105.26	60	120	
Ge Internal Standard	72	1	HMI H2	14359012	0.67	13920513	103.15	60	120	
Ge Internal Standard	72	2	HMI He	1286876	1.20	1242268	103.59	60	120	
In Internal Standard	115	2	HMI He	4136932	1.49	4043894	102.30	60	120	
Ho-165	165	2	HMI He	19863838	0.20	19631094	101.19	60	120	

CRI Report

Sample Table

Sample Name	CRI-
Data File Name	013RLST_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:29:38-06:00
Sample Type	CRI
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	-3.738	ppb	-169.798	190113	10	-37.4	80	120	>+\-20%
Li	7	2	45	-32.566	ppb	-41.480	9704	10	-325.7	80	120	>+\-20%
Li	7	3	45	-6.983	ppb	-59.474	6828168	10	-69.8	80	120	>+\-20%
Be	9	1	6	0.041	ppb	133.606	30	1	4.1	80	120	>+\-20%
B	11	1	6	-0.195	ppb	-12.645	533	1	-19.5	80	120	>+\-20%
Na	23	1	45	18.893	ppb	2.499	474646	100	18.9	80	120	>+\-20%
Na	23	2	45	15.286	ppb	28.975	33168	100	15.3	80	120	>+\-20%
Mg	24	2	45	0.846	ppb	57.753	303	100	0.8	80	120	>+\-20%
Al	27	2	45	0.939	ppb	62.553	143	100	0.9	80	120	>+\-20%
K	39	2	45	5.670	ppb	324.061	22528	100	5.7	80	120	>+\-20%
Ca	40	1	45	15.329	ppb	2.865	150301	100	15.3	80	120	>+\-20%
Ca	44	2	45	16.554	ppb	57.747	110	100	16.6	80	120	>+\-20%
Ti	47	2	45	-0.361	ppb	0.000	0	1	-36.1	80	120	>+\-20%
V	51	2	72	5.462	ppb	3.620	9057	1	546.2	80	120	>+\-20%
Cr	52	2	72	0.105	ppb	10.543	457	1	10.5	80	120	>+\-20%
Mn	55	2	72	0.229	ppb	14.089	213	1	22.9	80	120	>+\-20%
Fe	57	2	72	16.423	ppb	17.752	723	100	16.4	80	120	>+\-20%
Co	59	2	72	0.007	ppb	52.168	40	1	0.7	80	120	>+\-20%
Ni	60	2	72	0.200	ppb	36.302	353	1	20.0	80	120	>+\-20%
Cu	63	2	72	0.097	ppb	59.410	1847	1	9.7	80	120	>+\-20%
Zn	66	2	72	1.141	ppb	5.417	633	1	114.1	80	120	
As	75	2	72	0.016	ppb	168.953	33	1	1.6	80	120	>+\-20%
Se	78	1	72	-0.041	ppb	-32.647	13	1	-4.1	80	120	>+\-20%
Sr	88	2	72	0.042	ppb	232.699	57	1	4.2	80	120	>+\-20%
Zr	90	2	72	-2.929	ppb	-113.510	103	1	-292.9	80	120	>+\-20%
Nb	93	2	72	0.294	ppb	23.626	1417	2	14.7	80	120	>+\-20%
Mo	95	2	115	0.014	ppb	71.669	47	1	1.4	80	120	>+\-20%
Pd	105	2	115	0.005	ppb	240.081	27	1	0.5	80	120	>+\-20%
Ag	107	2	115	0.002	ppb	315.728	43	1	0.2	80	120	>+\-20%
Cd	111	2	115	0.021	ppb	155.240	17	1	2.1	80	120	>+\-20%
Sn	120	2	115	0.146	ppb	10.843	337	1	14.6	80	120	>+\-20%
Sb	121	2	115	0.063	ppb	27.397	110	1	6.3	80	120	>+\-20%
Ba	137	2	115	0.067	ppb	43.254	37	1	6.7	80	120	>+\-20%
W	182	2	165	0.006	ppb	316.605	1864	1	0.6	80	120	>+\-20%
Pt	195	2	165	0.006	ppb	131.922	33	1	0.6	80	120	>+\-20%
Tl	205	2	165	0.003	ppb	35.330	137	1	0.3	80	120	>+\-20%
Pb	208	2	165	0.003	ppb	163.981	1213	1	0.3	80	120	>+\-20%
Th	232	2	165	0.009	ppb	35.470	460	1	0.9	80	120	>+\-20%
U	238	2	165	0.006	ppb	86.319	210	1	0.6	80	120	>+\-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1772539	1.67	1719455	103.09	60	120	
Sc (IS)	45	1	HMI H2	34375200	0.51	32996152	104.18	60	120	
Sc (IS)	45	2	HMI He	1080117	3.05	1019192	105.98	60	120	
Sc (IS)	45	3	No Gas	59059162	1.69	56217091	105.06	60	120	
Ge Internal Standard	72	1	HMI H2	14330566	0.50	13920513	102.95	60	120	
Ge Internal Standard	72	2	HMI He	1291220	0.57	1242268	103.94	60	120	
In Internal Standard	115	2	HMI He	4148127	0.52	4043894	102.58	60	120	
Ho-165	165	2	HMI He	20047442	0.66	19631094	102.12	60	120	

CRI Report

Sample Table

Sample Name	CRI5408717
Data File Name	014_CRI_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:33:27-06:00
Sample Type	AFCRI
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	6	0.210	ppb	65.195	113	0.2	104.8	80	120	
Na	23	2	45	10.188	ppb	18.620	30940	20	50.9	80	120	AFCRI Main CR1 Failed
Mg	24	2	45	19.786	ppb	4.625	2584	20	98.9	80	120	
Al	27	2	45	18.996	ppb	19.909	650	20	95.0	80	120	
K	39	2	45	25.457	ppb	35.873	23079	20	127.3	80	120	AFCRI Main CR1 Failed
Ca	44	2	45	23.640	ppb	43.167	130	20	118.2	80	120	
V	51	2	72	0.628	ppb	19.979	2977	0.2	313.8	80	120	AFCRI Main CR1 Failed
Cr	52	2	72	0.128	ppb	49.234	493	0.2	63.9	80	120	AFCRI Main CR1 Failed
(Cr)	53	2	72	0.687	ppb	63.769	1093	0.2	343.4	80	120	AFCRI Main CR1 Failed
Mn	55	2	72	0.164	ppb	39.555	173	0.2	82.0	80	120	
Fe	57	2	72	18.015	ppb	18.593	770	20	90.1	80	120	
Co	59	2	72	0.209	ppb	16.705	623	0.2	104.7	80	120	
Ni	60	2	72	0.337	ppb	22.993	467	0.2	168.6	80	120	AFCRI Main CR1 Failed
Cu	63	2	72	0.232	ppb	23.886	2150	0.2	116.0	80	120	
Zn	66	2	72	0.343	ppb	52.288	400	0.2	171.6	80	120	AFCRI Main CR1 Failed
As	75	2	72	0.115	ppb	109.677	54	0.2	57.3	80	120	AFCRI Main CR1 Failed
Se	78	1	72	0.157	ppb	44.783	83	0.2	78.5	80	120	AFCRI Main CR1 Failed
(Se)	82	1	72	-0.096	ppb	-748.900	500	0.2	-48.0	80	120	AFCRI Main CR1 Failed
Nb	93	2	72	0.624	ppb	9.359	2820	0.4	156.1	80	120	AFCRI Main CR1 Failed
Mo	95	2	115	0.159	ppb	15.039	203	0.2	79.4	80	120	AFCRI Main CR1 Failed
Pd	105	2	115	0.226	ppb	23.205	420	0.2	113.2	80	120	
Ag	107	2	115	0.187	ppb	19.654	713	0.2	93.3	80	120	
Cd	111	2	115	0.192	ppb	49.570	97	0.2	96.1	80	120	
(Cd)	114	2	115	0.149	ppb	48.885	193	0.2	74.4	80	120	AFCRI Main CR1 Failed
Sn	120	2	115	0.152	ppb	47.803	340	0.2	76.1	80	120	AFCRI Main CR1 Failed
Sb	121	2	115	0.193	ppb	14.150	257	0.2	96.6	80	120	
Ba	137	2	115	0.180	ppb	39.120	80	0.2	89.8	80	120	
W	182	2	165	0.220	ppb	16.822	2924	0.2	109.8	80	120	
Pt	195	2	165	0.210	ppb	12.359	883	0.2	104.9	80	120	
Tl	205	2	165	0.189	ppb	8.373	1840	0.2	94.4	80	120	
(Pb)	206	2	165	0.246	ppb	16.892	993	0.2	123.0	80	120	AFCRI Main CR1 Failed
(Pb)	207	2	165	0.241	ppb	30.034	897	0.2	120.4	80	120	AFCRI Main CR1 Failed
Pb	208	2	165	0.231	ppb	6.164	4037	0.2	115.5	80	120	
Th	232	2	165	0.158	ppb	2.976	2810	0.2	79.2	80	120	AFCRI Main CR1 Failed
U	238	2	165	0.191	ppb	3.731	3331	0.2	95.6	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1803388	0.74	1719455	104.88	60	120	
Sc (IS)	45	1	HMI H2	34310469	0.44	32996152	103.98	60	120	
Sc (IS)	45	2	HMI He	1049400	2.67	1019192	102.96	60	120	
Sc (IS)	45	3	No Gas	59081451	0.43	56217091	105.10	60	120	
Ge Internal Standard	72	1	HMI H2	14462093	0.27	13920513	103.89	60	120	
Ge Internal Standard	72	2	HMI He	1289668	0.39	1242268	103.82	60	120	
In Internal Standard	115	2	HMI He	4102292	1.51	4043894	101.44	60	120	
Ho-165	165	2	HMI He	19841906	0.31	19631094	101.07	60	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA-5405008
Data File Name	015ICSA_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:37:16-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-2.823	ppb	-93.3	6221804	1	
Be	9	1	6	0.023	ppb	191.3	20	1	
B	11	1	6	0.141	ppb	74.8	653	1	
Na	23	1	45	97151.832	ppb	0.6	350786195	100000	
K	39	1	45	99016.509	ppb	0.2	367147448	100000	
Ca	40	1	45	98142.803	ppb	1.0	535690219	100000	
Ti	47	2	45	1948.118	ppb	0.6	49140	1	>RL or LOD
V	51	2	72	1.343	ppb	8.5	3254	1	>RL or LOD
Cr	52	2	72	0.316	ppb	12.4	673	1	
Mn	55	2	72	0.784	ppb	31.6	467	1	
Co	59	2	72	0.011	ppb	58.6	43	1	
Ni	60	2	72	0.258	ppb	25.3	337	1	
Cu	63	2	72	0.380	ppb	21.4	2087	1	
Zn	66	2	72	0.761	ppb	75.7	437	1	
As	75	2	72	0.093	ppb	34.2	41	1	
Se	78	1	72	-0.002	ppb	-1388.8	24	1	
Sr	88	2	72	1.080	ppb	7.0	650	1	>RL or LOD
Zr	90	2	72	7.902	ppb	168.4	210	1	>RL or LOD
Nb	93	2	72	0.556	ppb	3.9	2124	1	
Mo	95	2	115	2057.172	ppb	1.0	1971378	2000	>RL or LOD
Pd	105	2	115	0.012	ppb	155.6	33	1	
Ag	107	2	115	0.044	ppb	12.0	170	1	
Cd	111	2	115	0.376	ppb	10.4	160	1	
Sn	120	2	115	0.125	ppb	18.2	270	1	
Sb	121	2	115	0.064	ppb	24.9	97	1	
Ba	137	2	115	0.061	ppb	142.9	30	1	
W	182	2	165	0.201	ppb	32.6	2654	1	
Pt	195	2	165	0.004	ppb	188.5	23	1	
Tl	205	2	165	0.004	ppb	166.2	133	1	
Pb	208	2	165	0.060	ppb	29.2	1790	1	
Th	232	2	165	0.027	ppb	41.1	700	1	
U	238	2	165	0.003	ppb	27.5	157	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1645651	1.52	1719455	95.71	60	120	
Sc (IS)	45	1	HMI H2	31228802	0.66	32996152	94.64	60	120	
Sc (IS)	45	2	HMI He	925017	0.90	1019192	90.76	60	120	
Sc (IS)	45	3	No Gas	53211986	0.95	56217091	94.65	60	120	
Ge Internal Standard	72	1	HMI H2	12956911	0.64	13920513	93.08	60	120	
Ge Internal Standard	72	2	HMI He	1082508	1.31	1242268	87.14	60	120	
In Internal Standard	115	2	HMI He	3607041	1.09	4043894	89.20	60	120	
Ho-165	165	2	HMI He	18596460	1.36	19631094	94.73	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-5405009
Data File Name	016ICSB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:41:04-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	245.274	ppb	0.598	288150	100	245.3	80	120	>+\-20%
Li	7	2	45	237.851	ppb	8.270	15228	100	237.9	80	120	>+\-20%
Li	7	3	45	237.371	ppb	1.099	10114034	100	237.4	80	120	>+\-20%
Be	9	1	6	96.697	ppb	1.441	42478	100	96.7	80	120	
B	11	1	6	18.459	ppb	2.168	9113	100	18.5	80	120	>+\-20%
Na	23	1	45	102561.526	ppb	1.300	369652034	100	102561.5	80	120	>+\-20%
K	39	1	45	103753.577	ppb	0.915	383494461	100	103753.6	80	120	>+\-20%
Ca	40	1	45	102754.689	ppb	1.120	559900112	100	102754.7	80	120	>+\-20%
V	51	2	72	100.891	ppb	2.604	109250	100	100.9	80	120	
Cr	52	2	72	97.421	ppb	1.691	135758	100	97.4	80	120	
Mn	55	2	72	98.255	ppb	0.711	51399	100	98.3	80	120	
Co	59	2	72	97.593	ppb	1.242	238265	100	97.6	80	120	
Ni	60	2	72	95.748	ppb	0.983	67306	100	95.7	80	120	
Cu	63	2	72	97.725	ppb	0.674	188514	100	97.7	80	120	
Zn	66	2	72	99.166	ppb	1.834	24769	100	99.2	80	120	
As	75	2	72	96.186	ppb	0.747	17406	100	96.2	80	120	
Se	78	1	72	97.038	ppb	1.184	30306	100	97.0	80	120	
Sr	88	2	72	26.656	ppb	5.297	15666	100	26.7	80	120	>+\-20%
Zr	90	2	72	7.889	ppb	66.211	213	100	7.9	80	120	>+\-20%
Nb	93	2	72	167.051	ppb	0.692	602544	100	167.1	80	120	
Mo	95	2	115	2061.982	ppb	1.851	2003255	100	2062.0	80	120	>+\-20%
Pd	105	2	115	89.364	ppb	0.219	141750	100	89.4	80	120	
Ag	107	2	115	89.048	ppb	1.405	289282	100	89.0	80	120	
Cd	111	2	115	94.432	ppb	2.975	39183	100	94.4	80	120	
Sn	120	2	115	94.339	ppb	0.274	104267	100	94.3	80	120	
Sb	121	2	115	100.304	ppb	0.482	101644	100	100.3	80	120	
Ba	137	2	115	97.409	ppb	2.518	33920	100	97.4	80	120	
W	182	2	165	94.253	ppb	0.840	449610	100	94.3	80	120	
Pt	195	2	165	91.518	ppb	0.504	360188	100	91.5	80	120	
Tl	205	2	165	93.413	ppb	0.955	809434	100	93.4	80	120	
Pb	208	2	165	92.976	ppb	0.837	1090219	100	93.0	80	120	
Th	232	2	165	97.520	ppb	1.660	1445214	100	97.5	80	120	
U	238	2	165	96.902	ppb	0.703	1536393	100	96.9	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1610154	0.24	1719455	93.64	60	120	
Sc (IS)	45	1	HMI H2	31174923	0.39	32996152	94.48	60	120	
Sc (IS)	45	2	HMI He	936221	1.23	1019192	91.86	60	120	
Sc (IS)	45	3	No Gas	52709858	0.99	56217091	93.76	60	120	
Ge Internal Standard	72	1	HMI H2	12878244	0.68	13920513	92.51	60	120	
Ge Internal Standard	72	2	HMI He	1093640	1.04	1242268	88.04	60	120	
In Internal Standard	115	2	HMI He	3657262	1.28	4043894	90.44	60	120	
Ho-165	165	2	HMI He	18697068	1.32	19631094	95.24	60	120	

Sample Report

Sample Table

Sample Name	rinse
Data File Name	017SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:44:52-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-5.342	ppb	-5.342	-74.37	182415	500000	
Li	7	2	45	-8.888	ppb	-8.888	-163.59	9694	500000	
Li	7	3	45	-5.171	ppb	-5.171	-199.84	6568859	50000	
Be	9	1	6	0.049	ppb	0.049	24.74	33	2000	
B	11	1	6	0.025	ppb	0.025	1100.31	633	2000	
Na	23	1	45	102.099	ppb	102.099	5.35	775666	2000	
Na	23	2	45	84.623	ppb	84.623	30.95	47832	400000	
Mg	24	2	45	39.800	ppb	39.800	56.65	4748	400000	
Al	27	2	45	34.743	ppb	34.743	73.72	1033	400000	
K	39	1	45	27.548	ppb	27.548	55.17	12339128	400000	
K	39	2	45	58.017	ppb	58.017	74.09	23994	400000	
Ca	40	1	45	44.384	ppb	44.384	10.04	312989	400000	
Ca	44	2	45	32.156	ppb	32.156	97.88	150	400000	
Ti	47	2	45	1.481	ppb	1.481	68.09	50	4000	
V	51	2	72	1.083	ppb	1.083	6.40	3431	2000	
Cr	52	2	72	0.083	ppb	0.083	26.15	407	5000	
Mn	55	2	72	0.011	ppb	0.011	299.01	77	10000	
Fe	57	2	72	42.504	ppb	42.504	46.35	1453	400000	
Co	59	2	72	0.037	ppb	0.037	107.13	123	2000	
Ni	60	2	72	0.014	ppb	0.014	558.59	193	5000	
Cu	63	2	72	0.127	ppb	0.127	89.59	1850	5000	
Zn	66	2	72	0.200	ppb	0.200	130.59	347	5000	
As	75	2	72	0.044	ppb	0.044	151.92	37	2000	
Se	78	1	72	0.039	ppb	0.039	140.06	40	2000	
Sr	88	2	72	-0.006	ppb	-0.006	-544.89	23	4000	
Zr	90	2	72	-3.935	ppb	-3.935	-20.78	87	1000	
Nb	93	2	72	2.883	ppb	2.883	7.94	12016	200	
Mo	95	2	115	1.762	ppb	1.762	25.95	1920	2000	
Pd	105	2	115	0.051	ppb	0.051	71.53	107	100	
Ag	107	2	115	0.044	ppb	0.044	54.60	190	100	
Cd	111	2	115	0.015	ppb	0.015	227.67	13	2000	
Sn	120	2	115	0.126	ppb	0.126	47.88	303	2000	
Sb	121	2	115	0.084	ppb	0.084	59.67	130	1000	
Ba	137	2	115	0.043	ppb	0.043	138.39	27	5000	
W	182	2	165	0.083	ppb	0.083	22.86	2204	100	
Pt	195	2	165	0.023	ppb	0.023	75.07	100	100	
Tl	205	2	165	0.064	ppb	0.064	19.12	680	2000	
Pb	208	2	165	0.018	ppb	0.018	88.57	1367	5000	
Th	232	2	165	0.053	ppb	0.053	29.08	1130	2000	
U	238	2	165	0.046	ppb	0.046	54.79	880	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1738240	0.43	1719455	101.09	60	120	
Sc (IS)	45	1	HMI H2	33124081	0.32	32996152	100.39	60	120	
Sc (IS)	45	2	HMI He	1008581	3.72	1019192	98.96	60	120	
Sc (IS)	45	3	No Gas	56532232	0.42	56217091	100.56	60	120	
Ge Internal Standard	72	1	HMI H2	14041455	0.15	13920513	100.87	60	120	
Ge Internal Standard	72	2	HMI He	1246859	0.78	1242268	100.37	60	120	
In Internal Standard	115	2	HMI He	4038799	0.14	4043894	99.87	60	120	
Ho-165	165	2	HMI He	19561141	1.37	19631094	99.64	60	120	

Linear Range Sample (LRS) Report

Sample Table

Sample Name	LRA-5347646
Data File Name	018_LR_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:48:39-06:00
Sample Type	LR
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	6	2084.875	ppb	2.532	970010	2000	104.2	90	110	
V	51	2	72	2025.091	ppb	1.922	2255357	2000	101.3	90	110	
Cr	52	2	72	4918.620	ppb	2.070	7152329	5000	98.4	90	110	
(Cr)	53	2	72	4952.474	ppb	0.851	890549	5000	99.0	90	110	
Mn	55	2	72	10233.777	ppb	1.437	5589454	10000	102.3	90	110	
Co	59	2	72	2063.955	ppb	0.927	5267100	2000	103.2	90	110	
Ni	60	2	72	5090.678	ppb	1.668	3731656	5000	101.8	90	110	
Cu	63	2	72	4996.419	ppb	0.327	10002671	5000	99.9	90	110	
Zn	66	2	72	5278.347	ppb	3.082	1364202	5000	105.6	90	110	
As	75	2	72	1888.532	ppb	0.749	356735	2000	94.4	90	110	
Se	78	1	72	1993.157	ppb	1.121	652301	2000	99.7	90	110	
(Se)	82	1	72	1823.141	ppb	1.279	272278	2000	91.2	90	110	
Mo	95	2	115	2032.750	ppb	1.051	2065835	2000	101.6	90	110	
Cd	111	2	115	1973.318	ppb	0.687	856411	2000	98.7	90	110	
(Cd)	114	2	115	2050.527	ppb	1.135	2303089	2000	102.5	90	110	
Sn	120	2	115	2073.054	ppb	2.191	2393422	2000	103.7	90	110	
Sb	121	2	115	987.901	ppb	0.465	1046749	1000	98.8	90	110	
Ba	137	2	115	5008.098	ppb	2.972	1823474	5000	100.2	90	110	
Tl	205	2	165	1041.061	ppb	0.919	9125075	2000	52.1	90	110	LRS Main CR1 Failed
(Pb)	206	2	165	5106.434	ppb	0.361	14518037	5000	102.1	90	110	
(Pb)	207	2	165	5082.301	ppb	0.816	13372902	5000	101.6	90	110	
Pb	208	2	165	5067.055	ppb	0.408	60049577	5000	101.3	90	110	
Th	232	2	165	937.736	ppb	0.381	14058135	2000	46.9	90	110	LRS Main CR1 Failed
U	238	2	165	1904.647	ppb	0.873	30550410	2000	95.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1706229	1.74	1719455	99.23	60	120	
Sc (IS)	45	1	HMI H2	32180986	0.04	32996152	97.53	60	120	
Sc (IS)	45	2	HMI He	953436	0.35	1019192	93.55	60	120	
Sc (IS)	45	3	No Gas	53893524	1.04	56217091	95.87	60	120	
Ge Internal Standard	72	1	HMI H2	13507166	1.17	13920513	97.03	60	120	
Ge Internal Standard	72	2	HMI He	1143173	0.34	1242268	92.02	60	120	
In Internal Standard	115	2	HMI He	3825253	0.32	4043894	94.59	60	120	
Ho-165	165	2	HMI He	18915394	0.23	19631094	96.35	60	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	019SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:52:21-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	5.312	ppb	5.312	68.05	184617	500000	
Li	7	2	45	11.406	ppb	11.406	58.07	9897	500000	
Li	7	3	45	-0.272	ppb	-0.272	-1505.06	6532036	50000	
Be	9	1	6	0.667	ppb	0.667	17.19	327	2000	
B	11	1	6	-0.088	ppb	-0.088	-59.96	577	2000	
Na	23	1	45	-12.713	ppb	-12.713	-2.57	330980	2000	
Na	23	2	45	-13.483	ppb	-13.483	-24.09	23109	400000	
Mg	24	2	45	1.498	ppb	1.498	56.00	347	400000	
Al	27	2	45	-1.330	ppb	-1.330	-1.31	70	400000	
K	39	1	45	-59.703	ppb	-59.703	-46.00	11811131	400000	
K	39	2	45	16.775	ppb	16.775	52.51	20939	400000	
Ca	40	1	45	6.300	ppb	6.300	3.97	91063	400000	
Ca	44	2	45	3.935	ppb	3.935	383.72	60	400000	
Ti	47	2	45	-0.235	ppb	-0.235	-92.70	3	4000	
V	51	2	72	1.023	ppb	1.023	6.45	3244	2000	
Cr	52	2	72	1.118	ppb	1.118	4.80	1977	5000	
Mn	55	2	72	2.781	ppb	2.781	12.43	1674	10000	
Fe	57	2	72	2.511	ppb	2.511	48.96	283	400000	
Co	59	2	72	0.545	ppb	0.545	5.79	1487	2000	
Ni	60	2	72	1.349	ppb	1.349	28.00	1210	5000	
Cu	63	2	72	1.316	ppb	1.316	12.03	4291	5000	
Zn	66	2	72	1.572	ppb	1.572	19.14	710	5000	
As	75	2	72	0.540	ppb	0.540	26.63	134	2000	
Se	78	1	72	0.861	ppb	0.861	11.73	311	2000	
Sr	88	2	72	-0.040	ppb	-0.040	0.00	0	4000	
Zr	90	2	72	-1.773	ppb	-1.773	-200.28	110	1000	
Nb	93	2	72	0.584	ppb	0.584	10.92	2477	200	
Mo	95	2	115	2.174	ppb	2.174	1.22	2280	2000	
Pd	105	2	115	0.014	ppb	0.014	72.08	40	100	
Ag	107	2	115	0.000	ppb	0.000	499.47	33	100	
Cd	111	2	115	0.747	ppb	0.747	21.76	337	2000	
Sn	120	2	115	3.315	ppb	3.315	8.60	4044	2000	
Sb	121	2	115	3.919	ppb	3.919	3.52	4268	1000	
Ba	137	2	115	1.582	ppb	1.582	11.11	597	5000	
W	182	2	165	0.027	ppb	0.027	104.84	1880	100	
Pt	195	2	165	0.004	ppb	0.004	190.45	23	100	
Tl	205	2	165	0.432	ppb	0.432	6.40	3924	2000	
Pb	208	2	165	1.683	ppb	1.683	7.55	21278	5000	
Th	232	2	165	0.583	ppb	0.583	8.93	9134	2000	
U	238	2	165	0.829	ppb	0.829	9.18	13541	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1739114	0.79	1719455	101.14	60	120	
Sc (IS)	45	1	HMI H2	32585155	0.54	32996152	98.75	60	120	
Sc (IS)	45	2	HMI He	973436	0.65	1019192	95.51	60	120	
Sc (IS)	45	3	No Gas	55487584	0.86	56217091	98.70	60	120	
Ge Internal Standard	72	1	HMI H2	13641090	0.41	13920513	97.99	60	120	
Ge Internal Standard	72	2	HMI He	1204325	4.69	1242268	96.95	60	120	
In Internal Standard	115	2	HMI He	3898174	0.48	4043894	96.40	60	120	
Ho-165	165	2	HMI He	19110340	1.12	19631094	97.35	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	020_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:56:08-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	514.392	ppb	0.791	432410	500	102.9	90	110	
Li	7	2	45	509.702	ppb	1.848	23249	500	101.9	90	110	
Li	7	3	45	498.844	ppb	1.365	15392204	500	99.8	90	110	
Be	9	1	6	49.357	ppb	0.281	23075	50	98.7	90	110	
B	11	1	6	50.218	ppb	3.217	25329	50	100.4	90	110	
Na	23	1	45	5094.546	ppb	0.228	19575716	5000	101.9	90	110	
Na	23	2	45	5219.008	ppb	1.045	1276558	5000	104.4	90	110	
Mg	24	2	45	4734.667	ppb	0.739	537556	5000	94.7	90	110	
Al	27	2	45	5049.742	ppb	1.671	133701	5000	101.0	90	110	
K	39	1	45	5068.968	ppb	2.167	31065624	5000	101.4	90	110	
K	39	2	45	5095.228	ppb	0.519	305269	5000	101.9	90	110	
Ca	40	1	45	5114.954	ppb	0.993	29217745	5000	102.3	90	110	
Ca	44	2	45	5144.141	ppb	4.216	15946	5000	102.9	90	110	
Ti	47	2	45	49.377	ppb	7.337	1337	50	98.8	90	110	
V	51	2	72	51.403	ppb	2.443	60717	50	102.8	90	110	
Cr	52	2	72	50.520	ppb	1.347	75694	50	101.0	90	110	
Mn	55	2	72	50.219	ppb	1.478	28235	50	100.4	90	110	
Fe	57	2	72	5117.212	ppb	0.474	140253	5000	102.3	90	110	
Co	59	2	72	50.626	ppb	0.551	132695	50	101.3	90	110	
Ni	60	2	72	49.733	ppb	2.588	37596	50	99.5	90	110	
Cu	63	2	72	51.182	ppb	1.945	106668	50	102.4	90	110	
Zn	66	2	72	48.898	ppb	1.646	13247	50	97.8	90	110	
As	75	2	72	50.074	ppb	1.533	9741	50	100.1	90	110	
Se	78	1	72	49.465	ppb	1.784	16464	50	98.9	90	110	
Sr	88	2	72	49.570	ppb	1.238	31239	50	99.1	90	110	
Zr	90	2	72	41.579	ppb	10.972	650	50	83.2	90	110	>+\-10%
Nb	93	2	72	92.713	ppb	0.794	359036	100	92.7	90	110	
Mo	95	2	115	49.669	ppb	1.118	51354	50	99.3	90	110	
Pd	105	2	115	49.040	ppb	2.219	82717	50	98.1	90	110	
Ag	107	2	115	49.399	ppb	1.449	170690	50	98.8	90	110	
Cd	111	2	115	50.096	ppb	2.316	22108	50	100.2	90	110	
Sn	120	2	115	50.688	ppb	2.158	59636	50	101.4	90	110	
Sb	121	2	115	51.142	ppb	1.880	55120	50	102.3	90	110	
Ba	137	2	115	47.412	ppb	1.865	17565	50	94.8	90	110	
W	182	2	165	48.795	ppb	0.863	238409	50	97.6	90	110	
Pt	195	2	165	49.580	ppb	0.107	199163	50	99.2	90	110	
Tl	205	2	165	50.605	ppb	1.294	447557	50	101.2	90	110	
Pb	208	2	165	50.274	ppb	0.442	602196	50	100.5	90	110	
Th	232	2	165	48.039	ppb	0.891	726791	50	96.1	90	110	
U	238	2	165	46.598	ppb	0.515	754111	50	93.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1713319	0.52	1719455	99.64	60	120	
Sc (IS)	45	1	HMI H2	32622880	0.49	32996152	98.87	60	120	
Sc (IS)	45	2	HMI He	985484	1.43	1019192	96.69	60	120	
Sc (IS)	45	3	No Gas	56282279	0.48	56217091	100.12	60	120	
Ge Internal Standard	72	1	HMI H2	13716471	0.91	13920513	98.53	60	120	
Ge Internal Standard	72	2	HMI He	1174065	2.25	1242268	94.51	60	120	
In Internal Standard	115	2	HMI He	3889358	1.35	4043894	96.18	60	120	
Ho-165	165	2	HMI He	19082536	1.12	19631094	97.21	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	021_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:59:55-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	4.950	ppb	122.2	6793572	10	
Be	9	1	6	0.182	ppb	12.5	97	0.5	
B	11	1	6	0.311	ppb	27.6	777	0.5	
Na	23	1	45	-12.778	ppb	-7.4	334361	25	
Na	23	2	45	-14.977	ppb	-25.2	22905	25	
Mg	24	2	45	1.800	ppb	18.0	383	25	
Al	27	2	45	1.569	ppb	122.2	147	15	
K	39	1	45	-63.743	ppb	-19.2	11926313	50	
K	39	2	45	24.237	ppb	41.3	21493	50	
Ca	40	1	45	3.023	ppb	0.9	73193	50	
Ca	44	2	45	0.561	ppb	1739.9	50	25	
Ti	47	2	45	-0.361	ppb	0.0	0	0.5	
V	51	2	72	1.327	ppb	16.6	3574	1	>RL
Cr	52	2	72	0.047	ppb	61.1	333	1	
Mn	55	2	72	0.150	ppb	61.8	153	0.5	
Fe	57	2	72	2.606	ppb	41.0	283	25	
Co	59	2	72	0.023	ppb	51.9	80	0.5	
Ni	60	2	72	0.043	ppb	38.9	207	1	
Cu	63	2	72	0.118	ppb	95.4	1747	1	
Zn	66	2	72	0.386	ppb	67.5	383	5	
As	75	2	72	0.070	ppb	118.2	41	1	
Se	78	1	72	0.092	ppb	40.8	57	1	
Sr	88	2	72	0.028	ppb	91.3	43	0.5	
Zr	90	2	72	-2.785	ppb	-99.1	97	1	
Nb	93	2	72	2.708	ppb	10.6	10835	2	>RL
Mo	95	2	115	0.253	ppb	19.5	293	0.5	
Pd	105	2	115	0.020	ppb	25.9	50	1	
Ag	107	2	115	0.012	ppb	10.6	73	1	
Cd	111	2	115	0.052	ppb	84.6	30	0.5	
Sn	120	2	115	0.411	ppb	18.7	633	1	
Sb	121	2	115	0.906	ppb	4.1	1020	0.6	>RL
Ba	137	2	115	0.037	ppb	153.8	23	0.5	
W	182	2	165	0.059	ppb	67.3	2050	1	
Pt	195	2	165	0.025	ppb	40.8	110	1	
Tl	205	2	165	0.044	ppb	55.1	493	0.1	
Pb	208	2	165	0.109	ppb	16.0	2447	0.5	
Th	232	2	165	0.041	ppb	10.7	930	1	
U	238	2	165	0.054	ppb	9.9	997	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1741242	0.77	1719455	101.27	60	120	
Sc (IS)	45	1	HMI H2	32944866	0.84	32996152	99.84	60	120	
Sc (IS)	45	2	HMI He	980229	1.44	1019192	96.18	60	120	
Sc (IS)	45	3	No Gas	56920904	0.52	56217091	101.25	60	120	
Ge Internal Standard	72	1	HMI H2	13832201	0.69	13920513	99.37	60	120	
Ge Internal Standard	72	2	HMI He	1193676	3.56	1242268	96.09	60	120	
In Internal Standard	115	2	HMI He	3924797	2.64	4043894	97.05	60	120	
Ho-165	165	2	HMI He	19250254	1.10	19631094	98.06	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	022LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:03:41-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	9.820	ppb	11.212	6989362	50	19.6	70	130	>+/-30%
Be	9	1	6	0.954	ppb	24.072	473	1	95.4	70	130	
Na	23	2	45	30.709	ppb	3.311	34464	50	61.4	70	130	>+/-30%
Mg	24	2	45	46.758	ppb	5.508	5568	50	93.5	70	130	
Al	27	2	45	33.410	ppb	16.402	1003	30	111.4	70	130	
K	39	2	45	118.213	ppb	2.606	27256	100	118.2	70	130	
Ca	44	2	45	60.709	ppb	35.487	240	50	121.4	70	130	
V	51	2	72	6.158	ppb	4.175	9110	5	123.2	70	130	
Cr	52	2	72	2.117	ppb	3.439	3451	2	105.9	70	130	
Mn	55	2	72	1.350	ppb	14.575	830	1	135.0	70	130	>+/-30%
Fe	57	2	72	60.609	ppb	10.512	1884	50	121.2	70	130	
Co	59	2	72	1.063	ppb	14.099	2830	1	106.3	70	130	
Ni	60	2	72	1.994	ppb	11.237	1687	2	99.7	70	130	
Cu	63	2	72	2.082	ppb	4.147	5811	2	104.1	70	130	
Zn	66	2	72	11.162	ppb	9.237	3264	10	111.6	70	130	
As	75	2	72	4.696	ppb	3.398	946	5	93.9	70	130	
Se	78	1	72	5.239	ppb	4.498	1804	5	104.8	70	130	
Sr	88	2	72	0.867	ppb	26.521	577	1	86.7	70	130	
Zr	90	2	72	3.038	ppb	91.143	170	0.5	607.6	70	130	>+/-30%
Nb	93	2	72	5.193	ppb	8.014	20432	2	259.6	70	130	>+/-30%
Mo	95	2	115	1.947	ppb	8.808	2067	2	97.4	70	130	
Pd	105	2	115	0.016	ppb	55.035	43	1	1.6	70	130	>+/-30%
Ag	107	2	115	5.007	ppb	2.705	17552	5	100.1	70	130	
Cd	111	2	115	0.806	ppb	22.797	367	1	80.6	70	130	
Sn	120	2	115	10.428	ppb	2.240	12543	10	104.3	70	130	
Sb	121	2	115	2.634	ppb	5.204	2910	2	131.7	70	130	>+/-30%
Ba	137	2	115	1.228	ppb	15.475	470	1	122.8	70	130	
W	182	2	165	4.896	ppb	0.531	25729	1	489.6	70	130	>+/-30%
Pt	195	2	165	0.043	ppb	56.796	180	1	4.3	70	130	>+/-30%
Tl	205	2	165	1.013	ppb	5.143	9144	1	101.3	70	130	
Pb	208	2	165	1.111	ppb	4.388	14534	1	111.1	70	130	
Th	232	2	165	2.216	ppb	1.488	34133	2	110.8	70	130	
U	238	2	165	0.975	ppb	1.776	16041	1	97.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1777582	1.88	1719455	103.38	60	120	
Sc (IS)	45	1	HMI H2	33447490	0.20	32996152	101.37	60	120	
Sc (IS)	45	2	HMI He	999605	0.99	1019192	98.08	60	120	
Sc (IS)	45	3	No Gas	57827039	0.67	56217091	102.86	60	120	
Ge Internal Standard	72	1	HMI H2	14000357	0.70	13920513	100.57	60	120	
Ge Internal Standard	72	2	HMI He	1184484	0.11	1242268	95.35	60	120	
In Internal Standard	115	2	HMI He	3937910	1.56	4043894	97.38	60	120	
Ho-165	165	2	HMI He	19260558	0.14	19631094	98.11	60	120	

Blank Report

Sample Table

Sample Name	mb 280-435845/1-a
Data File Name	023_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:07:28-06:00
Sample Type	Blank
Dilution	1
Comment	435845 6020A DOD5
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	1.957	ppb	229.8010432	193620	0.5
Li	7	2	45	-10.707	ppb	-73.48272129	10174	0.5
Li	7	3	45	-6.219	ppb	-127.0207691	7011232	10
Be	9	1	6	0.140	ppb	56.99403396	80	0.5
B	11	1	6	0.051	ppb	521.2511408	673	0.5
Na	23	1	45	-25.618	ppb	-4.548339338	298804	25
Na	23	2	45	-29.415	ppb	-8.837918809	21109	25
Mg	24	2	45	1.717	ppb	39.69739793	407	25
Al	27	2	45	1.151	ppb	173.8433983	147	15
K	39	1	45	-1514.376	ppb	-0.531154233	6729540	50
K	39	2	45	6.623	ppb	26.99451775	22248	50
Ca	40	1	45	6.764	ppb	5.612675733	99147	50
Ca	44	2	45	-0.135	ppb	-12417.25569	53	25
Ti	47	2	45	-0.361	ppb	0	0	0.5
V	51	2	72	-0.073	ppb	-209.2657129	2084	1
Cr	52	2	72	0.171	ppb	32.13510281	560	1
Mn	55	2	72	0.111	ppb	25.62995494	140	0.5
Fe	57	2	72	10.899	ppb	27.51156832	553	25
Co	59	2	72	0.010	ppb	90.81254978	50	0.5
Ni	60	2	72	0.021	ppb	372.2658389	203	1
Cu	63	2	72	-0.016	ppb	-289.7775881	1580	1
Zn	66	2	72	1.146	ppb	38.78526001	630	5
As	75	2	72	-0.020	ppb	-165.3760213	25	1
Se	78	1	72	0.028	ppb	232.9738109	37	1
Sr	88	2	72	0.018	ppb	218.3707291	40	0.5
Zr	90	2	72	-3.784	ppb	-158.9948773	90	1
Nb	93	2	72	0.511	ppb	10.90822217	2324	2
Mo	95	2	115	0.138	ppb	14.22018593	177	0.5
Pd	105	2	115	0.015	ppb	113.944845	43	1
Ag	107	2	115	0.009	ppb	34.15410598	67	1
Cd	111	2	115	0.000	ppb	16256.19476	7	0.5
Sn	120	2	115	0.287	ppb	22.17253289	497	1
Sb	121	2	115	0.273	ppb	11.30065055	340	0.6
Ba	137	2	115	0.053	ppb	131.765246	30	0.5
W	182	2	165	-0.009	ppb	-326.1212935	1724	1
Pt	195	2	165	0.011	ppb	68.21562441	53	1
Tl	205	2	165	0.037	ppb	40.91440289	430	0.1
Pb	208	2	165	0.146	ppb	11.53714795	2897	0.5
Th	232	2	165	0.036	ppb	12.17650722	863	1
U	238	2	165	0.023	ppb	32.65448487	487	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1814874	1.11	1719455	105.55	60	120	
Sc (IS)	45	1	HMI H2	34478386	0.38	32996152	104.49	60	120	
Sc (IS)	45	2	HMI He	1062870	3.59	1019192	104.29	60	120	
Sc (IS)	45	3	No Gas	60521111	0.89	56217091	107.66	60	120	
Ge Internal Standard	72	1	HMI H2	14324490	0.23	13920513	102.90	60	120	
Ge Internal Standard	72	2	HMI He	1280659	1.88	1242268	103.09	60	120	
In Internal Standard	115	2	HMI He	4012557	0.13	4043894	99.23	60	120	
Ho-165	165	2	HMI He	19301673	0.76	19631094	98.32	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-435845/2-a
Data File Name	024_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:11:15-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	435845 6020A DOD5
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	79.550	79.550	ppb	3.944	235006	400	19.9	80	120	>+/-20%
Li	7	2	45	92.495	92.495	ppb	19.341	13026	400	23.1	80	120	>+/-20%
Li	7	3	45	77.019	77.019	ppb	8.677	8590287	400	19.3	80	120	>+/-20%
Be	9	1	6	39.481	39.481	ppb	0.783	19627	40	98.7	80	120	
Na	23	2	45	-29.436	-29.436	ppb	-4.301	20952	40	-73.6	80	120	>+/-20%
Mg	24	2	45	1.168	1.168	ppb	61.348	337	40	2.9	80	120	>+/-20%
Al	27	2	45	415.141	415.141	ppb	5.454	11865	40	1037.9	80	120	>+/-20%
K	39	2	45	9.463	9.463	ppb	87.413	22261	40	23.7	80	120	>+/-20%
Ca	44	2	45	239.611	239.611	ppb	20.173	843	40	599.0	80	120	>+/-20%
V	51	2	72	39.270	39.270	ppb	0.872	50970	40	98.2	80	120	
Cr	52	2	72	39.914	39.914	ppb	1.342	65103	40	99.8	80	120	
Mn	55	2	72	39.029	39.029	ppb	4.945	23881	40	97.6	80	120	
Fe	57	2	72	412.306	412.306	ppb	4.143	12499	40	1030.8	80	120	>+/-20%
Co	59	2	72	39.515	39.515	ppb	0.567	112646	40	98.8	80	120	
Ni	60	2	72	39.461	39.461	ppb	1.079	32491	40	98.7	80	120	
Cu	63	2	72	39.147	39.147	ppb	0.556	89124	40	97.9	80	120	
Zn	66	2	72	39.415	39.415	ppb	1.523	11672	40	98.5	80	120	
As	75	2	72	37.261	37.261	ppb	0.648	7889	40	93.2	80	120	
Se	78	1	72	38.123	38.123	ppb	2.241	13312	40	95.3	80	120	
Nb	93	2	72	0.382	0.382	ppb	6.598	1774	40	1.0	80	120	>+/-20%
Mo	95	2	115	37.353	37.353	ppb	2.899	39971	40	93.4	80	120	
Pd	105	2	115	0.006	0.006	ppb	55.175	27	40	0.0	80	120	>+/-20%
Ag	107	2	115	41.477	41.477	ppb	0.564	148291	40	103.7	80	120	
Cd	111	2	115	39.155	39.155	ppb	1.475	17882	40	97.9	80	120	
Sn	120	2	115	40.039	40.039	ppb	1.647	48776	40	100.1	80	120	
Sb	121	2	115	39.750	39.750	ppb	1.499	44342	40	99.4	80	120	
Ba	137	2	115	39.209	39.209	ppb	4.565	15026	40	98.0	80	120	
W	182	2	165	12.180	12.180	ppb	1.336	61426	40	30.5	80	120	>+/-20%
Pt	195	2	165	0.005	0.005	ppb	55.582	27	40	0.0	80	120	>+/-20%
Tl	205	2	165	40.119	40.119	ppb	1.577	358356	40	100.3	80	120	
Pb	208	2	165	39.754	39.754	ppb	1.449	481101	40	99.4	80	120	
Th	232	2	165	35.876	35.876	ppb	0.858	548278	40	89.7	80	120	
U	238	2	165	36.440	36.440	ppb	1.114	595616	40	91.1	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1821606	0.58	1719455	105.94	60	120	
Sc (IS)	45	1	HMI H2	34700221	0.35	32996152	105.16	60	120	
Sc (IS)	45	2	HMI He	1055242	2.47	1019192	103.54	60	120	
Sc (IS)	45	3	No Gas	60563311	0.35	56217091	107.73	60	120	
Ge Internal Standard	72	1	HMI H2	14380375	0.36	13920513	103.30	60	120	
Ge Internal Standard	72	2	HMI He	1276740	0.46	1242268	102.77	60	120	
In Internal Standard	115	2	HMI He	4024039	1.09	4043894	99.51	60	120	
Ho-165	165	2	HMI He	19273520	1.44	19631094	98.18	60	120	

Sample Report

Sample Table

Sample Name	lcsd 280-435845/3-a
Data File Name	025SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:15:02-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435845 6020A DOD5
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	82.474	ppb	82.474	2.75	235639	500000	
Li	7	2	45	57.826	ppb	57.826	51.66	12649	500000	
Li	7	3	45	82.197	ppb	82.197	18.59	8623855	50000	
Be	9	1	6	38.388	ppb	38.388	0.86	18819	2000	
B	11	1	6	29.289	ppb	29.289	0.49	15756	2000	
Na	23	1	45	-30.072	ppb	-30.072	-4.01	281812	2000	
Na	23	2	45	-34.635	ppb	-34.635	-7.87	20612	400000	
Mg	24	2	45	0.914	ppb	0.914	28.34	320	400000	
Al	27	2	45	368.851	ppb	368.851	4.17	11098	400000	
K	39	1	45	-1575.781	ppb	-1575.781	-0.57	6503476	400000	
K	39	2	45	-4.197	ppb	-4.197	-114.95	22528	400000	
Ca	40	1	45	3.770	ppb	3.770	7.01	81315	400000	
Ca	44	2	45	200.603	ppb	200.603	19.80	750	400000	
Ti	47	2	45	1.391	ppb	1.391	51.05	53	4000	
V	51	2	72	38.763	ppb	38.763	3.28	50763	2000	
Cr	52	2	72	39.974	ppb	39.974	0.63	65742	5000	
Mn	55	2	72	38.786	ppb	38.786	2.33	23931	10000	
Fe	57	2	72	394.515	ppb	394.515	1.06	12069	400000	
Co	59	2	72	39.066	ppb	39.066	0.03	112292	2000	
Ni	60	2	72	39.053	ppb	39.053	1.00	32428	5000	
Cu	63	2	72	39.665	ppb	39.665	1.46	91029	5000	
Zn	66	2	72	37.780	ppb	37.780	2.79	11295	5000	
As	75	2	72	36.664	ppb	36.664	1.51	7827	2000	
Se	78	1	72	39.342	ppb	39.342	1.72	13737	2000	
Sr	88	2	72	37.626	ppb	37.626	2.13	26015	4000	
Zr	90	2	72	5210.750	ppb	5210.750	1.57	71431	1000	>LDR
Nb	93	2	72	0.346	ppb	0.346	13.12	1634	200	
Mo	95	2	115	37.652	ppb	37.652	2.50	40519	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-153.93	10	100	
Ag	107	2	115	41.768	ppb	41.768	0.85	150217	100	
Cd	111	2	115	39.334	ppb	39.334	1.08	18069	2000	
Sn	120	2	115	40.106	ppb	40.106	0.85	49145	2000	
Sb	121	2	115	39.519	ppb	39.519	2.45	44349	1000	
Ba	137	2	115	38.373	ppb	38.373	1.86	14795	5000	
W	182	2	165	10.843	ppb	10.843	2.85	55232	100	
Pt	195	2	165	0.007	ppb	0.007	69.59	37	100	
Tl	205	2	165	40.232	ppb	40.232	0.46	361741	2000	
Pb	208	2	165	40.354	ppb	40.354	0.69	491564	5000	
Th	232	2	165	36.257	ppb	36.257	0.70	557721	2000	
U	238	2	165	36.705	ppb	36.705	0.96	603861	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1796196	1.21	1719455	104.46	60	120	
Sc (IS)	45	1	HMI H2	34570450	0.56	32996152	104.77	60	120	
Sc (IS)	45	2	HMI He	1108995	2.54	1019192	108.81	60	120	
Sc (IS)	45	3	No Gas	60117912	0.21	56217091	106.94	60	120	
Ge Internal Standard	72	1	HMI H2	14382609	0.84	13920513	103.32	60	120	
Ge Internal Standard	72	2	HMI He	1287388	1.23	1242268	103.63	60	120	
In Internal Standard	115	2	HMI He	4047808	1.17	4043894	100.10	60	120	
Ho-165	165	2	HMI He	19398471	0.92	19631094	98.82	60	120	

Sample Report

Sample Table

Sample Name	280-115617-b-1-c
Data File Name	026SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:18:49-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435845 6020A DOD5
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	8.500	ppb	8.500	84.11	195889	500000	
Li	7	2	45	-3.907	ppb	-3.907	-312.28	10271	500000	
Li	7	3	45	5.834	ppb	5.834	31.44	7224404	50000	
Be	9	1	6	0.106	ppb	0.106	75.14	63	2000	
B	11	1	6	9.515	ppb	9.515	7.12	5625	2000	
Na	23	1	45	9793.833	ppb	9793.833	0.54	39185072	2000	
Na	23	2	45	9882.549	ppb	9882.549	1.86	2557876	400000	
Mg	24	2	45	2784.213	ppb	2784.213	1.11	337958	400000	
Al	27	2	45	955.396	ppb	955.396	2.95	27124	400000	
K	39	1	45	71.130	ppb	71.130	66.70	12944253	400000	
K	39	2	45	1629.610	ppb	1629.610	3.58	119038	400000	
Ca	40	1	45	5700.882	ppb	5700.882	1.49	34220879	400000	
Ca	44	2	45	5745.560	ppb	5745.560	4.63	19017	400000	
Ti	47	2	45	26.223	ppb	26.223	55.25	761	4000	
V	51	2	72	2.955	ppb	2.955	13.06	5805	2000	
Cr	52	2	72	1.842	ppb	1.842	2.70	3254	5000	
Mn	55	2	72	447.094	ppb	447.094	0.45	271290	10000	
Fe	57	2	72	4558.311	ppb	4558.311	0.66	135147	400000	
Co	59	2	72	3.704	ppb	3.704	2.63	10518	2000	
Ni	60	2	72	4.093	ppb	4.093	3.05	3517	5000	
Cu	63	2	72	27.376	ppb	27.376	2.86	62452	5000	
Zn	66	2	72	80.470	ppb	80.470	2.16	23386	5000	
As	75	2	72	1.244	ppb	1.244	7.97	290	2000	
Se	78	1	72	0.181	ppb	0.181	58.41	89	2000	
Sr	88	2	72	84.647	ppb	84.647	0.97	57678	4000	
Zr	90	2	72	282.414	ppb	282.414	45.86	3955	1000	
Nb	93	2	72	0.367	ppb	0.367	13.72	1700	200	
Mo	95	2	115	0.357	ppb	0.357	2.71	407	2000	
Pd	105	2	115	0.008	ppb	0.008	254.47	30	100	
Ag	107	2	115	0.030	ppb	0.030	72.40	140	100	
Cd	111	2	115	0.963	ppb	0.963	20.86	440	2000	
Sn	120	2	115	0.289	ppb	0.289	21.46	493	2000	
Sb	121	2	115	0.528	ppb	0.528	10.46	617	1000	
Ba	137	2	115	78.126	ppb	78.126	2.76	29576	5000	
W	182	2	165	0.049	ppb	0.049	97.46	2010	100	
Pt	195	2	165	-0.001	ppb	-0.001	-177.58	3	100	
Tl	205	2	165	0.041	ppb	0.041	7.63	473	2000	
Pb	208	2	165	2.990	ppb	2.990	3.74	37349	5000	
Th	232	2	165	0.631	ppb	0.631	9.67	9968	2000	
U	238	2	165	0.184	ppb	0.184	3.18	3124	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1818820	2.02	1719455	105.78	60	120	
Sc (IS)	45	1	HMI H2	34287413	0.22	32996152	103.91	60	120	
Sc (IS)	45	2	HMI He	1053546	3.28	1019192	103.37	60	120	
Sc (IS)	45	3	No Gas	60393222	0.11	56217091	107.43	60	120	
Ge Internal Standard	72	1	HMI H2	14160458	0.65	13920513	101.72	60	120	
Ge Internal Standard	72	2	HMI He	1269726	1.07	1242268	102.21	60	120	
In Internal Standard	115	2	HMI He	3975576	1.30	4043894	98.31	60	120	
Ho-165	165	2	HMI He	19329199	0.84	19631094	98.46	60	120	

Sample Report

Sample Table

Sample Name	280-115617-b-1-cSD@5
Data File Name	027SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:22:36-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435845 6020A DOD5
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	3.662	ppb	3.662	25.20	193656	500000	
Li	7	2	45	15.540	ppb	15.540	93.37	10494	500000	
Li	7	3	45	3.356	ppb	3.356	137.18	7022766	50000	
Be	9	1	6	0.019	ppb	0.019	182.97	20	2000	
B	11	1	6	2.023	ppb	2.023	13.85	1704	2000	
Na	23	1	45	2054.033	ppb	2054.033	1.06	8543219	2000	
Na	23	2	45	2007.339	ppb	2007.339	0.97	525569	400000	
Mg	24	2	45	591.853	ppb	591.853	0.97	69771	400000	
Al	27	2	45	402.845	ppb	402.845	3.78	11152	400000	
K	39	1	45	-154.210	ppb	-154.210	-6.36	12070327	400000	
K	39	2	45	363.738	ppb	363.738	3.64	42055	400000	
Ca	40	1	45	1192.560	ppb	1192.560	0.51	7213163	400000	
Ca	44	2	45	1247.517	ppb	1247.517	7.79	4044	400000	
Ti	47	2	45	13.778	ppb	13.778	14.70	393	4000	
V	51	2	72	1.432	ppb	1.432	11.25	3824	2000	
Cr	52	2	72	0.672	ppb	0.672	10.03	1330	5000	
Mn	55	2	72	95.993	ppb	95.993	2.09	56809	10000	
Fe	57	2	72	1026.517	ppb	1026.517	3.73	29822	400000	
Co	59	2	72	0.816	ppb	0.816	8.45	2274	2000	
Ni	60	2	72	1.000	ppb	1.000	23.68	973	5000	
Cu	63	2	72	5.608	ppb	5.608	1.87	13707	5000	
Zn	66	2	72	17.371	ppb	17.371	6.65	5145	5000	
As	75	2	72	0.282	ppb	0.282	12.18	86	2000	
Se	78	1	72	0.071	ppb	0.071	15.91	52	2000	
Sr	88	2	72	17.610	ppb	17.610	2.68	11715	4000	
Zr	90	2	72	79.559	ppb	79.559	4.69	1183	1000	
Nb	93	2	72	0.213	ppb	0.213	18.05	1027	200	
Mo	95	2	115	0.069	ppb	0.069	71.00	100	2000	
Pd	105	2	115	0.004	ppb	0.004	292.45	23	100	
Ag	107	2	115	0.008	ppb	0.008	97.84	60	100	
Cd	111	2	115	0.158	ppb	0.158	9.69	77	2000	
Sn	120	2	115	0.182	ppb	0.182	19.13	360	2000	
Sb	121	2	115	0.405	ppb	0.405	18.56	473	1000	
Ba	137	2	115	15.734	ppb	15.734	8.71	5878	5000	
W	182	2	165	0.007	ppb	0.007	133.75	1780	100	
Pt	195	2	165	0.005	ppb	0.005	75.06	27	100	
Tl	205	2	165	0.018	ppb	0.018	40.32	257	2000	
Pb	208	2	165	0.651	ppb	0.651	2.39	8905	5000	
Th	232	2	165	0.118	ppb	0.118	2.49	2097	2000	
U	238	2	165	0.045	ppb	0.045	4.40	840	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1816567	0.65	1719455	105.65	60	120	
Sc (IS)	45	1	HMI H2	34329090	0.57	32996152	104.04	60	120	
Sc (IS)	45	2	HMI He	1020780	1.06	1019192	100.16	60	120	
Sc (IS)	45	3	No Gas	59088532	0.34	56217091	105.11	60	120	
Ge Internal Standard	72	1	HMI H2	14322119	0.57	13920513	102.88	60	120	
Ge Internal Standard	72	2	HMI He	1237211	0.61	1242268	99.59	60	120	
In Internal Standard	115	2	HMI He	3915043	1.48	4043894	96.81	60	120	
Ho-165	165	2	HMI He	19087329	1.06	19631094	97.23	60	120	

Sample Report

Sample Table

Sample Name	280-115617-b-1-d ms
Data File Name	028SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:26:22-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435845 6020A DOD5
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	89.893	ppb	89.893	4.07	239209	500000	
Li	7	2	45	98.428	ppb	98.428	43.47	13013	500000	
Li	7	3	45	85.586	ppb	85.586	6.26	8782203	50000	
Be	9	1	6	39.911	ppb	39.911	2.01	19747	2000	
B	11	1	6	37.725	ppb	37.725	3.85	20298	2000	
Na	23	1	45	9884.024	ppb	9884.024	0.91	39826719	2000	
Na	23	2	45	10118.269	ppb	10118.269	1.07	2583269	400000	
Mg	24	2	45	2852.114	ppb	2852.114	0.39	341548	400000	
Al	27	2	45	1580.807	ppb	1580.807	1.20	44215	400000	
K	39	1	45	89.142	ppb	89.142	51.66	13108681	400000	
K	39	2	45	1710.067	ppb	1710.067	1.21	122245	400000	
Ca	40	1	45	5751.574	ppb	5751.574	1.51	34771780	400000	
Ca	44	2	45	5997.739	ppb	5997.739	0.91	19594	400000	
Ti	47	2	45	23.378	ppb	23.378	23.50	673	4000	
V	51	2	72	43.382	ppb	43.382	1.75	54995	2000	
Cr	52	2	72	42.943	ppb	42.943	2.06	68663	5000	
Mn	55	2	72	498.961	ppb	498.961	1.33	298532	10000	
Fe	57	2	72	5151.872	ppb	5151.872	2.96	150573	400000	
Co	59	2	72	44.173	ppb	44.173	1.18	123481	2000	
Ni	60	2	72	44.479	ppb	44.479	1.20	35902	5000	
Cu	63	2	72	68.834	ppb	68.834	0.72	152492	5000	
Zn	66	2	72	124.560	ppb	124.560	1.77	35538	5000	
As	75	2	72	38.656	ppb	38.656	3.25	8025	2000	
Se	78	1	72	37.836	ppb	37.836	2.52	13156	2000	
Sr	88	2	72	122.167	ppb	122.167	2.45	82064	4000	
Zr	90	2	72	4000.916	ppb	4000.916	1.62	53362	1000	
Nb	93	2	72	0.318	ppb	0.318	9.92	1473	200	
Mo	95	2	115	37.573	ppb	37.573	2.50	39697	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-156.46	10	100	
Ag	107	2	115	42.173	ppb	42.173	1.59	148888	100	
Cd	111	2	115	40.603	ppb	40.603	2.51	18313	2000	
Sn	120	2	115	29.292	ppb	29.292	0.70	35279	2000	
Sb	121	2	115	31.966	ppb	31.966	3.42	35212	1000	
Ba	137	2	115	117.515	ppb	117.515	1.03	44460	5000	
W	182	2	165	9.606	ppb	9.606	1.91	48560	100	
Pt	195	2	165	0.007	ppb	0.007	119.79	33	100	
Tl	205	2	165	40.673	ppb	40.673	0.68	361406	2000	
Pb	208	2	165	43.249	ppb	43.249	1.35	520537	5000	
Th	232	2	165	36.234	ppb	36.234	0.26	550829	2000	
U	238	2	165	37.252	ppb	37.252	0.53	605669	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1813454	2.06	1719455	105.47	60	120	
Sc (IS)	45	1	HMI H2	34536061	0.92	32996152	104.67	60	120	
Sc (IS)	45	2	HMI He	1039177	1.40	1019192	101.96	60	120	
Sc (IS)	45	3	No Gas	60777377	1.36	56217091	108.11	60	120	
Ge Internal Standard	72	1	HMI H2	14321006	0.41	13920513	102.88	60	120	
Ge Internal Standard	72	2	HMI He	1252227	2.14	1242268	100.80	60	120	
In Internal Standard	115	2	HMI He	3974043	1.39	4043894	98.27	60	120	
Ho-165	165	2	HMI He	19170518	0.88	19631094	97.65	60	120	

Sample Report

Sample Table

Sample Name	280-115617-b-1-e msd
Data File Name	029SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:30:09-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435845 6020A DOD5
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	86.976	ppb	86.976	0.91	239176	500000	
Li	7	2	45	73.480	ppb	73.480	41.29	13043	500000	
Li	7	3	45	93.034	ppb	93.034	3.11	8828223	50000	
Be	9	1	6	39.738	ppb	39.738	1.55	19710	2000	
B	11	1	6	38.452	ppb	38.452	2.84	20725	2000	
Na	23	1	45	9764.803	ppb	9764.803	0.84	39594833	2000	
Na	23	2	45	9527.226	ppb	9527.226	4.18	2582989	400000	
Mg	24	2	45	2654.577	ppb	2654.577	4.43	337297	400000	
Al	27	2	45	1603.620	ppb	1603.620	7.42	47563	400000	
K	39	1	45	69.119	ppb	69.119	10.79	13110207	400000	
K	39	2	45	1552.201	ppb	1552.201	5.36	119812	400000	
Ca	40	1	45	5665.790	ppb	5665.790	0.60	34467304	400000	
Ca	44	2	45	5872.737	ppb	5872.737	5.94	20348	400000	
Ti	47	2	45	22.188	ppb	22.188	11.09	677	4000	
V	51	2	72	43.698	ppb	43.698	2.22	55122	2000	
Cr	52	2	72	42.258	ppb	42.258	0.93	67277	5000	
Mn	55	2	72	492.495	ppb	492.495	2.09	293321	10000	
Fe	57	2	72	5092.091	ppb	5092.091	0.73	148191	400000	
Co	59	2	72	44.216	ppb	44.216	1.76	123034	2000	
Ni	60	2	72	44.730	ppb	44.730	2.03	35926	5000	
Cu	63	2	72	69.172	ppb	69.172	2.52	152495	5000	
Zn	66	2	72	124.495	ppb	124.495	3.53	35348	5000	
As	75	2	72	38.034	ppb	38.034	2.90	7859	2000	
Se	78	1	72	38.259	ppb	38.259	2.57	13304	2000	
Sr	88	2	72	122.739	ppb	122.739	1.66	82090	4000	
Zr	90	2	72	4082.352	ppb	4082.352	1.12	54208	1000	
Nb	93	2	72	0.299	ppb	0.299	18.47	1390	200	
Mo	95	2	115	37.244	ppb	37.244	0.93	39172	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-60.38	7	100	
Ag	107	2	115	41.766	ppb	41.766	1.56	146780	100	
Cd	111	2	115	41.254	ppb	41.254	0.95	18523	2000	
Sn	120	2	115	28.623	ppb	28.623	0.66	34320	2000	
Sb	121	2	115	30.917	ppb	30.917	3.44	33906	1000	
Ba	137	2	115	117.739	ppb	117.739	0.64	44346	5000	
W	182	2	165	9.309	ppb	9.309	1.97	47178	100	
Pt	195	2	165	0.010	ppb	0.010	14.34	47	100	
Tl	205	2	165	40.129	ppb	40.129	1.71	357089	2000	
Pb	208	2	165	42.548	ppb	42.548	1.46	512857	5000	
Th	232	2	165	36.263	ppb	36.263	2.59	552022	2000	
U	238	2	165	36.867	ppb	36.867	1.33	600261	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1817707	1.12	1719455	105.71	60	120	
Sc (IS)	45	1	HMI H2	34747940	0.17	32996152	105.31	60	120	
Sc (IS)	45	2	HMI He	1104022	4.64	1019192	108.32	60	120	
Sc (IS)	45	3	No Gas	60121626	0.91	56217091	106.95	60	120	
Ge Internal Standard	72	1	HMI H2	14323202	0.75	13920513	102.89	60	120	
Ge Internal Standard	72	2	HMI He	1246680	2.96	1242268	100.36	60	120	
In Internal Standard	115	2	HMI He	3955863	1.52	4043894	97.82	60	120	
Ho-165	165	2	HMI He	19197430	0.48	19631094	97.79	60	120	

Sample Report

Sample Table

Sample Name	280-115617-b-1-c PDS
Data File Name	030SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:33:57-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435845 6020A DOD5
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	5.413	ppb	5.413	43.97	196841	500000	
Li	7	2	45	23.934	ppb	23.934	32.56	11031	500000	
Li	7	3	45	6.067	ppb	6.067	33.59	7166511	50000	
Be	9	1	6	211.458	ppb	211.458	1.91	104612	2000	
B	11	1	6	9.516	ppb	9.516	9.13	5601	2000	
Na	23	1	45	9576.648	ppb	9576.648	1.75	38824077	2000	
Na	23	2	45	9639.571	ppb	9639.571	3.82	2486719	400000	
Mg	24	2	45	2750.122	ppb	2750.122	3.51	332587	400000	
Al	27	2	45	3218.403	ppb	3218.403	2.26	90821	400000	
K	39	1	45	23.532	ppb	23.532	146.99	12922335	400000	
K	39	2	45	1610.164	ppb	1610.164	1.38	117566	400000	
Ca	40	1	45	5522.318	ppb	5522.318	1.11	33581580	400000	
Ca	44	2	45	5604.051	ppb	5604.051	1.74	18506	400000	
Ti	47	2	45	44.813	ppb	44.813	22.92	1297	4000	
V	51	2	72	219.140	ppb	219.140	2.63	267635	2000	
Cr	52	2	72	217.814	ppb	217.814	0.85	345236	5000	
Mn	55	2	72	664.031	ppb	664.031	1.53	395051	10000	
Fe	57	2	72	6725.772	ppb	6725.772	2.38	195411	400000	
Co	59	2	72	218.883	ppb	218.883	2.40	608255	2000	
Ni	60	2	72	220.240	ppb	220.240	1.01	176004	5000	
Cu	63	2	72	247.458	ppb	247.458	2.11	540943	5000	
Zn	66	2	72	313.339	ppb	313.339	2.42	88470	5000	
As	75	2	72	198.416	ppb	198.416	2.19	40839	2000	
Se	78	1	72	209.611	ppb	209.611	0.80	72325	2000	
Sr	88	2	72	83.529	ppb	83.529	1.06	55814	4000	
Zr	90	2	72	27843.150	ppb	27843.150	1.88	368437	1000	>LDR
Nb	93	2	72	3.213	ppb	3.213	1.23	13354	200	
Mo	95	2	115	206.187	ppb	206.187	1.12	213572	2000	
Pd	105	2	115	0.034	ppb	0.034	56.53	73	100	
Ag	107	2	115	46.550	ppb	46.550	0.98	161225	100	
Cd	111	2	115	214.190	ppb	214.190	1.71	94732	2000	
Sn	120	2	115	208.559	ppb	208.559	0.61	245524	2000	
Sb	121	2	115	205.591	ppb	205.591	1.76	222026	1000	
Ba	137	2	115	292.748	ppb	292.748	2.04	108637	5000	
W	182	2	165	206.208	ppb	206.208	0.49	996015	100	
Pt	195	2	165	0.065	ppb	0.065	31.66	267	100	
Tl	205	2	165	232.271	ppb	232.271	2.25	2041682	2000	
Pb	208	2	165	225.170	ppb	225.170	1.01	2677286	5000	
Th	232	2	165	16.440	ppb	16.440	6.19	247524	2000	
U	238	2	165	211.080	ppb	211.080	0.80	3395522	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1813910	1.92	1719455	105.49	60	120	
Sc (IS)	45	1	HMI H2	34733841	0.70	32996152	105.27	60	120	
Sc (IS)	45	2	HMI He	1050236	3.43	1019192	103.05	60	120	
Sc (IS)	45	3	No Gas	59875927	1.39	56217091	106.51	60	120	
Ge Internal Standard	72	1	HMI H2	14235155	1.44	13920513	102.26	60	120	
Ge Internal Standard	72	2	HMI He	1245214	2.25	1242268	100.24	60	120	
In Internal Standard	115	2	HMI He	3898260	0.55	4043894	96.40	60	120	
Ho-165	165	2	HMI He	18970478	0.82	19631094	96.63	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	031_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:37:45-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	506.482	ppb	1.699	450814	500	101.3	90	110	
Li	7	2	45	509.733	ppb	3.482	23693	500	101.9	90	110	
Li	7	3	45	520.319	ppb	0.638	16300638	500	104.1	90	110	
Be	9	1	6	48.780	ppb	0.829	23953	50	97.6	90	110	
B	11	1	6	50.869	ppb	0.500	26942	50	101.7	90	110	
Na	23	1	45	5078.350	ppb	0.103	20528442	5000	101.6	90	110	
Na	23	2	45	5345.202	ppb	0.375	1331784	5000	106.9	90	110	
Mg	24	2	45	4800.578	ppb	1.100	555447	5000	96.0	90	110	
Al	27	2	45	5066.925	ppb	0.262	136738	5000	101.3	90	110	
K	39	1	45	4818.374	ppb	2.088	31689800	5000	96.4	90	110	
K	39	2	45	5125.176	ppb	0.345	312826	5000	102.5	90	110	
Ca	40	1	45	5049.706	ppb	0.996	30345183	5000	101.0	90	110	
Ca	44	2	45	4944.938	ppb	5.178	15619	5000	98.9	90	110	
Ti	47	2	45	48.570	ppb	3.744	1340	50	97.1	90	110	
V	51	2	72	51.190	ppb	3.093	61119	50	102.4	90	110	
Cr	52	2	72	50.613	ppb	2.104	76639	50	101.2	90	110	
Mn	55	2	72	51.100	ppb	3.158	29023	50	102.2	90	110	
Fe	57	2	72	5127.602	ppb	2.018	142014	5000	102.6	90	110	
Co	59	2	72	50.672	ppb	4.334	134149	50	101.3	90	110	
Ni	60	2	72	50.973	ppb	3.386	38937	50	101.9	90	110	
Cu	63	2	72	50.775	ppb	1.603	106978	50	101.6	90	110	
Zn	66	2	72	50.868	ppb	3.861	13911	50	101.7	90	110	
As	75	2	72	49.470	ppb	3.021	9722	50	98.9	90	110	
Se	78	1	72	49.748	ppb	1.535	17118	50	99.5	90	110	
Sr	88	2	72	48.897	ppb	2.609	31139	50	97.8	90	110	
Zr	90	2	72	79.038	ppb	19.826	1130	50	158.1	90	110	>+\-10%
Nb	93	2	72	89.165	ppb	3.362	348851	100	89.2	90	110	>+\-10%
Mo	95	2	115	49.852	ppb	0.651	50849	50	99.7	90	110	
Pd	105	2	115	50.328	ppb	1.184	83766	50	100.7	90	110	
Ag	107	2	115	50.527	ppb	1.652	172256	50	101.1	90	110	
Cd	111	2	115	49.093	ppb	3.683	21381	50	98.2	90	110	
Sn	120	2	115	50.090	ppb	0.375	58149	50	100.2	90	110	
Sb	121	2	115	51.312	ppb	1.780	54572	50	102.6	90	110	
Ba	137	2	115	47.581	ppb	2.239	17388	50	95.2	90	110	
W	182	2	165	49.412	ppb	1.411	239557	50	98.8	90	110	
Pt	195	2	165	49.868	ppb	1.218	198790	50	99.7	90	110	
Tl	205	2	165	50.152	ppb	1.636	440191	50	100.3	90	110	
Pb	208	2	165	49.758	ppb	1.782	591402	50	99.5	90	110	
Th	232	2	165	45.619	ppb	0.833	684988	50	91.2	90	110	
U	238	2	165	46.001	ppb	1.577	738761	50	92.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1799588	0.93	1719455	104.66	60	120	
Sc (IS)	45	1	HMI H2	34317977	1.05	32996152	104.01	60	120	
Sc (IS)	45	2	HMI He	1004308	0.90	1019192	98.54	60	120	
Sc (IS)	45	3	No Gas	58178569	0.39	56217091	103.49	60	120	
Ge Internal Standard	72	1	HMI H2	14178354	0.71	13920513	101.85	60	120	
Ge Internal Standard	72	2	HMI He	1186816	3.13	1242268	95.54	60	120	
In Internal Standard	115	2	HMI He	3836993	0.65	4043894	94.88	60	120	
Ho-165	165	2	HMI He	18939430	1.96	19631094	96.48	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	032_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:41:32-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	10.904	ppb	55.5	7116307	10	>RL
Be	9	1	6	0.045	ppb	184.5	33	0.5	
B	11	1	6	0.465	ppb	63.0	917	0.5	
Na	23	1	45	-5.327	ppb	-7.7	379080	25	
Na	23	2	45	-6.072	ppb	-48.8	25697	25	
Mg	24	2	45	2.378	ppb	13.4	460	25	
Al	27	2	45	0.433	ppb	424.7	120	15	
K	39	1	45	-180.965	ppb	-6.4	11999794	50	
K	39	2	45	18.217	ppb	15.3	21720	50	
Ca	40	1	45	3.203	ppb	13.6	77569	50	
Ca	44	2	45	4.360	ppb	153.8	63	25	
Ti	47	2	45	-0.361	ppb	0.0	0	0.5	
V	51	2	72	1.354	ppb	14.4	3697	1	>RL
Cr	52	2	72	0.030	ppb	80.3	317	1	
Mn	55	2	72	0.156	ppb	20.9	160	0.5	
Fe	57	2	72	4.976	ppb	35.4	360	25	
Co	59	2	72	0.024	ppb	68.9	87	0.5	
Ni	60	2	72	0.099	ppb	28.0	257	1	
Cu	63	2	72	-0.001	ppb	-4669.8	1543	1	
Zn	66	2	72	-0.006	ppb	-1654.4	283	5	
As	75	2	72	0.034	ppb	101.4	35	1	
Se	78	1	72	0.071	ppb	81.3	52	1	
Sr	88	2	72	0.020	ppb	129.2	40	0.5	
Zr	90	2	72	1.023	ppb	261.4	150	1	>RL
Nb	93	2	72	2.420	ppb	9.8	9934	2	>RL
Mo	95	2	115	0.096	ppb	59.3	127	0.5	
Pd	105	2	115	0.035	ppb	56.8	73	1	
Ag	107	2	115	0.012	ppb	74.5	73	1	
Cd	111	2	115	0.024	ppb	200.6	17	0.5	
Sn	120	2	115	0.221	ppb	12.6	400	1	
Sb	121	2	115	0.602	ppb	11.9	677	0.6	>RL
Ba	137	2	115	0.056	ppb	1.3	30	0.5	
W	182	2	165	0.043	ppb	76.1	1930	1	
Pt	195	2	165	0.011	ppb	23.1	50	1	
Tl	205	2	165	0.030	ppb	40.6	360	0.1	
Pb	208	2	165	0.028	ppb	24.8	1433	0.5	
Th	232	2	165	0.039	ppb	23.3	880	1	
U	238	2	165	0.038	ppb	23.3	720	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1867078	0.99	1719455	108.59	60	120	
Sc (IS)	45	1	HMI H2	34429729	0.51	32996152	104.34	60	120	
Sc (IS)	45	2	HMI He	1006047	0.81	1019192	98.71	60	120	
Sc (IS)	45	3	No Gas	58715212	0.36	56217091	104.44	60	120	
Ge Internal Standard	72	1	HMI H2	14279336	0.44	13920513	102.58	60	120	
Ge Internal Standard	72	2	HMI He	1226248	1.47	1242268	98.71	60	120	
In Internal Standard	115	2	HMI He	3852124	0.88	4043894	95.26	60	120	
Ho-165	165	2	HMI He	18827856	0.26	19631094	95.91	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	033LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:45:20-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	22.780	ppb	10.398	7382648	50	45.6	70	130	>+/-30%
Be	9	1	6	1.027	ppb	10.510	530	1	102.7	70	130	
Na	23	2	45	34.709	ppb	4.942	35674	50	69.4	70	130	>+/-30%
Mg	24	2	45	48.520	ppb	0.344	5808	50	97.0	70	130	
Al	27	2	45	31.867	ppb	28.666	967	30	106.2	70	130	
K	39	2	45	130.878	ppb	8.281	28158	100	130.9	70	130	>+/-30%
Ca	44	2	45	58.174	ppb	21.830	233	50	116.3	70	130	
V	51	2	72	6.417	ppb	2.099	9607	5	128.3	70	130	
Cr	52	2	72	1.979	ppb	5.550	3311	2	98.9	70	130	
Mn	55	2	72	1.044	ppb	10.263	670	1	104.4	70	130	
Fe	57	2	72	55.697	ppb	4.955	1784	50	111.4	70	130	
Co	59	2	72	1.100	ppb	0.344	2990	1	110.0	70	130	
Ni	60	2	72	2.241	ppb	14.236	1914	2	112.0	70	130	
Cu	63	2	72	1.916	ppb	7.973	5578	2	95.8	70	130	
Zn	66	2	72	11.063	ppb	2.820	3304	10	110.6	70	130	
As	75	2	72	4.464	ppb	11.255	918	5	89.3	70	130	
Se	78	1	72	4.939	ppb	4.553	1725	5	98.8	70	130	
Sr	88	2	72	0.972	ppb	5.556	657	1	97.2	70	130	
Zr	90	2	72	12.769	ppb	62.997	297	0.5	2553.8	70	130	>+/-30%
Nb	93	2	72	4.424	ppb	0.445	17799	2	221.2	70	130	>+/-30%
Mo	95	2	115	1.980	ppb	8.391	2064	2	99.0	70	130	
Pd	105	2	115	0.038	ppb	77.419	80	1	3.8	70	130	>+/-30%
Ag	107	2	115	5.163	ppb	1.781	17762	5	103.3	70	130	
Cd	111	2	115	1.055	ppb	26.728	470	1	105.5	70	130	
Sn	120	2	115	10.185	ppb	4.526	12033	10	101.8	70	130	
Sb	121	2	115	2.462	ppb	9.309	2670	2	123.1	70	130	
Ba	137	2	115	0.808	ppb	17.923	307	1	80.8	70	130	
W	182	2	165	5.073	ppb	3.090	25919	1	507.3	70	130	>+/-30%
Pt	195	2	165	0.019	ppb	35.125	80	1	1.9	70	130	>+/-30%
Tl	205	2	165	1.033	ppb	1.621	9080	1	103.3	70	130	
Pb	208	2	165	0.999	ppb	2.663	12850	1	99.9	70	130	
Th	232	2	165	1.884	ppb	2.740	28329	2	94.2	70	130	
U	238	2	165	1.000	ppb	0.749	16027	1	100.0	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1850266	2.95	1719455	107.61	60	120	
Sc (IS)	45	1	HMI H2	34374623	0.74	32996152	104.18	60	120	
Sc (IS)	45	2	HMI He	1006312	1.80	1019192	98.74	60	120	
Sc (IS)	45	3	No Gas	59103754	0.84	56217091	105.13	60	120	
Ge Internal Standard	72	1	HMI H2	14193653	0.84	13920513	101.96	60	120	
Ge Internal Standard	72	2	HMI He	1209472	3.27	1242268	97.36	60	120	
In Internal Standard	115	2	HMI He	3866680	0.96	4043894	95.62	60	120	
Ho-165	165	2	HMI He	18770771	0.74	19631094	95.62	60	120	

Blank Report

Sample Table

Sample Name	mb 280-434927/1-a
Data File Name	034_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:49:07-06:00
Sample Type	Blank
Dilution	1
Comment	434927 200.8
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	8.418	ppb	17.75410363	190828	0.5
Li	7	2	45	39.659	ppb	16.4452208	10521	0.5
Li	7	3	45	17.497	ppb	46.29951181	7044104	10
Be	9	1	6	-0.002	ppb	-1312.37015	10	0.5
B	11	1	6	-0.094	ppb	-337.743973	610	0.5
Na	23	1	45	-13.533	ppb	-3.469701545	336164	25
Na	23	2	45	-11.931	ppb	-8.644347957	23216	25
Mg	24	2	45	1.053	ppb	77.78748514	293	25
Al	27	2	45	1.926	ppb	47.64779662	153	15
K	39	1	45	1920.492	ppb	1.561385142	19717280	50
K	39	2	45	14.474	ppb	74.83575222	20582	50
Ca	40	1	45	7.451	ppb	2.750925484	100076	50
Ca	44	2	45	9.632	ppb	109.7700069	77	25
Ti	47	2	45	-0.361	ppb	0	0	0.5
V	51	2	72	3.030	ppb	7.605039027	5321	1
Cr	52	2	72	0.337	ppb	35.57172071	747	1
Mn	55	2	72	0.202	ppb	55.46732908	173	0.5
Fe	57	2	72	15.788	ppb	16.55257015	623	25
Co	59	2	72	0.006	ppb	229.7902938	33	0.5
Ni	60	2	72	0.081	ppb	24.1836835	227	1
Cu	63	2	72	0.107	ppb	34.43429855	1657	1
Zn	66	2	72	1.164	ppb	32.70173119	567	5
As	75	2	72	0.074	ppb	84.7375233	40	1
Se	78	1	72	-0.004	ppb	-1083.517085	25	1
Sr	88	2	72	-0.013	ppb	-149.096387	17	0.5
Zr	90	2	72	4.312	ppb	12.47633878	180	1
Nb	93	2	72	0.381	ppb	9.903092682	1587	2
Mo	95	2	115	0.022	ppb	85.91947067	50	0.5
Pd	105	2	115	-0.001	ppb	-292.589768	13	1
Ag	107	2	115	0.008	ppb	185.2757965	57	1
Cd	111	2	115	0.033	ppb	73.8347896	20	0.5
Sn	120	2	115	0.287	ppb	12.70082934	463	1
Sb	121	2	115	0.421	ppb	21.52804073	470	0.6
Ba	137	2	115	0.021	ppb	203.0409742	17	0.5
W	182	2	165	0.015	ppb	126.1456666	1807	1
Pt	195	2	165	0.010	ppb	62.09104736	47	1
Tl	205	2	165	0.017	ppb	13.78448105	250	0.1
Pb	208	2	165	0.039	ppb	24.98887895	1580	0.5
Th	232	2	165	0.014	ppb	46.22766096	517	1
U	238	2	165	0.005	ppb	62.49409387	190	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1847593	1.52	1719455	107.45	60	120	
Sc (IS)	45	1	HMI H2	33407597	0.39	32996152	101.25	60	120	
Sc (IS)	45	2	HMI He	962701	0.38	1019192	94.46	60	120	
Sc (IS)	45	3	No Gas	57154501	0.95	56217091	101.67	60	120	
Ge Internal Standard	72	1	HMI H2	13926891	1.05	13920513	100.05	60	120	
Ge Internal Standard	72	2	HMI He	1145551	3.04	1242268	92.21	60	120	
In Internal Standard	115	2	HMI He	3746109	2.21	4043894	92.64	60	120	
Ho-165	165	2	HMI He	18931172	0.56	19631094	96.43	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-434927/2-a
Data File Name	035_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:52:55-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	434927 200.8
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	79.750	79.750	ppb	4.838	226826	400	19.9	80	120	>+/-20%
Li	7	2	45	93.155	93.155	ppb	14.756	11959	400	23.3	80	120	>+/-20%
Li	7	3	45	78.906	78.906	ppb	6.486	8238146	400	19.7	80	120	>+/-20%
Be	9	1	6	30.811	30.811	ppb	5.398	15335	40	77.0	80	120	>+/-20%
Na	23	2	45	-8.505	-8.505	ppb	-29.458	24117	40	-21.3	80	120	>+/-20%
Mg	24	2	45	2.605	2.605	ppb	30.928	467	40	6.5	80	120	>+/-20%
Al	27	2	45	339.719	339.719	ppb	3.189	8923	40	849.3	80	120	>+/-20%
K	39	2	45	20.457	20.457	ppb	62.708	20996	40	51.1	80	120	>+/-20%
Ca	44	2	45	173.188	173.188	ppb	24.732	573	40	433.0	80	120	>+/-20%
V	51	2	72	35.817	35.817	ppb	1.595	41133	40	89.5	80	120	
Cr	52	2	72	34.760	34.760	ppb	1.873	49990	40	86.9	80	120	
Mn	55	2	72	34.196	34.196	ppb	0.953	18442	40	85.5	80	120	
Fe	57	2	72	336.750	336.750	ppb	3.631	9030	40	841.9	80	120	>+/-20%
Co	59	2	72	34.247	34.247	ppb	1.997	86012	40	85.6	80	120	
Ni	60	2	72	34.449	34.449	ppb	3.460	25016	40	86.1	80	120	
Cu	63	2	72	34.741	34.741	ppb	1.149	69846	40	86.9	80	120	
Zn	66	2	72	34.149	34.149	ppb	4.598	8946	40	85.4	80	120	
As	75	2	72	31.445	31.445	ppb	1.201	5871	40	78.6	80	120	>+/-20%
Se	78	1	72	32.812	32.812	ppb	1.675	11072	40	82.0	80	120	
Nb	93	2	72	0.272	0.272	ppb	8.088	1153	40	0.7	80	120	>+/-20%
Mo	95	2	115	32.394	32.394	ppb	0.755	32041	40	81.0	80	120	
Pd	105	2	115	0.009	0.009	ppb	116.754	30	40	0.0	80	120	>+/-20%
Ag	107	2	115	34.823	34.823	ppb	2.093	115085	40	87.1	80	120	
Cd	111	2	115	31.675	31.675	ppb	1.332	13374	40	79.2	80	120	>+/-20%
Sn	120	2	115	32.479	32.479	ppb	1.373	36600	40	81.2	80	120	
Sb	121	2	115	32.468	32.468	ppb	0.895	33485	40	81.2	80	120	
Ba	137	2	115	31.346	31.346	ppb	1.423	11108	40	78.4	80	120	>+/-20%
W	182	2	165	10.542	10.542	ppb	2.356	51627	40	26.4	80	120	>+/-20%
Pt	195	2	165	0.004	0.004	ppb	90.797	23	40	0.0	80	120	>+/-20%
Tl	205	2	165	32.567	32.567	ppb	0.809	281299	40	81.4	80	120	
Pb	208	2	165	32.493	32.493	ppb	0.342	380431	40	81.2	80	120	
Th	232	2	165	29.416	29.416	ppb	0.365	434732	40	73.5	80	120	>+/-20%
U	238	2	165	30.010	30.010	ppb	0.487	474323	40	75.0	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1825028	3.11	1719455	106.14	60	120	
Sc (IS)	45	1	HMI H2	33477524	0.52	32996152	101.46	60	120	
Sc (IS)	45	2	HMI He	966849	1.58	1019192	94.86	60	120	
Sc (IS)	45	3	No Gas	57840477	0.79	56217091	102.89	60	120	
Ge Internal Standard	72	1	HMI H2	13893664	1.35	13920513	99.81	60	120	
Ge Internal Standard	72	2	HMI He	1124945	0.84	1242268	90.56	60	120	
In Internal Standard	115	2	HMI He	3719781	0.76	4043894	91.99	60	120	
Ho-165	165	2	HMI He	18634227	0.91	19631094	94.92	60	120	

Sample Report

Sample Table

Sample Name	lcsd 280-434927/3-a
Data File Name	036SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:56:42-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434927 200.8
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	75.561	ppb	75.561	4.54	224728	500000	
Li	7	2	45	88.433	ppb	88.433	13.55	11902	500000	
Li	7	3	45	80.822	ppb	80.822	12.47	8359526	50000	
Be	9	1	6	29.991	ppb	29.991	1.71	15028	2000	
B	11	1	6	22.592	ppb	22.592	2.18	12572	2000	
Na	23	1	45	-14.802	ppb	-14.802	-4.28	331945	2000	
Na	23	2	45	-10.649	ppb	-10.649	-10.84	23753	400000	
Mg	24	2	45	1.979	ppb	1.979	13.46	400	400000	
Al	27	2	45	326.565	ppb	326.565	6.52	8626	400000	
K	39	1	45	1927.086	ppb	1927.086	2.44	19783428	400000	
K	39	2	45	19.793	ppb	19.793	5.21	21083	400000	
Ca	40	1	45	9.625	ppb	9.625	4.08	113012	400000	
Ca	44	2	45	217.884	ppb	217.884	21.86	713	400000	
Ti	47	2	45	0.022	ppb	0.022	3077.48	10	4000	
V	51	2	72	36.145	ppb	36.145	4.20	41738	2000	
Cr	52	2	72	34.162	ppb	34.162	0.77	49431	5000	
Mn	55	2	72	34.567	ppb	34.567	4.80	18753	10000	
Fe	57	2	72	347.091	ppb	347.091	7.53	9357	400000	
Co	59	2	72	34.183	ppb	34.183	3.04	86381	2000	
Ni	60	2	72	35.047	ppb	35.047	0.84	25600	5000	
Cu	63	2	72	35.181	ppb	35.181	1.41	71149	5000	
Zn	66	2	72	35.142	ppb	35.142	7.70	9257	5000	
As	75	2	72	31.078	ppb	31.078	1.84	5837	2000	
Se	78	1	72	31.482	ppb	31.482	4.37	10613	2000	
Sr	88	2	72	31.725	ppb	31.725	1.17	19287	4000	
Zr	90	2	72	4412.385	ppb	4412.385	2.83	53191	1000	
Nb	93	2	72	0.273	ppb	0.273	14.14	1163	200	
Mo	95	2	115	30.901	ppb	30.901	0.89	30631	2000	
Pd	105	2	115	0.019	ppb	0.019	65.43	47	100	
Ag	107	2	115	34.809	ppb	34.809	0.40	115294	100	
Cd	111	2	115	32.774	ppb	32.774	6.57	13864	2000	
Sn	120	2	115	32.883	ppb	32.883	0.83	37134	2000	
Sb	121	2	115	33.733	ppb	33.733	1.85	34865	1000	
Ba	137	2	115	31.840	ppb	31.840	6.40	11312	5000	
W	182	2	165	10.271	ppb	10.271	2.05	50249	100	
Pt	195	2	165	0.009	ppb	0.009	55.73	43	100	
Tl	205	2	165	32.730	ppb	32.730	0.30	282165	2000	
Pb	208	2	165	32.961	ppb	32.961	0.33	385148	5000	
Th	232	2	165	29.728	ppb	29.728	1.40	438474	2000	
U	238	2	165	30.256	ppb	30.256	0.41	477258	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1835876	0.98	1719455	106.77	60	120	
Sc (IS)	45	1	HMI H2	33477107	0.81	32996152	101.46	60	120	
Sc (IS)	45	2	HMI He	972424	1.33	1019192	95.41	60	120	
Sc (IS)	45	3	No Gas	58462519	1.71	56217091	103.99	60	120	
Ge Internal Standard	72	1	HMI H2	13880560	0.67	13920513	99.71	60	120	
Ge Internal Standard	72	2	HMI He	1131864	0.62	1242268	91.11	60	120	
In Internal Standard	115	2	HMI He	3727828	0.98	4043894	92.18	60	120	
Ho-165	165	2	HMI He	18597825	0.69	19631094	94.74	60	120	

Sample Report

Sample Table

Sample Name	280-116021-a-3-a
Data File Name	037SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:00:30-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434927 200.8
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	8.464	ppb	8.464	74.13	188926	500000	
Li	7	2	45	26.710	ppb	26.710	56.41	10090	500000	
Li	7	3	45	14.829	ppb	14.829	19.98	6916943	50000	
Be	9	1	6	0.027	ppb	0.027	117.48	23	2000	
B	11	1	6	9.846	ppb	9.846	7.19	5645	2000	
Na	23	1	45	28161.702	ppb	28161.702	1.32	107957505	2000	>LDR
Na	23	2	45	28590.299	ppb	28590.299	1.56	6649973	400000	
Mg	24	2	45	15211.701	ppb	15211.701	2.10	1670637	400000	
Al	27	2	45	9.015	ppb	9.015	17.60	333	400000	
K	39	1	45	3648.593	ppb	3648.593	1.13	26092136	400000	
K	39	2	45	1756.017	ppb	1756.017	0.90	114645	400000	
Ca	40	1	45	41496.907	ppb	41496.907	0.66	239907510	400000	
Ca	44	2	45	39997.831	ppb	39997.831	0.30	119638	400000	
Ti	47	2	45	0.789	ppb	0.789	82.79	30	4000	
V	51	2	72	3.384	ppb	3.384	18.93	5585	2000	
Cr	52	2	72	0.267	ppb	0.267	26.52	627	5000	
Mn	55	2	72	13.581	ppb	13.581	4.66	7326	10000	
Fe	57	2	72	69.332	ppb	69.332	4.12	2007	400000	
Co	59	2	72	0.077	ppb	0.077	27.90	210	2000	
Ni	60	2	72	0.836	ppb	0.836	4.32	763	5000	
Cu	63	2	72	0.542	ppb	0.542	7.66	2474	5000	
Zn	66	2	72	4.742	ppb	4.742	2.06	1460	5000	
As	75	2	72	0.739	ppb	0.739	7.96	162	2000	
Se	78	1	72	0.073	ppb	0.073	84.80	51	2000	
Sr	88	2	72	76.161	ppb	76.161	1.31	45754	4000	
Zr	90	2	72	131.992	ppb	131.992	6.45	1694	1000	
Nb	93	2	72	0.219	ppb	0.219	2.94	953	200	
Mo	95	2	115	384.593	ppb	384.593	0.25	372769	2000	
Pd	105	2	115	0.009	ppb	0.009	132.90	30	100	
Ag	107	2	115	0.018	ppb	0.018	15.38	90	100	
Cd	111	2	115	0.099	ppb	0.099	114.64	47	2000	
Sn	120	2	115	0.222	ppb	0.222	27.68	380	2000	
Sb	121	2	115	1.134	ppb	1.134	15.32	1180	1000	
Ba	137	2	115	39.798	ppb	39.798	2.42	13831	5000	
W	182	2	165	0.038	ppb	0.038	75.42	1864	100	
Pt	195	2	165	0.016	ppb	0.016	50.09	67	100	
Tl	205	2	165	0.030	ppb	0.030	42.35	353	2000	
Pb	208	2	165	0.045	ppb	0.045	41.00	1600	5000	
Th	232	2	165	0.089	ppb	0.089	1.67	1594	2000	
U	238	2	165	1.135	ppb	1.135	2.20	17833	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1770327	2.64	1719455	102.96	60	120	
Sc (IS)	45	1	HMI H2	33072347	0.81	32996152	100.23	60	120	
Sc (IS)	45	2	HMI He	953472	1.47	1019192	93.55	60	120	
Sc (IS)	45	3	No Gas	56499454	0.83	56217091	100.50	60	120	
Ge Internal Standard	72	1	HMI H2	13751486	0.39	13920513	98.79	60	120	
Ge Internal Standard	72	2	HMI He	1119335	1.38	1242268	90.10	60	120	
In Internal Standard	115	2	HMI He	3647916	1.17	4043894	90.21	60	120	
Ho-165	165	2	HMI He	18413147	1.20	19631094	93.80	60	120	

Sample Report

Sample Table

Sample Name	280-116021-a-6-a
Data File Name	038SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:04:16-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434927 200.8
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	12.050	ppb	12.050	24.57	189176	500000	
Li	7	2	45	52.502	ppb	52.502	33.72	10724	500000	
Li	7	3	45	20.026	ppb	20.026	19.38	6844209	50000	
Be	9	1	6	0.006	ppb	0.006	522.46	13	2000	
B	11	1	6	14.369	ppb	14.369	1.79	7956	2000	
Na	23	1	45	34601.692	ppb	34601.692	0.24	131502435	2000	>LDR
Na	23	2	45	35249.012	ppb	35249.012	1.07	8173632	400000	
Mg	24	2	45	11950.875	ppb	11950.875	0.64	1309514	400000	
Al	27	2	45	31.477	ppb	31.477	11.94	907	400000	
K	39	1	45	3627.191	ppb	3627.191	1.33	25802960	400000	
K	39	2	45	2065.492	ppb	2065.492	1.41	131062	400000	
Ca	40	1	45	30604.400	ppb	30604.400	1.02	175536777	400000	
Ca	44	2	45	29242.823	ppb	29242.823	0.13	87270	400000	
Ti	47	2	45	1.445	ppb	1.445	108.27	47	4000	
V	51	2	72	3.223	ppb	3.223	9.01	5375	2000	
Cr	52	2	72	0.213	ppb	0.213	37.45	547	5000	
Mn	55	2	72	20.279	ppb	20.279	2.73	10838	10000	
Fe	57	2	72	96.214	ppb	96.214	7.66	2690	400000	
Co	59	2	72	0.115	ppb	0.115	33.33	303	2000	
Ni	60	2	72	1.160	ppb	1.160	11.70	990	5000	
Cu	63	2	72	0.833	ppb	0.833	11.81	3024	5000	
Zn	66	2	72	4.635	ppb	4.635	5.87	1423	5000	
As	75	2	72	0.624	ppb	0.624	20.70	140	2000	
Se	78	1	72	0.230	ppb	0.230	62.31	103	2000	
Sr	88	2	72	93.318	ppb	93.318	0.83	55693	4000	
Zr	90	2	72	44.765	ppb	44.765	28.11	653	1000	
Nb	93	2	72	0.152	ppb	0.152	25.26	700	200	
Mo	95	2	115	166.010	ppb	166.010	0.88	160513	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-49.78	3	100	
Ag	107	2	115	0.002	ppb	0.002	312.97	37	100	
Cd	111	2	115	0.018	ppb	0.018	156.64	13	2000	
Sn	120	2	115	0.247	ppb	0.247	27.25	407	2000	
Sb	121	2	115	0.526	ppb	0.526	16.83	563	1000	
Ba	137	2	115	25.574	ppb	25.574	5.26	8867	5000	
W	182	2	165	0.012	ppb	0.012	167.79	1737	100	
Pt	195	2	165	0.006	ppb	0.006	111.58	30	100	
Tl	205	2	165	0.016	ppb	0.016	52.77	237	2000	
Pb	208	2	165	0.113	ppb	0.113	6.64	2374	5000	
Th	232	2	165	0.033	ppb	0.033	44.98	773	2000	
U	238	2	165	0.970	ppb	0.970	3.06	15193	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1773456	1.96	1719455	103.14	60	120	
Sc (IS)	45	1	HMI H2	32808275	0.40	32996152	99.43	60	120	
Sc (IS)	45	2	HMI He	951188	1.22	1019192	93.33	60	120	
Sc (IS)	45	3	No Gas	55170636	0.90	56217091	98.14	60	120	
Ge Internal Standard	72	1	HMI H2	13684585	0.46	13920513	98.31	60	120	
Ge Internal Standard	72	2	HMI He	1112066	0.93	1242268	89.52	60	120	
In Internal Standard	115	2	HMI He	3638783	0.34	4043894	89.98	60	120	
Ho-165	165	2	HMI He	18346036	0.31	19631094	93.45	60	120	

Sample Report

Sample Table

Sample Name	280-116021-a-6-b ms
Data File Name	039SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:08:05-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434927 200.8
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	83.275	ppb	83.275	6.91	222739	500000	
Li	7	2	45	106.311	ppb	106.311	7.19	11892	500000	
Li	7	3	45	87.576	ppb	87.576	4.04	7995319	50000	
Be	9	1	6	31.283	ppb	31.283	3.69	14878	2000	
B	11	1	6	38.155	ppb	38.155	3.98	19724	2000	
Na	23	1	45	35757.837	ppb	35757.837	1.23	135108451	2000	>LDR
Na	23	2	45	36795.866	ppb	36795.866	0.85	8384117	400000	
Mg	24	2	45	12405.262	ppb	12405.262	1.01	1335778	400000	
Al	27	2	45	375.660	ppb	375.660	2.63	9527	400000	
K	39	1	45	3920.725	ppb	3920.725	2.07	26757531	400000	
K	39	2	45	2138.733	ppb	2138.733	1.05	132689	400000	
Ca	40	1	45	31554.624	ppb	31554.624	1.49	179959031	400000	
Ca	44	2	45	31031.720	ppb	31031.720	1.07	91015	400000	
Ti	47	2	45	2.399	ppb	2.399	60.84	70	4000	
V	51	2	72	37.088	ppb	37.088	3.85	42048	2000	
Cr	52	2	72	33.215	ppb	33.215	3.08	47248	5000	
Mn	55	2	72	52.966	ppb	52.966	0.94	28222	10000	
Fe	57	2	72	476.686	ppb	476.686	2.69	12566	400000	
Co	59	2	72	32.711	ppb	32.711	1.01	81275	2000	
Ni	60	2	72	33.086	ppb	33.086	1.88	23771	5000	
Cu	63	2	72	32.897	ppb	32.897	1.18	65499	5000	
Zn	66	2	72	36.739	ppb	36.739	7.01	9494	5000	
As	75	2	72	32.166	ppb	32.166	0.87	5939	2000	
Se	78	1	72	30.908	ppb	30.908	1.94	10133	2000	
Sr	88	2	72	128.633	ppb	128.633	1.84	76801	4000	
Zr	90	2	72	4225.026	ppb	4225.026	0.94	50083	1000	
Nb	93	2	72	0.191	ppb	0.191	5.47	843	200	
Mo	95	2	115	198.585	ppb	198.585	0.43	193889	2000	
Pd	105	2	115	0.003	ppb	0.003	363.27	20	100	
Ag	107	2	115	33.584	ppb	33.584	1.65	109643	100	
Cd	111	2	115	31.391	ppb	31.391	5.23	13097	2000	
Sn	120	2	115	32.141	ppb	32.141	3.45	35774	2000	
Sb	121	2	115	34.048	ppb	34.048	3.61	34698	1000	
Ba	137	2	115	58.778	ppb	58.778	4.52	20569	5000	
W	182	2	165	10.334	ppb	10.334	1.91	49824	100	
Pt	195	2	165	0.002	ppb	0.002	163.02	13	100	
Tl	205	2	165	32.693	ppb	32.693	0.67	277785	2000	
Pb	208	2	165	31.945	ppb	31.945	0.50	367919	5000	
Th	232	2	165	29.456	ppb	29.456	0.47	428199	2000	
U	238	2	165	31.477	ppb	31.477	0.57	489349	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1743114	1.66	1719455	101.38	60	120	
Sc (IS)	45	1	HMI H2	32623393	0.88	32996152	98.87	60	120	
Sc (IS)	45	2	HMI He	934763	1.48	1019192	91.72	60	120	
Sc (IS)	45	3	No Gas	55090178	0.23	56217091	98.00	60	120	
Ge Internal Standard	72	1	HMI H2	13496472	1.42	13920513	96.95	60	120	
Ge Internal Standard	72	2	HMI He	1112864	1.68	1242268	89.58	60	120	
In Internal Standard	115	2	HMI He	3674510	1.33	4043894	90.87	60	120	
Ho-165	165	2	HMI He	18329919	0.84	19631094	93.37	60	120	

Sample Report

Sample Table

Sample Name	280-116021-a-6-c msd
Data File Name	040SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:12:21-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434927 200.8
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	80.126	ppb	80.126	3.39	220787	500000	
Li	7	2	45	109.219	ppb	109.219	4.35	12112	500000	
Li	7	3	45	88.198	ppb	88.198	7.70	8034457	50000	
Be	9	1	6	33.815	ppb	33.815	3.71	16093	2000	
B	11	1	6	39.325	ppb	39.325	3.95	20321	2000	
Na	23	1	45	36519.162	ppb	36519.162	1.10	137707418	2000	>LDR
Na	23	2	45	37119.924	ppb	37119.924	0.22	8561009	400000	
Mg	24	2	45	12403.489	ppb	12403.489	1.33	1351715	400000	
Al	27	2	45	412.296	ppb	412.296	1.93	10574	400000	
K	39	1	45	3996.490	ppb	3996.490	1.97	26988835	400000	
K	39	2	45	2163.134	ppb	2163.134	0.10	135620	400000	
Ca	40	1	45	32190.325	ppb	32190.325	1.18	183222744	400000	
Ca	44	2	45	31176.205	ppb	31176.205	0.92	92535	400000	
Ti	47	2	45	1.833	ppb	1.833	53.03	57	4000	
V	51	2	72	38.848	ppb	38.848	0.73	43573	2000	
Cr	52	2	72	35.563	ppb	35.563	1.84	50128	5000	
Mn	55	2	72	55.858	ppb	55.858	1.29	29491	10000	
Fe	57	2	72	511.803	ppb	511.803	1.70	13353	400000	
Co	59	2	72	34.014	ppb	34.014	1.63	83748	2000	
Ni	60	2	72	35.308	ppb	35.308	3.38	25129	5000	
Cu	63	2	72	35.080	ppb	35.080	3.67	69119	5000	
Zn	66	2	72	38.265	ppb	38.265	4.80	9794	5000	
As	75	2	72	34.108	ppb	34.108	2.61	6240	2000	
Se	78	1	72	32.962	ppb	32.962	3.51	10854	2000	
Sr	88	2	72	131.945	ppb	131.945	0.69	78075	4000	
Zr	90	2	72	4563.973	ppb	4563.973	0.26	53602	1000	
Nb	93	2	72	0.120	ppb	0.120	18.64	577	200	
Mo	95	2	115	204.404	ppb	204.404	1.38	197525	2000	
Pd	105	2	115	0.005	ppb	0.005	184.39	23	100	
Ag	107	2	115	35.109	ppb	35.109	2.71	113428	100	
Cd	111	2	115	32.063	ppb	32.063	3.03	13240	2000	
Sn	120	2	115	33.375	ppb	33.375	0.27	36773	2000	
Sb	121	2	115	34.960	ppb	34.960	1.98	35246	1000	
Ba	137	2	115	61.899	ppb	61.899	1.14	21438	5000	
W	182	2	165	10.795	ppb	10.795	1.53	52156	100	
Pt	195	2	165	0.003	ppb	0.003	146.09	17	100	
Tl	205	2	165	33.299	ppb	33.299	1.13	283945	2000	
Pb	208	2	165	33.318	ppb	33.318	1.40	385046	5000	
Th	232	2	165	30.588	ppb	30.588	1.79	446204	2000	
U	238	2	165	32.309	ppb	32.309	1.90	504055	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1743611	0.97	1719455	101.40	60	120	
Sc (IS)	45	1	HMI H2	32558666	0.56	32996152	98.67	60	120	
Sc (IS)	45	2	HMI He	946112	0.91	1019192	92.83	60	120	
Sc (IS)	45	3	No Gas	55287938	0.70	56217091	98.35	60	120	
Ge Internal Standard	72	1	HMI H2	13559926	0.93	13920513	97.41	60	120	
Ge Internal Standard	72	2	HMI He	1102779	0.55	1242268	88.77	60	120	
In Internal Standard	115	2	HMI He	3637372	1.94	4043894	89.95	60	120	
Ho-165	165	2	HMI He	18395987	1.06	19631094	93.71	60	120	

Sample Report

Sample Table

Sample Name	280-115995-c-1-a
Data File Name	041SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:16:09-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434927 200.8
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	15.832	ppb	15.832	24.95	186180	500000	
Li	7	2	45	27.315	ppb	27.315	77.91	9994	500000	
Li	7	3	45	17.139	ppb	17.139	12.29	6760136	50000	
Be	9	1	6	-0.007	ppb	-0.007	-347.55	7	2000	
B	11	1	6	12.765	ppb	12.765	3.58	6992	2000	
Na	23	1	45	144663.080	ppb	144663.080	1.40	534636579	2000	>LDR
Na	23	2	45	146091.489	ppb	146091.489	0.23	33514630	400000	
Mg	24	2	45	666.443	ppb	666.443	0.78	72568	400000	
Al	27	2	45	22.847	ppb	22.847	19.55	680	400000	
K	39	1	45	66396.229	ppb	66396.229	1.74	255960203	400000	
K	39	2	45	66391.152	ppb	66391.152	0.93	3574146	400000	
Ca	40	1	45	2920.468	ppb	2920.468	1.97	16373834	400000	
Ca	44	2	45	2918.215	ppb	2918.215	3.77	8676	400000	
Ti	47	2	45	2.483	ppb	2.483	34.55	73	4000	
V	51	2	72	3.616	ppb	3.616	8.78	5721	2000	
Cr	52	2	72	1.572	ppb	1.572	5.91	2434	5000	
Mn	55	2	72	2.383	ppb	2.383	3.12	1310	10000	
Fe	57	2	72	118.237	ppb	118.237	14.16	3217	400000	
Co	59	2	72	0.175	ppb	0.175	12.43	447	2000	
Ni	60	2	72	1.527	ppb	1.527	2.81	1233	5000	
Cu	63	2	72	16.541	ppb	16.541	2.28	33146	5000	
Zn	66	2	72	69.058	ppb	69.058	3.23	17381	5000	
As	75	2	72	0.405	ppb	0.405	34.82	98	2000	
Se	78	1	72	0.343	ppb	0.343	18.44	135	2000	
Sr	88	2	72	19.480	ppb	19.480	4.07	11482	4000	
Zr	90	2	72	215.180	ppb	215.180	3.05	2630	1000	
Nb	93	2	72	0.188	ppb	0.188	21.39	823	200	
Mo	95	2	115	1.491	ppb	1.491	20.11	1460	2000	
Pd	105	2	115	0.027	ppb	0.027	26.68	57	100	
Ag	107	2	115	0.023	ppb	0.023	30.44	103	100	
Cd	111	2	115	0.066	ppb	0.066	41.18	33	2000	
Sn	120	2	115	0.856	ppb	0.856	4.96	1070	2000	
Sb	121	2	115	1.276	ppb	1.276	12.46	1313	1000	
Ba	137	2	115	6.354	ppb	6.354	1.59	2200	5000	
W	182	2	165	0.314	ppb	0.314	17.22	3154	100	
Pt	195	2	165	0.024	ppb	0.024	48.46	100	100	
Tl	205	2	165	0.018	ppb	0.018	30.29	253	2000	
Pb	208	2	165	0.191	ppb	0.191	5.71	3284	5000	
Th	232	2	165	0.108	ppb	0.108	13.54	1877	2000	
U	238	2	165	0.066	ppb	0.066	13.27	1143	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1737172	0.84	1719455	101.03	60	120	
Sc (IS)	45	1	HMI H2	31977732	1.10	32996152	96.91	60	120	
Sc (IS)	45	2	HMI He	943209	1.57	1019192	92.54	60	120	
Sc (IS)	45	3	No Gas	54892396	0.40	56217091	97.64	60	120	
Ge Internal Standard	72	1	HMI H2	13166361	0.73	13920513	94.58	60	120	
Ge Internal Standard	72	2	HMI He	1096877	1.31	1242268	88.30	60	120	
In Internal Standard	115	2	HMI He	3623793	1.14	4043894	89.61	60	120	
Ho-165	165	2	HMI He	18396829	0.85	19631094	93.71	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	042_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:19:55-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	521.353	ppb	0.478	453607	500	104.3	90	110	
Li	7	2	45	539.650	ppb	8.405	24428	500	107.9	90	110	
Li	7	3	45	533.784	ppb	1.819	16421606	500	106.8	90	110	
Be	9	1	6	47.982	ppb	2.860	23670	50	96.0	90	110	
B	11	1	6	51.136	ppb	3.201	27202	50	102.3	90	110	
Na	23	1	45	5338.382	ppb	0.222	21331912	5000	106.8	90	110	
Na	23	2	45	5548.177	ppb	2.150	1376764	5000	111.0	90	110	>+\-10%
Mg	24	2	45	4856.428	ppb	0.496	560088	5000	97.1	90	110	
Al	27	2	45	5218.794	ppb	0.940	140372	5000	104.4	90	110	
K	39	1	45	5125.987	ppb	0.333	32559092	5000	102.5	90	110	
K	39	2	45	5184.282	ppb	0.698	315140	5000	103.7	90	110	
Ca	40	1	45	5165.634	ppb	0.299	30713321	5000	103.3	90	110	
Ca	44	2	45	5031.298	ppb	1.892	15843	5000	100.6	90	110	
Ti	47	2	45	55.601	ppb	10.292	1527	50	111.2	90	110	>+\-10%
V	51	2	72	52.956	ppb	1.203	62083	50	105.9	90	110	
Cr	52	2	72	51.399	ppb	1.727	76488	50	102.8	90	110	
Mn	55	2	72	53.075	ppb	0.208	29631	50	106.1	90	110	
Fe	57	2	72	5233.297	ppb	0.521	142448	5000	104.7	90	110	
Co	59	2	72	50.816	ppb	0.736	132275	50	101.6	90	110	
Ni	60	2	72	51.818	ppb	2.316	38903	50	103.6	90	110	
Cu	63	2	72	51.469	ppb	0.777	106540	50	102.9	90	110	
Zn	66	2	72	51.462	ppb	0.801	13834	50	102.9	90	110	
As	75	2	72	49.914	ppb	1.324	9641	50	99.8	90	110	
Se	78	1	72	50.487	ppb	0.200	17081	50	101.0	90	110	
Sr	88	2	72	48.330	ppb	2.484	30250	50	96.7	90	110	
Zr	90	2	72	214.290	ppb	11.186	2784	50	428.6	90	110	>+\-10%
Nb	93	2	72	90.872	ppb	0.356	349520	100	90.9	90	110	
Mo	95	2	115	50.163	ppb	2.296	50916	50	100.3	90	110	
Pd	105	2	115	49.504	ppb	2.997	81989	50	99.0	90	110	
Ag	107	2	115	50.036	ppb	1.227	169749	50	100.1	90	110	
Cd	111	2	115	49.448	ppb	3.214	21427	50	98.9	90	110	
Sn	120	2	115	49.896	ppb	2.556	57641	50	99.8	90	110	
Sb	121	2	115	50.326	ppb	2.700	53260	50	100.7	90	110	
Ba	137	2	115	48.409	ppb	0.865	17605	50	96.8	90	110	
W	182	2	165	48.993	ppb	0.668	235353	50	98.0	90	110	
Pt	195	2	165	49.321	ppb	1.213	194794	50	98.6	90	110	
Tl	205	2	165	50.398	ppb	0.711	438246	50	100.8	90	110	
Pb	208	2	165	49.170	ppb	0.341	579062	50	98.3	90	110	
Th	232	2	165	45.417	ppb	0.345	675619	50	90.8	90	110	
U	238	2	165	46.189	ppb	0.530	734978	50	92.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1808426	1.98	1719455	105.17	60	120	
Sc (IS)	45	1	HMI H2	33956016	0.57	32996152	102.91	60	120	
Sc (IS)	45	2	HMI He	1000987	0.51	1019192	98.21	60	120	
Sc (IS)	45	3	No Gas	57745314	0.40	56217091	102.72	60	120	
Ge Internal Standard	72	1	HMI H2	13941020	0.11	13920513	100.15	60	120	
Ge Internal Standard	72	2	HMI He	1165941	1.06	1242268	93.86	60	120	
In Internal Standard	115	2	HMI He	3818831	0.92	4043894	94.43	60	120	
Ho-165	165	2	HMI He	18761873	0.91	19631094	95.57	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	043_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:23:43-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	7.962	ppb	16.7	7095283	10	
Be	9	1	6	0.019	ppb	211.6	20	0.5	
B	11	1	6	0.231	ppb	195.1	773	0.5	
Na	23	1	45	45.102	ppb	6.1	573312	25	>RL
Na	23	2	45	40.915	ppb	6.9	37091	25	>RL
Mg	24	2	45	1.088	ppb	34.6	310	25	
Al	27	2	45	0.428	ppb	774.7	120	15	
K	39	1	45	-89.084	ppb	-30.1	12229708	50	
K	39	2	45	29.709	ppb	40.2	22321	50	
Ca	40	1	45	3.757	ppb	0.6	80039	50	
Ca	44	2	45	-8.326	ppb	-57.9	23	25	
Ti	47	2	45	-0.119	ppb	-353.2	7	0.5	
V	51	2	72	2.556	ppb	5.8	5001	1	>RL
Cr	52	2	72	0.037	ppb	90.0	320	1	
Mn	55	2	72	0.039	ppb	196.3	90	0.5	
Fe	57	2	72	2.357	ppb	64.8	277	25	
Co	59	2	72	0.008	ppb	130.8	40	0.5	
Ni	60	2	72	0.083	ppb	70.5	237	1	
Cu	63	2	72	0.050	ppb	275.7	1607	1	
Zn	66	2	72	0.074	ppb	404.1	297	5	
As	75	2	72	0.045	ppb	71.1	36	1	
Se	78	1	72	0.023	ppb	263.7	35	1	
Sr	88	2	72	0.006	ppb	511.1	30	0.5	
Zr	90	2	72	-2.095	ppb	-67.9	107	1	
Nb	93	2	72	2.323	ppb	10.6	9307	2	>RL
Mo	95	2	115	0.089	ppb	47.1	120	0.5	
Pd	105	2	115	0.026	ppb	103.1	60	1	
Ag	107	2	115	0.002	ppb	125.5	40	1	
Cd	111	2	115	0.008	ppb	3.0	10	0.5	
Sn	120	2	115	0.184	ppb	12.2	357	1	
Sb	121	2	115	0.349	ppb	21.0	407	0.6	
Ba	137	2	115	-0.017	ppb	-94.6	3	0.5	
W	182	2	165	0.067	ppb	43.4	2037	1	
Pt	195	2	165	0.008	ppb	39.1	37	1	
Tl	205	2	165	0.009	ppb	77.6	180	0.1	
Pb	208	2	165	-0.011	ppb	-175.2	977	0.5	
Th	232	2	165	0.030	ppb	13.1	757	1	
U	238	2	165	0.021	ppb	12.5	443	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1833041	1.56	1719455	106.61	60	120	
Sc (IS)	45	1	HMI H2	34057445	0.61	32996152	103.22	60	120	
Sc (IS)	45	2	HMI He	1003480	0.94	1019192	98.46	60	120	
Sc (IS)	45	3	No Gas	58986042	1.01	56217091	104.93	60	120	
Ge Internal Standard	72	1	HMI H2	14041758	0.48	13920513	100.87	60	120	
Ge Internal Standard	72	2	HMI He	1195169	2.71	1242268	96.21	60	120	
In Internal Standard	115	2	HMI He	3851180	1.12	4043894	95.23	60	120	
Ho-165	165	2	HMI He	18782686	0.79	19631094	95.68	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	044WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:27:31-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.008	ppb	-308.9415733	7	0.5
Na	23	2	45	57.123	ppb	3.073509646	36025	25
Mg	24	2	45	3.861	ppb	4.570350447	553	25
Al	27	2	45	5.300	ppb	53.0706083	220	15
K	39	2	45	20.825	ppb	86.75380044	19150	50
Ca	44	2	45	9.561	ppb	210.5105165	70	25
V	51	2	72	14.322	ppb	1.260442667	16003	1
Cr	52	2	72	0.311	ppb	25.04273377	630	1
Mn	55	2	72	0.667	ppb	3.187862305	383	0.5
Fe	57	2	72	48.251	ppb	14.27432995	1333	25
Co	59	2	72	0.022	ppb	47.01731038	67	0.5
Ni	60	2	72	0.280	ppb	24.48218687	333	1
Cu	63	2	72	0.390	ppb	51.94818748	1987	1
Zn	66	2	72	0.527	ppb	4.534657701	360	5
As	75	2	72	0.227	ppb	29.91539762	61	1
Se	78	1	72	0.070	ppb	10.73156137	45	1
Nb	93	2	72	2.294	ppb	7.66782435	7873	2
Mo	95	2	115	0.103	ppb	59.16454352	123	0.5
Pd	105	2	115	0.085	ppb	43.20683343	147	1
Ag	107	2	115	0.051	ppb	35.32918879	190	1
Cd	111	2	115	0.010	ppb	240.7376523	10	0.5
Sn	120	2	115	0.851	ppb	5.4167114	1047	1
Sb	121	2	115	0.742	ppb	13.47279698	763	0.6
Ba	137	2	115	0.082	ppb	21.81866224	37	0.5
W	182	2	165	0.025	ppb	166.3895154	1794	1
Pt	195	2	165	0.006	ppb	73.10413022	30	1
Tl	205	2	165	0.052	ppb	25.0096138	533	0.1
Pb	208	2	165	0.387	ppb	6.752412161	5517	0.5
Th	232	2	165	0.192	ppb	9.040820651	3081	1
U	238	2	165	0.016	ppb	47.57072373	357	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1754276	1.96	1719455	102.03	60	120	
Sc (IS)	45	1	HMI H2	30649473	0.66	32996152	92.89	60	120	
Sc (IS)	45	2	HMI He	880887	0.73	1019192	86.43	60	120	
Sc (IS)	45	3	No Gas	51376109	1.37	56217091	91.39	60	120	
Ge Internal Standard	72	1	HMI H2	12575168	0.21	13920513	90.34	60	120	
Ge Internal Standard	72	2	HMI He	1023247	1.26	1242268	82.37	60	120	
In Internal Standard	115	2	HMI He	3562304	0.99	4043894	88.09	60	120	
Ho-165	165	2	HMI He	18313242	0.67	19631094	93.29	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	045WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:31:19-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.021	ppb	-1.54866E-06	0	0.5
Na	23	2	45	3.353	ppb	80.83357938	28151	25
Mg	24	2	45	1.352	ppb	40.85305022	343	25
Al	27	2	45	0.649	ppb	232.0394843	127	15
K	39	2	45	17.103	ppb	49.7611982	21777	50
Ca	44	2	45	19.866	ppb	137.128793	113	25
V	51	2	72	2.679	ppb	8.130583473	5038	1
Cr	52	2	72	0.017	ppb	172.0304046	283	1
Mn	55	2	72	0.097	ppb	54.31294208	120	0.5
Fe	57	2	72	5.618	ppb	43.14143047	360	25
Co	59	2	72	0.012	ppb	31.35188231	50	0.5
Ni	60	2	72	0.176	ppb	32.60589363	303	1
Cu	63	2	72	0.029	ppb	218.0235371	1537	1
Zn	66	2	72	0.926	ppb	22.87824189	517	5
As	75	2	72	0.002	ppb	4803.342066	27	1
Se	78	1	72	0.011	ppb	268.0665589	31	1
Nb	93	2	72	0.653	ppb	8.274018438	2670	2
Mo	95	2	115	0.040	ppb	24.7487913	70	0.5
Pd	105	2	115	0.004	ppb	205.1421628	23	1
Ag	107	2	115	0.002	ppb	124.8147823	40	1
Cd	111	2	115	-0.014	ppb	0	0	0.5
Sn	120	2	115	0.151	ppb	33.25608286	320	1
Sb	121	2	115	0.067	ppb	63.33777067	107	0.6
Ba	137	2	115	0.065	ppb	23.34094406	33	0.5
W	182	2	165	-0.042	ppb	-32.73357166	1527	1
Pt	195	2	165	0.008	ppb	18.48272664	37	1
Tl	205	2	165	0.005	ppb	23.36773418	140	0.1
Pb	208	2	165	0.047	ppb	8.144654846	1667	0.5
Th	232	2	165	0.003	ppb	56.3473032	353	1
U	238	2	165	0.005	ppb	65.35677541	187	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1838038	0.89	1719455	106.90	60	120	
Sc (IS)	45	1	HMI H2	33936626	0.17	32996152	102.85	60	120	
Sc (IS)	45	2	HMI He	1011526	0.72	1019192	99.25	60	120	
Sc (IS)	45	3	No Gas	58602664	0.77	56217091	104.24	60	120	
Ge Internal Standard	72	1	HMI H2	14052077	0.87	13920513	100.95	60	120	
Ge Internal Standard	72	2	HMI He	1170275	1.57	1242268	94.20	60	120	
In Internal Standard	115	2	HMI He	3864486	0.69	4043894	95.56	60	120	
Ho-165	165	2	HMI He	18876790	0.69	19631094	96.16	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	046WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:35:07-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	0.012	ppb	346.6865226	17	0.5
Na	23	2	45	-3.466	ppb	-106.110877	26164	25
Mg	24	2	45	2.200	ppb	9.165413218	437	25
Al	27	2	45	0.463	ppb	280.6696718	120	15
K	39	2	45	21.588	ppb	51.42159487	21777	50
Ca	44	2	45	4.519	ppb	363.3790006	63	25
V	51	2	72	2.592	ppb	13.15245632	4878	1
Cr	52	2	72	0.042	ppb	68.97466582	317	1
Mn	55	2	72	0.094	ppb	49.65495685	117	0.5
Fe	57	2	72	5.013	ppb	44.51507503	340	25
Co	59	2	72	0.011	ppb	143.0468361	47	0.5
Ni	60	2	72	0.048	ppb	149.2033143	203	1
Cu	63	2	72	0.043	ppb	111.0801091	1543	1
Zn	66	2	72	1.066	ppb	26.45833744	547	5
As	75	2	72	0.027	ppb	101.519033	31	1
Se	78	1	72	-0.028	ppb	-86.69208805	17	1
Nb	93	2	72	0.418	ppb	13.95046638	1740	2
Mo	95	2	115	0.058	ppb	37.02513055	87	0.5
Pd	105	2	115	0.005	ppb	270.8866797	23	1
Ag	107	2	115	-0.001	ppb	-231.0954765	27	1
Cd	111	2	115	0.001	ppb	2473.06914	7	0.5
Sn	120	2	115	0.107	ppb	9.68041273	263	1
Sb	121	2	115	-0.004	ppb	-656.3013194	30	0.6
Ba	137	2	115	0.039	ppb	229.1639338	23	0.5
W	182	2	165	-0.047	ppb	-134.069624	1483	1
Pt	195	2	165	0.016	ppb	41.10743514	70	1
Tl	205	2	165	0.012	ppb	44.70487386	203	0.1
Pb	208	2	165	0.043	ppb	11.35840245	1597	0.5
Th	232	2	165	0.000	ppb	-301.4367348	297	1
U	238	2	165	0.003	ppb	80.55522302	157	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1839891	0.12	1719455	107.00	60	120	
Sc (IS)	45	1	HMI H2	34215589	1.83	32996152	103.70	60	120	
Sc (IS)	45	2	HMI He	999897	1.23	1019192	98.11	60	120	
Sc (IS)	45	3	No Gas	58572832	1.36	56217091	104.19	60	120	
Ge Internal Standard	72	1	HMI H2	14100275	0.34	13920513	101.29	60	120	
Ge Internal Standard	72	2	HMI He	1155222	1.37	1242268	92.99	60	120	
In Internal Standard	115	2	HMI He	3796766	1.61	4043894	93.89	60	120	
Ho-165	165	2	HMI He	18638394	1.14	19631094	94.94	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	047WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:38:54-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.008	ppb	-274.3188549	7	0.5
Na	23	2	45	-6.841	ppb	-69.64611651	25426	25
Mg	24	2	45	3.143	ppb	28.68748827	547	25
Al	27	2	45	1.181	ppb	187.9546616	140	15
K	39	2	45	9.474	ppb	143.5967171	21156	50
Ca	44	2	45	17.139	ppb	65.90320749	103	25
V	51	2	72	2.185	ppb	4.014188257	4404	1
Cr	52	2	72	0.018	ppb	146.4047525	280	1
Mn	55	2	72	0.258	ppb	44.09559556	207	0.5
Fe	57	2	72	6.194	ppb	29.84846016	370	25
Co	59	2	72	0.001	ppb	643.8628492	20	0.5
Ni	60	2	72	0.070	ppb	79.65712256	220	1
Cu	63	2	72	0.070	ppb	113.9150536	1594	1
Zn	66	2	72	1.009	ppb	22.29094369	530	5
As	75	2	72	0.000	ppb	-25661.15463	26	1
Se	78	1	72	0.019	ppb	36.21777672	33	1
Nb	93	2	72	0.345	ppb	19.47580263	1460	2
Mo	95	2	115	0.021	ppb	201.9676926	50	0.5
Pd	105	2	115	-0.005	ppb	-63.03191491	7	1
Ag	107	2	115	0.000	ppb	-1189.659977	30	1
Cd	111	2	115	-0.014	ppb	0	0	0.5
Sn	120	2	115	0.110	ppb	105.0488574	270	1
Sb	121	2	115	0.045	ppb	45.73917851	83	0.6
Ba	137	2	115	0.038	ppb	43.69466703	23	0.5
W	182	2	165	-0.048	ppb	-61.83572081	1464	1
Pt	195	2	165	0.023	ppb	17.74997263	97	1
Tl	205	2	165	0.001	ppb	517.548401	107	0.1
Pb	208	2	165	0.029	ppb	29.6684679	1420	0.5
Th	232	2	165	0.001	ppb	413.4734632	307	1
U	238	2	165	0.003	ppb	88.03627761	153	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1856848	1.38	1719455	107.99	60	120	
Sc (IS)	45	1	HMI H2	33971614	1.41	32996152	102.96	60	120	
Sc (IS)	45	2	HMI He	1002986	0.64	1019192	98.41	60	120	
Sc (IS)	45	3	No Gas	58422974	0.38	56217091	103.92	60	120	
Ge Internal Standard	72	1	HMI H2	14081973	0.18	13920513	101.16	60	120	
Ge Internal Standard	72	2	HMI He	1151614	1.39	1242268	92.70	60	120	
In Internal Standard	115	2	HMI He	3849023	1.17	4043894	95.18	60	120	
Ho-165	165	2	HMI He	18484993	2.40	19631094	94.16	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	048WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:42:41-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.001	ppb	-2333.330103	10	0.5
Na	23	2	45	-9.496	ppb	-19.9446973	24785	25
Mg	24	2	45	2.251	ppb	31.21481738	443	25
Al	27	2	45	0.205	ppb	396.0303192	113	15
K	39	2	45	25.990	ppb	44.50653683	22094	50
Ca	44	2	45	7.517	ppb	93.09382223	73	25
V	51	2	72	2.258	ppb	11.88466998	4521	1
Cr	52	2	72	-0.008	ppb	-709.0408398	243	1
Mn	55	2	72	0.124	ppb	91.13107717	133	0.5
Fe	57	2	72	10.160	ppb	34.71892062	480	25
Co	59	2	72	0.006	ppb	158.1235636	33	0.5
Ni	60	2	72	0.131	ppb	70.32074268	267	1
Cu	63	2	72	-0.015	ppb	-594.2561182	1433	1
Zn	66	2	72	0.649	ppb	33.46687222	440	5
As	75	2	72	-0.015	ppb	-167.0972566	24	1
Se	78	1	72	-0.032	ppb	-95.16490246	16	1
Nb	93	2	72	0.217	ppb	20.97205867	980	2
Mo	95	2	115	0.044	ppb	44.92933746	73	0.5
Pd	105	2	115	-0.003	ppb	-2.524036369	10	1
Ag	107	2	115	-0.001	ppb	-119.8610067	27	1
Cd	111	2	115	0.001	ppb	4264.661392	7	0.5
Sn	120	2	115	0.156	ppb	36.47131233	323	1
Sb	121	2	115	0.011	ppb	131.5317382	47	0.6
Ba	137	2	115	0.029	ppb	94.04656444	20	0.5
W	182	2	165	-0.047	ppb	-51.28302152	1480	1
Pt	195	2	165	0.014	ppb	33.1675694	60	1
Tl	205	2	165	0.007	ppb	41.33180674	160	0.1
Pb	208	2	165	0.040	ppb	36.14002365	1560	0.5
Th	232	2	165	0.000	ppb	891.1090484	307	1
U	238	2	165	0.003	ppb	105.3635261	153	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1839092	0.89	1719455	106.96	60	120	
Sc (IS)	45	1	HMI H2	34108361	0.75	32996152	103.37	60	120	
Sc (IS)	45	2	HMI He	1003108	1.39	1019192	98.42	60	120	
Sc (IS)	45	3	No Gas	59035447	0.84	56217091	105.01	60	120	
Ge Internal Standard	72	1	HMI H2	14127706	0.31	13920513	101.49	60	120	
Ge Internal Standard	72	2	HMI He	1161539	1.85	1242268	93.50	60	120	
In Internal Standard	115	2	HMI He	3848013	1.46	4043894	95.16	60	120	
Ho-165	165	2	HMI He	18594870	0.79	19631094	94.72	60	120	

Calibration Blank Report

Sample Table

Sample Name	ICIS-5408711
Data File Name	049CALB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:46:29-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	195548	0.00
Li	7	2	HMI He	10741	0.03
Li	7	3	No Gas	7000500	0.00
Be	9	1	HMI H2	20	500.00
B	11	1	HMI H2	497	2.44
Na	23	1	HMI H2	301477	0.00
Na	23	2	HMI He	21840	0.01
Mg	24	2	HMI He	330	3.31
Al	27	2	HMI He	100	36.05
K	39	2	HMI He	21493	0.00
Ca	44	2	HMI He	30	192.45
Ti	47	2	HMI He	3	5196.15
V	51	2	HMI He	4164	0.19
Cr	52	2	HMI He	307	10.76
Mn	55	2	HMI He	93	23.90
Fe	57	2	HMI He	220	7.45
Co	59	2	HMI He	17	549.91
Ni	60	2	HMI He	193	20.43
Cu	63	2	HMI He	1353	0.61
Zn	66	2	HMI He	360	4.08
As	75	2	HMI He	16	159.51
Se	78	1	HMI H2	17	335.05
Sr	88	2	HMI He	10	1000.00
Zr	90	2	HMI He	100	26.46
Nb	93	2	HMI He	883	1.41
Mo	95	2	HMI He	50	105.84
Pd	105	2	HMI He	37	113.62
Ag	107	2	HMI He	43	153.73
Cd	111	2	HMI He	3	5196.15
Sn	120	2	HMI He	250	14.40
Sb	121	2	HMI He	50	105.83
Ba	137	2	HMI He	23	212.09
W	182	2	HMI He	1710	0.15
Pt	195	2	HMI He	20	250.00
Tl	205	2	HMI He	107	33.27
Pb	208	2	HMI He	903	1.35
Th	232	2	HMI He	233	6.45
U	238	2	HMI He	143	27.68

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li-6 Internal Standard	6	1	HMI H2	1841092	0.55
Sc (IS)	45	1	HMI H2	34041789	1.02
Sc (IS)	45	2	HMI He	989699	0.58
Sc (IS)	45	3	No Gas	58466742	0.17
Ge Internal Standard	72	1	HMI H2	14056514	0.53
Ge Internal Standard	72	2	HMI He	1155188	1.63
In Internal Standard	115	2	HMI He	3786036	1.14
Ho-165	165	2	HMI He	18554642	0.54

Calibration Standard Report

Sample Table

Sample Name	IC-5408712
Data File Name	050CALS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:50:16-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	705410	0.00
Li	7	2	HMI He	37364	0.00
Li	7	3	No Gas	25631168	0.00
Be	9	1	HMI H2	47533	0.00
B	11	1	HMI H2	51703	0.00
Na	23	1	HMI H2	39443881	0.00
Na	23	2	HMI He	2487129	0.00
Mg	24	2	HMI He	1126885	0.00
Al	27	2	HMI He	266753	0.00
K	39	1	HMI H2	50662369	0.00
K	39	2	HMI He	581941	0.00
Ca	40	1	HMI H2	59460662	0.00
Ca	44	2	HMI He	30272	0.00
Ti	47	2	HMI He	2800	0.25
V	51	2	HMI He	118643	0.00
Cr	52	2	HMI He	151081	0.00
Mn	55	2	HMI He	55695	0.01
Fe	57	2	HMI He	274758	0.00
Co	59	2	HMI He	260761	0.00
Ni	60	2	HMI He	74556	0.00
Cu	63	2	HMI He	210663	0.00
Zn	66	2	HMI He	26883	0.01
As	75	2	HMI He	18952	0.02
Se	78	1	HMI H2	33718	0.00
Sr	88	2	HMI He	60105	0.00
Zr	90	2	HMI He	1767	0.21
Nb	93	2	HMI He	751617	0.00
Mo	95	2	HMI He	99922	0.00
Pd	105	2	HMI He	155392	0.00
Ag	107	2	HMI He	337632	0.00
Cd	111	2	HMI He	42686	0.01
Sn	120	2	HMI He	111521	0.00
Sb	121	2	HMI He	102369	0.00
Ba	137	2	HMI He	35186	0.00
Nd	146	2	HMI He	126906	0.00
Sm	147	2	HMI He	110339	0.00
Sm	150	2	HMI He	105585	0.00
Gd	156	1	HMI H2	805867	0.00
Gd	157	1	HMI H2	613672	0.00
W	182	2	HMI He	481616	0.00
Pt	195	2	HMI He	400530	0.00
Tl	205	2	HMI He	869850	0.00
Pb	208	2	HMI He	1165258	0.00
Th	232	2	HMI He	1470413	0.00
U	238	2	HMI He	1588462	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1781897	2.18	1841092	96.78	60	120	
Sc (IS)	45	1	HMI H2	33693526	0.75	34041789	98.98	60	120	
Sc (IS)	45	2	HMI He	982662	0.87	989699	99.29	60	120	
Sc (IS)	45	3	No Gas	58142269	1.40	58466742	99.45	60	120	
Ge Internal Standard	72	1	HMI H2	13794436	0.15	14056514	98.14	60	120	
Ge Internal Standard	72	2	HMI He	1139610	1.20	1155188	98.65	60	120	
In Internal Standard	115	2	HMI He	3689896	0.84	3786036	97.46	60	120	
Ho-165	165	2	HMI He	18563154	1.35	18554642	100.05	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	051_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:54:02-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	504.799	ppb	2.683	452627	500	101.0	90	110	
Li	7	2	45	497.277	ppb	9.109	23857	500	99.5	90	110	
Li	7	3	45	506.851	ppb	0.969	16420650	500	101.4	90	110	
Be	9	1	6	50.934	ppb	1.219	24337	50	101.9	90	110	
B	11	1	6	51.773	ppb	1.809	27129	50	103.5	90	110	
Na	23	1	45	5106.003	ppb	0.490	20317981	5000	102.1	90	110	
Na	23	2	45	5235.937	ppb	2.082	1308195	5000	104.7	90	110	
Mg	24	2	45	4857.954	ppb	0.439	545800	5000	97.2	90	110	
Al	27	2	45	5025.260	ppb	0.343	133668	5000	100.5	90	110	
K	39	1	45	5095.032	ppb	2.377	31697565	5000	101.9	90	110	
K	39	2	45	5103.455	ppb	0.491	306468	5000	102.1	90	110	
Ca	40	1	45	5111.074	ppb	1.325	30467783	5000	102.2	90	110	
Ca	44	2	45	5129.153	ppb	2.855	15492	5000	102.6	90	110	
Ti	47	2	45	47.507	ppb	6.746	1327	50	95.0	90	110	
V	51	2	72	51.095	ppb	2.887	62826	50	102.2	90	110	
Cr	52	2	72	49.831	ppb	1.696	75683	50	99.7	90	110	
Mn	55	2	72	50.899	ppb	3.558	28492	50	101.8	90	110	
Fe	57	2	72	5090.587	ppb	0.905	140446	5000	101.8	90	110	
Co	59	2	72	50.570	ppb	1.541	132325	50	101.1	90	110	
Ni	60	2	72	50.825	ppb	2.067	38115	50	101.6	90	110	
Cu	63	2	72	49.811	ppb	1.507	105966	50	99.6	90	110	
Zn	66	2	72	51.180	ppb	3.432	13981	50	102.4	90	110	
As	75	2	72	49.772	ppb	1.731	9472	50	99.5	90	110	
Se	78	1	72	50.132	ppb	1.402	17080	50	100.3	90	110	
Sr	88	2	72	49.963	ppb	1.086	30136	50	99.9	90	110	
Zr	90	2	72	35.909	ppb	13.403	700	50	71.8	90	110	>+\-10%
Nb	93	2	72	100.662	ppb	1.202	379983	100	100.7	90	110	
Mo	95	2	115	49.010	ppb	0.177	50043	50	98.0	90	110	
Pd	105	2	115	51.443	ppb	1.045	81657	50	102.9	90	110	
Ag	107	2	115	48.922	ppb	1.424	168704	50	97.8	90	110	
Cd	111	2	115	48.480	ppb	1.284	21140	50	97.0	90	110	
Sn	120	2	115	50.357	ppb	1.273	57473	50	100.7	90	110	
Sb	121	2	115	49.942	ppb	3.770	52223	50	99.9	90	110	
Ba	137	2	115	46.746	ppb	0.790	16814	50	93.5	90	110	
W	182	2	165	49.136	ppb	3.018	237103	50	98.3	90	110	
Pt	195	2	165	49.794	ppb	1.457	199118	50	99.6	90	110	
Tl	205	2	165	50.042	ppb	0.473	434636	50	100.1	90	110	
Pb	208	2	165	49.896	ppb	1.257	580906	50	99.8	90	110	
Th	232	2	165	46.192	ppb	0.752	678219	50	92.4	90	110	
U	238	2	165	46.560	ppb	0.595	738423	50	93.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1789901	0.80	1841092	97.22	60	120	
Sc (IS)	45	1	HMI H2	33745974	0.84	34041789	99.13	60	120	
Sc (IS)	45	2	HMI He	979517	1.29	989699	98.97	60	120	
Sc (IS)	45	3	No Gas	58125131	0.86	58466742	99.42	60	120	
Ge Internal Standard	72	1	HMI H2	13932079	0.88	14056514	99.11	60	120	
Ge Internal Standard	72	2	HMI He	1143375	1.14	1155188	98.98	60	120	
In Internal Standard	115	2	HMI He	3768797	2.05	3786036	99.54	60	120	
Ho-165	165	2	HMI He	18532401	1.33	18554642	99.88	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	052_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:57:48-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	1.949	ppb	171.6	7183426	10	
Be	9	1	6	0.064	ppb	87.0	50	0.5	
B	11	1	6	0.681	ppb	34.0	837	0.5	>RL
Na	23	1	45	9.578	ppb	1.7	341005	25	
Na	23	2	45	6.232	ppb	78.0	23496	25	
Mg	24	2	45	-0.599	ppb	-21.3	263	25	
Al	27	2	45	-0.763	ppb	-78.0	80	15	
K	39	1	45	-18.697	ppb	-121.5	12010721	50	
K	39	2	45	5.825	ppb	253.5	21931	50	
Ca	40	1	45	2.823	ppb	2.4	80039	50	
Ca	44	2	45	7.545	ppb	107.8	53	25	
Ti	47	2	45	0.115	ppb	174.8	7	0.5	
V	51	2	72	0.544	ppb	51.6	4884	1	
Cr	52	2	72	-0.016	ppb	-214.6	287	1	
Mn	55	2	72	0.002	ppb	8283.3	97	0.5	
Fe	57	2	72	0.793	ppb	209.1	247	25	
Co	59	2	72	0.025	ppb	75.5	83	0.5	
Ni	60	2	72	0.034	ppb	303.9	223	1	
Cu	63	2	72	0.088	ppb	22.5	1570	1	
Zn	66	2	72	-0.087	ppb	-189.5	343	5	
As	75	2	72	0.052	ppb	39.3	26	1	
Se	78	1	72	0.034	ppb	18.7	29	1	
Sr	88	2	72	0.026	ppb	141.2	27	0.5	
Zr	90	2	72	-0.506	ppb	-374.5	93	1	
Nb	93	2	72	2.673	ppb	3.2	11272	2	>RL
Mo	95	2	115	0.080	ppb	85.8	133	0.5	
Pd	105	2	115	0.051	ppb	39.8	120	1	
Ag	107	2	115	0.010	ppb	217.7	80	1	
Cd	111	2	115	0.023	ppb	116.1	13	0.5	
Sn	120	2	115	0.052	ppb	86.5	317	1	
Sb	121	2	115	0.483	ppb	15.5	567	0.6	
Ba	137	2	115	-0.028	ppb	-147.3	13	0.5	
W	182	2	165	0.034	ppb	110.6	1887	1	
Pt	195	2	165	0.008	ppb	46.3	53	1	
Tl	205	2	165	0.017	ppb	64.5	253	0.1	
Pb	208	2	165	0.018	ppb	89.8	1127	0.5	
Th	232	2	165	0.036	ppb	20.9	763	1	
U	238	2	165	0.015	ppb	54.1	383	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1797424	0.54	1841092	97.63	60	120	
Sc (IS)	45	1	HMI H2	34205186	0.75	34041789	100.48	60	120	
Sc (IS)	45	2	HMI He	994966	1.79	989699	100.53	60	120	
Sc (IS)	45	3	No Gas	59681329	0.76	58466742	102.08	60	120	
Ge Internal Standard	72	1	HMI H2	14178887	0.50	14056514	100.87	60	120	
Ge Internal Standard	72	2	HMI He	1177813	1.09	1155188	101.96	60	120	
In Internal Standard	115	2	HMI He	3854351	2.20	3786036	101.80	60	120	
Ho-165	165	2	HMI He	18688907	1.29	18554642	100.72	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	053LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:01:36-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	12.174	ppb	21.392	7400212	50	24.3	70	130	>+/-30%
Be	9	1	6	0.907	ppb	12.995	463	1	90.7	70	130	
Na	23	2	45	47.260	ppb	4.505	34000	50	94.5	70	130	
Mg	24	2	45	49.082	ppb	5.786	5972	50	98.2	70	130	
Al	27	2	45	32.069	ppb	5.815	973	30	106.9	70	130	
K	39	2	45	95.113	ppb	16.494	27203	100	95.1	70	130	
Ca	44	2	45	65.647	ppb	23.661	233	50	131.3	70	130	>+/-30%
V	51	2	72	4.951	ppb	8.682	10107	5	99.0	70	130	
Cr	52	2	72	1.987	ppb	9.486	3407	2	99.3	70	130	
Mn	55	2	72	0.838	ppb	5.512	577	1	83.8	70	130	
Fe	57	2	72	49.688	ppb	16.464	1637	50	99.4	70	130	
Co	59	2	72	1.090	ppb	16.506	2954	1	109.0	70	130	
Ni	60	2	72	1.843	ppb	5.933	1613	2	92.1	70	130	
Cu	63	2	72	2.057	ppb	3.133	5838	2	102.9	70	130	
Zn	66	2	72	10.643	ppb	6.209	3287	10	106.4	70	130	
As	75	2	72	5.024	ppb	4.238	1001	5	100.5	70	130	
Se	78	1	72	4.758	ppb	3.415	1672	5	95.2	70	130	
Sr	88	2	72	1.157	ppb	3.329	730	1	115.7	70	130	
Zr	90	2	72	8.937	ppb	75.800	257	0.5	1787.5	70	130	>+/-30%
Nb	93	2	72	6.371	ppb	2.586	25664	2	318.6	70	130	>+/-30%
Mo	95	2	115	1.824	ppb	11.874	1950	2	91.2	70	130	
Pd	105	2	115	0.008	ppb	318.317	50	1	0.8	70	130	>+/-30%
Ag	107	2	115	5.117	ppb	1.884	18052	5	102.3	70	130	
Cd	111	2	115	0.779	ppb	17.334	350	1	77.9	70	130	
Sn	120	2	115	9.655	ppb	1.575	11452	10	96.5	70	130	
Sb	121	2	115	2.244	ppb	7.366	2444	2	112.2	70	130	
Ba	137	2	115	0.972	ppb	13.157	380	1	97.2	70	130	
W	182	2	165	4.831	ppb	3.806	25285	1	483.1	70	130	>+/-30%
Pt	195	2	165	0.022	ppb	29.792	110	1	2.2	70	130	>+/-30%
Tl	205	2	165	0.994	ppb	4.397	8887	1	99.4	70	130	
Pb	208	2	165	1.009	ppb	3.225	12843	1	100.9	70	130	
Th	232	2	165	1.888	ppb	1.677	28415	2	94.4	70	130	
U	238	2	165	0.939	ppb	2.905	15286	1	93.9	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1835165	1.97	1841092	99.68	60	120	
Sc (IS)	45	1	HMI H2	34310045	0.40	34041789	100.79	60	120	
Sc (IS)	45	2	HMI He	1002369	1.18	989699	101.28	60	120	
Sc (IS)	45	3	No Gas	59852384	0.59	58466742	102.37	60	120	
Ge Internal Standard	72	1	HMI H2	14236920	1.27	14056514	101.28	60	120	
Ge Internal Standard	72	2	HMI He	1179313	3.00	1155188	102.09	60	120	
In Internal Standard	115	2	HMI He	3846094	0.83	3786036	101.59	60	120	
Ho-165	165	2	HMI He	18848700	1.11	18554642	101.58	60	120	

Blank Report

Sample Table

Sample Name	mb 280-435126/1-a
Data File Name	054_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:05:24-06:00
Sample Type	Blank
Dilution	1
Comment	435126 200.8
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-1.617	ppb	-160.1370782	196287	0.5
Li	7	2	45	-14.280	ppb	-22.20834818	10434	0.5
Li	7	3	45	0.035	ppb	18363.2262	7113765	10
Be	9	1	6	-0.041	ppb	0	0	0.5
B	11	1	6	0.088	ppb	135.4931985	540	0.5
Na	23	1	45	10.094	ppb	3.337687683	344127	25
Na	23	2	45	8.158	ppb	27.19792379	24047	25
Mg	24	2	45	-0.314	ppb	-325.7196156	297	25
Al	27	2	45	1.704	ppb	139.5959374	147	15
K	39	1	45	356.509	ppb	8.343543756	13529001	50
K	39	2	45	7.968	ppb	167.3986364	22108	50
Ca	40	1	45	11.085	ppb	4.419397672	130249	50
Ca	44	2	45	25.836	ppb	86.72416081	110	25
Ti	47	2	45	-0.118	ppb	0	0	0.5
V	51	2	72	0.329	ppb	50.72194461	4584	1
Cr	52	2	72	0.014	ppb	148.4040211	330	1
Mn	55	2	72	0.045	ppb	112.2089175	120	0.5
Fe	57	2	72	7.167	ppb	21.70564435	423	25
Co	59	2	72	0.001	ppb	330.0612378	20	0.5
Ni	60	2	72	0.117	ppb	66.43324191	283	1
Cu	63	2	72	0.207	ppb	46.59786242	1810	1
Zn	66	2	72	0.959	ppb	24.16708027	623	5
As	75	2	72	0.043	ppb	32.87576762	24	1
Se	78	1	72	0.062	ppb	152.2107045	39	1
Sr	88	2	72	0.048	ppb	115.1115457	40	0.5
Zr	90	2	72	1.317	ppb	224.7610423	123	1
Nb	93	2	72	0.315	ppb	21.51970191	2104	2
Mo	95	2	115	-0.024	ppb	-44.10058886	27	0.5
Pd	105	2	115	0.010	ppb	193.9169156	53	1
Ag	107	2	115	0.002	ppb	603.7758245	50	1
Cd	111	2	115	-0.008	ppb	0	0	0.5
Sn	120	2	115	0.054	ppb	82.15748479	317	1
Sb	121	2	115	0.096	ppb	49.76105998	153	0.6
Ba	137	2	115	0.117	ppb	52.71977041	67	0.5
W	182	2	165	0.007	ppb	287.3551937	1774	1
Pt	195	2	165	0.006	ppb	40.99438863	47	1
Tl	205	2	165	0.001	ppb	354.1111238	117	0.1
Pb	208	2	165	0.075	ppb	14.53890832	1800	0.5
Th	232	2	165	0.006	ppb	61.4071156	333	1
U	238	2	165	-0.002	ppb	-214.2736237	117	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1827678	1.76	1841092	99.27	60	120	
Sc (IS)	45	1	HMI H2	34312656	1.07	34041789	100.80	60	120	
Sc (IS)	45	2	HMI He	997197	0.97	989699	100.76	60	120	
Sc (IS)	45	3	No Gas	59407841	0.40	58466742	101.61	60	120	
Ge Internal Standard	72	1	HMI H2	14091696	0.69	14056514	100.25	60	120	
Ge Internal Standard	72	2	HMI He	1165982	1.02	1155188	100.93	60	120	
In Internal Standard	115	2	HMI He	3853536	2.25	3786036	101.78	60	120	
Ho-165	165	2	HMI He	18862499	1.85	18554642	101.66	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-435126/2-a
Data File Name	055_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:09:18-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	435126 200.8
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	61.202	61.202	ppb	23.354	229793	400	15.3	80	120	>+/-20%
Li	7	2	45	44.888	44.888	ppb	1.413	12019	400	11.2	80	120	>+/-20%
Li	7	3	45	66.224	66.224	ppb	1.389	8372413	400	16.6	80	120	>+/-20%
Be	9	1	6	31.311	31.311	ppb	2.659	15465	40	78.3	80	120	>+/-20%
Na	23	2	45	1.541	1.541	ppb	126.284	22354	40	3.9	80	120	>+/-20%
Mg	24	2	45	0.681	0.681	ppb	123.961	410	40	1.7	80	120	>+/-20%
Al	27	2	45	336.117	336.117	ppb	5.630	9183	40	840.3	80	120	>+/-20%
K	39	2	45	-11.690	-11.690	ppb	-26.782	20959	40	-29.2	80	120	>+/-20%
Ca	44	2	45	170.639	170.639	ppb	6.810	553	40	426.6	80	120	>+/-20%
V	51	2	72	32.603	32.603	ppb	4.160	42076	40	81.5	80	120	
Cr	52	2	72	33.310	33.310	ppb	1.163	51288	40	83.3	80	120	
Mn	55	2	72	32.082	32.082	ppb	1.243	18199	40	80.2	80	120	
Fe	57	2	72	328.081	328.081	ppb	3.869	9363	40	820.2	80	120	>+/-20%
Co	59	2	72	33.876	33.876	ppb	0.056	89677	40	84.7	80	120	
Ni	60	2	72	34.742	34.742	ppb	0.490	26422	40	86.9	80	120	
Cu	63	2	72	33.499	33.499	ppb	0.150	72526	40	83.7	80	120	
Zn	66	2	72	35.096	35.096	ppb	5.596	9807	40	87.7	80	120	
As	75	2	72	30.682	30.682	ppb	1.643	5912	40	76.7	80	120	>+/-20%
Se	78	1	72	32.901	32.901	ppb	0.429	11465	40	82.3	80	120	
Nb	93	2	72	0.210	0.210	ppb	26.128	1684	40	0.5	80	120	>+/-20%
Mo	95	2	115	30.152	30.152	ppb	2.808	31376	40	75.4	80	120	>+/-20%
Pd	105	2	115	-0.004	-0.004	ppb	-528.107	30	40	0.0	80	120	>+/-20%
Ag	107	2	115	33.745	33.745	ppb	2.223	118541	40	84.4	80	120	
Cd	111	2	115	32.173	32.173	ppb	2.608	14285	40	80.4	80	120	
Sn	120	2	115	32.439	32.439	ppb	1.926	37799	40	81.1	80	120	
Sb	121	2	115	32.795	32.795	ppb	2.778	34945	40	82.0	80	120	
Ba	137	2	115	33.834	33.834	ppb	2.866	12396	40	84.6	80	120	
W	182	2	165	8.489	8.489	ppb	0.641	42964	40	21.2	80	120	>+/-20%
Pt	195	2	165	0.001	0.001	ppb	378.469	23	40	0.0	80	120	>+/-20%
Tl	205	2	165	32.837	32.837	ppb	1.738	289134	40	82.1	80	120	
Pb	208	2	165	32.764	32.764	ppb	1.712	386987	40	81.9	80	120	
Th	232	2	165	29.685	29.685	ppb	1.732	441903	40	74.2	80	120	>+/-20%
U	238	2	165	29.997	29.997	ppb	1.796	482285	40	75.0	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1849688	2.72	1841092	100.47	60	120	
Sc (IS)	45	1	HMI H2	34439789	1.88	34041789	101.17	60	120	
Sc (IS)	45	2	HMI He	995637	0.97	989699	100.60	60	120	
Sc (IS)	45	3	No Gas	59378042	0.77	58466742	101.56	60	120	
Ge Internal Standard	72	1	HMI H2	14241101	0.82	14056514	101.31	60	120	
Ge Internal Standard	72	2	HMI He	1156631	0.68	1155188	100.12	60	120	
In Internal Standard	115	2	HMI He	3839497	3.18	3786036	101.41	60	120	
Ho-165	165	2	HMI He	18784843	0.27	18554642	101.24	60	120	

Sample Report

Sample Table

Sample Name	280-115997-b-1-g
Data File Name	056SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:13:08-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435126 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	12.121	ppb	12.121	46.99	196220	500000	
Li	7	2	45	8.030	ppb	8.030	258.09	10608	500000	
Li	7	3	45	14.651	ppb	14.651	10.69	7005184	50000	
Be	9	1	6	0.002	ppb	0.002	952.00	20	2000	
B	11	1	6	56.701	ppb	56.701	1.11	29006	2000	
Na	23	1	45	52851.792	ppb	52851.792	0.55	203507817	2000	>LDR
Na	23	2	45	50968.396	ppb	50968.396	0.77	12270008	400000	
Mg	24	2	45	20287.283	ppb	20287.283	1.54	2227791	400000	
Al	27	2	45	14.344	ppb	14.344	17.37	470	400000	
K	39	1	45	2738.467	ppb	2738.467	0.68	22116341	400000	
K	39	2	45	2452.656	ppb	2452.656	1.45	154818	400000	
Ca	40	1	45	76228.778	ppb	76228.778	0.65	444795860	400000	
Ca	44	2	45	76690.648	ppb	76690.648	0.49	226144	400000	
Ti	47	2	45	-0.118	ppb	-0.118	0.00	0	4000	
V	51	2	72	0.044	ppb	0.044	335.12	4101	2000	
Cr	52	2	72	0.026	ppb	0.026	76.59	337	5000	
Mn	55	2	72	17.412	ppb	17.412	2.19	9644	10000	
Fe	57	2	72	72.954	ppb	72.954	13.72	2190	400000	
Co	59	2	72	0.095	ppb	0.095	32.27	260	2000	
Ni	60	2	72	0.680	ppb	0.680	8.02	687	5000	
Cu	63	2	72	0.684	ppb	0.684	3.55	2730	5000	
Zn	66	2	72	1.719	ppb	1.719	26.04	800	5000	
As	75	2	72	0.349	ppb	0.349	16.16	80	2000	
Se	78	1	72	1.556	ppb	1.556	6.40	543	2000	
Sr	88	2	72	563.560	ppb	563.560	0.74	334204	4000	
Zr	90	2	72	106.075	ppb	106.075	14.71	1844	1000	
Nb	93	2	72	0.154	ppb	0.154	49.35	1430	200	
Mo	95	2	115	1.619	ppb	1.619	11.55	1664	2000	
Pd	105	2	115	0.007	ppb	0.007	190.15	47	100	
Ag	107	2	115	-0.005	ppb	-0.005	-133.62	27	100	
Cd	111	2	115	-0.008	ppb	-0.008	0.00	0	2000	
Sn	120	2	115	0.113	ppb	0.113	27.99	370	2000	
Sb	121	2	115	0.210	ppb	0.210	10.98	263	1000	
Ba	137	2	115	58.004	ppb	58.004	2.44	20389	5000	
W	182	2	165	0.022	ppb	0.022	87.40	1807	100	
Pt	195	2	165	-0.001	ppb	-0.001	-646.05	17	100	
Tl	205	2	165	0.021	ppb	0.021	38.39	283	2000	
Pb	208	2	165	0.079	ppb	0.079	15.22	1817	5000	
Th	232	2	165	0.113	ppb	0.113	13.89	1877	2000	
U	238	2	165	7.316	ppb	7.316	2.45	115596	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1749916	1.92	1841092	95.05	60	120	
Sc (IS)	45	1	HMI H2	33093244	0.38	34041789	97.21	60	120	
Sc (IS)	45	2	HMI He	957897	1.30	989699	96.79	60	120	
Sc (IS)	45	3	No Gas	56293701	0.17	58466742	96.28	60	120	
Ge Internal Standard	72	1	HMI H2	13820590	1.22	14056514	98.32	60	120	
Ge Internal Standard	72	2	HMI He	1124553	0.29	1155188	97.35	60	120	
In Internal Standard	115	2	HMI He	3684373	0.77	3786036	97.31	60	120	
Ho-165	165	2	HMI He	18448139	1.69	18554642	99.43	60	120	

Sample Report

Sample Table

Sample Name	280-115997-b-1-h ms
Data File Name	057SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:17:00-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435126 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	77.493	ppb	77.493	4.27	227115	500000	
Li	7	2	45	77.864	ppb	77.864	24.64	12326	500000	
Li	7	3	45	89.086	ppb	89.086	1.43	8207428	50000	
Be	9	1	6	33.547	ppb	33.547	0.24	15635	2000	
B	11	1	6	81.552	ppb	81.552	2.67	41395	2000	
Na	23	1	45	54442.420	ppb	54442.420	1.63	207812764	2000	>LDR
Na	23	2	45	53371.921	ppb	53371.921	0.62	12747639	400000	
Mg	24	2	45	21210.508	ppb	21210.508	0.84	2311239	400000	
Al	27	2	45	363.625	ppb	363.625	0.89	9473	400000	
K	39	1	45	2962.908	ppb	2962.908	1.48	22773260	400000	
K	39	2	45	2582.197	ppb	2582.197	1.82	160654	400000	
Ca	40	1	45	79379.121	ppb	79379.121	1.13	459195700	400000	
Ca	44	2	45	80501.517	ppb	80501.517	0.57	235511	400000	
Ti	47	2	45	1.358	ppb	1.358	107.98	40	4000	
V	51	2	72	34.386	ppb	34.386	3.72	42583	2000	
Cr	52	2	72	33.693	ppb	33.693	2.12	50037	5000	
Mn	55	2	72	51.371	ppb	51.371	1.44	28065	10000	
Fe	57	2	72	417.223	ppb	417.223	2.43	11432	400000	
Co	59	2	72	32.744	ppb	32.744	1.78	83634	2000	
Ni	60	2	72	32.764	ppb	32.764	3.95	24051	5000	
Cu	63	2	72	32.991	ppb	32.991	3.71	68939	5000	
Zn	66	2	72	33.594	ppb	33.594	4.75	9070	5000	
As	75	2	72	32.610	ppb	32.610	0.52	6061	2000	
Se	78	1	72	34.318	ppb	34.318	0.94	11402	2000	
Sr	88	2	72	625.190	ppb	625.190	0.91	367881	4000	
Zr	90	2	72	3289.940	ppb	3289.940	2.63	53810	1000	
Nb	93	2	72	0.219	ppb	0.219	32.90	1660	200	
Mo	95	2	115	33.655	ppb	33.655	3.53	33534	2000	
Pd	105	2	115	0.020	ppb	0.020	133.64	67	100	
Ag	107	2	115	33.596	ppb	33.596	1.76	113053	100	
Cd	111	2	115	31.468	ppb	31.468	5.11	13387	2000	
Sn	120	2	115	33.908	ppb	33.908	2.33	37843	2000	
Sb	121	2	115	34.899	ppb	34.899	0.30	35630	1000	
Ba	137	2	115	93.491	ppb	93.491	1.07	32783	5000	
W	182	2	165	8.757	ppb	8.757	1.13	43375	100	
Pt	195	2	165	0.001	ppb	0.001	754.29	23	100	
Tl	205	2	165	32.714	ppb	32.714	0.95	282249	2000	
Pb	208	2	165	32.568	ppb	32.568	1.36	376962	5000	
Th	232	2	165	30.312	ppb	30.312	0.53	442146	2000	
U	238	2	165	39.177	ppb	39.177	0.09	617170	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1745186	1.68	1841092	94.79	60	120	
Sc (IS)	45	1	HMI H2	32810047	0.72	34041789	96.38	60	120	
Sc (IS)	45	2	HMI He	950370	0.95	989699	96.03	60	120	
Sc (IS)	45	3	No Gas	55326544	0.44	58466742	94.63	60	120	
Ge Internal Standard	72	1	HMI H2	13579455	0.78	14056514	96.61	60	120	
Ge Internal Standard	72	2	HMI He	1115966	1.56	1155188	96.60	60	120	
In Internal Standard	115	2	HMI He	3677111	1.41	3786036	97.12	60	120	
Ho-165	165	2	HMI He	18406833	0.97	18554642	99.20	60	120	

Sample Report

Sample Table

Sample Name	280-115997-b-1-i msd
Data File Name	058SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:20:47-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435126 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	74.683	ppb	74.683	4.49	224761	500000	
Li	7	2	45	72.252	ppb	72.252	20.16	12189	500000	
Li	7	3	45	83.475	ppb	83.475	7.08	8087208	50000	
Be	9	1	6	33.471	ppb	33.471	3.42	15495	2000	
B	11	1	6	79.475	ppb	79.475	0.66	40082	2000	
Na	23	1	45	52404.953	ppb	52404.953	2.10	199201437	2000	>LDR
Na	23	2	45	50801.901	ppb	50801.901	0.99	12144046	400000	
Mg	24	2	45	20202.747	ppb	20202.747	0.27	2203118	400000	
Al	27	2	45	351.345	ppb	351.345	6.31	9167	400000	
K	39	1	45	2912.146	ppb	2912.146	2.57	22486035	400000	
K	39	2	45	2445.345	ppb	2445.345	0.77	153345	400000	
Ca	40	1	45	75466.728	ppb	75466.728	0.89	434724780	400000	
Ca	44	2	45	76293.938	ppb	76293.938	0.51	223383	400000	
Ti	47	2	45	3.217	ppb	3.217	61.71	90	4000	
V	51	2	72	33.504	ppb	33.504	1.64	41377	2000	
Cr	52	2	72	32.666	ppb	32.666	2.71	48261	5000	
Mn	55	2	72	49.752	ppb	49.752	1.26	27033	10000	
Fe	57	2	72	397.736	ppb	397.736	0.69	10848	400000	
Co	59	2	72	32.651	ppb	32.651	1.00	82951	2000	
Ni	60	2	72	31.945	ppb	31.945	2.36	23330	5000	
Cu	63	2	72	32.049	ppb	32.049	2.24	66652	5000	
Zn	66	2	72	34.481	ppb	34.481	2.82	9257	5000	
As	75	2	72	32.553	ppb	32.553	0.68	6019	2000	
Se	78	1	72	33.378	ppb	33.378	3.23	11048	2000	
Sr	88	2	72	593.629	ppb	593.629	1.03	347509	4000	
Zr	90	2	72	3213.355	ppb	3213.355	2.33	52287	1000	
Nb	93	2	72	0.071	ppb	0.071	65.99	1107	200	
Mo	95	2	115	32.818	ppb	32.818	1.70	32341	2000	
Pd	105	2	115	0.001	ppb	0.001	1522.19	37	100	
Ag	107	2	115	33.331	ppb	33.331	1.19	110920	100	
Cd	111	2	115	31.305	ppb	31.305	6.93	13174	2000	
Sn	120	2	115	33.261	ppb	33.261	1.67	36706	2000	
Sb	121	2	115	34.354	ppb	34.354	2.86	34681	1000	
Ba	137	2	115	90.715	ppb	90.715	1.99	31450	5000	
W	182	2	165	8.783	ppb	8.783	1.47	43388	100	
Pt	195	2	165	0.002	ppb	0.002	450.35	27	100	
Tl	205	2	165	32.082	ppb	32.082	1.65	276098	2000	
Pb	208	2	165	32.043	ppb	32.043	1.54	369931	5000	
Th	232	2	165	29.433	ppb	29.433	1.05	428238	2000	
U	238	2	165	37.795	ppb	37.795	0.47	593895	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1733566	1.48	1841092	94.16	60	120	
Sc (IS)	45	1	HMI H2	32671207	0.63	34041789	95.97	60	120	
Sc (IS)	45	2	HMI He	951146	0.79	989699	96.10	60	120	
Sc (IS)	45	3	No Gas	55189036	0.71	58466742	94.39	60	120	
Ge Internal Standard	72	1	HMI H2	13528024	0.11	14056514	96.24	60	120	
Ge Internal Standard	72	2	HMI He	1110016	1.25	1155188	96.09	60	120	
In Internal Standard	115	2	HMI He	3635938	1.17	3786036	96.04	60	120	
Ho-165	165	2	HMI He	18360449	0.60	18554642	98.95	60	120	

Sample Report

Sample Table

Sample Name	280-115997-b-2-c
Data File Name	059SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:24:34-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435126 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	12.659	ppb	12.659	46.94	194853	500000	
Li	7	2	45	-1.926	ppb	-1.926	-643.20	10304	500000	
Li	7	3	45	23.810	ppb	23.810	23.48	7054472	50000	
Be	9	1	6	0.024	ppb	0.024	154.81	30	2000	
B	11	1	6	54.500	ppb	54.500	3.04	27750	2000	
Na	23	1	45	51248.350	ppb	51248.350	1.37	195704810	2000	>LDR
Na	23	2	45	49911.630	ppb	49911.630	0.99	11965489	400000	
Mg	24	2	45	21198.271	ppb	21198.271	0.21	2318355	400000	
Al	27	2	45	12.762	ppb	12.762	8.59	427	400000	
K	39	1	45	2815.523	ppb	2815.523	2.79	22223524	400000	
K	39	2	45	2559.925	ppb	2559.925	1.31	160015	400000	
Ca	40	1	45	79029.727	ppb	79029.727	0.75	457338433	400000	
Ca	44	2	45	79939.639	ppb	79939.639	0.50	234725	400000	
Ti	47	2	45	0.865	ppb	0.865	24.85	27	4000	
V	51	2	72	-0.180	ppb	-0.180	-145.27	3804	2000	
Cr	52	2	72	0.094	ppb	0.094	22.68	433	5000	
Mn	55	2	72	41.540	ppb	41.540	2.19	22629	10000	
Fe	57	2	72	99.175	ppb	99.175	10.37	2870	400000	
Co	59	2	72	0.079	ppb	0.079	16.26	217	2000	
Ni	60	2	72	0.580	ppb	0.580	30.58	607	5000	
Cu	63	2	72	0.711	ppb	0.711	8.53	2757	5000	
Zn	66	2	72	2.113	ppb	2.113	24.64	893	5000	
As	75	2	72	0.268	ppb	0.268	13.46	65	2000	
Se	78	1	72	1.537	ppb	1.537	11.35	525	2000	
Sr	88	2	72	603.263	ppb	603.263	1.04	353833	4000	
Zr	90	2	72	68.437	ppb	68.437	14.21	1210	1000	
Nb	93	2	72	0.022	ppb	0.022	89.79	930	200	
Mo	95	2	115	1.878	ppb	1.878	3.53	1910	2000	
Pd	105	2	115	0.016	ppb	0.016	146.75	60	100	
Ag	107	2	115	0.003	ppb	0.003	183.94	53	100	
Cd	111	2	115	0.032	ppb	0.032	41.72	17	2000	
Sn	120	2	115	0.061	ppb	0.061	48.02	310	2000	
Sb	121	2	115	0.077	ppb	0.077	47.16	127	1000	
Ba	137	2	115	63.972	ppb	63.972	1.22	22343	5000	
W	182	2	165	0.078	ppb	0.078	40.03	2060	100	
Pt	195	2	165	0.002	ppb	0.002	303.79	27	100	
Tl	205	2	165	0.017	ppb	0.017	31.83	253	2000	
Pb	208	2	165	0.082	ppb	0.082	13.38	1840	5000	
Th	232	2	165	0.083	ppb	0.083	4.85	1443	2000	
U	238	2	165	6.904	ppb	6.904	1.18	108566	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1741163	1.02	1841092	94.57	60	120	
Sc (IS)	45	1	HMI H2	32822221	1.30	34041789	96.42	60	120	
Sc (IS)	45	2	HMI He	953888	1.38	989699	96.38	60	120	
Sc (IS)	45	3	No Gas	55383961	0.63	58466742	94.73	60	120	
Ge Internal Standard	72	1	HMI H2	13546681	0.14	14056514	96.37	60	120	
Ge Internal Standard	72	2	HMI He	1112213	0.91	1155188	96.28	60	120	
In Internal Standard	115	2	HMI He	3661499	1.50	3786036	96.71	60	120	
Ho-165	165	2	HMI He	18353967	0.15	18554642	98.92	60	120	

Sample Report

Sample Table

Sample Name	280-115997-b-3-c
Data File Name	060SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:28:20-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435126 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	14.825	ppb	14.825	6.50	194994	500000	
Li	7	2	45	2.032	ppb	2.032	410.35	10381	500000	
Li	7	3	45	15.582	ppb	15.582	9.75	6997638	50000	
Be	9	1	6	-0.033	ppb	-0.033	-37.55	3	2000	
B	11	1	6	54.143	ppb	54.143	1.44	27506	2000	
Na	23	1	45	49785.175	ppb	49785.175	0.70	189211771	2000	>LDR
Na	23	2	45	49110.282	ppb	49110.282	0.95	11749534	400000	
Mg	24	2	45	21138.728	ppb	21138.728	1.43	2306846	400000	
Al	27	2	45	15.369	ppb	15.369	26.40	493	400000	
K	39	1	45	2717.674	ppb	2717.674	1.39	21748878	400000	
K	39	2	45	2514.507	ppb	2514.507	1.32	157213	400000	
Ca	40	1	45	77145.160	ppb	77145.160	0.28	444263327	400000	
Ca	44	2	45	78549.982	ppb	78549.982	0.98	230160	400000	
Ti	47	2	45	1.607	ppb	1.607	27.15	47	4000	
V	51	2	72	-0.341	ppb	-0.341	-81.04	3634	2000	
Cr	52	2	72	0.184	ppb	0.184	43.78	567	5000	
Mn	55	2	72	39.904	ppb	39.904	1.87	21797	10000	
Fe	57	2	72	109.526	ppb	109.526	4.18	3154	400000	
Co	59	2	72	0.107	ppb	0.107	3.99	290	2000	
Ni	60	2	72	0.482	ppb	0.482	24.57	537	5000	
Cu	63	2	72	0.659	ppb	0.659	6.73	2657	5000	
Zn	66	2	72	3.055	ppb	3.055	12.55	1140	5000	
As	75	2	72	0.433	ppb	0.433	19.98	95	2000	
Se	78	1	72	1.714	ppb	1.714	9.19	577	2000	
Sr	88	2	72	595.830	ppb	595.830	0.82	350328	4000	
Zr	90	2	72	33.747	ppb	33.747	18.58	647	1000	
Nb	93	2	72	0.027	ppb	0.027	101.02	950	200	
Mo	95	2	115	1.707	ppb	1.707	4.38	1744	2000	
Pd	105	2	115	0.016	ppb	0.016	217.59	60	100	
Ag	107	2	115	0.003	ppb	0.003	422.30	53	100	
Cd	111	2	115	0.008	ppb	0.008	341.39	7	2000	
Sn	120	2	115	0.085	ppb	0.085	75.07	337	2000	
Sb	121	2	115	0.123	ppb	0.123	55.75	173	1000	
Ba	137	2	115	62.641	ppb	62.641	0.58	21922	5000	
W	182	2	165	0.051	ppb	0.051	119.15	1920	100	
Pt	195	2	165	-0.004	ppb	-0.004	-34.98	3	100	
Tl	205	2	165	0.010	ppb	0.010	40.99	193	2000	
Pb	208	2	165	0.100	ppb	0.100	17.95	2037	5000	
Th	232	2	165	0.040	ppb	0.040	23.78	803	2000	
U	238	2	165	6.866	ppb	6.866	0.78	107246	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1736698	0.48	1841092	94.33	60	120	
Sc (IS)	45	1	HMI H2	32660687	0.24	34041789	95.94	60	120	
Sc (IS)	45	2	HMI He	951816	0.51	989699	96.17	60	120	
Sc (IS)	45	3	No Gas	56099942	1.15	58466742	95.95	60	120	
Ge Internal Standard	72	1	HMI H2	13391432	0.23	14056514	95.27	60	120	
Ge Internal Standard	72	2	HMI He	1114958	1.00	1155188	96.52	60	120	
In Internal Standard	115	2	HMI He	3668331	0.88	3786036	96.89	60	120	
Ho-165	165	2	HMI He	18231226	0.99	18554642	98.26	60	120	

Sample Report

Sample Table

Sample Name	280-115997-b-4-c
Data File Name	061SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:32:08-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435126 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	17.073	ppb	17.073	51.46	193325	500000	
Li	7	2	45	12.330	ppb	12.330	80.82	10628	500000	
Li	7	3	45	18.988	ppb	18.988	22.32	6986214	50000	
Be	9	1	6	-0.041	ppb	-0.041	0.00	0	2000	
B	11	1	6	48.087	ppb	48.087	3.40	24364	2000	
Na	23	1	45	46556.704	ppb	46556.704	1.58	174454337	2000	>LDR
Na	23	2	45	45372.348	ppb	45372.348	0.75	10836469	400000	
Mg	24	2	45	18980.798	ppb	18980.798	2.30	2067260	400000	
Al	27	2	45	15.326	ppb	15.326	32.43	490	400000	
K	39	1	45	3185.241	ppb	3185.241	2.18	23174224	400000	
K	39	2	45	2712.442	ppb	2712.442	2.62	167627	400000	
Ca	40	1	45	75735.035	ppb	75735.035	2.02	429964287	400000	
Ca	44	2	45	74835.783	ppb	74835.783	0.83	218878	400000	
Ti	47	2	45	0.617	ppb	0.617	101.77	20	4000	
V	51	2	72	-0.369	ppb	-0.369	-61.21	3577	2000	
Cr	52	2	72	0.171	ppb	0.171	24.69	543	5000	
Mn	55	2	72	46.179	ppb	46.179	0.24	25036	10000	
Fe	57	2	72	72.279	ppb	72.279	9.06	2140	400000	
Co	59	2	72	0.074	ppb	0.074	46.16	203	2000	
Ni	60	2	72	0.560	ppb	0.560	14.49	590	5000	
Cu	63	2	72	0.654	ppb	0.654	13.87	2630	5000	
Zn	66	2	72	0.680	ppb	0.680	49.58	520	5000	
As	75	2	72	0.316	ppb	0.316	14.73	73	2000	
Se	78	1	72	1.902	ppb	1.902	8.36	635	2000	
Sr	88	2	72	567.415	ppb	567.415	0.49	331309	4000	
Zr	90	2	72	20.175	ppb	20.175	21.90	423	1000	
Nb	93	2	72	-0.020	ppb	-0.020	-127.81	773	200	
Mo	95	2	115	1.543	ppb	1.543	11.01	1577	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-339.28	30	100	
Ag	107	2	115	0.002	ppb	0.002	323.41	50	100	
Cd	111	2	115	-0.008	ppb	-0.008	0.00	0	2000	
Sn	120	2	115	0.022	ppb	0.022	72.87	267	2000	
Sb	121	2	115	0.097	ppb	0.097	61.34	147	1000	
Ba	137	2	115	67.084	ppb	67.084	1.58	23448	5000	
W	182	2	165	0.041	ppb	0.041	53.05	1884	100	
Pt	195	2	165	0.000	ppb	0.000	20997.43	20	100	
Tl	205	2	165	0.009	ppb	0.009	74.11	180	2000	
Pb	208	2	165	0.078	ppb	0.078	13.68	1783	5000	
Th	232	2	165	0.031	ppb	0.031	27.79	677	2000	
U	238	2	165	5.223	ppb	5.223	2.25	82011	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1728514	1.04	1841092	93.89	60	120	
Sc (IS)	45	1	HMI H2	32202959	1.32	34041789	94.60	60	120	
Sc (IS)	45	2	HMI He	950118	1.32	989699	96.00	60	120	
Sc (IS)	45	3	No Gas	55521426	0.61	58466742	94.96	60	120	
Ge Internal Standard	72	1	HMI H2	13304485	0.89	14056514	94.65	60	120	
Ge Internal Standard	72	2	HMI He	1107222	1.24	1155188	95.85	60	120	
In Internal Standard	115	2	HMI He	3663864	1.50	3786036	96.77	60	120	
Ho-165	165	2	HMI He	18321535	0.97	18554642	98.74	60	120	

Sample Report

Sample Table

Sample Name	280-115984-g-1-a
Data File Name	062SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:35:55-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435126 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	2.904	ppb	2.904	15.61	184958	500000	
Li	7	2	45	4.314	ppb	4.314	195.76	10397	500000	
Li	7	3	45	9.913	ppb	9.913	35.50	6756714	50000	
Be	9	1	6	0.039	ppb	0.039	114.99	37	2000	
B	11	1	6	29.426	ppb	29.426	5.03	15128	2000	
Na	23	1	45	14738.905	ppb	14738.905	0.77	54993743	2000	>LDR
Na	23	2	45	14415.481	ppb	14415.481	0.84	3450031	400000	
Mg	24	2	45	5973.280	ppb	5973.280	0.89	649482	400000	
Al	27	2	45	740.877	ppb	740.877	0.35	19157	400000	
K	39	1	45	3299.867	ppb	3299.867	2.16	23414510	400000	
K	39	2	45	2778.233	ppb	2778.233	0.06	170866	400000	
Ca	40	1	45	19178.649	ppb	19178.649	0.12	108083652	400000	
Ca	44	2	45	18941.900	ppb	18941.900	0.96	55302	400000	
Ti	47	2	45	7.308	ppb	7.308	15.08	200	4000	
V	51	2	72	4.178	ppb	4.178	12.60	8683	2000	
Cr	52	2	72	0.806	ppb	0.806	23.10	1483	5000	
Mn	55	2	72	24.353	ppb	24.353	2.39	13310	10000	
Fe	57	2	72	770.832	ppb	770.832	4.68	20883	400000	
Co	59	2	72	0.386	ppb	0.386	9.68	1000	2000	
Ni	60	2	72	2.255	ppb	2.255	3.93	1824	5000	
Cu	63	2	72	4.546	ppb	4.546	7.75	10591	5000	
Zn	66	2	72	17.977	ppb	17.977	4.98	5004	5000	
As	75	2	72	0.973	ppb	0.973	15.16	195	2000	
Se	78	1	72	0.330	ppb	0.330	18.92	123	2000	
Sr	88	2	72	97.664	ppb	97.664	2.62	57304	4000	
Zr	90	2	72	55.260	ppb	55.260	10.01	997	1000	
Nb	93	2	72	-0.014	ppb	-0.014	-288.55	800	200	
Mo	95	2	115	21.116	ppb	21.116	1.99	21224	2000	
Pd	105	2	115	-0.019	ppb	-0.019	-39.46	7	100	
Ag	107	2	115	0.001	ppb	0.001	818.95	47	100	
Cd	111	2	115	0.055	ppb	0.055	98.78	27	2000	
Sn	120	2	115	0.171	ppb	0.171	36.25	437	2000	
Sb	121	2	115	0.193	ppb	0.193	7.61	247	1000	
Ba	137	2	115	48.908	ppb	48.908	2.40	17292	5000	
W	182	2	165	0.098	ppb	0.098	58.81	2154	100	
Pt	195	2	165	0.004	ppb	0.004	65.32	37	100	
Tl	205	2	165	0.010	ppb	0.010	77.89	193	2000	
Pb	208	2	165	0.976	ppb	0.976	3.63	12126	5000	
Th	232	2	165	0.127	ppb	0.127	12.77	2070	2000	
U	238	2	165	0.218	ppb	0.218	11.26	3561	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1733214	1.05	1841092	94.14	60	120	
Sc (IS)	45	1	HMI H2	31948933	0.10	34041789	93.85	60	120	
Sc (IS)	45	2	HMI He	948124	1.77	989699	95.80	60	120	
Sc (IS)	45	3	No Gas	54971441	0.87	58466742	94.02	60	120	
Ge Internal Standard	72	1	HMI H2	13211038	0.41	14056514	93.99	60	120	
Ge Internal Standard	72	2	HMI He	1112697	1.13	1155188	96.32	60	120	
In Internal Standard	115	2	HMI He	3704931	0.33	3786036	97.86	60	120	
Ho-165	165	2	HMI He	18344483	1.42	18554642	98.87	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	063_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:39:42-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	524.140	ppb	1.856	438242	500	104.8	90	110	
Li	7	2	45	521.926	ppb	5.190	23860	500	104.4	90	110	
Li	7	3	45	526.985	ppb	0.896	15858749	500	105.4	90	110	
Be	9	1	6	48.665	ppb	0.843	22775	50	97.3	90	110	
B	11	1	6	51.130	ppb	1.152	26247	50	102.3	90	110	
Na	23	1	45	5285.084	ppb	0.518	19914251	5000	105.7	90	110	
Na	23	2	45	5346.769	ppb	0.990	1299742	5000	106.9	90	110	
Mg	24	2	45	4954.043	ppb	0.878	541658	5000	99.1	90	110	
Al	27	2	45	5174.743	ppb	0.213	133950	5000	103.5	90	110	
K	39	1	45	5281.247	ppb	1.594	30715146	5000	105.6	90	110	
K	39	2	45	5108.033	ppb	1.102	298495	5000	102.2	90	110	
Ca	40	1	45	5161.910	ppb	0.801	29151807	5000	103.2	90	110	
Ca	44	2	45	5183.541	ppb	7.427	15242	5000	103.7	90	110	
Ti	47	2	45	47.427	ppb	17.106	1290	50	94.9	90	110	
V	51	2	72	49.537	ppb	2.729	59060	50	99.1	90	110	
Cr	52	2	72	50.232	ppb	2.127	73818	50	100.5	90	110	
Mn	55	2	72	51.005	ppb	1.319	27617	50	102.0	90	110	
Fe	57	2	72	5124.544	ppb	0.493	136791	5000	102.5	90	110	
Co	59	2	72	49.927	ppb	1.866	126391	50	99.9	90	110	
Ni	60	2	72	49.969	ppb	3.522	36270	50	99.9	90	110	
Cu	63	2	72	48.657	ppb	1.486	100163	50	97.3	90	110	
Zn	66	2	72	49.635	ppb	0.715	13127	50	99.3	90	110	
As	75	2	72	49.473	ppb	3.749	9107	50	98.9	90	110	
Se	78	1	72	49.562	ppb	1.470	15992	50	99.1	90	110	
Sr	88	2	72	51.194	ppb	4.082	29870	50	102.4	90	110	
Zr	90	2	72	141.700	ppb	5.079	2390	50	283.4	90	110	>+\-10%
Nb	93	2	72	92.581	ppb	0.482	338210	100	92.6	90	110	
Mo	95	2	115	48.467	ppb	0.363	48457	50	96.9	90	110	
Pd	105	2	115	51.304	ppb	2.166	79727	50	102.6	90	110	
Ag	107	2	115	48.327	ppb	1.000	163186	50	96.7	90	110	
Cd	111	2	115	47.895	ppb	1.577	20446	50	95.8	90	110	
Sn	120	2	115	50.156	ppb	0.549	56057	50	100.3	90	110	
Sb	121	2	115	49.911	ppb	2.194	51121	50	99.8	90	110	
Ba	137	2	115	47.263	ppb	4.068	16638	50	94.5	90	110	
W	182	2	165	48.639	ppb	0.676	234472	50	97.3	90	110	
Pt	195	2	165	48.901	ppb	1.065	195319	50	97.8	90	110	
Tl	205	2	165	49.753	ppb	1.209	431586	50	99.5	90	110	
Pb	208	2	165	49.640	ppb	1.556	577221	50	99.3	90	110	
Th	232	2	165	46.046	ppb	0.976	675260	50	92.1	90	110	
U	238	2	165	46.244	ppb	0.847	732509	50	92.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1753017	0.67	1841092	95.22	60	120	
Sc (IS)	45	1	HMI H2	31970348	0.87	34041789	93.92	60	120	
Sc (IS)	45	2	HMI He	953225	0.75	989699	96.31	60	120	
Sc (IS)	45	3	No Gas	54879346	0.43	58466742	93.86	60	120	
Ge Internal Standard	72	1	HMI H2	13192459	1.04	14056514	93.85	60	120	
Ge Internal Standard	72	2	HMI He	1106269	0.92	1155188	95.77	60	120	
In Internal Standard	115	2	HMI He	3690028	1.46	3786036	97.46	60	120	
Ho-165	165	2	HMI He	18509386	0.74	18554642	99.76	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	064_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:43:32-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	9.295	ppb	52.5	6878557	10	
Be	9	1	6	-0.019	ppb	-110.4	10	0.5	
B	11	1	6	0.815	ppb	52.9	900	0.5	>RL
Na	23	1	45	15.723	ppb	5.8	346628	25	
Na	23	2	45	6.789	ppb	54.5	22695	25	
Mg	24	2	45	0.746	ppb	5.2	400	25	
Al	27	2	45	0.387	ppb	394.8	107	15	
K	39	1	45	13.223	ppb	268.1	11512221	50	
K	39	2	45	-4.143	ppb	-228.4	20512	50	
Ca	40	1	45	4.837	ppb	4.2	87449	50	
Ca	44	2	45	3.762	ppb	94.3	40	25	
Ti	47	2	45	0.005	ppb	4482.3	3	0.5	
V	51	2	72	0.678	ppb	26.6	4781	1	
Cr	52	2	72	0.003	ppb	603.5	300	1	
Mn	55	2	72	0.055	ppb	97.8	120	0.5	
Fe	57	2	72	2.250	ppb	64.1	273	25	
Co	59	2	72	-0.001	ppb	-399.1	13	0.5	
Ni	60	2	72	-0.049	ppb	-123.4	150	1	
Cu	63	2	72	0.245	ppb	5.8	1810	1	
Zn	66	2	72	-0.042	ppb	-276.8	337	5	
As	75	2	72	0.021	ppb	311.0	19	1	
Se	78	1	72	0.010	ppb	536.3	20	1	
Sr	88	2	72	0.063	ppb	30.5	47	0.5	
Zr	90	2	72	-0.219	ppb	-690.0	93	1	
Nb	93	2	72	2.189	ppb	13.5	8907	2	>RL
Mo	95	2	115	0.037	ppb	101.3	87	0.5	
Pd	105	2	115	0.002	ppb	686.4	40	1	
Ag	107	2	115	0.003	ppb	325.2	53	1	
Cd	111	2	115	-0.008	ppb	0.0	0	0.5	
Sn	120	2	115	0.018	ppb	333.3	267	1	
Sb	121	2	115	0.295	ppb	17.0	353	0.6	
Ba	137	2	115	-0.055	ppb	-29.5	3	0.5	
W	182	2	165	0.031	ppb	181.4	1857	1	
Pt	195	2	165	0.004	ppb	138.8	37	1	
Tl	205	2	165	0.011	ppb	51.2	200	0.1	
Pb	208	2	165	0.016	ppb	67.3	1090	0.5	
Th	232	2	165	0.032	ppb	3.1	707	1	
U	238	2	165	0.017	ppb	42.0	417	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1786429	1.70	1841092	97.03	60	120	
Sc (IS)	45	1	HMI H2	32447025	0.90	34041789	95.32	60	120	
Sc (IS)	45	2	HMI He	955035	1.06	989699	96.50	60	120	
Sc (IS)	45	3	No Gas	56054329	0.71	58466742	95.87	60	120	
Ge Internal Standard	72	1	HMI H2	13377531	0.56	14056514	95.17	60	120	
Ge Internal Standard	72	2	HMI He	1116127	0.87	1155188	96.62	60	120	
In Internal Standard	115	2	HMI He	3718051	0.58	3786036	98.20	60	120	
Ho-165	165	2	HMI He	18538865	1.80	18554642	99.91	60	120	

Blank Report

Sample Table

Sample Name	mb 280-435914/1-a
Data File Name	065_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:47:24-06:00
Sample Type	Blank
Dilution	1
Comment	435914 200.8
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	8.552	ppb	58.49482114	189123	0.5
Li	7	2	45	5.621	ppb	262.2010582	10477	0.5
Li	7	3	45	7.860	ppb	77.57007094	6875298	10
Be	9	1	6	0.015	ppb	205.9437916	27	0.5
B	11	1	6	1.755	ppb	3.94769801	1380	0.5
Na	23	1	45	360.029	ppb	0.465530332	1631750	25
Na	23	2	45	318.951	ppb	1.017711375	97227	25
Mg	24	2	45	22.631	ppb	5.837260128	2787	25
Al	27	2	45	1.190	ppb	56.311865	127	15
K	39	1	45	495.186	ppb	4.803943893	13207003	50
K	39	2	45	-2.509	ppb	-152.6891673	20548	50
Ca	40	1	45	58.518	ppb	0.90555493	391417	50
Ca	44	2	45	50.217	ppb	32.07857863	177	25
Ti	47	2	45	0.006	ppb	3705.923	3	0.5
V	51	2	72	0.991	ppb	26.21134667	5155	1
Cr	52	2	72	-0.009	ppb	-767.6133548	283	1
Mn	55	2	72	0.286	ppb	35.15648193	247	0.5
Fe	57	2	72	0.353	ppb	597.2413064	223	25
Co	59	2	72	0.011	ppb	112.5479874	43	0.5
Ni	60	2	72	0.219	ppb	65.48477502	347	1
Cu	63	2	72	1.450	ppb	8.124279527	4301	1
Zn	66	2	72	3.687	ppb	8.952920095	1310	5
As	75	2	72	0.066	ppb	60.44099438	27	1
Se	78	1	72	0.022	ppb	143.0021978	24	1
Sr	88	2	72	0.814	ppb	22.40474073	490	0.5
Zr	90	2	72	0.966	ppb	232.0843305	113	1
Nb	93	2	72	1.113	ppb	15.87447339	4965	2
Mo	95	2	115	0.057	ppb	64.07916005	107	0.5
Pd	105	2	115	-0.004	ppb	-278.9555724	30	1
Ag	107	2	115	0.024	ppb	60.22060134	123	1
Cd	111	2	115	0.031	ppb	114.5775718	17	0.5
Sn	120	2	115	0.100	ppb	81.72689086	357	1
Sb	121	2	115	0.130	ppb	88.78813376	183	0.6
Ba	137	2	115	0.059	ppb	172.046933	43	0.5
W	182	2	165	-0.020	ppb	-137.5912896	1624	1
Pt	195	2	165	-0.002	ppb	-173.8031937	10	1
Tl	205	2	165	0.025	ppb	67.14276805	323	0.1
Pb	208	2	165	0.271	ppb	7.632629546	4074	0.5
Th	232	2	165	0.035	ppb	30.16753647	750	1
U	238	2	165	0.029	ppb	17.30499434	603	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1782360	1.22	1841092	96.81	60	120	
Sc (IS)	45	1	HMI H2	32192360	0.45	34041789	94.57	60	120	
Sc (IS)	45	2	HMI He	952435	1.67	989699	96.23	60	120	
Sc (IS)	45	3	No Gas	56243299	1.29	58466742	96.20	60	120	
Ge Internal Standard	72	1	HMI H2	13452814	0.58	14056514	95.71	60	120	
Ge Internal Standard	72	2	HMI He	1120566	1.19	1155188	97.00	60	120	
In Internal Standard	115	2	HMI He	3705021	1.42	3786036	97.86	60	120	
Ho-165	165	2	HMI He	18655317	0.78	18554642	100.54	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-435914/2-a
Data File Name	066_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:51:16-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	435914 200.8
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	73.199	73.199	ppb	9.568	222081	400	18.3	80	120	>+/-20%
Li	7	2	45	71.677	71.677	ppb	4.922	12076	400	17.9	80	120	>+/-20%
Li	7	3	45	71.493	71.493	ppb	4.177	8009800	400	17.9	80	120	>+/-20%
Be	9	1	6	30.798	30.798	ppb	6.440	14584	40	77.0	80	120	>+/-20%
Na	23	2	45	-3.373	-3.373	ppb	-69.205	20017	40	-8.4	80	120	>+/-20%
Mg	24	2	45	-0.254	-0.254	ppb	-212.269	287	40	-0.6	80	120	>+/-20%
Al	27	2	45	338.740	338.740	ppb	8.106	8766	40	846.9	80	120	>+/-20%
K	39	2	45	5.586	5.586	ppb	248.329	20785	40	14.0	80	120	>+/-20%
Ca	44	2	45	195.499	195.499	ppb	9.681	597	40	488.7	80	120	>+/-20%
V	51	2	72	32.759	32.759	ppb	1.825	40568	40	81.9	80	120	
Cr	52	2	72	32.456	32.456	ppb	1.598	47994	40	81.1	80	120	
Mn	55	2	72	31.138	31.138	ppb	3.667	16964	40	77.8	80	120	>+/-20%
Fe	57	2	72	345.571	345.571	ppb	4.877	9460	40	863.9	80	120	>+/-20%
Co	59	2	72	32.621	32.621	ppb	0.788	82924	40	81.6	80	120	
Ni	60	2	72	33.147	33.147	ppb	2.397	24211	40	82.9	80	120	
Cu	63	2	72	32.560	32.560	ppb	1.475	67722	40	81.4	80	120	
Zn	66	2	72	30.973	30.973	ppb	4.499	8353	40	77.4	80	120	>+/-20%
As	75	2	72	30.447	30.447	ppb	0.832	5634	40	76.1	80	120	>+/-20%
Se	78	1	72	31.326	31.326	ppb	0.259	10157	40	78.3	80	120	>+/-20%
Nb	93	2	72	0.682	0.682	ppb	13.000	3344	40	1.7	80	120	>+/-20%
Mo	95	2	115	29.571	29.571	ppb	2.695	29779	40	73.9	80	120	>+/-20%
Pd	105	2	115	0.005	0.005	ppb	611.111	43	40	0.0	80	120	>+/-20%
Ag	107	2	115	32.985	32.985	ppb	1.195	112143	40	82.5	80	120	
Cd	111	2	115	32.316	32.316	ppb	0.375	13888	40	80.8	80	120	
Sn	120	2	115	32.185	32.185	ppb	2.020	36299	40	80.5	80	120	
Sb	121	2	115	32.555	32.555	ppb	3.229	33575	40	81.4	80	120	
Ba	137	2	115	30.974	30.974	ppb	3.497	10988	40	77.4	80	120	>+/-20%
W	182	2	165	9.591	9.591	ppb	1.172	47820	40	24.0	80	120	>+/-20%
Pt	195	2	165	0.003	0.003	ppb	41.572	33	40	0.0	80	120	>+/-20%
Tl	205	2	165	32.149	32.149	ppb	2.362	280212	40	80.4	80	120	
Pb	208	2	165	32.371	32.371	ppb	0.311	378457	40	80.9	80	120	
Th	232	2	165	29.125	29.125	ppb	1.203	429149	40	72.8	80	120	>+/-20%
U	238	2	165	29.721	29.721	ppb	0.610	472951	40	74.3	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1773337	1.15	1841092	96.32	60	120	
Sc (IS)	45	1	HMI H2	32390033	0.86	34041789	95.15	60	120	
Sc (IS)	45	2	HMI He	943465	1.01	989699	95.33	60	120	
Sc (IS)	45	3	No Gas	56132003	0.86	58466742	96.01	60	120	
Ge Internal Standard	72	1	HMI H2	13250145	0.60	14056514	94.26	60	120	
Ge Internal Standard	72	2	HMI He	1110651	0.79	1155188	96.14	60	120	
In Internal Standard	115	2	HMI He	3714531	0.74	3786036	98.11	60	120	
Ho-165	165	2	HMI He	18592686	0.89	18554642	100.21	60	120	

Sample Report

Sample Table

Sample Name	280-116384-a-1-a
Data File Name	067SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:55:07-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435914 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	11.198	ppb	11.198	39.78	182213	500000	
Li	7	2	45	9.889	ppb	9.889	229.39	10104	500000	
Li	7	3	45	13.059	ppb	13.059	27.44	6664073	50000	
Be	9	1	6	0.011	ppb	0.011	492.38	23	2000	
B	11	1	6	23.454	ppb	23.454	2.09	11802	2000	
Na	23	1	45	108004.360	ppb	108004.360	0.48	386828354	2000	>LDR
Na	23	2	45	105438.588	ppb	105438.588	1.22	24064333	400000	
Mg	24	2	45	7033.917	ppb	7033.917	0.68	733222	400000	
Al	27	2	45	115.077	ppb	115.077	3.02	2930	400000	
K	39	1	45	18708.317	ppb	18708.317	0.56	77174701	400000	
K	39	2	45	17838.461	ppb	17838.461	0.36	944822	400000	
Ca	40	1	45	29499.428	ppb	29499.428	0.70	160262768	400000	
Ca	44	2	45	30422.510	ppb	30422.510	1.00	85158	400000	
Ti	47	2	45	1.418	ppb	1.418	69.89	40	4000	
V	51	2	72	0.478	ppb	0.478	30.24	4374	2000	
Cr	52	2	72	1.917	ppb	1.917	8.63	3000	5000	
Mn	55	2	72	377.467	ppb	377.467	1.56	197359	10000	
Fe	57	2	72	72.541	ppb	72.541	8.29	2077	400000	
Co	59	2	72	0.285	ppb	0.285	8.37	713	2000	
Ni	60	2	72	55.296	ppb	55.296	2.24	38840	5000	
Cu	63	2	72	360.079	ppb	360.079	0.30	709770	5000	
Zn	66	2	72	8.342	ppb	8.342	0.38	2414	5000	
As	75	2	72	0.389	ppb	0.389	14.13	84	2000	
Se	78	1	72	0.124	ppb	0.124	43.46	55	2000	
Sr	88	2	72	256.217	ppb	256.217	1.85	144757	4000	
Zr	90	2	72	164.083	ppb	164.083	10.24	2664	1000	
Nb	93	2	72	1.033	ppb	1.033	16.16	4468	200	
Mo	95	2	115	1.924	ppb	1.924	3.36	1890	2000	
Pd	105	2	115	0.263	ppb	0.263	19.36	427	100	
Ag	107	2	115	0.165	ppb	0.165	20.89	573	100	
Cd	111	2	115	0.017	ppb	0.017	145.77	10	2000	
Sn	120	2	115	71.482	ppb	71.482	1.19	76557	2000	
Sb	121	2	115	0.408	ppb	0.408	10.78	447	1000	
Ba	137	2	115	2311.510	ppb	2311.510	0.31	779879	5000	
W	182	2	165	0.030	ppb	0.030	62.21	1827	100	
Pt	195	2	165	0.006	ppb	0.006	175.10	43	100	
Tl	205	2	165	0.017	ppb	0.017	41.15	247	2000	
Pb	208	2	165	1.514	ppb	1.514	1.88	18229	5000	
Th	232	2	165	0.254	ppb	0.254	7.28	3901	2000	
U	238	2	165	0.096	ppb	0.096	8.18	1637	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1682642	0.31	1841092	91.39	60	120	
Sc (IS)	45	1	HMI H2	30804543	0.25	34041789	90.49	60	120	
Sc (IS)	45	2	HMI He	909014	1.81	989699	91.85	60	120	
Sc (IS)	45	3	No Gas	53771253	1.05	58466742	91.97	60	120	
Ge Internal Standard	72	1	HMI H2	12798070	0.61	14056514	91.05	60	120	
Ge Internal Standard	72	2	HMI He	1071196	1.18	1155188	92.73	60	120	
In Internal Standard	115	2	HMI He	3540176	1.58	3786036	93.51	60	120	
Ho-165	165	2	HMI He	18256533	1.34	18554642	98.39	60	120	

Sample Report

Sample Table

Sample Name	280-116309-b-1-b
Data File Name	068SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:58:58-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435914 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	16.590	ppb	16.590	37.06	189984	500000	
Li	7	2	45	20.880	ppb	20.880	169.57	10404	500000	
Li	7	3	45	23.412	ppb	23.412	26.39	7119377	50000	
Be	9	1	6	0.011	ppb	0.011	228.16	23	2000	
B	11	1	6	3.026	ppb	3.026	2.28	1924	2000	
Na	23	1	45	15740.548	ppb	15740.548	1.21	58217126	2000	>LDR
Na	23	2	45	15778.251	ppb	15778.251	0.60	3627677	400000	
Mg	24	2	45	24995.447	ppb	24995.447	1.38	2611400	400000	
Al	27	2	45	2026.015	ppb	2026.015	1.84	50193	400000	
K	39	1	45	3003.242	ppb	3003.242	0.90	22136524	400000	
K	39	2	45	2634.206	ppb	2634.206	1.56	156732	400000	
Ca	40	1	45	408854.141	ppb	408854.141	0.65	2283545886	400000	
Ca	44	2	45	425372.420	ppb	425372.420	1.95	1193101	400000	
Ti	47	2	45	0.269	ppb	0.269	144.17	10	4000	
V	51	2	72	-1.255	ppb	-1.255	-15.10	2460	2000	
Cr	52	2	72	0.368	ppb	0.368	23.96	790	5000	
Mn	55	2	72	1865.582	ppb	1865.582	0.42	956481	10000	
Fe	57	2	72	148.438	ppb	148.438	4.42	3957	400000	
Co	59	2	72	1.591	ppb	1.591	2.79	3841	2000	
Ni	60	2	72	1.674	ppb	1.674	6.90	1323	5000	
Cu	63	2	72	49.893	ppb	49.893	2.46	97523	5000	
Zn	66	2	72	16.285	ppb	16.285	5.61	4311	5000	
As	75	2	72	0.405	ppb	0.405	23.76	85	2000	
Se	78	1	72	0.183	ppb	0.183	17.65	73	2000	
Sr	88	2	72	675.783	ppb	675.783	0.34	374438	4000	
Zr	90	2	72	25.735	ppb	25.735	20.91	487	1000	
Nb	93	2	72	0.458	ppb	0.458	14.54	2387	200	
Mo	95	2	115	0.445	ppb	0.445	19.99	477	2000	
Pd	105	2	115	0.004	ppb	0.004	179.31	40	100	
Ag	107	2	115	0.004	ppb	0.004	121.86	53	100	
Cd	111	2	115	0.648	ppb	0.648	11.27	270	2000	
Sn	120	2	115	0.131	ppb	0.131	26.14	377	2000	
Sb	121	2	115	0.101	ppb	0.101	82.24	147	1000	
Ba	137	2	115	5.911	ppb	5.911	4.13	2027	5000	
W	182	2	165	-0.025	ppb	-0.025	-178.43	1550	100	
Pt	195	2	165	-0.003	ppb	-0.003	-90.35	7	100	
Tl	205	2	165	1.160	ppb	1.160	5.49	9938	2000	
Pb	208	2	165	0.431	ppb	0.431	3.19	5767	5000	
Th	232	2	165	0.023	ppb	0.023	30.73	563	2000	
U	238	2	165	0.034	ppb	0.034	17.82	670	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1687818	1.00	1841092	91.67	60	120	
Sc (IS)	45	1	HMI H2	31679923	0.21	34041789	93.06	60	120	
Sc (IS)	45	2	HMI He	911279	0.40	989699	92.08	60	120	
Sc (IS)	45	3	No Gas	55953118	1.22	58466742	95.70	60	120	
Ge Internal Standard	72	1	HMI H2	12826887	0.88	14056514	91.25	60	120	
Ge Internal Standard	72	2	HMI He	1050724	0.39	1155188	90.96	60	120	
In Internal Standard	115	2	HMI He	3559672	0.98	3786036	94.02	60	120	
Ho-165	165	2	HMI He	18090502	0.53	18554642	97.50	60	120	

Sample Report

Sample Table

Sample Name	280-116309-b-1-c ms
Data File Name	069SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:02:48-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435914 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	81.763	ppb	81.763	4.73	220390	500000	
Li	7	2	45	72.421	ppb	72.421	34.78	11825	500000	
Li	7	3	45	92.400	ppb	92.400	5.58	8221170	50000	
Be	9	1	6	31.379	ppb	31.379	2.24	14201	2000	
B	11	1	6	25.701	ppb	25.701	1.59	12980	2000	
Na	23	1	45	15208.853	ppb	15208.853	0.52	56015514	2000	>LDR
Na	23	2	45	14928.389	ppb	14928.389	1.35	3476216	400000	
Mg	24	2	45	23946.969	ppb	23946.969	0.45	2533168	400000	
Al	27	2	45	2304.830	ppb	2304.830	1.45	57793	400000	
K	39	1	45	2867.562	ppb	2867.562	0.66	21549430	400000	
K	39	2	45	2474.800	ppb	2474.800	0.71	150290	400000	
Ca	40	1	45	397000.555	ppb	397000.555	0.34	2207816020	400000	
Ca	44	2	45	401342.157	ppb	401342.157	2.12	1140008	400000	
Ti	47	2	45	1.398	ppb	1.398	45.71	40	4000	
V	51	2	72	31.445	ppb	31.445	4.46	37389	2000	
Cr	52	2	72	32.015	ppb	32.015	0.11	45262	5000	
Mn	55	2	72	1830.137	ppb	1830.137	0.42	948256	10000	
Fe	57	2	72	466.832	ppb	466.832	1.05	12142	400000	
Co	59	2	72	33.603	ppb	33.603	0.98	81673	2000	
Ni	60	2	72	33.958	ppb	33.958	2.12	23710	5000	
Cu	63	2	72	77.896	ppb	77.896	1.41	153159	5000	
Zn	66	2	72	43.367	ppb	43.367	2.26	11051	5000	
As	75	2	72	31.780	ppb	31.780	3.47	5621	2000	
Se	78	1	72	33.264	ppb	33.264	2.85	10485	2000	
Sr	88	2	72	678.395	ppb	678.395	0.15	379856	4000	
Zr	90	2	72	3269.172	ppb	3269.172	2.92	50903	1000	
Nb	93	2	72	0.313	ppb	0.313	30.43	1907	200	
Mo	95	2	115	30.795	ppb	30.795	2.33	29726	2000	
Pd	105	2	115	-0.001	ppb	-0.001	-790.38	33	100	
Ag	107	2	115	31.547	ppb	31.547	1.01	102791	100	
Cd	111	2	115	31.174	ppb	31.174	3.45	12840	2000	
Sn	120	2	115	32.118	ppb	32.118	0.88	34715	2000	
Sb	121	2	115	33.139	ppb	33.139	3.21	32763	1000	
Ba	137	2	115	36.085	ppb	36.085	3.32	12266	5000	
W	182	2	165	11.325	ppb	11.325	0.36	54954	100	
Pt	195	2	165	0.004	ppb	0.004	36.22	37	100	
Tl	205	2	165	32.822	ppb	32.822	0.95	279890	2000	
Pb	208	2	165	31.658	ppb	31.658	1.01	362210	5000	
Th	232	2	165	29.826	ppb	29.826	1.77	430085	2000	
U	238	2	165	29.663	ppb	29.663	0.80	461898	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1694710	1.26	1841092	92.05	60	120	
Sc (IS)	45	1	HMI H2	31543261	1.45	34041789	92.66	60	120	
Sc (IS)	45	2	HMI He	922623	1.79	989699	93.22	60	120	
Sc (IS)	45	3	No Gas	55024874	1.18	58466742	94.11	60	120	
Ge Internal Standard	72	1	HMI H2	12885348	1.57	14056514	91.67	60	120	
Ge Internal Standard	72	2	HMI He	1061805	2.29	1155188	91.92	60	120	
In Internal Standard	115	2	HMI He	3559905	2.12	3786036	94.03	60	120	
Ho-165	165	2	HMI He	18194136	2.23	18554642	98.06	60	120	

Sample Report

Sample Table

Sample Name	280-116309-b-1-d msd
Data File Name	070SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:06:40-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435914 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	85.381	ppb	85.381	8.84	222487	500000	
Li	7	2	45	76.186	ppb	76.186	21.08	12149	500000	
Li	7	3	45	88.248	ppb	88.248	5.10	8189084	50000	
Be	9	1	6	30.582	ppb	30.582	4.54	14171	2000	
B	11	1	6	25.294	ppb	25.294	3.02	13086	2000	
Na	23	1	45	15471.943	ppb	15471.943	1.33	57074976	2000	>LDR
Na	23	2	45	15040.370	ppb	15040.370	0.64	3568456	400000	
Mg	24	2	45	23965.460	ppb	23965.460	0.39	2583155	400000	
Al	27	2	45	2300.162	ppb	2300.162	0.66	58775	400000	
K	39	1	45	2883.050	ppb	2883.050	1.72	21641380	400000	
K	39	2	45	2472.872	ppb	2472.872	2.22	153036	400000	
Ca	40	1	45	405660.413	ppb	405660.413	1.12	2259673193	400000	
Ca	44	2	45	411661.116	ppb	411661.116	0.47	1191288	400000	
Ti	47	2	45	0.007	ppb	0.007	3196.80	3	4000	
V	51	2	72	31.337	ppb	31.337	3.03	38084	2000	
Cr	52	2	72	31.825	ppb	31.825	2.18	45981	5000	
Mn	55	2	72	1827.327	ppb	1827.327	0.59	967413	10000	
Fe	57	2	72	469.483	ppb	469.483	1.93	12479	400000	
Co	59	2	72	33.683	ppb	33.683	0.66	83642	2000	
Ni	60	2	72	32.778	ppb	32.778	3.00	23393	5000	
Cu	63	2	72	77.585	ppb	77.585	1.49	155905	5000	
Zn	66	2	72	42.627	ppb	42.627	2.63	11105	5000	
As	75	2	72	31.565	ppb	31.565	1.45	5705	2000	
Se	78	1	72	32.483	ppb	32.483	2.45	10327	2000	
Sr	88	2	72	680.024	ppb	680.024	1.00	389070	4000	
Zr	90	2	72	3262.911	ppb	3262.911	1.78	51899	1000	
Nb	93	2	72	0.203	ppb	0.203	24.73	1554	200	
Mo	95	2	115	29.362	ppb	29.362	1.91	29104	2000	
Pd	105	2	115	0.005	ppb	0.005	540.31	43	100	
Ag	107	2	115	31.848	ppb	31.848	1.50	106593	100	
Cd	111	2	115	30.737	ppb	30.737	5.92	13000	2000	
Sn	120	2	115	31.315	ppb	31.315	3.25	34771	2000	
Sb	121	2	115	32.187	ppb	32.187	0.75	32680	1000	
Ba	137	2	115	35.382	ppb	35.382	4.43	12349	5000	
W	182	2	165	11.444	ppb	11.444	1.17	57133	100	
Pt	195	2	165	0.000	ppb	0.000	-7240.76	20	100	
Tl	205	2	165	32.445	ppb	32.445	1.22	284737	2000	
Pb	208	2	165	31.259	ppb	31.259	0.81	368047	5000	
Th	232	2	165	29.518	ppb	29.518	1.35	437942	2000	
U	238	2	165	29.531	ppb	29.531	0.99	473231	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1734823	1.14	1841092	94.23	60	120	
Sc (IS)	45	1	HMI H2	31599003	1.58	34041789	92.82	60	120	
Sc (IS)	45	2	HMI He	940148	0.74	989699	94.99	60	120	
Sc (IS)	45	3	No Gas	55303528	0.33	58466742	94.59	60	120	
Ge Internal Standard	72	1	HMI H2	12990356	1.68	14056514	92.42	60	120	
Ge Internal Standard	72	2	HMI He	1085006	0.47	1155188	93.92	60	120	
In Internal Standard	115	2	HMI He	3656382	0.83	3786036	96.58	60	120	
Ho-165	165	2	HMI He	18723891	1.15	18554642	100.91	60	120	

Sample Report

Sample Table

Sample Name	280-116326-c-1-a
Data File Name	071SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:10:30-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435914 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	12.238	ppb	12.238	39.33	190333	500000	
Li	7	2	45	11.731	ppb	11.731	45.80	10458	500000	
Li	7	3	45	13.537	ppb	13.537	41.89	6712367	50000	
Be	9	1	6	0.009	ppb	0.009	377.58	23	2000	
B	11	1	6	12.939	ppb	12.939	7.36	7132	2000	
Na	23	1	45	130525.877	ppb	130525.877	0.17	486955579	2000	>LDR
Na	23	2	45	126250.498	ppb	126250.498	1.02	29674662	400000	
Mg	24	2	45	817.257	ppb	817.257	1.81	88014	400000	
Al	27	2	45	21.480	ppb	21.480	9.83	640	400000	
K	39	1	45	31317.500	ppb	31317.500	0.72	126942968	400000	
K	39	2	45	32043.745	ppb	32043.745	0.55	1731753	400000	
Ca	40	1	45	3343.039	ppb	3343.039	0.37	18972629	400000	
Ca	44	2	45	3372.426	ppb	3372.426	2.64	9747	400000	
Ti	47	2	45	5.652	ppb	5.652	56.57	153	4000	
V	51	2	72	-0.446	ppb	-0.446	-13.04	3441	2000	
Cr	52	2	72	1.444	ppb	1.444	8.16	2374	5000	
Mn	55	2	72	3.179	ppb	3.179	8.36	1780	10000	
Fe	57	2	72	128.526	ppb	128.526	7.51	3584	400000	
Co	59	2	72	0.083	ppb	0.083	13.87	223	2000	
Ni	60	2	72	2.320	ppb	2.320	6.94	1834	5000	
Cu	63	2	72	25.338	ppb	25.338	1.92	52048	5000	
Zn	66	2	72	46.251	ppb	46.251	1.30	12082	5000	
As	75	2	72	0.409	ppb	0.409	10.66	89	2000	
Se	78	1	72	0.221	ppb	0.221	0.59	88	2000	
Sr	88	2	72	23.095	ppb	23.095	1.24	13293	4000	
Zr	90	2	72	86.227	ppb	86.227	16.31	1470	1000	
Nb	93	2	72	0.092	ppb	0.092	60.77	1163	200	
Mo	95	2	115	1.230	ppb	1.230	5.66	1270	2000	
Pd	105	2	115	-0.010	ppb	-0.010	-110.85	20	100	
Ag	107	2	115	0.018	ppb	0.018	89.31	103	100	
Cd	111	2	115	0.024	ppb	0.024	57.38	13	2000	
Sn	120	2	115	1.676	ppb	1.676	13.35	2097	2000	
Sb	121	2	115	0.523	ppb	0.523	2.48	580	1000	
Ba	137	2	115	6.450	ppb	6.450	5.22	2277	5000	
W	182	2	165	0.609	ppb	0.609	14.06	4654	100	
Pt	195	2	165	0.005	ppb	0.005	132.93	40	100	
Tl	205	2	165	0.018	ppb	0.018	20.53	267	2000	
Pb	208	2	165	0.240	ppb	0.240	10.18	3714	5000	
Th	232	2	165	0.073	ppb	0.073	2.67	1313	2000	
U	238	2	165	0.079	ppb	0.079	31.14	1410	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1786148	1.42	1841092	97.02	60	120	
Sc (IS)	45	1	HMI H2	32091125	0.35	34041789	94.27	60	120	
Sc (IS)	45	2	HMI He	936171	0.91	989699	94.59	60	120	
Sc (IS)	45	3	No Gas	54099144	0.59	58466742	92.53	60	120	
Ge Internal Standard	72	1	HMI H2	13249342	0.48	14056514	94.26	60	120	
Ge Internal Standard	72	2	HMI He	1090762	0.86	1155188	94.42	60	120	
In Internal Standard	115	2	HMI He	3668367	0.93	3786036	96.89	60	120	
Ho-165	165	2	HMI He	18653410	0.31	18554642	100.53	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	072_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:14:18-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	529.985	ppb	5.899	446216	500	106.0	90	110	
Li	7	2	45	502.521	ppb	9.114	23246	500	100.5	90	110	
Li	7	3	45	537.752	ppb	3.178	16044607	500	107.6	90	110	
Be	9	1	6	47.897	ppb	7.934	22508	50	95.8	90	110	
B	11	1	6	49.281	ppb	3.885	25432	50	98.6	90	110	
Na	23	1	45	5401.279	ppb	3.425	20583890	5000	108.0	90	110	
Na	23	2	45	5351.225	ppb	4.904	1293994	5000	107.0	90	110	
Mg	24	2	45	4899.764	ppb	4.592	532932	5000	98.0	90	110	
Al	27	2	45	5189.856	ppb	5.264	133621	5000	103.8	90	110	
K	39	1	45	5200.805	ppb	4.605	30778591	5000	104.0	90	110	
K	39	2	45	5059.577	ppb	4.709	294322	5000	101.2	90	110	
Ca	40	1	45	5106.238	ppb	4.781	29169601	5000	102.1	90	110	
Ca	44	2	45	5070.443	ppb	3.023	14831	5000	101.4	90	110	
Ti	47	2	45	48.676	ppb	11.815	1317	50	97.4	90	110	
V	51	2	72	49.508	ppb	3.668	58967	50	99.0	90	110	
Cr	52	2	72	48.647	ppb	4.307	71415	50	97.3	90	110	
Mn	55	2	72	49.093	ppb	6.772	26545	50	98.2	90	110	
Fe	57	2	72	4988.466	ppb	2.197	133041	5000	99.8	90	110	
Co	59	2	72	49.786	ppb	2.301	125925	50	99.6	90	110	
Ni	60	2	72	50.011	ppb	3.198	36257	50	100.0	90	110	
Cu	63	2	72	48.525	ppb	4.173	99783	50	97.0	90	110	
Zn	66	2	72	48.754	ppb	4.588	12883	50	97.5	90	110	
As	75	2	72	48.938	ppb	3.974	9001	50	97.9	90	110	
Se	78	1	72	48.817	ppb	4.861	15897	50	97.6	90	110	
Sr	88	2	72	50.361	ppb	5.285	29355	50	100.7	90	110	
Zr	90	2	72	143.451	ppb	9.613	2417	50	286.9	90	110	>+\-10%
Nb	93	2	72	90.891	ppb	4.152	331652	100	90.9	90	110	
Mo	95	2	115	47.754	ppb	3.252	48287	50	95.5	90	110	
Pd	105	2	115	49.606	ppb	2.469	77990	50	99.2	90	110	
Ag	107	2	115	47.749	ppb	3.210	163086	50	95.5	90	110	
Cd	111	2	115	47.305	ppb	5.867	20416	50	94.6	90	110	
Sn	120	2	115	48.713	ppb	1.891	55080	50	97.4	90	110	
Sb	121	2	115	49.289	ppb	4.321	51055	50	98.6	90	110	
Ba	137	2	115	47.214	ppb	4.898	16811	50	94.4	90	110	
W	182	2	165	48.143	ppb	5.446	235638	50	96.3	90	110	
Pt	195	2	165	47.763	ppb	4.077	193705	50	95.5	90	110	
Tl	205	2	165	49.546	ppb	3.413	436452	50	99.1	90	110	
Pb	208	2	165	49.189	ppb	3.982	580817	50	98.4	90	110	
Th	232	2	165	45.519	ppb	3.330	677871	50	91.0	90	110	
U	238	2	165	45.898	ppb	3.226	738298	50	91.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1762091	2.06	1841092	95.71	60	120	
Sc (IS)	45	1	HMI H2	32361038	2.46	34041789	95.06	60	120	
Sc (IS)	45	2	HMI He	948963	2.55	989699	95.88	60	120	
Sc (IS)	45	3	No Gas	54884919	3.04	58466742	93.87	60	120	
Ge Internal Standard	72	1	HMI H2	13324059	2.05	14056514	94.79	60	120	
Ge Internal Standard	72	2	HMI He	1105544	2.08	1155188	95.70	60	120	
In Internal Standard	115	2	HMI He	3733552	2.00	3786036	98.61	60	120	
Ho-165	165	2	HMI He	18802447	1.70	18554642	101.34	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	073_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:18:06-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	11.751	ppb	30.7	6874782	10	>RL
Be	9	1	6	0.030	ppb	203.2	33	0.5	
B	11	1	6	0.864	ppb	4.3	923	0.5	>RL
Na	23	1	45	46.744	ppb	2.0	455122	25	>RL
Na	23	2	45	32.947	ppb	7.7	28695	25	>RL
Mg	24	2	45	1.019	ppb	114.3	427	25	
Al	27	2	45	1.463	ppb	115.8	133	15	
K	39	1	45	32.034	ppb	63.9	11371024	50	
K	39	2	45	-18.159	ppb	-162.4	19564	50	
Ca	40	1	45	10.341	ppb	2.1	116765	50	
Ca	44	2	45	12.917	ppb	97.7	67	25	
Ti	47	2	45	-0.118	ppb	0.0	0	0.5	
V	51	2	72	0.835	ppb	27.2	4888	1	
Cr	52	2	72	0.035	ppb	5.1	343	1	
Mn	55	2	72	0.040	ppb	207.4	110	0.5	
Fe	57	2	72	3.515	ppb	69.8	303	25	
Co	59	2	72	0.004	ppb	288.3	27	0.5	
Ni	60	2	72	-0.024	ppb	-181.3	167	1	
Cu	63	2	72	0.212	ppb	24.6	1720	1	
Zn	66	2	72	-0.025	ppb	-1106.9	337	5	
As	75	2	72	0.115	ppb	12.3	36	1	
Se	78	1	72	0.016	ppb	46.1	21	1	
Sr	88	2	72	0.047	ppb	22.5	37	0.5	
Zr	90	2	72	-0.335	ppb	-501.1	90	1	
Nb	93	2	72	2.281	ppb	5.6	9113	2	>RL
Mo	95	2	115	0.084	ppb	33.5	133	0.5	
Pd	105	2	115	0.024	ppb	55.7	73	1	
Ag	107	2	115	0.007	ppb	145.5	67	1	
Cd	111	2	115	0.016	ppb	257.6	10	0.5	
Sn	120	2	115	0.031	ppb	139.8	280	1	
Sb	121	2	115	0.315	ppb	12.7	373	0.6	
Ba	137	2	115	0.001	ppb	12247.3	23	0.5	
W	182	2	165	0.019	ppb	275.0	1797	1	
Pt	195	2	165	0.013	ppb	72.0	70	1	
Tl	205	2	165	0.018	ppb	17.7	267	0.1	
Pb	208	2	165	0.030	ppb	52.2	1243	0.5	
Th	232	2	165	0.042	ppb	10.8	843	1	
U	238	2	165	0.027	ppb	49.6	567	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1781078	1.50	1841092	96.74	60	120	
Sc (IS)	45	1	HMI H2	31854075	0.90	34041789	93.57	60	120	
Sc (IS)	45	2	HMI He	946213	1.34	989699	95.61	60	120	
Sc (IS)	45	3	No Gas	55668554	1.90	58466742	95.21	60	120	
Ge Internal Standard	72	1	HMI H2	13169144	0.50	14056514	93.69	60	120	
Ge Internal Standard	72	2	HMI He	1100671	0.95	1155188	95.28	60	120	
In Internal Standard	115	2	HMI He	3710764	1.08	3786036	98.01	60	120	
Ho-165	165	2	HMI He	18491443	0.22	18554642	99.66	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	074LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:21:54-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	27.379	ppb	23.591	6967621	50	54.8	70	130	>+/-30%
Be	9	1	6	0.948	ppb	4.642	470	1	94.8	70	130	
Na	23	2	45	57.709	ppb	7.801	33883	50	115.4	70	130	
Mg	24	2	45	52.468	ppb	5.433	5888	50	104.9	70	130	
Al	27	2	45	36.708	ppb	10.890	1017	30	122.4	70	130	
K	39	2	45	77.531	ppb	11.557	24238	100	77.5	70	130	
Ca	44	2	45	71.707	ppb	34.989	233	50	143.4	70	130	>+/-30%
V	51	2	72	5.745	ppb	1.501	10191	5	114.9	70	130	
Cr	52	2	72	2.071	ppb	5.124	3267	2	103.6	70	130	
Mn	55	2	72	1.224	ppb	7.789	737	1	122.4	70	130	
Fe	57	2	72	56.256	ppb	7.669	1680	50	112.5	70	130	
Co	59	2	72	1.013	ppb	8.271	2537	1	101.3	70	130	
Ni	60	2	72	2.052	ppb	10.549	1637	2	102.6	70	130	
Cu	63	2	72	1.959	ppb	6.213	5185	2	98.0	70	130	
Zn	66	2	72	11.028	ppb	14.730	3127	10	110.3	70	130	
As	75	2	72	4.430	ppb	8.332	814	5	88.6	70	130	
Se	78	1	72	5.175	ppb	3.693	1667	5	103.5	70	130	
Sr	88	2	72	0.943	ppb	8.111	550	1	94.3	70	130	
Zr	90	2	72	31.602	ppb	21.595	597	0.5	6320.5	70	130	>+/-30%
Nb	93	2	72	4.904	ppb	4.643	18389	2	245.2	70	130	>+/-30%
Mo	95	2	115	1.780	ppb	3.896	1817	2	89.0	70	130	
Pd	105	2	115	0.005	ppb	526.679	43	1	0.5	70	130	>+/-30%
Ag	107	2	115	5.118	ppb	2.457	17231	5	102.4	70	130	
Cd	111	2	115	0.927	ppb	5.335	397	1	92.7	70	130	
Sn	120	2	115	9.926	ppb	6.575	11228	10	99.3	70	130	
Sb	121	2	115	2.169	ppb	6.506	2257	2	108.5	70	130	
Ba	137	2	115	0.840	ppb	21.483	317	1	84.0	70	130	
W	182	2	165	4.902	ppb	2.753	24964	1	490.2	70	130	>+/-30%
Pt	195	2	165	0.019	ppb	49.797	97	1	1.9	70	130	>+/-30%
Tl	205	2	165	1.011	ppb	0.867	8803	1	101.1	70	130	
Pb	208	2	165	1.024	ppb	1.166	12693	1	102.4	70	130	
Th	232	2	165	2.039	ppb	1.284	29889	2	102.0	70	130	
U	238	2	165	0.958	ppb	0.933	15190	1	95.8	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1782171	0.20	1841092	96.80	60	120	
Sc (IS)	45	1	HMI H2	31572670	0.45	34041789	92.75	60	120	
Sc (IS)	45	2	HMI He	927316	1.07	989699	93.70	60	120	
Sc (IS)	45	3	No Gas	54214501	0.76	58466742	92.73	60	120	
Ge Internal Standard	72	1	HMI H2	13055973	0.22	14056514	92.88	60	120	
Ge Internal Standard	72	2	HMI He	1086824	0.55	1155188	94.08	60	120	
In Internal Standard	115	2	HMI He	3670529	0.63	3786036	96.95	60	120	
Ho-165	165	2	HMI He	18364710	0.96	18554642	98.98	60	120	

Blank Report

Sample Table

Sample Name	mb 280-435184/1-a
Data File Name	075_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:25:41-06:00
Sample Type	Blank
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	3.154	ppb	141.9697259	185579	0.5
Li	7	2	45	5.998	ppb	200.8331535	10514	0.5
Li	7	3	45	11.350	ppb	45.08583326	6923926	10
Be	9	1	6	-0.033	ppb	-37.53930968	3	0.5
B	11	1	6	0.401	ppb	57.57983649	670	0.5
Na	23	1	45	-1.347	ppb	-13.44178911	278727	25
Na	23	2	45	-3.720	ppb	-71.1585585	20168	25
Mg	24	2	45	2.665	ppb	12.82613285	610	25
Al	27	2	45	27.832	ppb	8.965817099	817	15
K	39	1	45	-1378.819	ppb	-1.463792728	6237006	50
K	39	2	45	-34.117	ppb	-41.40646831	18866	50
Ca	40	1	45	20.770	ppb	16.26135156	176450	50
Ca	44	2	45	55.897	ppb	12.97283328	193	25
Ti	47	2	45	0.007	ppb	3183.992516	3	0.5
V	51	2	72	-1.304	ppb	-26.40974944	2547	1
Cr	52	2	72	0.181	ppb	12.9565564	560	1
Mn	55	2	72	0.351	ppb	6.387009181	280	0.5
Fe	57	2	72	7.798	ppb	31.54708041	420	25
Co	59	2	72	0.003	ppb	80.44126049	23	0.5
Ni	60	2	72	0.043	ppb	178.4337786	217	1
Cu	63	2	72	0.049	ppb	134.5641904	1403	1
Zn	66	2	72	1.021	ppb	9.660293055	610	5
As	75	2	72	0.103	ppb	58.41154704	34	1
Se	78	1	72	-0.034	ppb	-21.22567223	5	1
Sr	88	2	72	0.154	ppb	40.5967054	100	0.5
Zr	90	2	72	3.706	ppb	106.320121	157	1
Nb	93	2	72	0.408	ppb	2.445280521	2340	2
Mo	95	2	115	0.006	ppb	594.753013	57	0.5
Pd	105	2	115	-0.008	ppb	-119.3476549	23	1
Ag	107	2	115	0.001	ppb	458.3743074	47	1
Cd	111	2	115	0.000	ppb	-7783.751835	3	0.5
Sn	120	2	115	0.040	ppb	58.08293518	297	1
Sb	121	2	115	0.029	ppb	29.35742499	80	0.6
Ba	137	2	115	0.156	ppb	28.30561682	80	0.5
W	182	2	165	-0.008	ppb	-107.667158	1680	1
Pt	195	2	165	0.003	ppb	243.240742	33	1
Tl	205	2	165	0.004	ppb	90.59026301	143	0.1
Pb	208	2	165	0.066	ppb	25.06365308	1677	0.5
Th	232	2	165	0.044	ppb	7.885887289	890	1
U	238	2	165	0.007	ppb	49.00780813	253	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1741435	0.66	1841092	94.59	60	120	
Sc (IS)	45	1	HMI H2	32036625	1.03	34041789	94.11	60	120	
Sc (IS)	45	2	HMI He	954526	1.19	989699	96.45	60	120	
Sc (IS)	45	3	No Gas	56122684	0.95	58466742	95.99	60	120	
Ge Internal Standard	72	1	HMI H2	13010904	0.42	14056514	92.56	60	120	
Ge Internal Standard	72	2	HMI He	1110811	0.77	1155188	96.16	60	120	
In Internal Standard	115	2	HMI He	3788653	1.90	3786036	100.07	60	120	
Ho-165	165	2	HMI He	18651168	0.69	18554642	100.52	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-435184/2-a
Data File Name	076_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:29:29-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	435184 6020A DOD5
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	95.900	95.900	ppb	5.880	228871	400	24.0	80	120	>+/-20%
Li	7	2	45	67.806	67.806	ppb	23.748	12179	400	17.0	80	120	>+/-20%
Li	7	3	45	96.087	96.087	ppb	3.396	8474345	400	24.0	80	120	>+/-20%
Be	9	1	6	39.852	39.852	ppb	4.726	18502	40	99.6	80	120	
Na	23	2	45	-18.186	-18.186	ppb	-12.365	16787	40	-45.5	80	120	>+/-20%
Mg	24	2	45	-0.966	-0.966	ppb	-36.961	213	40	-2.4	80	120	>+/-20%
Al	27	2	45	418.966	418.966	ppb	2.528	11001	40	1047.4	80	120	>+/-20%
K	39	2	45	-27.185	-27.185	ppb	-35.880	19347	40	-68.0	80	120	>+/-20%
Ca	44	2	45	222.750	222.750	ppb	15.320	687	40	556.9	80	120	>+/-20%
V	51	2	72	39.834	39.834	ppb	1.761	48398	40	99.6	80	120	
Cr	52	2	72	40.882	40.882	ppb	3.106	60282	40	102.2	80	120	
Mn	55	2	72	42.685	42.685	ppb	0.351	23186	40	106.7	80	120	
Fe	57	2	72	409.072	409.072	ppb	3.563	11141	40	1022.7	80	120	>+/-20%
Co	59	2	72	40.357	40.357	ppb	0.222	102433	40	100.9	80	120	
Ni	60	2	72	40.279	40.279	ppb	1.555	29341	40	100.7	80	120	
Cu	63	2	72	39.848	39.848	ppb	0.775	82474	40	99.6	80	120	
Zn	66	2	72	40.416	40.416	ppb	4.061	10778	40	101.0	80	120	
As	75	2	72	38.163	38.163	ppb	1.685	7047	40	95.4	80	120	
Se	78	1	72	39.165	39.165	ppb	3.095	12494	40	97.9	80	120	
Nb	93	2	72	0.360	0.360	ppb	17.120	2164	40	0.9	80	120	>+/-20%
Mo	95	2	115	37.000	37.000	ppb	1.469	38005	40	92.5	80	120	
Pd	105	2	115	-0.002	-0.002	ppb	-454.866	33	40	0.0	80	120	>+/-20%
Ag	107	2	115	40.495	40.495	ppb	1.710	140466	40	101.2	80	120	
Cd	111	2	115	38.809	38.809	ppb	2.641	17014	40	97.0	80	120	
Sn	120	2	115	39.909	39.909	ppb	2.794	45864	40	99.8	80	120	
Sb	121	2	115	39.565	39.565	ppb	4.396	41620	40	98.9	80	120	
Ba	137	2	115	39.835	39.835	ppb	2.459	14411	40	99.6	80	120	
W	182	2	165	12.544	12.544	ppb	0.434	62588	40	31.4	80	120	>+/-20%
Pt	195	2	165	-0.004	-0.004	ppb	-33.686	3	40	0.0	80	120	>+/-20%
Tl	205	2	165	40.307	40.307	ppb	0.844	354471	40	100.8	80	120	
Pb	208	2	165	40.854	40.854	ppb	0.857	481767	40	102.1	80	120	
Th	232	2	165	37.424	37.424	ppb	0.989	556437	40	93.6	80	120	
U	238	2	165	37.659	37.659	ppb	1.549	604817	40	94.1	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1738906	0.92	1841092	94.45	60	120	
Sc (IS)	45	1	HMI H2	31780590	0.64	34041789	93.36	60	120	
Sc (IS)	45	2	HMI He	959238	0.79	989699	96.92	60	120	
Sc (IS)	45	3	No Gas	56272036	0.69	58466742	96.25	60	120	
Ge Internal Standard	72	1	HMI H2	13043062	1.02	14056514	92.79	60	120	
Ge Internal Standard	72	2	HMI He	1109035	0.43	1155188	96.00	60	120	
In Internal Standard	115	2	HMI He	3789914	0.67	3786036	100.10	60	120	
Ho-165	165	2	HMI He	18763829	1.20	18554642	101.13	60	120	

Sample Table

Sample Name	lcsd 280-435184/3-a
Data File Name	077SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:33:17-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	91.489	ppb	91.489	7.88	224984	500000	
Li	7	2	45	69.679	ppb	69.679	19.19	12169	500000	
Li	7	3	45	92.353	ppb	92.353	4.16	8356787	50000	
Be	9	1	6	39.126	ppb	39.126	2.85	18392	2000	
B	11	1	6	28.035	ppb	28.035	4.44	14665	2000	
Na	23	1	45	-10.676	ppb	-10.676	-8.84	240167	2000	
Na	23	2	45	-18.369	ppb	-18.369	-17.95	16673	400000	
Mg	24	2	45	-0.196	ppb	-0.196	-151.65	297	400000	
Al	27	2	45	428.660	ppb	428.660	2.13	11205	400000	
K	39	1	45	-1455.900	ppb	-1455.900	-1.20	5859940	400000	
K	39	2	45	-35.973	ppb	-35.973	-60.16	18776	400000	
Ca	40	1	45	16.579	ppb	16.579	1.27	150269	400000	
Ca	44	2	45	234.155	ppb	234.155	16.12	717	400000	
Ti	47	2	45	2.577	ppb	2.577	35.10	73	4000	
V	51	2	72	37.846	ppb	37.846	1.68	45867	2000	
Cr	52	2	72	40.132	ppb	40.132	1.17	58783	5000	
Mn	55	2	72	40.681	ppb	40.681	0.95	21954	10000	
Fe	57	2	72	434.885	ppb	434.885	4.24	11752	400000	
Co	59	2	72	39.730	ppb	39.730	0.65	100161	2000	
Ni	60	2	72	40.054	ppb	40.054	0.23	28983	5000	
Cu	63	2	72	39.559	ppb	39.559	1.08	81333	5000	
Zn	66	2	72	40.730	ppb	40.730	6.29	10788	5000	
As	75	2	72	36.452	ppb	36.452	0.69	6687	2000	
Se	78	1	72	37.298	ppb	37.298	2.76	11830	2000	
Sr	88	2	72	40.758	ppb	40.758	0.94	23687	4000	
Zr	90	2	72	3949.225	ppb	3949.225	2.65	63757	1000	
Nb	93	2	72	0.193	ppb	0.193	26.01	1544	200	
Mo	95	2	115	36.065	ppb	36.065	1.54	36157	2000	
Pd	105	2	115	-0.019	ppb	-0.019	-39.89	7	100	
Ag	107	2	115	40.436	ppb	40.436	1.44	136863	100	
Cd	111	2	115	38.823	ppb	38.823	4.26	16607	2000	
Sn	120	2	115	41.335	ppb	41.335	0.60	46349	2000	
Sb	121	2	115	40.402	ppb	40.402	3.78	41476	1000	
Ba	137	2	115	39.297	ppb	39.297	0.69	13874	5000	
W	182	2	165	12.493	ppb	12.493	1.27	62072	100	
Pt	195	2	165	0.003	ppb	0.003	266.23	33	100	
Tl	205	2	165	40.439	ppb	40.439	1.16	354107	2000	
Pb	208	2	165	40.731	ppb	40.731	1.53	478271	5000	
Th	232	2	165	37.053	ppb	37.053	1.16	548535	2000	
U	238	2	165	37.533	ppb	37.533	0.37	600146	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1760764	1.11	1841092	95.64	60	120	
Sc (IS)	45	1	HMI H2	31535407	0.86	34041789	92.64	60	120	
Sc (IS)	45	2	HMI He	954908	0.75	989699	96.48	60	120	
Sc (IS)	45	3	No Gas	55940521	0.96	58466742	95.68	60	120	
Ge Internal Standard	72	1	HMI H2	12965505	0.42	14056514	92.24	60	120	
Ge Internal Standard	72	2	HMI He	1101600	1.42	1155188	95.36	60	120	
In Internal Standard	115	2	HMI He	3698598	1.18	3786036	97.69	60	120	
Ho-165	165	2	HMI He	18682933	0.56	18554642	100.69	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-1-b
Data File Name	078SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:37:06-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	189.114	ppb	189.114	3.79	259264	500000	
Li	7	2	45	183.294	ppb	183.294	3.51	14481	500000	
Li	7	3	45	184.170	ppb	184.170	1.67	9526165	50000	
Be	9	1	6	3.389	ppb	3.389	15.72	1477	2000	
B	11	1	6	273.316	ppb	273.316	3.06	127500	2000	
Na	23	1	45	186033.946	ppb	186033.946	0.39	650532097	2000	>LDR
Na	23	2	45	176670.923	ppb	176670.923	0.65	40558324	400000	
Mg	24	2	45	4785.047	ppb	4785.047	0.67	501953	400000	
Al	27	2	45	24963.149	ppb	24963.149	1.73	619667	400000	
K	39	1	45	7669.019	ppb	7669.019	0.20	37168629	400000	
K	39	2	45	8859.600	ppb	8859.600	0.67	482085	400000	
Ca	40	1	45	35340.810	ppb	35340.810	0.97	187496397	400000	
Ca	44	2	45	36500.950	ppb	36500.950	0.88	102786	400000	
Ti	47	2	45	314.814	ppb	314.814	5.18	8199	4000	
V	51	2	72	64.283	ppb	64.283	1.73	71851	2000	
Cr	52	2	72	291.422	ppb	291.422	0.97	406449	5000	
Mn	55	2	72	940.274	ppb	940.274	0.46	483286	10000	
Fe	57	2	72	60270.782	ppb	60270.782	1.37	1529436	400000	
Co	59	2	72	18.742	ppb	18.742	2.66	45181	2000	
Ni	60	2	72	132.894	ppb	132.894	1.12	91535	5000	
Cu	63	2	72	133.289	ppb	133.289	2.18	259069	5000	
Zn	66	2	72	513.056	ppb	513.056	1.33	126100	5000	
As	75	2	72	55.907	ppb	55.907	2.16	9796	2000	
Se	78	1	72	1.780	ppb	1.780	1.33	544	2000	
Sr	88	2	72	378.818	ppb	378.818	1.24	210424	4000	
Zr	90	2	72	3102.495	ppb	3102.495	2.56	47919	1000	
Nb	93	2	72	1.733	ppb	1.733	4.30	6819	200	
Mo	95	2	115	26.732	ppb	26.732	5.26	25771	2000	
Pd	105	2	115	0.004	ppb	0.004	186.75	40	100	
Ag	107	2	115	0.409	ppb	0.409	12.90	1370	100	
Cd	111	2	115	0.268	ppb	0.268	32.60	113	2000	
Sn	120	2	115	2.178	ppb	2.178	3.43	2570	2000	
Sb	121	2	115	1.302	ppb	1.302	4.67	1330	1000	
Ba	137	2	115	202.206	ppb	202.206	2.24	68527	5000	
W	182	2	165	1.401	ppb	1.401	3.97	8353	100	
Pt	195	2	165	-0.001	ppb	-0.001	-188.52	17	100	
Tl	205	2	165	0.640	ppb	0.640	1.71	5618	2000	
Pb	208	2	165	44.293	ppb	44.293	0.81	511406	5000	
Th	232	2	165	31.450	ppb	31.450	0.90	457921	2000	
U	238	2	165	12.130	ppb	12.130	1.16	190875	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1617430	1.99	1841092	87.85	60	120	
Sc (IS)	45	1	HMI H2	30084875	0.46	34041789	88.38	60	120	
Sc (IS)	45	2	HMI He	914562	1.42	989699	92.41	60	120	
Sc (IS)	45	3	No Gas	53254133	0.36	58466742	91.08	60	120	
Ge Internal Standard	72	1	HMI H2	12163794	0.27	14056514	86.53	60	120	
Ge Internal Standard	72	2	HMI He	1053255	1.24	1155188	91.18	60	120	
In Internal Standard	115	2	HMI He	3555975	1.83	3786036	93.92	60	120	
Ho-165	165	2	HMI He	18374834	1.21	18554642	99.03	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-2-b
Data File Name	079SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:40:53-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	175.336	ppb	175.336	2.46	256234	500000	
Li	7	2	45	147.276	ppb	147.276	12.22	13733	500000	
Li	7	3	45	178.539	ppb	178.539	0.13	9458193	50000	
Be	9	1	6	2.825	ppb	2.825	9.90	1257	2000	
B	11	1	6	272.945	ppb	272.945	1.00	129468	2000	
Na	23	1	45	185125.386	ppb	185125.386	0.98	655647630	2000	>LDR
Na	23	2	45	177263.063	ppb	177263.063	0.56	41136885	400000	
Mg	24	2	45	4357.649	ppb	4357.649	0.58	462124	400000	
Al	27	2	45	23825.857	ppb	23825.857	1.18	597838	400000	
K	39	1	45	7245.230	ppb	7245.230	0.27	36160884	400000	
K	39	2	45	8402.653	ppb	8402.653	0.18	463249	400000	
Ca	40	1	45	34420.905	ppb	34420.905	1.02	184958757	400000	
Ca	44	2	45	35426.211	ppb	35426.211	1.97	100852	400000	
Ti	47	2	45	291.583	ppb	291.583	8.04	7679	4000	
V	51	2	72	55.470	ppb	55.470	1.15	63646	2000	
Cr	52	2	72	255.537	ppb	255.537	0.47	362880	5000	
Mn	55	2	72	771.517	ppb	771.517	0.87	403756	10000	
Fe	57	2	72	54464.070	ppb	54464.070	1.04	1407330	400000	
Co	59	2	72	16.243	ppb	16.243	1.90	39870	2000	
Ni	60	2	72	112.248	ppb	112.248	0.70	78747	5000	
Cu	63	2	72	118.210	ppb	118.210	1.37	234122	5000	
Zn	66	2	72	527.083	ppb	527.083	0.94	131908	5000	
As	75	2	72	49.619	ppb	49.619	1.07	8856	2000	
Se	78	1	72	1.866	ppb	1.866	5.97	579	2000	
Sr	88	2	72	359.274	ppb	359.274	1.71	203182	4000	
Zr	90	2	72	2870.890	ppb	2870.890	1.54	45146	1000	
Nb	93	2	72	1.687	ppb	1.687	11.23	6782	200	
Mo	95	2	115	24.915	ppb	24.915	1.20	24252	2000	
Pd	105	2	115	0.030	ppb	0.030	102.69	80	100	
Ag	107	2	115	0.235	ppb	0.235	25.65	813	100	
Cd	111	2	115	0.233	ppb	0.233	54.10	100	2000	
Sn	120	2	115	2.042	ppb	2.042	3.62	2447	2000	
Sb	121	2	115	0.971	ppb	0.971	12.04	1013	1000	
Ba	137	2	115	180.969	ppb	180.969	0.63	61920	5000	
W	182	2	165	1.273	ppb	1.273	5.83	7776	100	
Pt	195	2	165	0.000	ppb	0.000	18791.27	20	100	
Tl	205	2	165	0.526	ppb	0.526	6.71	4654	2000	
Pb	208	2	165	40.984	ppb	40.984	1.27	475330	5000	
Th	232	2	165	29.001	ppb	29.001	0.67	424105	2000	
U	238	2	165	14.530	ppb	14.530	0.66	229559	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1644066	1.14	1841092	89.30	60	120	
Sc (IS)	45	1	HMI H2	30472033	1.03	34041789	89.51	60	120	
Sc (IS)	45	2	HMI He	924508	1.11	989699	93.41	60	120	
Sc (IS)	45	3	No Gas	53413929	0.56	58466742	91.36	60	120	
Ge Internal Standard	72	1	HMI H2	12358276	0.23	14056514	87.92	60	120	
Ge Internal Standard	72	2	HMI He	1072350	0.94	1155188	92.83	60	120	
In Internal Standard	115	2	HMI He	3589093	0.81	3786036	94.80	60	120	
Ho-165	165	2	HMI He	18453143	0.53	18554642	99.45	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-3-b
Data File Name	080SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:44:39-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	6.820	ppb	6.820	27.25	187971	500000	
Li	7	2	45	-14.967	ppb	-14.967	-153.56	10217	500000	
Li	7	3	45	5.239	ppb	5.239	120.36	6830995	50000	
Be	9	1	6	-0.033	ppb	-0.033	-36.66	3	2000	
B	11	1	6	3.384	ppb	3.384	10.64	2180	2000	
Na	23	1	45	446.054	ppb	446.054	11.44	1948864	2000	
Na	23	2	45	252.115	ppb	252.115	10.80	83441	400000	
Mg	24	2	45	4.760	ppb	4.760	5.87	860	400000	
Al	27	2	45	21.889	ppb	21.889	7.05	680	400000	
K	39	1	45	-1443.614	ppb	-1443.614	-1.72	6017123	400000	
K	39	2	45	-27.285	ppb	-27.285	-29.90	19724	400000	
Ca	40	1	45	78.119	ppb	78.119	9.22	501547	400000	
Ca	44	2	45	60.990	ppb	60.990	37.05	213	400000	
Ti	47	2	45	-0.118	ppb	-0.118	0.00	0	4000	
V	51	2	72	-1.577	ppb	-1.577	-9.72	2274	2000	
Cr	52	2	72	0.311	ppb	0.311	20.98	763	5000	
Mn	55	2	72	0.756	ppb	0.756	5.37	507	10000	
Fe	57	2	72	46.736	ppb	46.736	20.89	1483	400000	
Co	59	2	72	0.026	ppb	0.026	35.36	83	2000	
Ni	60	2	72	0.102	ppb	0.102	171.04	263	5000	
Cu	63	2	72	0.337	ppb	0.337	25.73	2020	5000	
Zn	66	2	72	1.381	ppb	1.381	17.49	713	5000	
As	75	2	72	0.051	ppb	0.051	91.29	25	2000	
Se	78	1	72	-0.022	ppb	-0.022	-182.43	9	2000	
Sr	88	2	72	0.338	ppb	0.338	49.74	210	4000	
Zr	90	2	72	24.010	ppb	24.010	27.44	493	1000	
Nb	93	2	72	0.067	ppb	0.067	54.18	1110	200	
Mo	95	2	115	-0.003	ppb	-0.003	-1567.39	47	2000	
Pd	105	2	115	-0.015	ppb	-0.015	-65.43	13	100	
Ag	107	2	115	0.000	ppb	0.000	-3966.01	43	100	
Cd	111	2	115	0.000	ppb	0.000	-4578.06	3	2000	
Sn	120	2	115	0.123	ppb	0.123	57.45	397	2000	
Sb	121	2	115	0.050	ppb	0.050	106.73	103	1000	
Ba	137	2	115	0.346	ppb	0.346	8.87	150	5000	
W	182	2	165	-0.024	ppb	-0.024	-240.45	1634	100	
Pt	195	2	165	-0.003	ppb	-0.003	-161.85	10	100	
Tl	205	2	165	0.008	ppb	0.008	112.63	180	2000	
Pb	208	2	165	0.083	ppb	0.083	7.88	1920	5000	
Th	232	2	165	0.093	ppb	0.093	5.40	1637	2000	
U	238	2	165	0.012	ppb	0.012	49.58	347	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1753471	0.67	1841092	95.24	60	120	
Sc (IS)	45	1	HMI H2	32138734	1.14	34041789	94.41	60	120	
Sc (IS)	45	2	HMI He	978344	0.75	989699	98.85	60	120	
Sc (IS)	45	3	No Gas	56264246	0.82	58466742	96.23	60	120	
Ge Internal Standard	72	1	HMI H2	13249176	0.36	14056514	94.26	60	120	
Ge Internal Standard	72	2	HMI He	1127397	0.75	1155188	97.59	60	120	
In Internal Standard	115	2	HMI He	3832940	1.57	3786036	101.24	60	120	
Ho-165	165	2	HMI He	19008281	0.80	18554642	102.44	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	081_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:48:26-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	525.663	ppb	0.838	437301	500	105.1	90	110	
Li	7	2	45	504.117	ppb	3.712	22982	500	100.8	90	110	
Li	7	3	45	546.293	ppb	1.120	15731977	500	109.3	90	110	
Be	9	1	6	49.624	ppb	6.045	23079	50	99.2	90	110	
B	11	1	6	50.578	ppb	3.300	25813	50	101.2	90	110	
Na	23	1	45	5356.003	ppb	0.323	20101041	5000	107.1	90	110	
Na	23	2	45	5395.138	ppb	2.259	1287754	5000	107.9	90	110	
Mg	24	2	45	4985.690	ppb	1.424	535351	5000	99.7	90	110	
Al	27	2	45	5243.637	ppb	0.341	133311	5000	104.9	90	110	
K	39	1	45	5152.344	ppb	0.209	30127569	5000	103.0	90	110	
K	39	2	45	5115.642	ppb	1.157	293542	5000	102.3	90	110	
Ca	40	1	45	5127.919	ppb	0.302	28851202	5000	102.6	90	110	
Ca	44	2	45	5267.808	ppb	2.941	15205	5000	105.4	90	110	
Ti	47	2	45	46.859	ppb	15.314	1250	50	93.7	90	110	
V	51	2	72	49.219	ppb	2.240	57813	50	98.4	90	110	
Cr	52	2	72	49.218	ppb	1.239	71218	50	98.4	90	110	
Mn	55	2	72	50.953	ppb	5.318	27160	50	101.9	90	110	
Fe	57	2	72	5141.832	ppb	2.640	135106	5000	102.8	90	110	
Co	59	2	72	49.332	ppb	1.862	122950	50	98.7	90	110	
Ni	60	2	72	50.574	ppb	2.016	36140	50	101.1	90	110	
Cu	63	2	72	49.353	ppb	0.763	100011	50	98.7	90	110	
Zn	66	2	72	50.193	ppb	1.431	13063	50	100.4	90	110	
As	75	2	72	47.714	ppb	2.305	8648	50	95.4	90	110	
Se	78	1	72	49.831	ppb	1.260	15840	50	99.7	90	110	
Sr	88	2	72	51.936	ppb	1.771	29836	50	103.9	90	110	
Zr	90	2	72	166.776	ppb	5.943	2754	50	333.6	90	110	>+\-10%
Nb	93	2	72	91.180	ppb	0.954	327936	100	91.2	90	110	
Mo	95	2	115	48.731	ppb	1.076	48625	50	97.5	90	110	
Pd	105	2	115	50.940	ppb	2.890	79015	50	101.9	90	110	
Ag	107	2	115	48.412	ppb	1.989	163147	50	96.8	90	110	
Cd	111	2	115	49.602	ppb	3.207	21127	50	99.2	90	110	
Sn	120	2	115	50.172	ppb	0.853	55964	50	100.3	90	110	
Sb	121	2	115	49.728	ppb	2.178	50821	50	99.5	90	110	
Ba	137	2	115	50.005	ppb	2.110	17572	50	100.0	90	110	
W	182	2	165	48.919	ppb	0.486	234623	50	97.8	90	110	
Pt	195	2	165	48.935	ppb	0.736	194460	50	97.9	90	110	
Tl	205	2	165	50.534	ppb	2.195	436122	50	101.1	90	110	
Pb	208	2	165	50.421	ppb	1.028	583345	50	100.8	90	110	
Th	232	2	165	47.088	ppb	1.150	687064	50	94.2	90	110	
U	238	2	165	47.105	ppb	0.602	742370	50	94.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1742365	0.65	1841092	94.64	60	120	
Sc (IS)	45	1	HMI H2	31848455	0.18	34041789	93.56	60	120	
Sc (IS)	45	2	HMI He	936218	1.18	989699	94.60	60	120	
Sc (IS)	45	3	No Gas	53295114	0.48	58466742	91.15	60	120	
Ge Internal Standard	72	1	HMI H2	12997211	0.76	14056514	92.46	60	120	
Ge Internal Standard	72	2	HMI He	1089150	1.13	1155188	94.28	60	120	
In Internal Standard	115	2	HMI He	3682929	1.57	3786036	97.28	60	120	
Ho-165	165	2	HMI He	18415511	1.05	18554642	99.25	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	082_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:52:14-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	15.343	ppb	10.7	6653278	10	>RL
Be	9	1	6	0.003	ppb	4.9	20	0.5	
B	11	1	6	1.525	ppb	17.6	1230	0.5	>RL
Na	23	1	45	69.010	ppb	4.6	529132	25	>RL
Na	23	2	45	55.956	ppb	2.2	33305	25	>RL
Mg	24	2	45	-0.041	ppb	-1534.0	303	25	
Al	27	2	45	0.939	ppb	61.8	117	15	
K	39	1	45	-24.912	ppb	-20.4	10989317	50	
K	39	2	45	-30.470	ppb	-50.7	18426	50	
Ca	40	1	45	5.065	ppb	6.1	85773	50	
Ca	44	2	45	6.507	ppb	187.8	47	25	
Ti	47	2	45	-0.118	ppb	0.0	0	0.5	
V	51	2	72	0.567	ppb	32.0	4488	1	
Cr	52	2	72	0.041	ppb	78.5	343	1	
Mn	55	2	72	0.014	ppb	1022.9	93	0.5	
Fe	57	2	72	2.653	ppb	52.2	273	25	
Co	59	2	72	0.018	ppb	80.6	60	0.5	
Ni	60	2	72	0.057	ppb	108.1	220	1	
Cu	63	2	72	0.185	ppb	7.8	1627	1	
Zn	66	2	72	0.432	ppb	23.3	443	5	
As	75	2	72	0.094	ppb	25.5	31	1	
Se	78	1	72	0.042	ppb	32.8	29	1	
Sr	88	2	72	0.019	ppb	2.4	20	0.5	
Zr	90	2	72	-0.400	ppb	-662.6	87	1	
Nb	93	2	72	2.386	ppb	7.9	9277	2	>RL
Mo	95	2	115	0.004	ppb	501.5	53	0.5	
Pd	105	2	115	0.005	ppb	204.0	43	1	
Ag	107	2	115	0.003	ppb	286.2	53	1	
Cd	111	2	115	0.000	ppb	7701.8	3	0.5	
Sn	120	2	115	0.059	ppb	78.2	310	1	
Sb	121	2	115	0.292	ppb	32.0	347	0.6	
Ba	137	2	115	-0.036	ppb	-1.0	10	0.5	
W	182	2	165	0.037	ppb	130.3	1874	1	
Pt	195	2	165	0.016	ppb	33.1	83	1	
Tl	205	2	165	0.019	ppb	64.8	270	0.1	
Pb	208	2	165	0.041	ppb	16.7	1370	0.5	
Th	232	2	165	0.038	ppb	17.9	787	1	
U	238	2	165	0.020	ppb	34.6	450	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1736935	0.29	1841092	94.34	60	120	
Sc (IS)	45	1	HMI H2	31358903	0.48	34041789	92.12	60	120	
Sc (IS)	45	2	HMI He	922495	0.99	989699	93.21	60	120	
Sc (IS)	45	3	No Gas	53371139	0.83	58466742	91.28	60	120	
Ge Internal Standard	72	1	HMI H2	12945879	0.96	14056514	92.10	60	120	
Ge Internal Standard	72	2	HMI He	1075308	1.28	1155188	93.09	60	120	
In Internal Standard	115	2	HMI He	3679307	1.28	3786036	97.18	60	120	
Ho-165	165	2	HMI He	18420859	0.40	18554642	99.28	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	083LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:56:02-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	27.815	ppb	7.289	6894624	50	55.6	70	130	>+/-30%
Be	9	1	6	0.897	ppb	26.961	443	1	89.7	70	130	
Na	23	2	45	81.709	ppb	3.019	39213	50	163.4	70	130	>+/-30%
Mg	24	2	45	47.197	ppb	4.802	5291	50	94.4	70	130	
Al	27	2	45	31.620	ppb	9.639	883	30	105.4	70	130	
K	39	2	45	82.482	ppb	7.655	24341	100	82.5	70	130	
Ca	44	2	45	57.148	ppb	21.497	190	50	114.3	70	130	
V	51	2	72	5.437	ppb	5.623	9760	5	108.7	70	130	
Cr	52	2	72	1.890	ppb	2.896	2977	2	94.5	70	130	
Mn	55	2	72	1.002	ppb	29.325	613	1	100.2	70	130	
Fe	57	2	72	61.635	ppb	2.317	1804	50	123.3	70	130	
Co	59	2	72	0.999	ppb	4.338	2477	1	99.9	70	130	
Ni	60	2	72	1.979	ppb	5.404	1570	2	99.0	70	130	
Cu	63	2	72	2.206	ppb	4.272	5625	2	110.3	70	130	
Zn	66	2	72	10.570	ppb	2.399	2984	10	105.7	70	130	
As	75	2	72	4.772	ppb	5.695	868	5	95.4	70	130	
Se	78	1	72	4.862	ppb	7.247	1529	5	97.2	70	130	
Sr	88	2	72	0.947	ppb	11.061	547	1	94.7	70	130	
Zr	90	2	72	34.916	ppb	7.395	643	0.5	6983.1	70	130	>+/-30%
Nb	93	2	72	4.933	ppb	4.290	18313	2	246.6	70	130	>+/-30%
Mo	95	2	115	1.914	ppb	18.387	1944	2	95.7	70	130	
Pd	105	2	115	0.009	ppb	68.769	50	1	0.9	70	130	>+/-30%
Ag	107	2	115	4.837	ppb	2.428	16237	5	96.7	70	130	
Cd	111	2	115	0.890	ppb	16.505	380	1	89.0	70	130	
Sn	120	2	115	9.895	ppb	2.471	11162	10	98.9	70	130	
Sb	121	2	115	1.976	ppb	4.901	2054	2	98.8	70	130	
Ba	137	2	115	1.082	ppb	25.438	400	1	108.2	70	130	
W	182	2	165	4.913	ppb	2.443	25148	1	491.3	70	130	>+/-30%
Pt	195	2	165	0.037	ppb	44.907	167	1	3.7	70	130	>+/-30%
Tl	205	2	165	1.059	ppb	1.132	9270	1	105.9	70	130	
Pb	208	2	165	1.040	ppb	3.883	12947	1	104.0	70	130	
Th	232	2	165	1.905	ppb	1.522	28078	2	95.2	70	130	
U	238	2	165	0.935	ppb	6.334	14913	1	93.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1768172	1.32	1841092	96.04	60	120	
Sc (IS)	45	1	HMI H2	31131045	0.65	34041789	91.45	60	120	
Sc (IS)	45	2	HMI He	921238	0.43	989699	93.08	60	120	
Sc (IS)	45	3	No Gas	53585399	0.75	58466742	91.65	60	120	
Ge Internal Standard	72	1	HMI H2	12741909	0.86	14056514	90.65	60	120	
Ge Internal Standard	72	2	HMI He	1076403	0.32	1155188	93.18	60	120	
In Internal Standard	115	2	HMI He	3659331	0.14	3786036	96.65	60	120	
Ho-165	165	2	HMI He	18460117	0.69	18554642	99.49	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-4-e
Data File Name	084SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:59:50-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	125.701	ppb	125.701	3.08	227819	500000	
Li	7	2	45	125.563	ppb	125.563	3.06	12612	500000	
Li	7	3	45	129.126	ppb	129.126	2.80	8327472	50000	
Be	9	1	6	1.054	ppb	1.054	12.35	463	2000	
B	11	1	6	240.319	ppb	240.319	0.48	110082	2000	
Na	23	1	45	188512.851	ppb	188512.851	0.81	652128710	2000	>LDR
Na	23	2	45	182004.451	ppb	182004.451	1.09	40400532	400000	
Mg	24	2	45	5151.200	ppb	5151.200	1.02	522469	400000	
Al	27	2	45	12556.296	ppb	12556.296	0.76	301378	400000	
K	39	1	45	8952.282	ppb	8952.282	1.07	41163190	400000	
K	39	2	45	10053.474	ppb	10053.474	0.60	526370	400000	
Ca	40	1	45	73415.470	ppb	73415.470	0.31	385275381	400000	
Ca	44	2	45	76479.054	ppb	76479.054	0.93	208182	400000	
Ti	47	2	45	324.500	ppb	324.500	2.88	8169	4000	
V	51	2	72	28.993	ppb	28.993	1.98	33513	2000	
Cr	52	2	72	123.104	ppb	123.104	1.79	167006	5000	
Mn	55	2	72	319.762	ppb	319.762	0.63	159774	10000	
Fe	57	2	72	14839.946	ppb	14839.946	0.88	366143	400000	
Co	59	2	72	6.578	ppb	6.578	4.84	15419	2000	
Ni	60	2	72	23.484	ppb	23.484	4.11	15863	5000	
Cu	63	2	72	20.763	ppb	20.763	1.83	40234	5000	
Zn	66	2	72	554.744	ppb	554.744	0.66	132488	5000	
As	75	2	72	25.351	ppb	25.351	2.72	4326	2000	
Se	78	1	72	2.206	ppb	2.206	16.93	664	2000	
Sr	88	2	72	1108.760	ppb	1108.760	0.91	598475	4000	
Zr	90	2	72	1340.200	ppb	1340.200	1.39	20162	1000	
Nb	93	2	72	1.334	ppb	1.334	3.82	5281	200	
Mo	95	2	115	10.723	ppb	10.723	2.44	10067	2000	
Pd	105	2	115	0.030	ppb	0.030	88.33	77	100	
Ag	107	2	115	0.086	ppb	0.086	28.50	310	100	
Cd	111	2	115	0.109	ppb	0.109	34.38	47	2000	
Sn	120	2	115	1.366	ppb	1.366	11.25	1650	2000	
Sb	121	2	115	0.472	ppb	0.472	20.77	497	1000	
Ba	137	2	115	139.532	ppb	139.532	1.00	45941	5000	
W	182	2	165	0.637	ppb	0.637	4.85	4601	100	
Pt	195	2	165	0.003	ppb	0.003	187.93	30	100	
Tl	205	2	165	0.215	ppb	0.215	18.90	1910	2000	
Pb	208	2	165	10.956	ppb	10.956	0.62	123982	5000	
Th	232	2	165	8.181	ppb	8.181	1.94	116297	2000	
U	238	2	165	7.112	ppb	7.112	2.29	109134	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1586880	0.95	1841092	86.19	60	120	
Sc (IS)	45	1	HMI H2	29763098	0.64	34041789	87.43	60	120	
Sc (IS)	45	2	HMI He	884258	0.42	989699	89.35	60	120	
Sc (IS)	45	3	No Gas	51658846	0.44	58466742	88.36	60	120	
Ge Internal Standard	72	1	HMI H2	12055839	0.73	14056514	85.77	60	120	
Ge Internal Standard	72	2	HMI He	1023556	0.79	1155188	88.61	60	120	
In Internal Standard	115	2	HMI He	3453252	0.82	3786036	91.21	60	120	
Ho-165	165	2	HMI He	17913151	0.72	18554642	96.54	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-4-eSD@5
Data File Name	085SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:03:36-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	31.843	ppb	31.843	18.36	189703	500000	
Li	7	2	45	16.727	ppb	16.727	105.38	10214	500000	
Li	7	3	45	41.721	ppb	41.721	4.66	6903651	50000	
Be	9	1	6	0.262	ppb	0.262	17.63	137	2000	
B	11	1	6	49.359	ppb	49.359	2.53	24477	2000	
Na	23	1	45	40900.431	ppb	40900.431	0.73	145006391	2000	>LDR
Na	23	2	45	39788.999	ppb	39788.999	0.57	9039603	400000	
Mg	24	2	45	1094.249	ppb	1094.249	2.27	113630	400000	
Al	27	2	45	2725.703	ppb	2725.703	1.64	66923	400000	
K	39	1	45	1888.833	ppb	1888.833	1.65	17377978	400000	
K	39	2	45	2119.429	ppb	2119.429	2.16	128863	400000	
Ca	40	1	45	15661.612	ppb	15661.612	0.34	84153772	400000	
Ca	44	2	45	16463.688	ppb	16463.688	2.20	45810	400000	
Ti	47	2	45	71.458	ppb	71.458	1.99	1840	4000	
V	51	2	72	6.118	ppb	6.118	9.91	10294	2000	
Cr	52	2	72	25.886	ppb	25.886	2.05	36430	5000	
Mn	55	2	72	65.756	ppb	65.756	2.30	33944	10000	
Fe	57	2	72	3152.683	ppb	3152.683	0.51	80366	400000	
Co	59	2	72	1.400	ppb	1.400	3.87	3397	2000	
Ni	60	2	72	5.204	ppb	5.204	11.44	3761	5000	
Cu	63	2	72	4.305	ppb	4.305	1.85	9584	5000	
Zn	66	2	72	115.220	ppb	115.220	0.65	28636	5000	
As	75	2	72	5.577	ppb	5.577	4.19	992	2000	
Se	78	1	72	0.469	ppb	0.469	21.00	160	2000	
Sr	88	2	72	233.223	ppb	233.223	0.82	129806	4000	
Zr	90	2	72	278.160	ppb	278.160	2.04	4388	1000	
Nb	93	2	72	0.269	ppb	0.269	15.27	1740	200	
Mo	95	2	115	2.043	ppb	2.043	6.17	2047	2000	
Pd	105	2	115	0.010	ppb	0.010	5.63	50	100	
Ag	107	2	115	0.009	ppb	0.009	95.57	70	100	
Cd	111	2	115	0.033	ppb	0.033	155.84	17	2000	
Sn	120	2	115	0.187	ppb	0.187	14.92	443	2000	
Sb	121	2	115	0.139	ppb	0.139	23.41	187	1000	
Ba	137	2	115	29.075	ppb	29.075	1.03	10044	5000	
W	182	2	165	0.109	ppb	0.109	14.30	2190	100	
Pt	195	2	165	-0.002	ppb	-0.002	-178.12	10	100	
Tl	205	2	165	0.042	ppb	0.042	24.43	460	2000	
Pb	208	2	165	2.450	ppb	2.450	0.83	28827	5000	
Th	232	2	165	1.700	ppb	1.700	3.48	24711	2000	
U	238	2	165	1.446	ppb	1.446	1.76	22641	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1692565	1.16	1841092	91.93	60	120	
Sc (IS)	45	1	HMI H2	30457498	0.63	34041789	89.47	60	120	
Sc (IS)	45	2	HMI He	903501	0.56	989699	91.29	60	120	
Sc (IS)	45	3	No Gas	51855378	0.67	58466742	88.69	60	120	
Ge Internal Standard	72	1	HMI H2	12601139	0.74	14056514	89.65	60	120	
Ge Internal Standard	72	2	HMI He	1055440	0.58	1155188	91.37	60	120	
In Internal Standard	115	2	HMI He	3616769	1.68	3786036	95.53	60	120	
Ho-165	165	2	HMI He	18183017	0.54	18554642	98.00	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-4-f ms
Data File Name	086SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:07:22-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	209.617	ppb	209.617	2.96	261922	500000	
Li	7	2	45	195.087	ppb	195.087	6.49	14374	500000	
Li	7	3	45	194.420	ppb	194.420	3.45	9468813	50000	
Be	9	1	6	41.395	ppb	41.395	3.70	17231	2000	
B	11	1	6	267.094	ppb	267.094	2.67	120156	2000	
Na	23	1	45	183547.843	ppb	183547.843	0.50	625789297	2000	>LDR
Na	23	2	45	175443.531	ppb	175443.531	0.48	39191357	400000	
Mg	24	2	45	4970.005	ppb	4970.005	0.12	507295	400000	
Al	27	2	45	12814.983	ppb	12814.983	0.94	309555	400000	
K	39	1	45	8619.795	ppb	8619.795	1.05	39446249	400000	
K	39	2	45	9705.005	ppb	9705.005	0.40	512018	400000	
Ca	40	1	45	71393.179	ppb	71393.179	0.88	369247608	400000	
Ca	44	2	45	74578.398	ppb	74578.398	1.10	204302	400000	
Ti	47	2	45	317.178	ppb	317.178	8.31	8033	4000	
V	51	2	72	68.004	ppb	68.004	0.88	74148	2000	
Cr	52	2	72	154.334	ppb	154.334	1.13	210723	5000	
Mn	55	2	72	344.457	ppb	344.457	1.80	173284	10000	
Fe	57	2	72	14586.288	ppb	14586.288	1.23	362343	400000	
Co	59	2	72	45.596	ppb	45.596	1.58	107529	2000	
Ni	60	2	72	62.180	ppb	62.180	1.63	41992	5000	
Cu	63	2	72	58.326	ppb	58.326	1.59	111621	5000	
Zn	66	2	72	571.206	ppb	571.206	0.93	137337	5000	
As	75	2	72	60.957	ppb	60.957	1.45	10450	2000	
Se	78	1	72	38.404	ppb	38.404	1.16	11241	2000	
Sr	88	2	72	1125.424	ppb	1125.424	0.89	611595	4000	
Zr	90	2	72	4543.940	ppb	4543.940	0.88	68609	1000	
Nb	93	2	72	0.977	ppb	0.977	1.64	4104	200	
Mo	95	2	115	46.140	ppb	46.140	2.28	43541	2000	
Pd	105	2	115	0.018	ppb	0.018	115.23	60	100	
Ag	107	2	115	38.512	ppb	38.512	0.78	122785	100	
Cd	111	2	115	39.590	ppb	39.590	3.36	15950	2000	
Sn	120	2	115	25.762	ppb	25.762	2.26	27291	2000	
Sb	121	2	115	27.961	ppb	27.961	4.56	27041	1000	
Ba	137	2	115	175.241	ppb	175.241	3.36	58184	5000	
W	182	2	165	8.513	ppb	8.513	1.53	41596	100	
Pt	195	2	165	0.001	ppb	0.001	309.12	23	100	
Tl	205	2	165	38.637	ppb	38.637	0.42	328443	2000	
Pb	208	2	165	49.404	ppb	49.404	0.18	562930	5000	
Th	232	2	165	44.886	ppb	44.886	0.24	645002	2000	
U	238	2	165	44.305	ppb	44.305	0.75	687672	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1559217	0.76	1841092	84.69	60	120	
Sc (IS)	45	1	HMI H2	29331965	0.40	34041789	86.16	60	120	
Sc (IS)	45	2	HMI He	889868	0.82	989699	89.91	60	120	
Sc (IS)	45	3	No Gas	51981929	1.50	58466742	88.91	60	120	
Ge Internal Standard	72	1	HMI H2	11965187	0.55	14056514	85.12	60	120	
Ge Internal Standard	72	2	HMI He	1030518	0.78	1155188	89.21	60	120	
In Internal Standard	115	2	HMI He	3483785	1.90	3786036	92.02	60	120	
Ho-165	165	2	HMI He	18136169	0.82	18554642	97.74	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-4-g msd
Data File Name	087SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:11:10-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	201.387	ppb	201.387	3.74	259581	500000	
Li	7	2	45	168.400	ppb	168.400	17.31	13850	500000	
Li	7	3	45	196.486	ppb	196.486	4.73	9484756	50000	
Be	9	1	6	40.126	ppb	40.126	1.51	16820	2000	
B	11	1	6	262.530	ppb	262.530	0.78	118939	2000	
Na	23	1	45	184359.982	ppb	184359.982	0.18	631794417	2000	>LDR
Na	23	2	45	173790.279	ppb	173790.279	1.69	39175985	400000	
Mg	24	2	45	4854.315	ppb	4854.315	1.19	500040	400000	
Al	27	2	45	12425.839	ppb	12425.839	1.30	302905	400000	
K	39	1	45	8594.348	ppb	8594.348	0.67	39562930	400000	
K	39	2	45	9576.094	ppb	9576.094	1.11	510124	400000	
Ca	40	1	45	71246.243	ppb	71246.243	0.55	370379488	400000	
Ca	44	2	45	74065.061	ppb	74065.061	1.49	204777	400000	
Ti	47	2	45	315.349	ppb	315.349	7.40	8056	4000	
V	51	2	72	66.249	ppb	66.249	1.89	72699	2000	
Cr	52	2	72	152.893	ppb	152.893	0.46	209832	5000	
Mn	55	2	72	337.316	ppb	337.316	1.55	170578	10000	
Fe	57	2	72	14237.432	ppb	14237.432	0.28	355509	400000	
Co	59	2	72	45.001	ppb	45.001	0.31	106687	2000	
Ni	60	2	72	61.392	ppb	61.392	1.12	41681	5000	
Cu	63	2	72	57.867	ppb	57.867	0.27	111322	5000	
Zn	66	2	72	567.681	ppb	567.681	1.55	137188	5000	
As	75	2	72	61.473	ppb	61.473	1.32	10594	2000	
Se	78	1	72	39.170	ppb	39.170	2.11	11482	2000	
Sr	88	2	72	1123.283	ppb	1123.283	0.26	613579	4000	
Zr	90	2	72	4577.438	ppb	4577.438	1.53	69484	1000	
Nb	93	2	72	0.897	ppb	0.897	5.66	3854	200	
Mo	95	2	115	45.832	ppb	45.832	0.94	43829	2000	
Pd	105	2	115	0.042	ppb	0.042	90.42	97	100	
Ag	107	2	115	38.118	ppb	38.118	1.23	123125	100	
Cd	111	2	115	37.996	ppb	37.996	1.88	15516	2000	
Sn	120	2	115	25.273	ppb	25.273	1.16	27134	2000	
Sb	121	2	115	28.506	ppb	28.506	1.78	27939	1000	
Ba	137	2	115	170.029	ppb	170.029	1.24	57207	5000	
W	182	2	165	9.533	ppb	9.533	1.18	45806	100	
Pt	195	2	165	-0.002	ppb	-0.002	-106.97	10	100	
Tl	205	2	165	39.118	ppb	39.118	0.62	328419	2000	
Pb	208	2	165	49.552	ppb	49.552	1.22	557635	5000	
Th	232	2	165	45.221	ppb	45.221	0.37	641844	2000	
U	238	2	165	44.324	ppb	44.324	0.46	679495	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1570095	1.34	1841092	85.28	60	120	
Sc (IS)	45	1	HMI H2	29483232	0.33	34041789	86.61	60	120	
Sc (IS)	45	2	HMI He	898172	1.99	989699	90.75	60	120	
Sc (IS)	45	3	No Gas	51880583	0.95	58466742	88.74	60	120	
Ge Internal Standard	72	1	HMI H2	11983621	0.52	14056514	85.25	60	120	
Ge Internal Standard	72	2	HMI He	1035882	1.26	1155188	89.67	60	120	
In Internal Standard	115	2	HMI He	3529277	1.22	3786036	93.22	60	120	
Ho-165	165	2	HMI He	17913289	1.40	18554642	96.54	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-4-e PDS
Data File Name	088SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:14:57-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	121.051	ppb	121.051	4.02	225665	500000	
Li	7	2	45	100.753	ppb	100.753	16.50	12299	500000	
Li	7	3	45	116.700	ppb	116.700	2.19	8098566	50000	
Be	9	1	6	211.298	ppb	211.298	0.95	87648	2000	
B	11	1	6	243.451	ppb	243.451	0.32	109256	2000	
Na	23	1	45	188399.568	ppb	188399.568	1.09	651586284	2000	>LDR
Na	23	2	45	177217.635	ppb	177217.635	0.04	40265912	400000	
Mg	24	2	45	5025.111	ppb	5025.111	1.05	521675	400000	
Al	27	2	45	13720.229	ppb	13720.229	0.56	337089	400000	
K	39	1	45	8975.925	ppb	8975.925	0.70	41237129	400000	
K	39	2	45	9936.479	ppb	9936.479	0.89	532719	400000	
Ca	40	1	45	73018.100	ppb	73018.100	0.33	383112488	400000	
Ca	44	2	45	75769.468	ppb	75769.468	0.77	211133	400000	
Ti	47	2	45	346.825	ppb	346.825	0.94	8937	4000	
V	51	2	72	230.987	ppb	230.987	0.54	246649	2000	
Cr	52	2	72	316.540	ppb	316.540	1.01	438445	5000	
Mn	55	2	72	517.889	ppb	517.889	0.75	264412	10000	
Fe	57	2	72	15385.478	ppb	15385.478	1.51	387917	400000	
Co	59	2	72	205.956	ppb	205.956	0.70	493008	2000	
Ni	60	2	72	217.525	ppb	217.525	0.52	148697	5000	
Cu	63	2	72	217.396	ppb	217.396	1.18	418926	5000	
Zn	66	2	72	741.071	ppb	741.071	1.40	180797	5000	
As	75	2	72	218.303	ppb	218.303	1.58	37954	2000	
Se	78	1	72	196.303	ppb	196.303	0.50	57744	2000	
Sr	88	2	72	1120.609	ppb	1120.609	0.46	618200	4000	
Zr	90	2	72	11320.555	ppb	11320.555	1.08	173399	1000	>LDR
Nb	93	2	72	2.626	ppb	2.626	11.05	9857	200	
Mo	95	2	115	103.258	ppb	103.258	2.59	99192	2000	
Pd	105	2	115	0.071	ppb	0.071	17.01	140	100	
Ag	107	2	115	39.924	ppb	39.924	0.43	129630	100	
Cd	111	2	115	195.498	ppb	195.498	0.98	80233	2000	
Sn	120	2	115	99.127	ppb	99.127	0.80	106297	2000	
Sb	121	2	115	99.604	ppb	99.604	1.56	98040	1000	
Ba	137	2	115	339.963	ppb	339.963	0.99	114963	5000	
W	182	2	165	93.946	ppb	93.946	0.58	441819	100	
Pt	195	2	165	0.049	ppb	0.049	26.83	210	100	
Tl	205	2	165	213.612	ppb	213.612	1.14	1813804	2000	
Pb	208	2	165	214.352	ppb	214.352	1.93	2437179	5000	
Th	232	2	165	20.436	ppb	20.436	0.18	293522	2000	
U	238	2	165	212.828	ppb	212.828	0.53	3299860	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1554774	0.54	1841092	84.45	60	120	
Sc (IS)	45	1	HMI H2	29756705	0.71	34041789	87.41	60	120	
Sc (IS)	45	2	HMI He	905131	1.30	989699	91.46	60	120	
Sc (IS)	45	3	No Gas	51512976	0.49	58466742	88.11	60	120	
Ge Internal Standard	72	1	HMI H2	12037386	0.76	14056514	85.64	60	120	
Ge Internal Standard	72	2	HMI He	1046118	1.28	1155188	90.56	60	120	
In Internal Standard	115	2	HMI He	3547825	1.14	3786036	93.71	60	120	
Ho-165	165	2	HMI He	18120127	0.68	18554642	97.66	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-5-b
Data File Name	089SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:18:44-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	7.762	ppb	7.762	104.79	179412	500000	
Li	7	2	45	-19.419	ppb	-19.419	-143.81	9587	500000	
Li	7	3	45	2.558	ppb	2.558	144.66	6435017	50000	
Be	9	1	6	0.201	ppb	0.201	16.75	107	2000	
B	11	1	6	4.486	ppb	4.486	8.78	2577	2000	
Na	23	1	45	547.775	ppb	547.775	4.91	2218320	2000	
Na	23	2	45	408.316	ppb	408.316	4.29	115677	400000	
Mg	24	2	45	5.169	ppb	5.169	11.25	860	400000	
Al	27	2	45	15.728	ppb	15.728	14.48	490	400000	
K	39	1	45	-1421.392	ppb	-1421.392	-0.59	5807953	400000	
K	39	2	45	-14.658	ppb	-14.658	-69.40	19400	400000	
Ca	40	1	45	169.353	ppb	169.353	10.40	969820	400000	
Ca	44	2	45	138.306	ppb	138.306	11.72	423	400000	
Ti	47	2	45	0.881	ppb	0.881	128.68	27	4000	
V	51	2	72	-1.141	ppb	-1.141	-3.73	2660	2000	
Cr	52	2	72	0.354	ppb	0.354	14.77	793	5000	
Mn	55	2	72	0.529	ppb	0.529	31.38	367	10000	
Fe	57	2	72	24.632	ppb	24.632	20.42	850	400000	
Co	59	2	72	0.109	ppb	0.109	11.30	287	2000	
Ni	60	2	72	0.169	ppb	0.169	14.40	300	5000	
Cu	63	2	72	0.188	ppb	0.188	57.95	1644	5000	
Zn	66	2	72	2.615	ppb	2.615	36.04	997	5000	
As	75	2	72	0.194	ppb	0.194	49.36	50	2000	
Se	78	1	72	0.235	ppb	0.235	29.28	88	2000	
Sr	88	2	72	1.455	ppb	1.455	7.87	840	4000	
Zr	90	2	72	14.903	ppb	14.903	12.33	330	1000	
Nb	93	2	72	-0.049	ppb	-0.049	-25.66	653	200	
Mo	95	2	115	0.118	ppb	0.118	20.69	167	2000	
Pd	105	2	115	-0.014	ppb	-0.014	-69.00	13	100	
Ag	107	2	115	0.028	ppb	0.028	23.40	137	100	
Cd	111	2	115	0.133	ppb	0.133	47.64	60	2000	
Sn	120	2	115	0.308	ppb	0.308	71.67	587	2000	
Sb	121	2	115	0.060	ppb	0.060	75.78	110	1000	
Ba	137	2	115	0.428	ppb	0.428	31.63	173	5000	
W	182	2	165	0.097	ppb	0.097	33.27	2180	100	
Pt	195	2	165	-0.001	ppb	-0.001	-173.12	17	100	
Tl	205	2	165	0.115	ppb	0.115	25.62	1110	2000	
Pb	208	2	165	0.155	ppb	0.155	9.15	2710	5000	
Th	232	2	165	0.034	ppb	0.034	11.62	740	2000	
U	238	2	165	0.168	ppb	0.168	13.55	2817	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1652678	0.76	1841092	89.77	60	120	
Sc (IS)	45	1	HMI H2	30600714	0.41	34041789	89.89	60	120	
Sc (IS)	45	2	HMI He	929253	1.47	989699	93.89	60	120	
Sc (IS)	45	3	No Gas	53377776	1.04	58466742	91.30	60	120	
Ge Internal Standard	72	1	HMI H2	12627572	0.59	14056514	89.83	60	120	
Ge Internal Standard	72	2	HMI He	1083191	1.14	1155188	93.77	60	120	
In Internal Standard	115	2	HMI He	3685087	0.98	3786036	97.33	60	120	
Ho-165	165	2	HMI He	18592905	0.84	18554642	100.21	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	090_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:22:32-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	541.727	ppb	0.286	426855	500	108.3	90	110	
Li	7	2	45	511.914	ppb	4.672	22534	500	102.4	90	110	
Li	7	3	45	535.648	ppb	0.866	15186244	500	107.1	90	110	
Be	9	1	6	50.895	ppb	3.263	22741	50	101.8	90	110	
B	11	1	6	51.741	ppb	4.736	25356	50	103.5	90	110	
Na	23	1	45	5495.489	ppb	0.106	19773308	5000	109.9	90	110	
Na	23	2	45	5470.507	ppb	0.555	1269043	5000	109.4	90	110	
Mg	24	2	45	4982.418	ppb	0.712	520051	5000	99.6	90	110	
Al	27	2	45	5332.090	ppb	1.219	131764	5000	106.6	90	110	
K	39	1	45	5274.212	ppb	0.528	29322286	5000	105.5	90	110	
K	39	2	45	5177.507	ppb	0.591	288540	5000	103.6	90	110	
Ca	40	1	45	5191.462	ppb	0.375	28012497	5000	103.8	90	110	
Ca	44	2	45	5195.469	ppb	2.156	14581	5000	103.9	90	110	
Ti	47	2	45	52.153	ppb	1.229	1353	50	104.3	90	110	
V	51	2	72	49.564	ppb	0.800	56828	50	99.1	90	110	
Cr	52	2	72	49.566	ppb	0.898	70049	50	99.1	90	110	
Mn	55	2	72	51.775	ppb	2.823	26959	50	103.6	90	110	
Fe	57	2	72	5036.122	ppb	0.579	129267	5000	100.7	90	110	
Co	59	2	72	49.840	ppb	1.323	121333	50	99.7	90	110	
Ni	60	2	72	49.444	ppb	4.626	34502	50	98.9	90	110	
Cu	63	2	72	48.808	ppb	1.884	96619	50	97.6	90	110	
Zn	66	2	72	48.703	ppb	4.098	12389	50	97.4	90	110	
As	75	2	72	48.119	ppb	0.872	8520	50	96.2	90	110	
Se	78	1	72	49.109	ppb	3.280	15053	50	98.2	90	110	
Sr	88	2	72	50.930	ppb	3.802	28580	50	101.9	90	110	
Zr	90	2	72	60.480	ppb	8.035	1033	50	121.0	90	110	>+\-10%
Nb	93	2	72	91.300	ppb	1.303	320753	100	91.3	90	110	
Mo	95	2	115	46.746	ppb	1.861	45785	50	93.5	90	110	
Pd	105	2	115	49.554	ppb	0.249	75456	50	99.1	90	110	
Ag	107	2	115	47.562	ppb	0.602	157339	50	95.1	90	110	
Cd	111	2	115	48.079	ppb	4.705	20109	50	96.2	90	110	
Sn	120	2	115	49.967	ppb	2.165	54716	50	99.9	90	110	
Sb	121	2	115	50.200	ppb	2.502	50373	50	100.4	90	110	
Ba	137	2	115	47.599	ppb	1.860	16417	50	95.2	90	110	
W	182	2	165	48.889	ppb	0.597	231250	50	97.8	90	110	
Pt	195	2	165	48.740	ppb	0.710	191037	50	97.5	90	110	
Tl	205	2	165	50.683	ppb	1.047	431380	50	101.4	90	110	
Pb	208	2	165	50.796	ppb	0.504	579574	50	101.6	90	110	
Th	232	2	165	46.987	ppb	1.594	676052	50	94.0	90	110	
U	238	2	165	47.051	ppb	0.828	731281	50	94.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1673949	0.49	1841092	90.92	60	120	
Sc (IS)	45	1	HMI H2	30544704	0.32	34041789	89.73	60	120	
Sc (IS)	45	2	HMI He	909987	1.46	989699	91.95	60	120	
Sc (IS)	45	3	No Gas	52052163	1.09	58466742	89.03	60	120	
Ge Internal Standard	72	1	HMI H2	12535898	1.01	14056514	89.18	60	120	
Ge Internal Standard	72	2	HMI He	1063796	0.74	1155188	92.09	60	120	
In Internal Standard	115	2	HMI He	3614794	1.09	3786036	95.48	60	120	
Ho-165	165	2	HMI He	18162138	1.44	18554642	97.88	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	091_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:26:18-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	11.182	ppb	31.7	6441955	10	>RL
Be	9	1	6	0.004	ppb	595.2	20	0.5	
B	11	1	6	1.947	ppb	13.4	1407	0.5	>RL
Na	23	1	45	101.213	ppb	0.5	625824	25	>RL
Na	23	2	45	91.924	ppb	2.2	40660	25	>RL
Mg	24	2	45	-0.033	ppb	-5153.0	297	25	
Al	27	2	45	3.777	ppb	37.6	183	15	
K	39	1	45	16.945	ppb	144.2	10783919	50	
K	39	2	45	-21.920	ppb	-22.9	18439	50	
Ca	40	1	45	5.118	ppb	2.1	83317	50	
Ca	44	2	45	8.108	ppb	201.9	50	25	
Ti	47	2	45	-0.118	ppb	0.0	0	0.5	
V	51	2	72	0.865	ppb	43.4	4708	1	
Cr	52	2	72	-0.047	ppb	-29.5	213	1	
Mn	55	2	72	0.108	ppb	97.7	140	0.5	
Fe	57	2	72	3.808	ppb	96.1	297	25	
Co	59	2	72	0.019	ppb	45.7	60	0.5	
Ni	60	2	72	0.036	ppb	87.7	200	1	
Cu	63	2	72	0.187	ppb	105.6	1594	1	
Zn	66	2	72	0.036	ppb	649.0	337	5	
As	75	2	72	0.057	ppb	169.5	24	1	
Se	78	1	72	0.076	ppb	43.6	39	1	
Sr	88	2	72	0.073	ppb	48.4	50	0.5	
Zr	90	2	72	-1.814	ppb	-55.2	63	1	
Nb	93	2	72	2.293	ppb	9.4	8756	2	>RL
Mo	95	2	115	0.040	ppb	157.6	87	0.5	
Pd	105	2	115	0.027	ppb	78.5	77	1	
Ag	107	2	115	0.024	ppb	46.1	120	1	
Cd	111	2	115	0.016	ppb	148.2	10	0.5	
Sn	120	2	115	0.071	ppb	111.0	317	1	
Sb	121	2	115	0.321	ppb	31.6	370	0.6	
Ba	137	2	115	-0.055	ppb	-30.1	3	0.5	
W	182	2	165	0.008	ppb	282.9	1707	1	
Pt	195	2	165	0.004	ppb	88.8	37	1	
Tl	205	2	165	0.017	ppb	38.7	247	0.1	
Pb	208	2	165	0.034	ppb	36.5	1270	0.5	
Th	232	2	165	0.035	ppb	15.6	730	1	
U	238	2	165	0.017	ppb	7.3	407	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1695178	0.84	1841092	92.07	60	120	
Sc (IS)	45	1	HMI H2	30356084	0.20	34041789	89.17	60	120	
Sc (IS)	45	2	HMI He	900974	0.74	989699	91.04	60	120	
Sc (IS)	45	3	No Gas	52237626	0.90	58466742	89.35	60	120	
Ge Internal Standard	72	1	HMI H2	12485719	0.52	14056514	88.83	60	120	
Ge Internal Standard	72	2	HMI He	1052518	0.74	1155188	91.11	60	120	
In Internal Standard	115	2	HMI He	3613310	1.16	3786036	95.44	60	120	
Ho-165	165	2	HMI He	18119268	0.55	18554642	97.65	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	092LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:30:07-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	31.002	ppb	12.317	6713110	50	62.0	70	130	>+/-30%
Be	9	1	6	0.975	ppb	29.532	457	1	97.5	70	130	
Na	23	2	45	107.107	ppb	1.612	43973	50	214.2	70	130	>+/-30%
Mg	24	2	45	50.926	ppb	1.338	5545	50	101.9	70	130	
Al	27	2	45	34.010	ppb	6.120	920	30	113.4	70	130	
K	39	2	45	77.169	ppb	17.570	23466	100	77.2	70	130	
Ca	44	2	45	32.310	ppb	32.094	117	50	64.6	70	130	>+/-30%
V	51	2	72	5.432	ppb	6.210	9477	5	108.6	70	130	
Cr	52	2	72	2.004	ppb	0.647	3050	2	100.2	70	130	
Mn	55	2	72	1.082	ppb	21.561	637	1	108.2	70	130	
Fe	57	2	72	50.974	ppb	2.349	1483	50	101.9	70	130	
Co	59	2	72	1.125	ppb	7.102	2707	1	112.5	70	130	
Ni	60	2	72	2.069	ppb	7.331	1587	2	103.4	70	130	
Cu	63	2	72	2.085	ppb	4.213	5231	2	104.2	70	130	
Zn	66	2	72	10.548	ppb	3.604	2894	10	105.5	70	130	
As	75	2	72	4.643	ppb	1.080	821	5	92.9	70	130	
Se	78	1	72	5.098	ppb	10.138	1564	5	102.0	70	130	
Sr	88	2	72	1.059	ppb	12.009	593	1	105.9	70	130	
Zr	90	2	72	16.055	ppb	73.165	337	0.5	3211.0	70	130	>+/-30%
Nb	93	2	72	4.468	ppb	4.927	16193	2	223.4	70	130	>+/-30%
Mo	95	2	115	1.802	ppb	10.163	1807	2	90.1	70	130	
Pd	105	2	115	-0.003	ppb	-664.654	30	1	-0.3	70	130	>+/-30%
Ag	107	2	115	5.028	ppb	2.592	16641	5	100.6	70	130	
Cd	111	2	115	1.013	ppb	34.781	427	1	101.3	70	130	
Sn	120	2	115	9.748	ppb	5.575	10848	10	97.5	70	130	
Sb	121	2	115	2.222	ppb	6.674	2270	2	111.1	70	130	
Ba	137	2	115	0.790	ppb	29.043	293	1	79.0	70	130	
W	182	2	165	4.902	ppb	0.666	24804	1	490.2	70	130	>+/-30%
Pt	195	2	165	0.014	ppb	61.522	77	1	1.4	70	130	>+/-30%
Tl	205	2	165	1.006	ppb	1.916	8703	1	100.6	70	130	
Pb	208	2	165	1.040	ppb	1.971	12793	1	104.0	70	130	
Th	232	2	165	1.894	ppb	3.613	27600	2	94.7	70	130	
U	238	2	165	0.960	ppb	2.797	15130	1	96.0	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1689747	1.74	1841092	91.78	60	120	
Sc (IS)	45	1	HMI H2	30099157	0.63	34041789	88.42	60	120	
Sc (IS)	45	2	HMI He	898494	0.55	989699	90.78	60	120	
Sc (IS)	45	3	No Gas	51765086	1.48	58466742	88.54	60	120	
Ge Internal Standard	72	1	HMI H2	12437186	0.35	14056514	88.48	60	120	
Ge Internal Standard	72	2	HMI He	1045791	0.49	1155188	90.53	60	120	
In Internal Standard	115	2	HMI He	3609271	1.14	3786036	95.33	60	120	
Ho-165	165	2	HMI He	18244426	0.33	18554642	98.33	60	120	

Sample Report

Sample Table

Sample Name	280-116020-g-1-b
Data File Name	093SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:33:55-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	28.203	ppb	28.203	10.65	181613	500000	
Li	7	2	45	24.400	ppb	24.400	12.15	10157	500000	
Li	7	3	45	26.811	ppb	26.811	15.64	6607220	50000	
Be	9	1	6	0.021	ppb	0.021	168.23	27	2000	
B	11	1	6	26.229	ppb	26.229	0.97	12656	2000	
Na	23	1	45	12809.915	ppb	12809.915	0.34	44044473	2000	>LDR
Na	23	2	45	12560.002	ppb	12560.002	2.48	2798971	400000	
Mg	24	2	45	33958.202	ppb	33958.202	0.33	3434409	400000	
Al	27	2	45	8.129	ppb	8.129	51.29	283	400000	
K	39	1	45	873.382	ppb	873.382	2.49	13348915	400000	
K	39	2	45	2147.214	ppb	2147.214	3.07	127196	400000	
Ca	40	1	45	93500.341	ppb	93500.341	0.85	484982539	400000	
Ca	44	2	45	91880.228	ppb	91880.228	0.13	249505	400000	
Ti	47	2	45	0.283	ppb	0.283	142.60	10	4000	
V	51	2	72	-1.462	ppb	-1.462	-4.50	2214	2000	
Cr	52	2	72	0.159	ppb	0.159	45.20	493	5000	
Mn	55	2	72	256.326	ppb	256.326	1.52	129875	10000	
Fe	57	2	72	1824.065	ppb	1824.065	1.06	45807	400000	
Co	59	2	72	0.359	ppb	0.359	1.74	867	2000	
Ni	60	2	72	0.065	ppb	0.065	192.67	217	5000	
Cu	63	2	72	-0.054	ppb	-0.054	-123.84	1113	5000	
Zn	66	2	72	0.732	ppb	0.732	54.62	500	5000	
As	75	2	72	11.445	ppb	11.445	3.44	1988	2000	
Se	78	1	72	0.053	ppb	0.053	37.08	31	2000	
Sr	88	2	72	152.812	ppb	152.812	1.53	83639	4000	
Zr	90	2	72	2.193	ppb	2.193	121.07	123	1000	
Nb	93	2	72	0.428	ppb	0.428	11.76	2257	200	
Mo	95	2	115	0.755	ppb	0.755	6.87	770	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-186.19	23	100	
Ag	107	2	115	0.007	ppb	0.007	90.37	63	100	
Cd	111	2	115	0.000	ppb	0.000	3495.35	3	2000	
Sn	120	2	115	0.134	ppb	0.134	49.00	377	2000	
Sb	121	2	115	0.061	ppb	0.061	99.48	107	1000	
Ba	137	2	115	49.173	ppb	49.173	1.03	16601	5000	
W	182	2	165	-0.022	ppb	-0.022	-100.89	1544	100	
Pt	195	2	165	0.005	ppb	0.005	145.41	40	100	
Tl	205	2	165	0.007	ppb	0.007	32.85	163	2000	
Pb	208	2	165	0.075	ppb	0.075	20.32	1710	5000	
Th	232	2	165	0.039	ppb	0.039	1.80	770	2000	
U	238	2	165	0.829	ppb	0.829	4.15	12800	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1620172	0.96	1841092	88.00	60	120	
Sc (IS)	45	1	HMI H2	29418325	0.31	34041789	86.42	60	120	
Sc (IS)	45	2	HMI He	882160	1.12	989699	89.13	60	120	
Sc (IS)	45	3	No Gas	51481921	0.73	58466742	88.05	60	120	
Ge Internal Standard	72	1	HMI H2	12156064	1.17	14056514	86.48	60	120	
Ge Internal Standard	72	2	HMI He	1037859	0.38	1155188	89.84	60	120	
In Internal Standard	115	2	HMI He	3538101	0.73	3786036	93.45	60	120	
Ho-165	165	2	HMI He	17858818	0.61	18554642	96.25	60	120	

Sample Report

Sample Table

Sample Name	280-116020-e-4-b
Data File Name	094SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:37:41-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	25.198	ppb	25.198	23.10	185604	500000	
Li	7	2	45	-10.794	ppb	-10.794	-72.87	9630	500000	
Li	7	3	45	29.705	ppb	29.705	15.17	6760728	50000	
Be	9	1	6	-0.003	ppb	-0.003	-479.75	17	2000	
B	11	1	6	21.117	ppb	21.117	0.58	10447	2000	
Na	23	1	45	3664.679	ppb	3664.679	1.33	13164405	2000	
Na	23	2	45	3459.783	ppb	3459.783	0.57	811823	400000	
Mg	24	2	45	15772.552	ppb	15772.552	0.63	1649356	400000	
Al	27	2	45	21.185	ppb	21.185	16.47	617	400000	
K	39	1	45	-840.559	ppb	-840.559	-3.07	7772321	400000	
K	39	2	45	567.416	ppb	567.416	0.38	49331	400000	
Ca	40	1	45	53465.325	ppb	53465.325	1.53	285543309	400000	
Ca	44	2	45	52273.769	ppb	52273.769	2.06	146777	400000	
Ti	47	2	45	0.395	ppb	0.395	55.53	13	4000	
V	51	2	72	-1.558	ppb	-1.558	-13.48	2170	2000	
Cr	52	2	72	0.284	ppb	0.284	21.03	683	5000	
Mn	55	2	72	22.091	ppb	22.091	0.81	11572	10000	
Fe	57	2	72	39.297	ppb	39.297	21.99	1213	400000	
Co	59	2	72	0.155	ppb	0.155	31.52	393	2000	
Ni	60	2	72	0.918	ppb	0.918	5.33	817	5000	
Cu	63	2	72	0.229	ppb	0.229	19.37	1697	5000	
Zn	66	2	72	2.372	ppb	2.372	6.71	920	5000	
As	75	2	72	0.225	ppb	0.225	11.50	54	2000	
Se	78	1	72	0.028	ppb	0.028	1.80	24	2000	
Sr	88	2	72	91.162	ppb	91.162	2.19	51240	4000	
Zr	90	2	72	3.927	ppb	3.927	140.23	153	1000	
Nb	93	2	72	0.220	ppb	0.220	10.96	1587	200	
Mo	95	2	115	0.202	ppb	0.202	14.42	247	2000	
Pd	105	2	115	-0.008	ppb	-0.008	-47.49	23	100	
Ag	107	2	115	0.003	ppb	0.003	118.56	50	100	
Cd	111	2	115	0.008	ppb	0.008	167.46	7	2000	
Sn	120	2	115	0.078	ppb	0.078	125.82	327	2000	
Sb	121	2	115	0.075	ppb	0.075	45.13	123	1000	
Ba	137	2	115	10.982	ppb	10.982	8.88	3824	5000	
W	182	2	165	-0.014	ppb	-0.014	-243.83	1620	100	
Pt	195	2	165	0.000	ppb	0.000	16008.53	20	100	
Tl	205	2	165	0.011	ppb	0.011	10.52	197	2000	
Pb	208	2	165	0.081	ppb	0.081	18.33	1823	5000	
Th	232	2	165	0.032	ppb	0.032	12.44	697	2000	
U	238	2	165	0.502	ppb	0.502	2.38	7993	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1647328	0.80	1841092	89.48	60	120	
Sc (IS)	45	1	HMI H2	30289450	0.59	34041789	88.98	60	120	
Sc (IS)	45	2	HMI He	912047	0.69	989699	92.15	60	120	
Sc (IS)	45	3	No Gas	52293296	1.18	58466742	89.44	60	120	
Ge Internal Standard	72	1	HMI H2	12439069	0.65	14056514	88.49	60	120	
Ge Internal Standard	72	2	HMI He	1065721	1.44	1155188	92.26	60	120	
In Internal Standard	115	2	HMI He	3630100	1.48	3786036	95.88	60	120	
Ho-165	165	2	HMI He	18270891	1.12	18554642	98.47	60	120	

Sample Report

Sample Table

Sample Name	280-116020-g-6-b
Data File Name	095SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:41:28-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	20.114	ppb	20.114	33.25	181603	500000	
Li	7	2	45	-4.993	ppb	-4.993	-420.49	9524	500000	
Li	7	3	45	22.209	ppb	22.209	34.63	6530382	50000	
Be	9	1	6	0.127	ppb	0.127	73.72	73	2000	
B	11	1	6	70.807	ppb	70.807	2.43	33715	2000	
Na	23	1	45	3657.310	ppb	3657.310	1.02	13020096	2000	
Na	23	2	45	3529.222	ppb	3529.222	0.55	806767	400000	
Mg	24	2	45	3453.714	ppb	3453.714	0.40	352249	400000	
Al	27	2	45	466.609	ppb	466.609	5.75	11345	400000	
K	39	1	45	2059.715	ppb	2059.715	1.97	17717309	400000	
K	39	2	45	3397.066	ppb	3397.066	1.34	191588	400000	
Ca	40	1	45	49103.536	ppb	49103.536	0.87	259907909	400000	
Ca	44	2	45	48819.045	ppb	48819.045	1.61	133608	400000	
Ti	47	2	45	0.146	ppb	0.146	156.19	7	4000	
V	51	2	72	-1.711	ppb	-1.711	-15.56	1970	2000	
Cr	52	2	72	0.225	ppb	0.225	33.42	590	5000	
Mn	55	2	72	141.192	ppb	141.192	1.33	72223	10000	
Fe	57	2	72	24.319	ppb	24.319	14.14	813	400000	
Co	59	2	72	13.324	ppb	13.324	3.37	31940	2000	
Ni	60	2	72	34.279	ppb	34.279	2.57	23604	5000	
Cu	63	2	72	5.338	ppb	5.338	1.60	11498	5000	
Zn	66	2	72	66.560	ppb	66.560	2.07	16550	5000	
As	75	2	72	0.264	ppb	0.264	16.01	60	2000	
Se	78	1	72	1.464	ppb	1.464	11.77	459	2000	
Sr	88	2	72	137.571	ppb	137.571	1.09	75987	4000	
Zr	90	2	72	2.763	ppb	2.763	70.10	133	1000	
Nb	93	2	72	0.116	ppb	0.116	58.00	1200	200	
Mo	95	2	115	-0.004	ppb	-0.004	-364.86	43	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-312.54	27	100	
Ag	107	2	115	0.007	ppb	0.007	53.32	63	100	
Cd	111	2	115	1.658	ppb	1.658	8.24	690	2000	
Sn	120	2	115	0.039	ppb	0.039	110.89	280	2000	
Sb	121	2	115	0.040	ppb	0.040	145.45	87	1000	
Ba	137	2	115	16.076	ppb	16.076	1.48	5508	5000	
W	182	2	165	0.236	ppb	0.236	20.84	2757	100	
Pt	195	2	165	-0.004	ppb	-0.004	-35.53	3	100	
Tl	205	2	165	0.463	ppb	0.463	7.18	4004	2000	
Pb	208	2	165	0.995	ppb	0.995	4.05	12110	5000	
Th	232	2	165	0.021	ppb	0.021	33.55	527	2000	
U	238	2	165	0.454	ppb	0.454	2.16	7132	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1634636	1.69	1841092	88.79	60	120	
Sc (IS)	45	1	HMI H2	30016599	0.83	34041789	88.18	60	120	
Sc (IS)	45	2	HMI He	888929	0.68	989699	89.82	60	120	
Sc (IS)	45	3	No Gas	51478681	0.75	58466742	88.05	60	120	
Ge Internal Standard	72	1	HMI H2	12383807	0.94	14056514	88.10	60	120	
Ge Internal Standard	72	2	HMI He	1047285	1.01	1155188	90.66	60	120	
In Internal Standard	115	2	HMI He	3580442	1.05	3786036	94.57	60	120	
Ho-165	165	2	HMI He	17989218	0.86	18554642	96.95	60	120	

Sample Report

Sample Table

Sample Name	280-116020-e-8-b
Data File Name	096SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:45:15-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	41.530	ppb	41.530	9.92	187996	500000	
Li	7	2	45	34.060	ppb	34.060	54.91	10431	500000	
Li	7	3	45	40.622	ppb	40.622	7.49	6792581	50000	
Be	9	1	6	-0.001	ppb	-0.001	-2546.37	17	2000	
B	11	1	6	66.845	ppb	66.845	1.73	31087	2000	
Na	23	1	45	11658.597	ppb	11658.597	1.01	40200397	2000	>LDR
Na	23	2	45	11491.201	ppb	11491.201	0.55	2573882	400000	
Mg	24	2	45	32571.166	ppb	32571.166	0.72	3308242	400000	
Al	27	2	45	10.300	ppb	10.300	20.57	337	400000	
K	39	1	45	2243.020	ppb	2243.020	1.68	18024593	400000	
K	39	2	45	3589.080	ppb	3589.080	1.26	200654	400000	
Ca	40	1	45	119187.615	ppb	119187.615	1.04	619610364	400000	
Ca	44	2	45	117169.631	ppb	117169.631	0.33	319546	400000	
Ti	47	2	45	0.278	ppb	0.278	143.09	10	4000	
V	51	2	72	-1.931	ppb	-1.931	-5.44	1717	2000	
Cr	52	2	72	0.441	ppb	0.441	15.15	877	5000	
Mn	55	2	72	111.168	ppb	111.168	2.18	56123	10000	
Fe	57	2	72	990.681	ppb	990.681	1.01	24855	400000	
Co	59	2	72	0.046	ppb	0.046	32.89	123	2000	
Ni	60	2	72	0.204	ppb	0.204	43.31	310	5000	
Cu	63	2	72	0.129	ppb	0.129	40.04	1457	5000	
Zn	66	2	72	2.197	ppb	2.197	11.45	850	5000	
As	75	2	72	1.591	ppb	1.591	15.52	287	2000	
Se	78	1	72	-0.015	ppb	-0.015	-52.31	11	2000	
Sr	88	2	72	382.668	ppb	382.668	0.64	208500	4000	
Zr	90	2	72	5.072	ppb	5.072	148.53	167	1000	
Nb	93	2	72	0.085	ppb	0.085	49.33	1080	200	
Mo	95	2	115	0.669	ppb	0.669	27.41	693	2000	
Pd	105	2	115	-0.003	ppb	-0.003	-366.25	30	100	
Ag	107	2	115	-0.008	ppb	-0.008	-83.37	13	100	
Cd	111	2	115	0.008	ppb	0.008	330.40	7	2000	
Sn	120	2	115	0.038	ppb	0.038	216.97	277	2000	
Sb	121	2	115	0.027	ppb	0.027	44.16	73	1000	
Ba	137	2	115	21.946	ppb	21.946	6.08	7476	5000	
W	182	2	165	-0.022	ppb	-0.022	-162.57	1567	100	
Pt	195	2	165	0.004	ppb	0.004	41.42	33	100	
Tl	205	2	165	0.004	ppb	0.004	210.03	140	2000	
Pb	208	2	165	0.035	ppb	0.035	28.50	1283	5000	
Th	232	2	165	0.014	ppb	0.014	33.03	433	2000	
U	238	2	165	0.073	ppb	0.073	13.10	1273	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1595074	0.70	1841092	86.64	60	120	
Sc (IS)	45	1	HMI H2	29485165	0.12	34041789	86.61	60	120	
Sc (IS)	45	2	HMI He	885986	1.24	989699	89.52	60	120	
Sc (IS)	45	3	No Gas	51157623	0.69	58466742	87.50	60	120	
Ge Internal Standard	72	1	HMI H2	12158011	0.43	14056514	86.49	60	120	
Ge Internal Standard	72	2	HMI He	1033199	0.75	1155188	89.44	60	120	
In Internal Standard	115	2	HMI He	3563296	0.81	3786036	94.12	60	120	
Ho-165	165	2	HMI He	18118834	0.81	18554642	97.65	60	120	

Sample Report

Sample Table

Sample Name	280-116020-c-8-c ms
Data File Name	097SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:49:02-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	117.915	ppb	117.915	2.79	222768	500000	
Li	7	2	45	101.123	ppb	101.123	8.66	12115	500000	
Li	7	3	45	111.721	ppb	111.721	4.07	8091140	50000	
Be	9	1	6	39.575	ppb	39.575	2.36	16850	2000	
B	11	1	6	94.619	ppb	94.619	1.60	43805	2000	
Na	23	1	45	11246.047	ppb	11246.047	0.74	38885648	2000	>LDR
Na	23	2	45	11021.749	ppb	11021.749	0.93	2483246	400000	
Mg	24	2	45	31050.270	ppb	31050.270	0.96	3171238	400000	
Al	27	2	45	449.046	ppb	449.046	3.82	10945	400000	
K	39	1	45	2130.492	ppb	2130.492	1.23	17687709	400000	
K	39	2	45	3467.375	ppb	3467.375	0.44	195571	400000	
Ca	40	1	45	115480.168	ppb	115480.168	0.60	601870098	400000	
Ca	44	2	45	114322.825	ppb	114322.825	1.77	313519	400000	
Ti	47	2	45	0.672	ppb	0.672	117.82	20	4000	
V	51	2	72	36.468	ppb	36.468	1.31	42062	2000	
Cr	52	2	72	39.115	ppb	39.115	0.21	54349	5000	
Mn	55	2	72	145.736	ppb	145.736	1.90	74364	10000	
Fe	57	2	72	1308.849	ppb	1308.849	1.36	33146	400000	
Co	59	2	72	38.136	ppb	38.136	2.25	91172	2000	
Ni	60	2	72	38.003	ppb	38.003	1.12	26088	5000	
Cu	63	2	72	35.867	ppb	35.867	1.71	70050	5000	
Zn	66	2	72	36.720	ppb	36.720	2.50	9257	5000	
As	75	2	72	39.180	ppb	39.180	0.74	6815	2000	
Se	78	1	72	37.103	ppb	37.103	1.17	11034	2000	
Sr	88	2	72	408.934	ppb	408.934	0.81	225290	4000	
Zr	90	2	72	3847.809	ppb	3847.809	2.35	58913	1000	
Nb	93	2	72	0.095	ppb	0.095	46.06	1127	200	
Mo	95	2	115	37.023	ppb	37.023	2.21	35663	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-72.96	27	100	
Ag	107	2	115	38.395	ppb	38.395	1.59	124908	100	
Cd	111	2	115	37.241	ppb	37.241	0.33	15313	2000	
Sn	120	2	115	39.936	ppb	39.936	2.12	43044	2000	
Sb	121	2	115	39.208	ppb	39.208	2.77	38678	1000	
Ba	137	2	115	57.807	ppb	57.807	1.73	19601	5000	
W	182	2	165	12.251	ppb	12.251	0.91	59199	100	
Pt	195	2	165	0.002	ppb	0.002	430.84	27	100	
Tl	205	2	165	39.067	ppb	39.067	1.77	332527	2000	
Pb	208	2	165	38.887	ppb	38.887	1.27	443864	5000	
Th	232	2	165	36.681	ppb	36.681	1.34	527840	2000	
U	238	2	165	37.607	ppb	37.607	0.69	584509	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1594345	0.80	1841092	86.60	60	120	
Sc (IS)	45	1	HMI H2	29559650	0.49	34041789	86.83	60	120	
Sc (IS)	45	2	HMI He	890863	0.43	989699	90.01	60	120	
Sc (IS)	45	3	No Gas	51998796	1.23	58466742	88.94	60	120	
Ge Internal Standard	72	1	HMI H2	12155415	0.53	14056514	86.48	60	120	
Ge Internal Standard	72	2	HMI He	1044760	1.13	1155188	90.44	60	120	
In Internal Standard	115	2	HMI He	3554246	1.39	3786036	93.88	60	120	
Ho-165	165	2	HMI He	18160531	0.55	18554642	97.88	60	120	

Sample Report

Sample Table

Sample Name	280-116020-c-8-d msd
Data File Name	098SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:52:49-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	120.353	ppb	120.353	2.18	224327	500000	
Li	7	2	45	104.890	ppb	104.890	9.60	12165	500000	
Li	7	3	45	122.968	ppb	122.968	1.69	8150818	50000	
Be	9	1	6	40.291	ppb	40.291	3.05	17201	2000	
B	11	1	6	98.894	ppb	98.894	3.54	45898	2000	
Na	23	1	45	11796.024	ppb	11796.024	0.63	40857314	2000	>LDR
Na	23	2	45	11556.839	ppb	11556.839	0.57	2593874	400000	
Mg	24	2	45	32352.496	ppb	32352.496	0.29	3292965	400000	
Al	27	2	45	451.703	ppb	451.703	5.34	10975	400000	
K	39	1	45	2301.335	ppb	2301.335	1.02	18305799	400000	
K	39	2	45	3644.112	ppb	3644.112	1.01	203859	400000	
Ca	40	1	45	120108.767	ppb	120108.767	0.97	627263017	400000	
Ca	44	2	45	118711.663	ppb	118711.663	1.31	324425	400000	
Ti	47	2	45	0.674	ppb	0.674	0.85	20	4000	
V	51	2	72	38.931	ppb	38.931	1.41	44583	2000	
Cr	52	2	72	40.275	ppb	40.275	2.21	55882	5000	
Mn	55	2	72	151.854	ppb	151.854	1.89	77380	10000	
Fe	57	2	72	1426.297	ppb	1426.297	2.03	36049	400000	
Co	59	2	72	39.051	ppb	39.051	0.56	93252	2000	
Ni	60	2	72	39.791	ppb	39.791	0.16	27273	5000	
Cu	63	2	72	37.999	ppb	37.999	0.48	74050	5000	
Zn	66	2	72	38.708	ppb	38.708	2.55	9727	5000	
As	75	2	72	39.992	ppb	39.992	2.36	6947	2000	
Se	78	1	72	38.304	ppb	38.304	0.34	11453	2000	
Sr	88	2	72	425.777	ppb	425.777	1.95	234308	4000	
Zr	90	2	72	4056.356	ppb	4056.356	1.81	62026	1000	
Nb	93	2	72	0.016	ppb	0.016	354.51	853	200	
Mo	95	2	115	38.466	ppb	38.466	1.13	37003	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-49.43	23	100	
Ag	107	2	115	39.968	ppb	39.968	0.79	129835	100	
Cd	111	2	115	38.485	ppb	38.485	1.87	15806	2000	
Sn	120	2	115	41.287	ppb	41.287	2.75	44429	2000	
Sb	121	2	115	40.458	ppb	40.458	2.34	39875	1000	
Ba	137	2	115	61.631	ppb	61.631	4.04	20877	5000	
W	182	2	165	12.813	ppb	12.813	0.92	61790	100	
Pt	195	2	165	-0.004	ppb	-0.004	-35.56	3	100	
Tl	205	2	165	40.413	ppb	40.413	0.95	343706	2000	
Pb	208	2	165	40.211	ppb	40.211	0.92	458587	5000	
Th	232	2	165	38.293	ppb	38.293	1.30	550579	2000	
U	238	2	165	38.678	ppb	38.678	1.08	600670	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1599225	1.28	1841092	86.86	60	120	
Sc (IS)	45	1	HMI H2	29619730	0.56	34041789	87.01	60	120	
Sc (IS)	45	2	HMI He	887808	0.72	989699	89.70	60	120	
Sc (IS)	45	3	No Gas	51190763	1.32	58466742	87.56	60	120	
Ge Internal Standard	72	1	HMI H2	12222140	0.60	14056514	86.95	60	120	
Ge Internal Standard	72	2	HMI He	1043413	1.06	1155188	90.32	60	120	
In Internal Standard	115	2	HMI He	3549602	1.30	3786036	93.76	60	120	
Ho-165	165	2	HMI He	18145567	0.23	18554642	97.80	60	120	

Sample Report

Sample Table

Sample Name	280-116020-c-9-b
Data File Name	099SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:56:35-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	35.732	ppb	35.732	6.81	185206	500000	
Li	7	2	45	19.854	ppb	19.854	63.43	10214	500000	
Li	7	3	45	37.266	ppb	37.266	10.80	6761860	50000	
Be	9	1	6	-0.017	ppb	-0.017	-236.91	10	2000	
B	11	1	6	66.422	ppb	66.422	1.66	30926	2000	
Na	23	1	45	12873.780	ppb	12873.780	0.08	44317686	2000	>LDR
Na	23	2	45	12594.929	ppb	12594.929	1.70	2853490	400000	
Mg	24	2	45	31009.472	ppb	31009.472	0.81	3188116	400000	
Al	27	2	45	11.053	ppb	11.053	18.67	360	400000	
K	39	1	45	2119.838	ppb	2119.838	1.07	17588411	400000	
K	39	2	45	3482.440	ppb	3482.440	1.86	197622	400000	
Ca	40	1	45	114182.214	ppb	114182.214	0.43	592972738	400000	
Ca	44	2	45	112190.785	ppb	112190.785	1.13	309749	400000	
Ti	47	2	45	0.659	ppb	0.659	102.06	20	4000	
V	51	2	72	-2.062	ppb	-2.062	-7.75	1607	2000	
Cr	52	2	72	0.165	ppb	0.165	42.87	507	5000	
Mn	55	2	72	103.729	ppb	103.729	1.56	53192	10000	
Fe	57	2	72	910.721	ppb	910.721	5.56	23220	400000	
Co	59	2	72	0.038	ppb	0.038	44.40	107	2000	
Ni	60	2	72	0.144	ppb	0.144	41.86	273	5000	
Cu	63	2	72	0.025	ppb	0.025	165.70	1280	5000	
Zn	66	2	72	0.299	ppb	0.299	70.62	400	5000	
As	75	2	72	1.534	ppb	1.534	6.83	282	2000	
Se	78	1	72	0.003	ppb	0.003	5.84	16	2000	
Sr	88	2	72	366.380	ppb	366.380	1.22	202735	4000	
Zr	90	2	72	57.872	ppb	57.872	4.72	980	1000	
Nb	93	2	72	0.015	ppb	0.015	195.04	853	200	
Mo	95	2	115	0.776	ppb	0.776	12.42	797	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-379.35	27	100	
Ag	107	2	115	-0.001	ppb	-0.001	-488.75	37	100	
Cd	111	2	115	0.000	ppb	0.000	3329.33	3	2000	
Sn	120	2	115	0.140	ppb	0.140	61.52	387	2000	
Sb	121	2	115	0.202	ppb	0.202	43.96	247	1000	
Ba	137	2	115	20.565	ppb	20.565	2.10	7022	5000	
W	182	2	165	0.051	ppb	0.051	86.42	1917	100	
Pt	195	2	165	0.002	ppb	0.002	217.49	27	100	
Tl	205	2	165	0.016	ppb	0.016	46.35	240	2000	
Pb	208	2	165	0.065	ppb	0.065	35.70	1623	5000	
Th	232	2	165	0.130	ppb	0.130	13.16	2097	2000	
U	238	2	165	0.088	ppb	0.088	9.96	1507	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1596813	0.71	1841092	86.73	60	120	
Sc (IS)	45	1	HMI H2	29454658	0.58	34041789	86.52	60	120	
Sc (IS)	45	2	HMI He	896824	1.68	989699	90.62	60	120	
Sc (IS)	45	3	No Gas	51342916	0.87	58466742	87.82	60	120	
Ge Internal Standard	72	1	HMI H2	12131762	0.37	14056514	86.31	60	120	
Ge Internal Standard	72	2	HMI He	1049351	1.39	1155188	90.84	60	120	
In Internal Standard	115	2	HMI He	3571676	0.44	3786036	94.34	60	120	
Ho-165	165	2	HMI He	18198482	1.05	18554642	98.08	60	120	

Sample Report

Sample Table

Sample Name	280-116020-g-12-b
Data File Name	100SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:00:21-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-3.383	ppb	-3.383	-141.46	171412	500000	
Li	7	2	45	-34.730	ppb	-34.730	-33.77	9130	500000	
Li	7	3	45	2.501	ppb	2.501	190.50	6292814	50000	
Be	9	1	6	-0.017	ppb	-0.017	-137.74	10	2000	
B	11	1	6	53.712	ppb	53.712	4.62	25389	2000	
Na	23	1	45	2330.925	ppb	2330.925	0.93	8421316	2000	
Na	23	2	45	2141.205	ppb	2141.205	0.60	515453	400000	
Mg	24	2	45	28709.406	ppb	28709.406	0.93	3033313	400000	
Al	27	2	45	7.343	ppb	7.343	21.87	277	400000	
K	39	1	45	23.107	ppb	23.107	141.75	10716587	400000	
K	39	2	45	1411.195	ppb	1411.195	1.64	94214	400000	
Ca	40	1	45	150601.752	ppb	150601.752	0.12	799470441	400000	
Ca	44	2	45	146222.722	ppb	146222.722	0.33	414815	400000	
Ti	47	2	45	-0.118	ppb	-0.118	0.00	0	4000	
V	51	2	72	-2.304	ppb	-2.304	-3.66	1370	2000	
Cr	52	2	72	0.315	ppb	0.315	42.73	727	5000	
Mn	55	2	72	37.310	ppb	37.310	2.19	19477	10000	
Fe	57	2	72	55.307	ppb	55.307	8.06	1624	400000	
Co	59	2	72	0.035	ppb	0.035	22.27	100	2000	
Ni	60	2	72	0.809	ppb	0.809	17.53	740	5000	
Cu	63	2	72	1.306	ppb	1.306	21.29	3801	5000	
Zn	66	2	72	21.001	ppb	21.001	6.08	5541	5000	
As	75	2	72	0.277	ppb	0.277	5.94	63	2000	
Se	78	1	72	0.101	ppb	0.101	40.66	45	2000	
Sr	88	2	72	346.832	ppb	346.832	0.76	194876	4000	
Zr	90	2	72	76.281	ppb	76.281	96.21	1284	1000	
Nb	93	2	72	-0.009	ppb	-0.009	-234.76	783	200	
Mo	95	2	115	0.259	ppb	0.259	17.21	303	2000	
Pd	105	2	115	-0.008	ppb	-0.008	-132.79	23	100	
Ag	107	2	115	0.002	ppb	0.002	576.36	50	100	
Cd	111	2	115	0.126	ppb	0.126	59.25	57	2000	
Sn	120	2	115	0.166	ppb	0.166	31.20	423	2000	
Sb	121	2	115	0.316	ppb	0.316	14.72	367	1000	
Ba	137	2	115	71.840	ppb	71.840	3.88	24967	5000	
W	182	2	165	-0.007	ppb	-0.007	-350.48	1654	100	
Pt	195	2	165	-0.002	ppb	-0.002	-91.20	13	100	
Tl	205	2	165	0.014	ppb	0.014	3.83	227	2000	
Pb	208	2	165	0.048	ppb	0.048	6.08	1440	5000	
Th	232	2	165	0.054	ppb	0.054	4.57	1020	2000	
U	238	2	165	2.198	ppb	2.198	4.38	34588	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1616101	1.57	1841092	87.78	60	120	
Sc (IS)	45	1	HMI H2	30108851	1.28	34041789	88.45	60	120	
Sc (IS)	45	2	HMI He	921606	0.92	989699	93.12	60	120	
Sc (IS)	45	3	No Gas	52208673	0.70	58466742	89.30	60	120	
Ge Internal Standard	72	1	HMI H2	12283196	0.25	14056514	87.38	60	120	
Ge Internal Standard	72	2	HMI He	1065436	1.30	1155188	92.23	60	120	
In Internal Standard	115	2	HMI He	3645674	2.47	3786036	96.29	60	120	
Ho-165	165	2	HMI He	18314411	0.51	18554642	98.71	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	101_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:04:09-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	537.284	ppb	1.500	417878	500	107.5	90	110	
Li	7	2	45	498.737	ppb	7.654	21677	500	99.7	90	110	
Li	7	3	45	533.727	ppb	0.983	14678479	500	106.7	90	110	
Be	9	1	6	49.395	ppb	1.181	21767	50	98.8	90	110	
B	11	1	6	51.902	ppb	0.653	25079	50	103.8	90	110	
Na	23	1	45	5284.621	ppb	1.034	18715183	5000	105.7	90	110	
Na	23	2	45	5342.997	ppb	0.522	1210294	5000	106.9	90	110	
Mg	24	2	45	4983.066	ppb	0.848	507665	5000	99.7	90	110	
Al	27	2	45	5327.993	ppb	0.800	128513	5000	106.6	90	110	
K	39	1	45	5242.104	ppb	0.909	28734045	5000	104.8	90	110	
K	39	2	45	5179.995	ppb	1.051	281778	5000	103.6	90	110	
Ca	40	1	45	5385.006	ppb	0.752	28581471	5000	107.7	90	110	
Ca	44	2	45	5480.852	ppb	2.634	15012	5000	109.6	90	110	
Ti	47	2	45	44.059	ppb	6.543	1117	50	88.1	90	110	>+\-10%
V	51	2	72	48.580	ppb	0.556	54704	50	97.2	90	110	
Cr	52	2	72	48.801	ppb	2.860	67651	50	97.6	90	110	
Mn	55	2	72	50.099	ppb	2.026	25590	50	100.2	90	110	
Fe	57	2	72	5041.964	ppb	0.852	126940	5000	100.8	90	110	
Co	59	2	72	49.322	ppb	0.621	117776	50	98.6	90	110	
Ni	60	2	72	49.974	ppb	1.601	34208	50	99.9	90	110	
Cu	63	2	72	48.314	ppb	0.785	93820	50	96.6	90	110	
Zn	66	2	72	49.117	ppb	3.572	12252	50	98.2	90	110	
As	75	2	72	49.212	ppb	1.602	8546	50	98.4	90	110	
Se	78	1	72	49.568	ppb	2.147	15043	50	99.1	90	110	
Sr	88	2	72	52.511	ppb	3.077	28897	50	105.0	90	110	
Zr	90	2	72	144.022	ppb	8.513	2290	50	288.0	90	110	>+\-10%
Nb	93	2	72	92.680	ppb	0.985	319330	100	92.7	90	110	
Mo	95	2	115	47.628	ppb	3.774	46491	50	95.3	90	110	
Pd	105	2	115	50.408	ppb	1.369	76509	50	100.8	90	110	
Ag	107	2	115	47.901	ppb	1.033	157964	50	95.8	90	110	
Cd	111	2	115	46.990	ppb	2.943	19585	50	94.0	90	110	
Sn	120	2	115	50.835	ppb	2.252	55475	50	101.7	90	110	
Sb	121	2	115	49.722	ppb	1.343	49727	50	99.4	90	110	
Ba	137	2	115	49.162	ppb	4.400	16905	50	98.3	90	110	
W	182	2	165	47.810	ppb	0.497	227638	50	95.6	90	110	
Pt	195	2	165	47.798	ppb	1.434	188539	50	95.6	90	110	
Tl	205	2	165	49.722	ppb	1.401	425974	50	99.4	90	110	
Pb	208	2	165	49.784	ppb	1.250	571720	50	99.6	90	110	
Th	232	2	165	46.621	ppb	1.010	675181	50	93.2	90	110	
U	238	2	165	46.810	ppb	0.656	732269	50	93.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1650544	0.87	1841092	89.65	60	120	
Sc (IS)	45	1	HMI H2	30047480	0.07	34041789	88.27	60	120	
Sc (IS)	45	2	HMI He	888218	0.64	989699	89.75	60	120	
Sc (IS)	45	3	No Gas	50418028	0.79	58466742	86.23	60	120	
Ge Internal Standard	72	1	HMI H2	12409392	0.31	14056514	88.28	60	120	
Ge Internal Standard	72	2	HMI He	1043403	0.66	1155188	90.32	60	120	
In Internal Standard	115	2	HMI He	3603518	1.07	3786036	95.18	60	120	
Ho-165	165	2	HMI He	18278760	0.29	18554642	98.51	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	102_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:07:56-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	8.660	ppb	30.0	6191643	10	
Be	9	1	6	0.004	ppb	9.1	20	0.5	
B	11	1	6	1.674	ppb	4.6	1253	0.5	>RL
Na	23	1	45	-2.329	ppb	-24.1	258378	25	
Na	23	2	45	-11.985	ppb	-10.0	16767	25	
Mg	24	2	45	2.745	ppb	22.3	570	25	
Al	27	2	45	0.332	ppb	696.3	97	15	
K	39	1	45	-9.678	ppb	-158.4	10598401	50	
K	39	2	45	-23.261	ppb	-28.2	17938	50	
Ca	40	1	45	11.811	ppb	6.9	118095	50	
Ca	44	2	45	24.579	ppb	73.8	93	25	
Ti	47	2	45	0.015	ppb	1501.5	3	0.5	
V	51	2	72	0.083	ppb	357.4	3807	1	
Cr	52	2	72	-0.027	ppb	-124.1	237	1	
Mn	55	2	72	0.000	ppb	-202278.9	83	0.5	
Fe	57	2	72	1.053	ppb	392.4	223	25	
Co	59	2	72	-0.004	ppb	-139.3	7	0.5	
Ni	60	2	72	0.026	ppb	407.8	190	1	
Cu	63	2	72	0.031	ppb	169.6	1270	1	
Zn	66	2	72	-0.161	ppb	-169.8	283	5	
As	75	2	72	0.071	ppb	62.1	26	1	
Se	78	1	72	0.046	ppb	64.2	29	1	
Sr	88	2	72	0.057	ppb	96.5	40	0.5	
Zr	90	2	72	1.574	ppb	107.9	113	1	>RL
Nb	93	2	72	2.232	ppb	9.7	8386	2	>RL
Mo	95	2	115	-0.015	ppb	-162.9	33	0.5	
Pd	105	2	115	0.032	ppb	10.7	83	1	
Ag	107	2	115	0.004	ppb	341.6	53	1	
Cd	111	2	115	0.000	ppb	3969.6	3	0.5	
Sn	120	2	115	0.100	ppb	36.2	347	1	
Sb	121	2	115	0.300	ppb	32.7	347	0.6	
Ba	137	2	115	-0.036	ppb	-81.4	10	0.5	
W	182	2	165	0.025	ppb	64.6	1777	1	
Pt	195	2	165	0.013	ppb	85.9	70	1	
Tl	205	2	165	0.022	ppb	19.0	287	0.1	
Pb	208	2	165	0.011	ppb	27.4	1007	0.5	
Th	232	2	165	0.037	ppb	23.0	760	1	
U	238	2	165	0.019	ppb	27.6	433	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1668468	0.89	1841092	90.62	60	120	
Sc (IS)	45	1	HMI H2	30092887	0.18	34041789	88.40	60	120	
Sc (IS)	45	2	HMI He	879750	0.16	989699	88.89	60	120	
Sc (IS)	45	3	No Gas	50538726	0.56	58466742	86.44	60	120	
Ge Internal Standard	72	1	HMI H2	12411658	0.88	14056514	88.30	60	120	
Ge Internal Standard	72	2	HMI He	1033015	0.57	1155188	89.42	60	120	
In Internal Standard	115	2	HMI He	3596692	0.68	3786036	95.00	60	120	
Ho-165	165	2	HMI He	18027970	0.31	18554642	97.16	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	103LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:11:43-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	28.327	ppb	16.901	6481093	50	56.7	70	130	>+/-30%
Be	9	1	6	0.954	ppb	14.066	440	1	95.4	70	130	
Na	23	2	45	32.839	ppb	4.087	26605	50	65.7	70	130	>+/-30%
Mg	24	2	45	48.863	ppb	6.634	5211	50	97.7	70	130	
Al	27	2	45	39.085	ppb	12.939	1020	30	130.3	70	130	>+/-30%
K	39	2	45	81.908	ppb	19.472	23166	100	81.9	70	130	
Ca	44	2	45	79.013	ppb	19.386	240	50	158.0	70	130	>+/-30%
V	51	2	72	4.815	ppb	3.827	8660	5	96.3	70	130	
Cr	52	2	72	1.998	ppb	5.869	2984	2	99.9	70	130	
Mn	55	2	72	0.853	ppb	16.204	510	1	85.3	70	130	
Fe	57	2	72	50.597	ppb	21.808	1447	50	101.2	70	130	
Co	59	2	72	1.042	ppb	4.679	2460	1	104.2	70	130	
Ni	60	2	72	1.801	ppb	3.858	1377	2	90.0	70	130	
Cu	63	2	72	2.007	ppb	14.443	4988	2	100.3	70	130	
Zn	66	2	72	11.202	ppb	4.689	2994	10	112.0	70	130	
As	75	2	72	4.720	ppb	5.514	818	5	94.4	70	130	
Se	78	1	72	4.690	ppb	3.973	1431	5	93.8	70	130	
Sr	88	2	72	1.038	ppb	7.172	570	1	103.8	70	130	
Zr	90	2	72	36.248	ppb	14.831	633	0.5	7249.6	70	130	>+/-30%
Nb	93	2	72	4.567	ppb	4.230	16220	2	228.3	70	130	>+/-30%
Mo	95	2	115	1.870	ppb	19.991	1854	2	93.5	70	130	
Pd	105	2	115	-0.001	ppb	-1507.557	33	1	-0.1	70	130	>+/-30%
Ag	107	2	115	4.860	ppb	7.094	15923	5	97.2	70	130	
Cd	111	2	115	0.905	ppb	16.049	377	1	90.5	70	130	
Sn	120	2	115	10.032	ppb	3.624	11042	10	100.3	70	130	
Sb	121	2	115	2.056	ppb	7.254	2084	2	102.8	70	130	
Ba	137	2	115	1.112	ppb	30.724	400	1	111.2	70	130	
W	182	2	165	4.722	ppb	0.738	23732	1	472.2	70	130	>+/-30%
Pt	195	2	165	0.014	ppb	39.491	73	1	1.4	70	130	>+/-30%
Tl	205	2	165	1.006	ppb	6.071	8620	1	100.6	70	130	
Pb	208	2	165	0.995	ppb	3.233	12160	1	99.5	70	130	
Th	232	2	165	1.901	ppb	2.828	27440	2	95.1	70	130	
U	238	2	165	0.953	ppb	2.217	14879	1	95.3	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1657896	1.22	1841092	90.05	60	120	
Sc (IS)	45	1	HMI H2	29817202	0.61	34041789	87.59	60	120	
Sc (IS)	45	2	HMI He	877911	0.64	989699	88.70	60	120	
Sc (IS)	45	3	No Gas	50305851	0.53	58466742	86.04	60	120	
Ge Internal Standard	72	1	HMI H2	12353968	0.46	14056514	87.89	60	120	
Ge Internal Standard	72	2	HMI He	1025866	0.91	1155188	88.81	60	120	
In Internal Standard	115	2	HMI He	3572299	0.99	3786036	94.35	60	120	
Ho-165	165	2	HMI He	18071842	0.83	18554642	97.40	60	120	

Blank Report

Sample Table

Sample Name	mb 280-435187/1-a
Data File Name	104_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:15:31-06:00
Sample Type	Blank
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-1.714	ppb	-340.7474768	173185	0.5
Li	7	2	45	-1.427	ppb	-1727.483278	9690	0.5
Li	7	3	45	3.881	ppb	106.7720826	6262816	10
Be	9	1	6	-0.033	ppb	-38.36078244	3	0.5
B	11	1	6	0.699	ppb	66.36998472	790	0.5
Na	23	1	45	-21.185	ppb	-3.20571103	193642	25
Na	23	2	45	-27.971	ppb	-3.738992185	13487	25
Mg	24	2	45	0.370	ppb	68.17842326	337	25
Al	27	2	45	4.221	ppb	58.2673261	193	15
K	39	1	45	-1407.167	ppb	-1.804841782	5796387	50
K	39	2	45	-21.829	ppb	-78.34372254	18342	50
Ca	40	1	45	8.594	ppb	0.465532032	101667	50
Ca	44	2	45	5.815	ppb	250.8806251	43	25
Ti	47	2	45	-0.118	ppb	0	0	0.5
V	51	2	72	-1.456	ppb	-14.59083446	2244	1
Cr	52	2	72	0.109	ppb	90.27062563	430	1
Mn	55	2	72	0.101	ppb	122.5607822	137	0.5
Fe	57	2	72	1.727	ppb	118.6073757	243	25
Co	59	2	72	0.005	ppb	253.5516935	27	0.5
Ni	60	2	72	-0.070	ppb	-117.4309272	127	1
Cu	63	2	72	0.004	ppb	2755.913478	1237	1
Zn	66	2	72	0.478	ppb	45.69269296	443	5
As	75	2	72	0.095	ppb	80.892963	31	1
Se	78	1	72	-0.029	ppb	-26.4426337	7	1
Sr	88	2	72	0.056	ppb	33.18101207	40	0.5
Zr	90	2	72	1.028	ppb	152.0157118	107	1
Nb	93	2	72	0.231	ppb	31.64418863	1600	2
Mo	95	2	115	-0.035	ppb	-67.06553361	13	0.5
Pd	105	2	115	-0.023	ppb	0	0	1
Ag	107	2	115	-0.004	ppb	-207.9696169	27	1
Cd	111	2	115	0.008	ppb	165.9832022	7	0.5
Sn	120	2	115	0.016	ppb	350.7237626	257	1
Sb	121	2	115	0.042	ppb	43.4552013	90	0.6
Ba	137	2	115	0.002	ppb	3082.90954	23	0.5
W	182	2	165	-0.022	ppb	-93.50791348	1567	1
Pt	195	2	165	0.000	ppb	2160.513638	20	1
Tl	205	2	165	0.002	ppb	169.5280192	120	0.1
Pb	208	2	165	0.010	ppb	142.6022569	993	0.5
Th	232	2	165	0.018	ppb	42.60684154	493	1
U	238	2	165	0.002	ppb	250.7164901	167	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1674470	1.42	1841092	90.95	60	120	
Sc (IS)	45	1	HMI H2	30281648	1.09	34041789	88.95	60	120	
Sc (IS)	45	2	HMI He	896166	0.78	989699	90.55	60	120	
Sc (IS)	45	3	No Gas	51770638	1.23	58466742	88.55	60	120	
Ge Internal Standard	72	1	HMI H2	12469377	0.82	14056514	88.71	60	120	
Ge Internal Standard	72	2	HMI He	1049471	1.06	1155188	90.85	60	120	
In Internal Standard	115	2	HMI He	3617251	1.56	3786036	95.54	60	120	
Ho-165	165	2	HMI He	18113830	0.43	18554642	97.62	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-435187/2-a
Data File Name	105_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:19:19-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	435187 6020A DOD5
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	90.553	90.553	ppb	3.910	215318	400	22.6	80	120	>+/-20%
Li	7	2	45	54.291	54.291	ppb	43.581	11051	400	13.6	80	120	>+/-20%
Li	7	3	45	90.639	90.639	ppb	3.108	7663946	400	22.7	80	120	>+/-20%
Be	9	1	6	40.592	40.592	ppb	4.903	17805	40	101.5	80	120	
Na	23	2	45	-27.463	-27.463	ppb	-12.086	13604	40	-68.7	80	120	>+/-20%
Mg	24	2	45	-1.126	-1.126	ppb	-87.578	183	40	-2.8	80	120	>+/-20%
Al	27	2	45	419.792	419.792	ppb	4.589	10304	40	1049.5	80	120	>+/-20%
K	39	2	45	-24.428	-24.428	ppb	-61.116	18212	40	-61.1	80	120	>+/-20%
Ca	44	2	45	210.035	210.035	ppb	34.980	607	40	525.1	80	120	>+/-20%
V	51	2	72	37.493	37.493	ppb	3.049	43082	40	93.7	80	120	
Cr	52	2	72	39.289	39.289	ppb	1.742	54506	40	98.2	80	120	
Mn	55	2	72	41.334	41.334	ppb	1.537	21126	40	103.3	80	120	
Fe	57	2	72	396.662	396.662	ppb	1.581	10167	40	991.7	80	120	>+/-20%
Co	59	2	72	40.225	40.225	ppb	1.754	96047	40	100.6	80	120	
Ni	60	2	72	39.948	39.948	ppb	0.835	27377	40	99.9	80	120	
Cu	63	2	72	38.764	38.764	ppb	2.086	75497	40	96.9	80	120	
Zn	66	2	72	37.263	37.263	ppb	3.595	9377	40	93.2	80	120	
As	75	2	72	37.031	37.031	ppb	1.587	6432	40	92.6	80	120	
Se	78	1	72	37.963	37.963	ppb	1.851	11517	40	94.9	80	120	
Nb	93	2	72	0.153	0.153	ppb	12.146	1323	40	0.4	80	120	>+/-20%
Mo	95	2	115	35.692	35.692	ppb	0.504	34878	40	89.2	80	120	
Pd	105	2	115	-0.021	-0.021	ppb	-18.029	3	40	-0.1	80	120	>+/-20%
Ag	107	2	115	39.790	39.790	ppb	1.044	131288	40	99.5	80	120	
Cd	111	2	115	38.915	38.915	ppb	3.535	16233	40	97.3	80	120	
Sn	120	2	115	39.374	39.374	ppb	1.660	43048	40	98.4	80	120	
Sb	121	2	115	39.275	39.275	ppb	0.976	39310	40	98.2	80	120	
Ba	137	2	115	38.422	38.422	ppb	3.177	13220	40	96.1	80	120	
W	182	2	165	12.172	12.172	ppb	0.696	58653	40	30.4	80	120	>+/-20%
Pt	195	2	165	0.000	0.000	ppb	6807.919	20	40	0.0	80	120	>+/-20%
Tl	205	2	165	40.000	40.000	ppb	1.039	339450	40	100.0	80	120	
Pb	208	2	165	40.208	40.208	ppb	0.842	457561	40	100.5	80	120	
Th	232	2	165	36.650	36.650	ppb	0.836	525823	40	91.6	80	120	
U	238	2	165	37.165	37.165	ppb	0.759	575916	40	92.9	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1642863	0.98	1841092	89.23	60	120	
Sc (IS)	45	1	HMI H2	30238541	0.24	34041789	88.83	60	120	
Sc (IS)	45	2	HMI He	896198	1.61	989699	90.55	60	120	
Sc (IS)	45	3	No Gas	51491104	0.63	58466742	88.07	60	120	
Ge Internal Standard	72	1	HMI H2	12401527	0.62	14056514	88.23	60	120	
Ge Internal Standard	72	2	HMI He	1043266	1.28	1155188	90.31	60	120	
In Internal Standard	115	2	HMI He	3605287	1.13	3786036	95.23	60	120	
Ho-165	165	2	HMI He	18106651	0.92	18554642	97.59	60	120	

Sample Report

Sample Table

Sample Name	280-116051-d-1-b
Data File Name	106SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:23:07-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	157.108	ppb	157.108	2.53	237153	500000	
Li	7	2	45	119.034	ppb	119.034	5.41	12386	500000	
Li	7	3	45	161.912	ppb	161.912	1.54	8560585	50000	
Be	9	1	6	0.032	ppb	0.032	77.88	30	2000	
B	11	1	6	270.618	ppb	270.618	1.36	121002	2000	
Na	23	1	45	183672.587	ppb	183672.587	1.08	622621751	2000	>LDR
Na	23	2	45	175021.681	ppb	175021.681	0.47	38632106	400000	
Mg	24	2	45	1387.365	ppb	1387.365	2.00	140144	400000	
Al	27	2	45	350.802	ppb	350.802	7.19	8463	400000	
K	39	1	45	2780.710	ppb	2780.710	0.96	19632073	400000	
K	39	2	45	3941.197	ppb	3941.197	1.09	216800	400000	
Ca	40	1	45	27236.860	ppb	27236.860	0.90	140092625	400000	
Ca	44	2	45	27718.615	ppb	27718.615	1.05	75050	400000	
Ti	47	2	45	5.865	ppb	5.865	50.54	150	4000	
V	51	2	72	15.094	ppb	15.094	3.49	19163	2000	
Cr	52	2	72	16.040	ppb	16.040	2.70	21931	5000	
Mn	55	2	72	19.353	ppb	19.353	1.11	9720	10000	
Fe	57	2	72	570.426	ppb	570.426	1.73	14221	400000	
Co	59	2	72	0.226	ppb	0.226	21.23	543	2000	
Ni	60	2	72	1.981	ppb	1.981	6.55	1490	5000	
Cu	63	2	72	1.901	ppb	1.901	2.73	4761	5000	
Zn	66	2	72	7.979	ppb	7.979	6.09	2214	5000	
As	75	2	72	21.949	ppb	21.949	2.63	3736	2000	
Se	78	1	72	1.521	ppb	1.521	15.71	461	2000	
Sr	88	2	72	240.903	ppb	240.903	1.53	129666	4000	
Zr	90	2	72	190.157	ppb	190.157	10.01	2930	1000	
Nb	93	2	72	0.457	ppb	0.457	14.89	2317	200	
Mo	95	2	115	13.284	ppb	13.284	4.93	12606	2000	
Pd	105	2	115	-0.018	ppb	-0.018	-42.98	7	100	
Ag	107	2	115	0.001	ppb	0.001	680.63	43	100	
Cd	111	2	115	0.017	ppb	0.017	249.90	10	2000	
Sn	120	2	115	0.264	ppb	0.264	36.81	510	2000	
Sb	121	2	115	0.537	ppb	0.537	28.64	567	1000	
Ba	137	2	115	11.037	ppb	11.037	2.94	3694	5000	
W	182	2	165	4.817	ppb	4.817	0.74	23495	100	
Pt	195	2	165	0.000	ppb	0.000	1799.57	20	100	
Tl	205	2	165	0.037	ppb	0.037	15.10	403	2000	
Pb	208	2	165	0.494	ppb	0.494	5.95	6294	5000	
Th	232	2	165	0.522	ppb	0.522	7.06	7486	2000	
U	238	2	165	4.664	ppb	4.664	0.32	70235	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1549594	2.35	1841092	84.17	60	120	
Sc (IS)	45	1	HMI H2	29164617	0.67	34041789	85.67	60	120	
Sc (IS)	45	2	HMI He	879317	0.95	989699	88.85	60	120	
Sc (IS)	45	3	No Gas	49846973	0.71	58466742	85.26	60	120	
Ge Internal Standard	72	1	HMI H2	12017506	0.96	14056514	85.49	60	120	
Ge Internal Standard	72	2	HMI He	1020691	0.89	1155188	88.36	60	120	
In Internal Standard	115	2	HMI He	3492129	1.00	3786036	92.24	60	120	
Ho-165	165	2	HMI He	17564112	0.90	18554642	94.66	60	120	

Sample Report

Sample Table

Sample Name	280-116051-d-2-b
Data File Name	107SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:26:55-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	155.212	ppb	155.212	4.29	239583	500000	
Li	7	2	45	154.102	ppb	154.102	17.89	13307	500000	
Li	7	3	45	155.215	ppb	155.215	3.10	8552725	50000	
Be	9	1	6	0.329	ppb	0.329	40.24	153	2000	
B	11	1	6	279.386	ppb	279.386	4.22	124990	2000	
Na	23	1	45	186199.999	ppb	186199.999	0.58	639928604	2000	>LDR
Na	23	2	45	178985.834	ppb	178985.834	0.80	39770842	400000	
Mg	24	2	45	1876.088	ppb	1876.088	1.80	190649	400000	
Al	27	2	45	4296.996	ppb	4296.996	1.05	103315	400000	
K	39	1	45	3731.316	ppb	3731.316	1.27	23137265	400000	
K	39	2	45	4967.141	ppb	4967.141	0.63	270092	400000	
Ca	40	1	45	28933.766	ppb	28933.766	0.03	150880338	400000	
Ca	44	2	45	29759.498	ppb	29759.498	0.83	81108	400000	
Ti	47	2	45	62.654	ppb	62.654	7.92	1580	4000	
V	51	2	72	18.971	ppb	18.971	2.74	23186	2000	
Cr	52	2	72	48.918	ppb	48.918	0.36	66482	5000	
Mn	55	2	72	124.871	ppb	124.871	0.27	62405	10000	
Fe	57	2	72	7537.266	ppb	7537.266	1.07	185941	400000	
Co	59	2	72	2.317	ppb	2.317	5.91	5441	2000	
Ni	60	2	72	17.074	ppb	17.074	2.86	11572	5000	
Cu	63	2	72	16.867	ppb	16.867	2.56	32885	5000	
Zn	66	2	72	85.149	ppb	85.149	7.85	20586	5000	
As	75	2	72	24.266	ppb	24.266	6.10	4138	2000	
Se	78	1	72	1.646	ppb	1.646	7.93	496	2000	
Sr	88	2	72	269.543	ppb	269.543	1.73	145413	4000	
Zr	90	2	72	696.876	ppb	696.876	7.23	10524	1000	
Nb	93	2	72	0.900	ppb	0.900	12.23	3814	200	
Mo	95	2	115	15.679	ppb	15.679	0.59	14858	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-241.50	23	100	
Ag	107	2	115	0.024	ppb	0.024	12.62	117	100	
Cd	111	2	115	0.084	ppb	0.084	46.55	37	2000	
Sn	120	2	115	0.809	ppb	0.809	8.91	1083	2000	
Sb	121	2	115	0.630	ppb	0.630	17.46	657	1000	
Ba	137	2	115	39.035	ppb	39.035	5.03	13000	5000	
W	182	2	165	2.926	ppb	2.926	0.96	15063	100	
Pt	195	2	165	0.004	ppb	0.004	80.99	33	100	
Tl	205	2	165	0.105	ppb	0.105	5.49	977	2000	
Pb	208	2	165	6.082	ppb	6.082	1.25	68578	5000	
Th	232	2	165	4.226	ppb	4.226	0.44	59638	2000	
U	238	2	165	8.422	ppb	8.422	2.21	128012	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1551561	2.17	1841092	84.27	60	120	
Sc (IS)	45	1	HMI H2	29567950	0.51	34041789	86.86	60	120	
Sc (IS)	45	2	HMI He	885243	1.53	989699	89.45	60	120	
Sc (IS)	45	3	No Gas	50435303	1.51	58466742	86.26	60	120	
Ge Internal Standard	72	1	HMI H2	11964014	0.28	14056514	85.11	60	120	
Ge Internal Standard	72	2	HMI He	1022940	1.16	1155188	88.55	60	120	
In Internal Standard	115	2	HMI He	3490131	1.53	3786036	92.18	60	120	
Ho-165	165	2	HMI He	17748020	1.48	18554642	95.65	60	120	

Sample Report

Sample Table

Sample Name	280-116051-d-4-d
Data File Name	108SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:30:43-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	85.414	ppb	85.414	5.09	207044	500000	
Li	7	2	45	52.847	ppb	52.847	15.29	11064	500000	
Li	7	3	45	89.899	ppb	89.899	6.99	7424602	50000	
Be	9	1	6	-0.009	ppb	-0.009	-634.52	13	2000	
B	11	1	6	232.768	ppb	232.768	2.42	104047	2000	
Na	23	1	45	186417.334	ppb	186417.334	0.89	637001751	2000	>LDR
Na	23	2	45	175733.100	ppb	175733.100	1.30	39726444	400000	
Mg	24	2	45	1635.999	ppb	1635.999	2.83	169198	400000	
Al	27	2	45	32.308	ppb	32.308	18.97	880	400000	
K	39	1	45	5323.054	ppb	5323.054	0.73	28388446	400000	
K	39	2	45	6366.051	ppb	6366.051	1.88	346621	400000	
Ca	40	1	45	57877.690	ppb	57877.690	0.68	300033896	400000	
Ca	44	2	45	59481.790	ppb	59481.790	0.46	164904	400000	
Ti	47	2	45	1.314	ppb	1.314	74.57	37	4000	
V	51	2	72	11.195	ppb	11.195	2.64	15536	2000	
Cr	52	2	72	25.898	ppb	25.898	1.68	36123	5000	
Mn	55	2	72	1.853	ppb	1.853	4.23	1030	10000	
Fe	57	2	72	60.595	ppb	60.595	9.56	1727	400000	
Co	59	2	72	0.041	ppb	0.041	37.74	113	2000	
Ni	60	2	72	0.574	ppb	0.574	18.97	567	5000	
Cu	63	2	72	0.362	ppb	0.362	27.49	1920	5000	
Zn	66	2	72	13.564	ppb	13.564	5.06	3627	5000	
As	75	2	72	18.270	ppb	18.270	1.37	3189	2000	
Se	78	1	72	1.923	ppb	1.923	3.95	583	2000	
Sr	88	2	72	819.573	ppb	819.573	0.70	452065	4000	
Zr	90	2	72	25.431	ppb	25.431	3.47	480	1000	
Nb	93	2	72	0.094	ppb	0.094	23.54	1123	200	
Mo	95	2	115	6.606	ppb	6.606	7.97	6425	2000	
Pd	105	2	115	0.012	ppb	0.012	162.54	53	100	
Ag	107	2	115	0.000	ppb	0.000	-2034.09	40	100	
Cd	111	2	115	0.017	ppb	0.017	145.58	10	2000	
Sn	120	2	115	0.114	ppb	0.114	83.93	360	2000	
Sb	121	2	115	0.145	ppb	0.145	30.86	190	1000	
Ba	137	2	115	13.314	ppb	13.314	0.90	4551	5000	
W	182	2	165	1.016	ppb	1.016	5.15	6399	100	
Pt	195	2	165	0.002	ppb	0.002	161.92	27	100	
Tl	205	2	165	0.011	ppb	0.011	30.79	197	2000	
Pb	208	2	165	0.056	ppb	0.056	15.24	1517	5000	
Th	232	2	165	0.068	ppb	0.068	21.96	1203	2000	
U	238	2	165	2.596	ppb	2.596	1.41	40200	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1548656	1.54	1841092	84.12	60	120	
Sc (IS)	45	1	HMI H2	29399553	0.69	34041789	86.36	60	120	
Sc (IS)	45	2	HMI He	900534	0.74	989699	90.99	60	120	
Sc (IS)	45	3	No Gas	49959754	0.44	58466742	85.45	60	120	
Ge Internal Standard	72	1	HMI H2	12081273	0.61	14056514	85.95	60	120	
Ge Internal Standard	72	2	HMI He	1045951	1.08	1155188	90.54	60	120	
In Internal Standard	115	2	HMI He	3569307	1.19	3786036	94.28	60	120	
Ho-165	165	2	HMI He	18032786	0.51	18554642	97.19	60	120	

Sample Report

Sample Table

Sample Name	280-116051-d-4-dSD@5
Data File Name	109SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:34:30-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	16.037	ppb	16.037	46.47	181473	500000	
Li	7	2	45	-0.183	ppb	-0.183	-12798.01	9650	500000	
Li	7	3	45	24.954	ppb	24.954	14.93	6409451	50000	
Be	9	1	6	-0.025	ppb	-0.025	-104.63	7	2000	
B	11	1	6	49.873	ppb	49.873	2.39	23673	2000	
Na	23	1	45	38778.165	ppb	38778.165	0.43	136803725	2000	>LDR
Na	23	2	45	37314.582	ppb	37314.582	0.92	8347443	400000	
Mg	24	2	45	337.941	ppb	337.941	1.90	34759	400000	
Al	27	2	45	8.283	ppb	8.283	33.82	290	400000	
K	39	1	45	1094.156	ppb	1094.156	0.77	14520300	400000	
K	39	2	45	1317.599	ppb	1317.599	2.41	86172	400000	
Ca	40	1	45	11971.248	ppb	11971.248	1.05	64011007	400000	
Ca	44	2	45	12479.416	ppb	12479.416	0.96	34194	400000	
Ti	47	2	45	0.274	ppb	0.274	247.47	10	4000	
V	51	2	72	1.582	ppb	1.582	13.11	5431	2000	
Cr	52	2	72	5.238	ppb	5.238	5.22	7532	5000	
Mn	55	2	72	0.395	ppb	0.395	40.66	287	10000	
Fe	57	2	72	11.502	ppb	11.502	35.53	490	400000	
Co	59	2	72	0.008	ppb	0.008	178.49	33	2000	
Ni	60	2	72	0.041	ppb	0.041	334.02	203	5000	
Cu	63	2	72	0.158	ppb	0.158	50.60	1530	5000	
Zn	66	2	72	3.087	ppb	3.087	20.84	1077	5000	
As	75	2	72	3.922	ppb	3.922	8.52	695	2000	
Se	78	1	72	0.405	ppb	0.405	16.38	139	2000	
Sr	88	2	72	166.024	ppb	166.024	0.48	91604	4000	
Zr	90	2	72	5.844	ppb	5.844	50.45	180	1000	
Nb	93	2	72	-0.079	ppb	-0.079	-37.34	527	200	
Mo	95	2	115	1.419	ppb	1.419	5.61	1430	2000	
Pd	105	2	115	-0.010	ppb	-0.010	-134.00	20	100	
Ag	107	2	115	0.010	ppb	0.010	34.88	73	100	
Cd	111	2	115	0.016	ppb	0.016	146.59	10	2000	
Sn	120	2	115	0.097	ppb	0.097	6.92	343	2000	
Sb	121	2	115	0.016	ppb	0.016	71.00	63	1000	
Ba	137	2	115	2.917	ppb	2.917	8.84	1023	5000	
W	182	2	165	0.238	ppb	0.238	9.64	2750	100	
Pt	195	2	165	-0.001	ppb	-0.001	-436.08	17	100	
Tl	205	2	165	0.003	ppb	0.003	147.70	130	2000	
Pb	208	2	165	0.019	ppb	0.019	47.05	1087	5000	
Th	232	2	165	0.019	ppb	0.019	29.81	500	2000	
U	238	2	165	0.520	ppb	0.520	3.30	8103	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1620457	1.08	1841092	88.02	60	120	
Sc (IS)	45	1	HMI H2	30303910	0.52	34041789	89.02	60	120	
Sc (IS)	45	2	HMI He	889499	0.75	989699	89.88	60	120	
Sc (IS)	45	3	No Gas	50177148	1.78	58466742	85.82	60	120	
Ge Internal Standard	72	1	HMI H2	12460142	0.40	14056514	88.64	60	120	
Ge Internal Standard	72	2	HMI He	1046276	1.40	1155188	90.57	60	120	
In Internal Standard	115	2	HMI He	3600026	0.83	3786036	95.09	60	120	
Ho-165	165	2	HMI He	17899661	0.87	18554642	96.47	60	120	

Sample Report

Sample Table

Sample Name	280-116051-d-4-e ms
Data File Name	110SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:38:17-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	166.305	ppb	166.305	2.56	240775	500000	
Li	7	2	45	152.213	ppb	152.213	18.01	13327	500000	
Li	7	3	45	164.570	ppb	164.570	2.81	8607675	50000	
Be	9	1	6	41.193	ppb	41.193	2.33	16824	2000	
B	11	1	6	255.085	ppb	255.085	2.04	112611	2000	
Na	23	1	45	180171.687	ppb	180171.687	0.58	609613924	2000	>LDR
Na	23	2	45	170134.497	ppb	170134.497	1.21	37982047	400000	
Mg	24	2	45	1576.494	ppb	1576.494	0.65	161029	400000	
Al	27	2	45	453.827	ppb	453.827	5.53	11048	400000	
K	39	1	45	5079.263	ppb	5079.263	2.44	27290401	400000	
K	39	2	45	6180.098	ppb	6180.098	0.39	332904	400000	
Ca	40	1	45	55966.522	ppb	55966.522	1.28	287259669	400000	
Ca	44	2	45	58248.787	ppb	58248.787	0.95	159488	400000	
Ti	47	2	45	2.524	ppb	2.524	40.61	67	4000	
V	51	2	72	49.843	ppb	49.843	1.41	55654	2000	
Cr	52	2	72	61.963	ppb	61.963	1.16	85252	5000	
Mn	55	2	72	39.987	ppb	39.987	2.20	20308	10000	
Fe	57	2	72	431.439	ppb	431.439	0.72	10971	400000	
Co	59	2	72	38.857	ppb	38.857	0.42	92179	2000	
Ni	60	2	72	37.964	ppb	37.964	1.54	25861	5000	
Cu	63	2	72	38.445	ppb	38.445	1.63	74409	5000	
Zn	66	2	72	51.024	ppb	51.024	4.55	12630	5000	
As	75	2	72	55.387	ppb	55.387	2.07	9551	2000	
Se	78	1	72	39.004	ppb	39.004	0.45	11343	2000	
Sr	88	2	72	824.057	ppb	824.057	0.90	450436	4000	
Zr	90	2	72	3936.058	ppb	3936.058	2.16	59784	1000	
Nb	93	2	72	0.010	ppb	0.010	119.74	827	200	
Mo	95	2	115	41.703	ppb	41.703	0.94	40131	2000	
Pd	105	2	115	0.010	ppb	0.010	170.17	50	100	
Ag	107	2	115	37.308	ppb	37.308	1.76	121260	100	
Cd	111	2	115	38.027	ppb	38.027	1.33	15623	2000	
Sn	120	2	115	39.541	ppb	39.541	0.59	42580	2000	
Sb	121	2	115	39.684	ppb	39.684	0.14	39123	1000	
Ba	137	2	115	51.415	ppb	51.415	0.79	17422	5000	
W	182	2	165	13.257	ppb	13.257	1.29	62731	100	
Pt	195	2	165	-0.003	ppb	-0.003	-45.87	7	100	
Tl	205	2	165	38.657	ppb	38.657	0.45	322926	2000	
Pb	208	2	165	39.246	ppb	39.246	0.93	439625	5000	
Th	232	2	165	37.237	ppb	37.237	0.48	525874	2000	
U	238	2	165	39.928	ppb	39.928	0.61	609038	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1529771	1.08	1841092	83.09	60	120	
Sc (IS)	45	1	HMI H2	29109836	0.65	34041789	85.51	60	120	
Sc (IS)	45	2	HMI He	889407	1.28	989699	89.87	60	120	
Sc (IS)	45	3	No Gas	49876686	1.40	58466742	85.31	60	120	
Ge Internal Standard	72	1	HMI H2	11888723	0.71	14056514	84.58	60	120	
Ge Internal Standard	72	2	HMI He	1036521	1.32	1155188	89.73	60	120	
In Internal Standard	115	2	HMI He	3551144	0.24	3786036	93.80	60	120	
Ho-165	165	2	HMI He	17822434	0.35	18554642	96.05	60	120	

Sample Report

Sample Table

Sample Name	280-116051-d-4-f msd
Data File Name	111SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:42:06-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	157.272	ppb	157.272	3.17	238534	500000	
Li	7	2	45	145.591	ppb	145.591	14.34	13150	500000	
Li	7	3	45	163.482	ppb	163.482	2.88	8549728	50000	
Be	9	1	6	39.075	ppb	39.075	1.90	16043	2000	
B	11	1	6	250.425	ppb	250.425	2.21	111112	2000	
Na	23	1	45	178429.307	ppb	178429.307	0.25	608202431	2000	>LDR
Na	23	2	45	169368.284	ppb	169368.284	0.48	37763509	400000	
Mg	24	2	45	1558.127	ppb	1558.127	0.63	158951	400000	
Al	27	2	45	457.269	ppb	457.269	4.18	11111	400000	
K	39	1	45	5044.043	ppb	5044.043	1.30	27374565	400000	
K	39	2	45	6141.501	ppb	6141.501	1.02	330499	400000	
Ca	40	1	45	55034.530	ppb	55034.530	0.64	284584016	400000	
Ca	44	2	45	58089.198	ppb	58089.198	0.73	158831	400000	
Ti	47	2	45	1.733	ppb	1.733	48.34	47	4000	
V	51	2	72	49.614	ppb	49.614	0.96	55694	2000	
Cr	52	2	72	61.996	ppb	61.996	1.74	85722	5000	
Mn	55	2	72	41.977	ppb	41.977	4.91	21420	10000	
Fe	57	2	72	414.031	ppb	414.031	0.65	10588	400000	
Co	59	2	72	38.467	ppb	38.467	2.10	91706	2000	
Ni	60	2	72	39.039	ppb	39.039	1.36	26712	5000	
Cu	63	2	72	38.039	ppb	38.039	2.04	73989	5000	
Zn	66	2	72	54.201	ppb	54.201	2.46	13464	5000	
As	75	2	72	54.709	ppb	54.709	1.74	9482	2000	
Se	78	1	72	39.433	ppb	39.433	2.20	11614	2000	
Sr	88	2	72	826.827	ppb	826.827	0.13	454125	4000	
Zr	90	2	72	3945.292	ppb	3945.292	3.16	60230	1000	
Nb	93	2	72	-0.019	ppb	-0.019	-33.18	730	200	
Mo	95	2	115	42.260	ppb	42.260	0.67	40727	2000	
Pd	105	2	115	0.004	ppb	0.004	631.25	40	100	
Ag	107	2	115	37.645	ppb	37.645	1.55	122524	100	
Cd	111	2	115	37.908	ppb	37.908	3.05	15596	2000	
Sn	120	2	115	38.995	ppb	38.995	1.43	42061	2000	
Sb	121	2	115	41.308	ppb	41.308	0.62	40784	1000	
Ba	137	2	115	50.466	ppb	50.466	4.04	17131	5000	
W	182	2	165	13.028	ppb	13.028	1.25	62129	100	
Pt	195	2	165	-0.003	ppb	-0.003	-90.11	7	100	
Tl	205	2	165	38.383	ppb	38.383	0.14	322961	2000	
Pb	208	2	165	38.572	ppb	38.572	0.77	435244	5000	
Th	232	2	165	36.881	ppb	36.881	0.76	524620	2000	
U	238	2	165	39.503	ppb	39.503	0.62	606935	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1537466	0.78	1841092	83.51	60	120	
Sc (IS)	45	1	HMI H2	29325146	0.46	34041789	86.14	60	120	
Sc (IS)	45	2	HMI He	888211	0.84	989699	89.75	60	120	
Sc (IS)	45	3	No Gas	49640436	0.53	58466742	84.90	60	120	
Ge Internal Standard	72	1	HMI H2	12041171	0.65	14056514	85.66	60	120	
Ge Internal Standard	72	2	HMI He	1041555	0.89	1155188	90.16	60	120	
In Internal Standard	115	2	HMI He	3556539	1.28	3786036	93.94	60	120	
Ho-165	165	2	HMI He	17951818	0.45	18554642	96.75	60	120	

Sample Report

Sample Table

Sample Name	280-116051-d-4-d PDS
Data File Name	112SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:45:53-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	90.422	ppb	90.422	1.51	208229	500000	
Li	7	2	45	45.529	ppb	45.529	64.20	10921	500000	
Li	7	3	45	84.091	ppb	84.091	1.55	7368913	50000	
Be	9	1	6	211.984	ppb	211.984	0.98	85761	2000	
B	11	1	6	231.025	ppb	231.025	1.71	101137	2000	
Na	23	1	45	182147.920	ppb	182147.920	0.84	619277577	2000	>LDR
Na	23	2	45	172001.434	ppb	172001.434	2.21	39000102	400000	
Mg	24	2	45	1616.565	ppb	1616.565	1.09	167715	400000	
Al	27	2	45	2200.657	ppb	2200.657	0.82	54046	400000	
K	39	1	45	5255.916	ppb	5255.916	0.75	28017974	400000	
K	39	2	45	6330.270	ppb	6330.270	0.60	345898	400000	
Ca	40	1	45	56573.467	ppb	56573.467	0.37	291796516	400000	
Ca	44	2	45	59403.046	ppb	59403.046	1.35	165235	400000	
Ti	47	2	45	7.606	ppb	7.606	51.62	200	4000	
V	51	2	72	216.775	ppb	216.775	0.83	232142	2000	
Cr	52	2	72	222.284	ppb	222.284	1.29	308545	5000	
Mn	55	2	72	210.601	ppb	210.601	1.94	107777	10000	
Fe	57	2	72	2074.154	ppb	2074.154	1.57	52573	400000	
Co	59	2	72	198.271	ppb	198.271	1.46	475520	2000	
Ni	60	2	72	198.203	ppb	198.203	2.51	135746	5000	
Cu	63	2	72	198.185	ppb	198.185	1.80	382758	5000	
Zn	66	2	72	227.116	ppb	227.116	2.79	55729	5000	
As	75	2	72	210.219	ppb	210.219	0.85	36626	2000	
Se	78	1	72	192.641	ppb	192.641	0.38	56293	2000	
Sr	88	2	72	815.249	ppb	815.249	1.05	450584	4000	
Zr	90	2	72	21382.361	ppb	21382.361	0.85	328050	1000	>LDR
Nb	93	2	72	2.289	ppb	2.289	5.69	8707	200	
Mo	95	2	115	203.651	ppb	203.651	1.06	198793	2000	
Pd	105	2	115	0.045	ppb	0.045	8.22	103	100	
Ag	107	2	115	39.414	ppb	39.414	2.74	130043	100	
Cd	111	2	115	194.903	ppb	194.903	1.26	81300	2000	
Sn	120	2	115	208.475	ppb	208.475	2.10	226894	2000	
Sb	121	2	115	209.519	ppb	209.519	1.34	209508	1000	
Ba	137	2	115	212.396	ppb	212.396	1.84	73004	5000	
W	182	2	165	206.180	ppb	206.180	1.15	956513	100	
Pt	195	2	165	0.054	ppb	0.054	21.47	227	100	
Tl	205	2	165	216.979	ppb	216.979	0.90	1821292	2000	
Pb	208	2	165	200.419	ppb	200.419	1.01	2252764	5000	
Th	232	2	165	15.664	ppb	15.664	1.15	222459	2000	
U	238	2	165	208.918	ppb	208.918	1.58	3201938	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1516466	0.95	1841092	82.37	60	120	
Sc (IS)	45	1	HMI H2	29250568	0.70	34041789	85.93	60	120	
Sc (IS)	45	2	HMI He	903519	2.09	989699	91.29	60	120	
Sc (IS)	45	3	No Gas	50217243	0.62	58466742	85.89	60	120	
Ge Internal Standard	72	1	HMI H2	11957518	0.30	14056514	85.07	60	120	
Ge Internal Standard	72	2	HMI He	1048222	1.61	1155188	90.74	60	120	
In Internal Standard	115	2	HMI He	3605851	1.28	3786036	95.24	60	120	
Ho-165	165	2	HMI He	17913455	1.33	18554642	96.54	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	113_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:49:38-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	515.447	ppb	3.678	410852	500	103.1	90	110	
Li	7	2	45	478.203	ppb	5.757	21723	500	95.6	90	110	
Li	7	3	45	513.632	ppb	2.755	14365827	500	102.7	90	110	
Be	9	1	6	50.104	ppb	2.506	21840	50	100.2	90	110	
B	11	1	6	54.832	ppb	2.244	26184	50	109.7	90	110	
Na	23	1	45	5607.896	ppb	0.814	19988222	5000	112.2	90	110	>+\-10%
Na	23	2	45	5487.080	ppb	2.102	1273950	5000	109.7	90	110	
Mg	24	2	45	4907.002	ppb	0.813	512664	5000	98.1	90	110	
Al	27	2	45	5378.668	ppb	1.184	133042	5000	107.6	90	110	
K	39	1	45	5333.671	ppb	2.482	29260750	5000	106.7	90	110	
K	39	2	45	5171.017	ppb	0.374	288486	5000	103.4	90	110	
Ca	40	1	45	5208.627	ppb	1.910	27846659	5000	104.2	90	110	
Ca	44	2	45	5168.480	ppb	3.651	14515	5000	103.4	90	110	
Ti	47	2	45	50.549	ppb	12.335	1313	50	101.1	90	110	
V	51	2	72	47.407	ppb	1.627	54751	50	94.8	90	110	
Cr	52	2	72	47.508	ppb	1.503	67427	50	95.0	90	110	
Mn	55	2	72	49.826	ppb	3.151	26054	50	99.7	90	110	
Fe	57	2	72	4988.874	ppb	1.776	128575	5000	99.8	90	110	
Co	59	2	72	48.556	ppb	0.604	118705	50	97.1	90	110	
Ni	60	2	72	47.834	ppb	2.768	33523	50	95.7	90	110	
Cu	63	2	72	47.641	ppb	1.374	94736	50	95.3	90	110	
Zn	66	2	72	49.607	ppb	2.688	12666	50	99.2	90	110	
As	75	2	72	47.933	ppb	1.258	8522	50	95.9	90	110	
Se	78	1	72	48.115	ppb	5.607	14776	50	96.2	90	110	
Sr	88	2	72	53.113	ppb	2.144	29923	50	106.2	90	110	
Zr	90	2	72	62.723	ppb	5.164	1073	50	125.4	90	110	>+\-10%
Nb	93	2	72	90.804	ppb	0.476	320326	100	90.8	90	110	
Mo	95	2	115	47.634	ppb	1.695	47176	50	95.3	90	110	
Pd	105	2	115	49.228	ppb	2.859	75789	50	98.5	90	110	
Ag	107	2	115	46.211	ppb	1.856	154583	50	92.4	90	110	
Cd	111	2	115	47.753	ppb	1.890	20192	50	95.5	90	110	
Sn	120	2	115	49.699	ppb	1.220	55033	50	99.4	90	110	
Sb	121	2	115	51.066	ppb	2.876	51818	50	102.1	90	110	
Ba	137	2	115	49.080	ppb	3.433	17121	50	98.2	90	110	
W	182	2	165	47.704	ppb	1.236	229899	50	95.4	90	110	
Pt	195	2	165	47.019	ppb	1.218	187717	50	94.0	90	110	
Tl	205	2	165	49.481	ppb	1.001	429055	50	99.0	90	110	
Pb	208	2	165	49.589	ppb	0.596	576427	50	99.2	90	110	
Th	232	2	165	46.399	ppb	1.124	680136	50	92.8	90	110	
U	238	2	165	46.639	ppb	0.553	738463	50	93.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1632987	0.99	1841092	88.70	60	120	
Sc (IS)	45	1	HMI H2	30266990	0.73	34041789	88.91	60	120	
Sc (IS)	45	2	HMI He	910842	0.96	989699	92.03	60	120	
Sc (IS)	45	3	No Gas	50463534	0.78	58466742	86.31	60	120	
Ge Internal Standard	72	1	HMI H2	12558777	0.88	14056514	89.34	60	120	
Ge Internal Standard	72	2	HMI He	1068224	1.23	1155188	92.47	60	120	
In Internal Standard	115	2	HMI He	3655786	1.41	3786036	96.56	60	120	
Ho-165	165	2	HMI He	18501487	0.55	18554642	99.71	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	114_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:53:25-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	9.473	ppb	58.8	6192429	10	
Be	9	1	6	0.050	ppb	88.0	40	0.5	
B	11	1	6	2.631	ppb	9.7	1690	0.5	>RL
Na	23	1	45	121.136	ppb	1.3	687951	25	>RL
Na	23	2	45	105.998	ppb	4.9	44307	25	>RL
Mg	24	2	45	-0.064	ppb	-983.6	297	25	
Al	27	2	45	-1.016	ppb	-93.7	67	15	
K	39	1	45	66.832	ppb	54.6	10829678	50	>RL
K	39	2	45	-24.427	ppb	-58.8	18506	50	
Ca	40	1	45	5.752	ppb	9.5	85683	50	
Ca	44	2	45	10.325	ppb	38.2	57	25	
Ti	47	2	45	0.139	ppb	319.6	7	0.5	
V	51	2	72	-0.148	ppb	-52.2	3661	1	
Cr	52	2	72	-0.017	ppb	-189.0	257	1	
Mn	55	2	72	0.080	ppb	75.6	127	0.5	
Fe	57	2	72	4.884	ppb	23.7	327	25	
Co	59	2	72	0.018	ppb	39.6	60	0.5	
Ni	60	2	72	0.039	ppb	160.4	203	1	
Cu	63	2	72	0.074	ppb	138.4	1387	1	
Zn	66	2	72	-0.136	ppb	-89.3	297	5	
As	75	2	72	0.111	ppb	34.7	34	1	
Se	78	1	72	0.060	ppb	33.9	33	1	
Sr	88	2	72	0.055	ppb	32.7	40	0.5	
Zr	90	2	72	0.724	ppb	487.2	103	1	
Nb	93	2	72	2.192	ppb	14.0	8463	2	>RL
Mo	95	2	115	0.055	ppb	61.4	103	0.5	
Pd	105	2	115	-0.004	ppb	-170.6	30	1	
Ag	107	2	115	0.007	ppb	64.8	67	1	
Cd	111	2	115	0.008	ppb	343.2	7	0.5	
Sn	120	2	115	0.002	ppb	1225.9	247	1	
Sb	121	2	115	0.448	ppb	20.9	507	0.6	
Ba	137	2	115	0.030	ppb	196.7	33	0.5	
W	182	2	165	0.089	ppb	39.4	2124	1	
Pt	195	2	165	0.008	ppb	87.1	53	1	
Tl	205	2	165	0.027	ppb	29.5	340	0.1	
Pb	208	2	165	0.022	ppb	68.6	1147	0.5	
Th	232	2	165	0.038	ppb	20.6	787	1	
U	238	2	165	0.031	ppb	18.2	633	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1645661	1.59	1841092	89.39	60	120	
Sc (IS)	45	1	HMI H2	30001770	0.80	34041789	88.13	60	120	
Sc (IS)	45	2	HMI He	910686	1.07	989699	92.02	60	120	
Sc (IS)	45	3	No Gas	50437364	0.19	58466742	86.27	60	120	
Ge Internal Standard	72	1	HMI H2	12323101	0.22	14056514	87.67	60	120	
Ge Internal Standard	72	2	HMI He	1059753	0.52	1155188	91.74	60	120	
In Internal Standard	115	2	HMI He	3690143	1.23	3786036	97.47	60	120	
Ho-165	165	2	HMI He	18434989	1.71	18554642	99.36	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	115LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:57:12-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	18.310	ppb	19.074	6329901	50	36.6	70	130	>+/-30%
Be	9	1	6	1.018	ppb	33.244	463	1	101.8	70	130	
Na	23	2	45	126.244	ppb	6.678	48607	50	252.5	70	130	>+/-30%
Mg	24	2	45	47.087	ppb	7.858	5185	50	94.2	70	130	
Al	27	2	45	35.833	ppb	10.293	970	30	119.4	70	130	
K	39	2	45	78.661	ppb	12.720	23697	100	78.7	70	130	
Ca	44	2	45	50.108	ppb	34.983	167	50	100.2	70	130	
V	51	2	72	4.544	ppb	5.584	8633	5	90.9	70	130	
Cr	52	2	72	1.733	ppb	7.285	2704	2	86.7	70	130	
Mn	55	2	72	0.966	ppb	10.335	583	1	96.6	70	130	
Fe	57	2	72	50.377	ppb	7.297	1483	50	100.8	70	130	
Co	59	2	72	0.946	ppb	14.460	2304	1	94.6	70	130	
Ni	60	2	72	1.957	ppb	9.778	1527	2	97.9	70	130	
Cu	63	2	72	2.189	ppb	4.619	5488	2	109.5	70	130	
Zn	66	2	72	9.625	ppb	13.673	2697	10	96.3	70	130	
As	75	2	72	4.631	ppb	2.323	827	5	92.6	70	130	
Se	78	1	72	5.187	ppb	10.902	1584	5	103.7	70	130	
Sr	88	2	72	0.928	ppb	13.231	527	1	92.8	70	130	
Zr	90	2	72	15.179	ppb	33.636	327	0.5	3035.8	70	130	>+/-30%
Nb	93	2	72	4.315	ppb	6.967	15830	2	215.7	70	130	>+/-30%
Mo	95	2	115	1.868	ppb	3.682	1917	2	93.4	70	130	
Pd	105	2	115	-0.008	ppb	-165.466	23	1	-0.8	70	130	>+/-30%
Ag	107	2	115	4.712	ppb	3.482	15973	5	94.2	70	130	
Cd	111	2	115	0.959	ppb	16.147	413	1	95.9	70	130	
Sn	120	2	115	9.595	ppb	0.379	10935	10	96.0	70	130	
Sb	121	2	115	2.208	ppb	8.960	2310	2	110.4	70	130	
Ba	137	2	115	1.081	ppb	10.129	403	1	108.1	70	130	
W	182	2	165	5.000	ppb	2.315	25308	1	500.0	70	130	>+/-30%
Pt	195	2	165	0.015	ppb	42.774	80	1	1.5	70	130	>+/-30%
Tl	205	2	165	1.060	ppb	5.968	9180	1	106.0	70	130	
Pb	208	2	165	1.034	ppb	2.890	12740	1	103.4	70	130	
Th	232	2	165	1.909	ppb	1.111	27864	2	95.5	70	130	
U	238	2	165	0.962	ppb	1.537	15190	1	96.2	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1638258	0.94	1841092	88.98	60	120	
Sc (IS)	45	1	HMI H2	29935657	0.25	34041789	87.94	60	120	
Sc (IS)	45	2	HMI He	904344	0.92	989699	91.38	60	120	
Sc (IS)	45	3	No Gas	50391934	0.55	58466742	86.19	60	120	
Ge Internal Standard	72	1	HMI H2	12382267	0.48	14056514	88.09	60	120	
Ge Internal Standard	72	2	HMI He	1056716	0.70	1155188	91.48	60	120	
In Internal Standard	115	2	HMI He	3694455	0.68	3786036	97.58	60	120	
Ho-165	165	2	HMI He	18273143	0.87	18554642	98.48	60	120	

Blank Report

Sample Table

Sample Name	mb 280-434761/1-a
Data File Name	116_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:01:02-06:00
Sample Type	Blank
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	2.487	ppb	51.7801492	172766	0.5
Li	7	2	45	-26.545	ppb	-106.0696177	9163	0.5
Li	7	3	45	0.643	ppb	484.3412857	6106827	10
Be	9	1	6	-0.010	ppb	-557.8935482	13	0.5
B	11	1	6	2.207	ppb	13.7174382	1443	0.5
Na	23	1	45	66.685	ppb	1.838979066	496070	25
Na	23	2	45	73.501	ppb	7.204087365	36666	25
Mg	24	2	45	-0.237	ppb	-271.192299	277	25
Al	27	2	45	6.457	ppb	20.92444155	250	15
K	39	1	45	-1376.739	ppb	-0.217910825	5823901	50
K	39	2	45	-17.629	ppb	-52.91244192	18743	50
Ca	40	1	45	10.490	ppb	3.231617146	110291	50
Ca	44	2	45	20.046	ppb	27.10431507	83	25
Ti	47	2	45	0.271	ppb	142.6114641	10	0.5
V	51	2	72	-1.463	ppb	-13.20827439	2247	1
Cr	52	2	72	0.211	ppb	17.67621015	573	1
Mn	55	2	72	0.624	ppb	14.40270025	407	0.5
Fe	57	2	72	9.658	ppb	35.67345462	447	25
Co	59	2	72	0.020	ppb	23.10731232	63	0.5
Ni	60	2	72	-0.013	ppb	-402.0431218	167	1
Cu	63	2	72	0.052	ppb	121.4570532	1337	1
Zn	66	2	72	0.755	ppb	43.42767103	513	5
As	75	2	72	0.026	ppb	127.9119362	19	1
Se	78	1	72	-0.001	ppb	-1488.825041	15	1
Sr	88	2	72	0.097	ppb	28.16941894	63	0.5
Zr	90	2	72	1.215	ppb	279.8251051	110	1
Nb	93	2	72	0.329	ppb	16.02976222	1947	2
Mo	95	2	115	0.022	ppb	186.0272855	70	0.5
Pd	105	2	115	-0.014	ppb	-51.61673425	13	1
Ag	107	2	115	0.007	ppb	130.0573517	67	1
Cd	111	2	115	0.024	ppb	151.6989908	13	0.5
Sn	120	2	115	0.061	ppb	128.5999068	310	1
Sb	121	2	115	0.087	ppb	46.70471248	137	0.6
Ba	137	2	115	0.012	ppb	284.210938	27	0.5
W	182	2	165	0.034	ppb	74.46817003	1847	1
Pt	195	2	165	0.006	ppb	22.67067294	43	1
Tl	205	2	165	0.018	ppb	23.48882612	263	0.1
Pb	208	2	165	0.034	ppb	46.50745587	1280	0.5
Th	232	2	165	0.035	ppb	16.13564542	730	1
U	238	2	165	0.014	ppb	26.58541424	357	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1595857	1.00	1841092	86.68	60	120	
Sc (IS)	45	1	HMI H2	29876005	0.81	34041789	87.76	60	120	
Sc (IS)	45	2	HMI He	904981	0.98	989699	91.44	60	120	
Sc (IS)	45	3	No Gas	50919044	1.36	58466742	87.09	60	120	
Ge Internal Standard	72	1	HMI H2	12215806	0.38	14056514	86.90	60	120	
Ge Internal Standard	72	2	HMI He	1054483	0.86	1155188	91.28	60	120	
In Internal Standard	115	2	HMI He	3667975	0.43	3786036	96.88	60	120	
Ho-165	165	2	HMI He	18294300	0.94	18554642	98.60	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-434761/2-a
Data File Name	117_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:04:50-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	434761 6020A DOD5
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	79.416	79.416	ppb	12.199	208091	400	19.9	80	120	>+/-20%
Li	7	2	45	51.346	51.346	ppb	30.792	11195	400	12.8	80	120	>+/-20%
Li	7	3	45	86.662	86.662	ppb	4.752	7538839	400	21.7	80	120	>+/-20%
Be	9	1	6	39.859	39.859	ppb	3.701	17121	40	99.6	80	120	
Na	23	2	45	44.181	44.181	ppb	4.530	30302	40	110.5	80	120	
Mg	24	2	45	-0.138	-0.138	ppb	-325.756	290	40	-0.3	80	120	>+/-20%
Al	27	2	45	433.885	433.885	ppb	6.398	10851	40	1084.7	80	120	>+/-20%
K	39	2	45	-25.684	-25.684	ppb	-33.381	18509	40	-64.2	80	120	>+/-20%
Ca	44	2	45	256.679	256.679	ppb	17.800	750	40	641.7	80	120	>+/-20%
V	51	2	72	37.736	37.736	ppb	0.821	44098	40	94.3	80	120	
Cr	52	2	72	40.119	40.119	ppb	2.096	56648	40	100.3	80	120	
Mn	55	2	72	42.350	42.350	ppb	1.497	22024	40	105.9	80	120	
Fe	57	2	72	397.404	397.404	ppb	2.616	10368	40	993.5	80	120	>+/-20%
Co	59	2	72	39.916	39.916	ppb	2.079	96990	40	99.8	80	120	
Ni	60	2	72	38.883	38.883	ppb	1.814	27123	40	97.2	80	120	
Cu	63	2	72	38.806	38.806	ppb	0.952	76931	40	97.0	80	120	
Zn	66	2	72	39.476	39.476	ppb	0.918	10087	40	98.7	80	120	
As	75	2	72	37.265	37.265	ppb	0.164	6588	40	93.2	80	120	
Se	78	1	72	37.765	37.765	ppb	2.078	11397	40	94.4	80	120	
Nb	93	2	72	0.200	0.200	ppb	37.346	1510	40	0.5	80	120	>+/-20%
Mo	95	2	115	35.235	35.235	ppb	1.936	35075	40	88.1	80	120	
Pd	105	2	115	-0.014	-0.014	ppb	-52.089	13	40	0.0	80	120	>+/-20%
Ag	107	2	115	39.702	39.702	ppb	1.385	133436	40	99.3	80	120	
Cd	111	2	115	38.699	38.699	ppb	2.008	16444	40	96.7	80	120	
Sn	120	2	115	40.907	40.907	ppb	2.353	45542	40	102.3	80	120	
Sb	121	2	115	39.415	39.415	ppb	2.842	40183	40	98.5	80	120	
Ba	137	2	115	40.757	40.757	ppb	1.603	14288	40	101.9	80	120	
W	182	2	165	11.986	11.986	ppb	1.387	58844	40	30.0	80	120	>+/-20%
Pt	195	2	165	-0.001	-0.001	ppb	-853.710	17	40	0.0	80	120	>+/-20%
Tl	205	2	165	39.904	39.904	ppb	0.211	344901	40	99.8	80	120	
Pb	208	2	165	40.613	40.613	ppb	1.490	470644	40	101.5	80	120	
Th	232	2	165	36.913	36.913	ppb	0.585	539360	40	92.3	80	120	
U	238	2	165	37.496	37.496	ppb	1.295	591728	40	93.7	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1608273	1.51	1841092	87.35	60	120	
Sc (IS)	45	1	HMI H2	29936810	0.70	34041789	87.94	60	120	
Sc (IS)	45	2	HMI He	914004	0.61	989699	92.35	60	120	
Sc (IS)	45	3	No Gas	51087546	0.17	58466742	87.38	60	120	
Ge Internal Standard	72	1	HMI H2	12336896	0.97	14056514	87.77	60	120	
Ge Internal Standard	72	2	HMI He	1061802	0.78	1155188	91.92	60	120	
In Internal Standard	115	2	HMI He	3672475	0.86	3786036	97.00	60	120	
Ho-165	165	2	HMI He	18440257	0.88	18554642	99.38	60	120	

Sample Report

Sample Table

Sample Name	lcsd 280-434761/3-a
Data File Name	118SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:08:38-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	85.962	ppb	85.962	1.49	212659	500000	
Li	7	2	45	62.953	ppb	62.953	50.05	11441	500000	
Li	7	3	45	87.797	ppb	87.797	3.68	7551569	50000	
Be	9	1	6	38.847	ppb	38.847	3.94	16850	2000	
B	11	1	6	29.934	ppb	29.934	4.24	14428	2000	
Na	23	1	45	60.107	ppb	60.107	3.67	477714	2000	
Na	23	2	45	55.026	ppb	55.026	6.13	32684	400000	
Mg	24	2	45	4.146	ppb	4.146	15.58	737	400000	
Al	27	2	45	441.773	ppb	441.773	2.52	11015	400000	
K	39	1	45	-1432.052	ppb	-1432.052	-0.88	5687283	400000	
K	39	2	45	-23.460	ppb	-23.460	-26.13	18566	400000	
Ca	40	1	45	24.490	ppb	24.490	0.64	185785	400000	
Ca	44	2	45	218.328	ppb	218.328	17.52	640	400000	
Ti	47	2	45	2.578	ppb	2.578	38.78	70	4000	
V	51	2	72	38.697	ppb	38.697	2.00	45085	2000	
Cr	52	2	72	39.526	ppb	39.526	1.77	55764	5000	
Mn	55	2	72	41.579	ppb	41.579	4.22	21604	10000	
Fe	57	2	72	417.916	ppb	417.916	4.95	10885	400000	
Co	59	2	72	40.117	ppb	40.117	1.72	97393	2000	
Ni	60	2	72	39.989	ppb	39.989	2.24	27864	5000	
Cu	63	2	72	39.106	ppb	39.106	3.00	77435	5000	
Zn	66	2	72	41.133	ppb	41.133	0.56	10488	5000	
As	75	2	72	37.999	ppb	37.999	2.39	6713	2000	
Se	78	1	72	37.968	ppb	37.968	1.41	11466	2000	
Sr	88	2	72	41.303	ppb	41.303	0.83	23113	4000	
Zr	90	2	72	3903.529	ppb	3903.529	1.05	60687	1000	
Nb	93	2	72	0.084	ppb	0.084	71.06	1103	200	
Mo	95	2	115	35.865	ppb	35.865	1.63	35847	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-64.88	27	100	
Ag	107	2	115	39.152	ppb	39.152	1.04	132136	100	
Cd	111	2	115	38.222	ppb	38.222	1.48	16307	2000	
Sn	120	2	115	39.662	ppb	39.662	3.07	44346	2000	
Sb	121	2	115	39.049	ppb	39.049	3.68	39972	1000	
Ba	137	2	115	38.136	ppb	38.136	2.37	13424	5000	
W	182	2	165	12.474	ppb	12.474	2.56	61284	100	
Pt	195	2	165	0.003	ppb	0.003	171.27	30	100	
Tl	205	2	165	39.910	ppb	39.910	0.92	345581	2000	
Pb	208	2	165	40.374	ppb	40.374	0.42	468776	5000	
Th	232	2	165	37.003	ppb	37.003	0.59	541679	2000	
U	238	2	165	37.310	ppb	37.310	0.37	589916	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1625048	1.92	1841092	88.27	60	120	
Sc (IS)	45	1	HMI H2	30160814	0.94	34041789	88.60	60	120	
Sc (IS)	45	2	HMI He	911052	0.66	989699	92.05	60	120	
Sc (IS)	45	3	No Gas	51047731	0.43	58466742	87.31	60	120	
Ge Internal Standard	72	1	HMI H2	12344501	0.11	14056514	87.82	60	120	
Ge Internal Standard	72	2	HMI He	1060832	0.69	1155188	91.83	60	120	
In Internal Standard	115	2	HMI He	3687713	0.67	3786036	97.40	60	120	
Ho-165	165	2	HMI He	18474121	0.54	18554642	99.57	60	120	

Sample Report

Sample Table

Sample Name	280-115738-d-18-b
Data File Name	119SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:12:25-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	8.410	ppb	8.410	63.07	175244	500000	
Li	7	2	45	-29.222	ppb	-29.222	-47.22	9180	500000	
Li	7	3	45	1.297	ppb	1.297	380.18	6092374	50000	
Be	9	1	6	0.006	ppb	0.006	663.25	20	2000	
B	11	1	6	1.809	ppb	1.809	11.40	1277	2000	
Na	23	1	45	41.476	ppb	41.476	1.47	408086	2000	
Na	23	2	45	35.989	ppb	35.989	10.15	28382	400000	
Mg	24	2	45	0.881	ppb	0.881	70.39	397	400000	
Al	27	2	45	6.120	ppb	6.120	34.82	243	400000	
K	39	1	45	-1431.713	ppb	-1431.713	-0.23	5628343	400000	
K	39	2	45	-13.423	ppb	-13.423	-47.15	19127	400000	
Ca	40	1	45	32.916	ppb	32.916	1.85	228146	400000	
Ca	44	2	45	30.456	ppb	30.456	5.14	113	400000	
Ti	47	2	45	0.136	ppb	0.136	323.41	7	4000	
V	51	2	72	-1.626	ppb	-1.626	-7.49	2087	2000	
Cr	52	2	72	0.270	ppb	0.270	21.91	660	5000	
Mn	55	2	72	0.298	ppb	0.298	5.80	240	10000	
Fe	57	2	72	18.172	ppb	18.172	8.29	667	400000	
Co	59	2	72	0.029	ppb	0.029	49.69	87	2000	
Ni	60	2	72	0.038	ppb	0.038	174.25	203	5000	
Cu	63	2	72	0.753	ppb	0.753	24.17	2710	5000	
Zn	66	2	72	2.280	ppb	2.280	20.81	893	5000	
As	75	2	72	0.037	ppb	0.037	74.24	21	2000	
Se	78	1	72	0.025	ppb	0.025	254.00	23	2000	
Sr	88	2	72	0.168	ppb	0.168	32.92	103	4000	
Zr	90	2	72	50.320	ppb	50.320	8.50	873	1000	
Nb	93	2	72	0.006	ppb	0.006	500.51	830	200	
Mo	95	2	115	0.008	ppb	0.008	270.28	57	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-231.30	27	100	
Ag	107	2	115	0.016	ppb	0.016	57.06	97	100	
Cd	111	2	115	0.000	ppb	0.000	7070.71	3	2000	
Sn	120	2	115	0.233	ppb	0.233	10.56	503	2000	
Sb	121	2	115	0.344	ppb	0.344	23.77	400	1000	
Ba	137	2	115	0.135	ppb	0.135	64.79	70	5000	
W	182	2	165	0.018	ppb	0.018	77.82	1784	100	
Pt	195	2	165	-0.002	ppb	-0.002	-237.50	13	100	
Tl	205	2	165	0.019	ppb	0.019	42.38	267	2000	
Pb	208	2	165	0.073	ppb	0.073	18.37	1743	5000	
Th	232	2	165	0.111	ppb	0.111	6.50	1850	2000	
U	238	2	165	0.015	ppb	0.015	29.74	373	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1615410	1.43	1841092	87.74	60	120	
Sc (IS)	45	1	HMI H2	29840715	0.30	34041789	87.66	60	120	
Sc (IS)	45	2	HMI He	912884	1.19	989699	92.24	60	120	
Sc (IS)	45	3	No Gas	50706578	0.95	58466742	86.73	60	120	
Ge Internal Standard	72	1	HMI H2	12302171	1.03	14056514	87.52	60	120	
Ge Internal Standard	72	2	HMI He	1060842	0.60	1155188	91.83	60	120	
In Internal Standard	115	2	HMI He	3692174	1.56	3786036	97.52	60	120	
Ho-165	165	2	HMI He	18410676	1.28	18554642	99.22	60	120	

Sample Report

Sample Table

Sample Name	280-115877-d-1-a
Data File Name	120SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:16:12-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	1.576	ppb	1.576	97.17	171340	500000	
Li	7	2	45	-5.610	ppb	-5.610	-390.94	9563	500000	
Li	7	3	45	4.867	ppb	4.867	48.78	6113153	50000	
Be	9	1	6	0.023	ppb	0.023	263.14	27	2000	
B	11	1	6	62.807	ppb	62.807	2.63	28799	2000	
Na	23	1	45	1538.071	ppb	1538.071	0.38	5570464	2000	
Na	23	2	45	1431.266	ppb	1431.266	0.90	340869	400000	
Mg	24	2	45	24404.319	ppb	24404.319	0.39	2502315	400000	
Al	27	2	45	39.110	ppb	39.110	12.85	1040	400000	
K	39	1	45	2565.335	ppb	2565.335	1.63	19256845	400000	
K	39	2	45	3851.674	ppb	3851.674	2.01	215899	400000	
Ca	40	1	45	19810.619	ppb	19810.619	0.35	103783562	400000	
Ca	44	2	45	19528.903	ppb	19528.903	1.48	53779	400000	
Ti	47	2	45	0.807	ppb	0.807	102.68	23	4000	
V	51	2	72	-1.239	ppb	-1.239	-16.03	2484	2000	
Cr	52	2	72	0.297	ppb	0.297	8.09	693	5000	
Mn	55	2	72	735.053	ppb	735.053	0.61	377811	10000	
Fe	57	2	72	6303.517	ppb	6303.517	0.73	160145	400000	
Co	59	2	72	3.379	ppb	3.379	5.43	8156	2000	
Ni	60	2	72	4.942	ppb	4.942	6.42	3574	5000	
Cu	63	2	72	1.370	ppb	1.370	7.08	3884	5000	
Zn	66	2	72	1.746	ppb	1.746	22.03	757	5000	
As	75	2	72	6.865	ppb	6.865	5.14	1216	2000	
Se	78	1	72	0.186	ppb	0.186	17.13	71	2000	
Sr	88	2	72	77.278	ppb	77.278	0.82	42930	4000	
Zr	90	2	72	61.288	ppb	61.288	16.15	1037	1000	
Nb	93	2	72	0.030	ppb	0.030	118.13	907	200	
Mo	95	2	115	0.074	ppb	0.074	65.19	120	2000	
Pd	105	2	115	-0.012	ppb	-0.012	-32.01	17	100	
Ag	107	2	115	0.009	ppb	0.009	3.77	70	100	
Cd	111	2	115	0.024	ppb	0.024	149.81	13	2000	
Sn	120	2	115	0.083	ppb	0.083	61.48	330	2000	
Sb	121	2	115	0.274	ppb	0.274	13.00	323	1000	
Ba	137	2	115	32.846	ppb	32.846	6.11	11355	5000	
W	182	2	165	0.271	ppb	0.271	29.43	2987	100	
Pt	195	2	165	0.002	ppb	0.002	84.83	27	100	
Tl	205	2	165	0.109	ppb	0.109	9.02	1043	2000	
Pb	208	2	165	0.757	ppb	0.757	2.55	9632	5000	
Th	232	2	165	0.106	ppb	0.106	1.45	1770	2000	
U	238	2	165	0.035	ppb	0.035	15.22	700	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1571368	0.96	1841092	85.35	60	120	
Sc (IS)	45	1	HMI H2	29699906	0.49	34041789	87.25	60	120	
Sc (IS)	45	2	HMI He	894343	1.64	989699	90.37	60	120	
Sc (IS)	45	3	No Gas	50397121	0.71	58466742	86.20	60	120	
Ge Internal Standard	72	1	HMI H2	12243075	0.91	14056514	87.10	60	120	
Ge Internal Standard	72	2	HMI He	1053239	1.20	1155188	91.17	60	120	
In Internal Standard	115	2	HMI He	3621291	1.53	3786036	95.65	60	120	
Ho-165	165	2	HMI He	18405346	0.27	18554642	99.20	60	120	

Sample Report

Sample Table

Sample Name	280-115950-c-1-a
Data File Name	121SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:20:01-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	0.730	ppb	0.730	480.14	169810	500000	
Li	7	2	45	-24.748	ppb	-24.748	-89.99	9107	500000	
Li	7	3	45	5.597	ppb	5.597	88.06	6108806	50000	
Be	9	1	6	-0.017	ppb	-0.017	-136.70	10	2000	
B	11	1	6	11.550	ppb	11.550	13.89	5715	2000	
Na	23	1	45	5740.023	ppb	5740.023	1.97	19934246	2000	
Na	23	2	45	5728.279	ppb	5728.279	1.76	1305230	400000	
Mg	24	2	45	10112.220	ppb	10112.220	4.37	1037201	400000	
Al	27	2	45	53.281	ppb	53.281	15.09	1383	400000	
K	39	1	45	-542.966	ppb	-542.966	-3.58	8579921	400000	
K	39	2	45	831.453	ppb	831.453	2.61	61854	400000	
Ca	40	1	45	60099.344	ppb	60099.344	1.39	312616942	400000	
Ca	44	2	45	58652.451	ppb	58652.451	0.11	161507	400000	
Ti	47	2	45	1.192	ppb	1.192	18.94	33	4000	
V	51	2	72	-1.578	ppb	-1.578	-8.12	2117	2000	
Cr	52	2	72	0.246	ppb	0.246	33.03	620	5000	
Mn	55	2	72	185.050	ppb	185.050	0.78	94896	10000	
Fe	57	2	72	1068.996	ppb	1068.996	0.11	27243	400000	
Co	59	2	72	0.283	ppb	0.283	16.83	697	2000	
Ni	60	2	72	0.065	ppb	0.065	81.22	220	5000	
Cu	63	2	72	0.054	ppb	0.054	136.89	1337	5000	
Zn	66	2	72	0.600	ppb	0.600	58.23	473	5000	
As	75	2	72	4.938	ppb	4.938	5.81	876	2000	
Se	78	1	72	0.017	ppb	0.017	240.11	20	2000	
Sr	88	2	72	97.658	ppb	97.658	1.85	54088	4000	
Zr	90	2	72	26.860	ppb	26.860	18.83	503	1000	
Nb	93	2	72	-0.021	ppb	-0.021	-123.07	730	200	
Mo	95	2	115	0.532	ppb	0.532	22.80	580	2000	
Pd	105	2	115	-0.023	ppb	-0.023	0.00	0	100	
Ag	107	2	115	0.001	ppb	0.001	731.74	47	100	
Cd	111	2	115	-0.008	ppb	-0.008	0.00	0	2000	
Sn	120	2	115	0.053	ppb	0.053	86.49	303	2000	
Sb	121	2	115	0.092	ppb	0.092	58.17	143	1000	
Ba	137	2	115	54.046	ppb	54.046	2.52	18974	5000	
W	182	2	165	-0.002	ppb	-0.002	-1829.34	1674	100	
Pt	195	2	165	-0.001	ppb	-0.001	-375.45	17	100	
Tl	205	2	165	0.009	ppb	0.009	13.45	180	2000	
Pb	208	2	165	0.176	ppb	0.176	7.90	2904	5000	
Th	232	2	165	0.044	ppb	0.044	14.19	867	2000	
U	238	2	165	0.092	ppb	0.092	5.78	1577	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1592446	1.00	1841092	86.49	60	120	
Sc (IS)	45	1	HMI H2	29500847	0.67	34041789	86.66	60	120	
Sc (IS)	45	2	HMI He	894465	0.47	989699	90.38	60	120	
Sc (IS)	45	3	No Gas	50268103	0.91	58466742	85.98	60	120	
Ge Internal Standard	72	1	HMI H2	12135629	0.35	14056514	86.33	60	120	
Ge Internal Standard	72	2	HMI He	1050069	0.93	1155188	90.90	60	120	
In Internal Standard	115	2	HMI He	3679561	1.71	3786036	97.19	60	120	
Ho-165	165	2	HMI He	18282833	0.08	18554642	98.54	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	122_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:23:48-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	527.217	ppb	0.973	410749	500	105.4	90	110	
Li	7	2	45	497.595	ppb	6.880	21636	500	99.5	90	110	
Li	7	3	45	513.306	ppb	2.338	14171247	500	102.7	90	110	
Be	9	1	6	48.578	ppb	4.376	20919	50	97.2	90	110	
B	11	1	6	52.016	ppb	1.996	24565	50	104.0	90	110	
Na	23	1	45	5293.584	ppb	0.471	18631740	5000	105.9	90	110	
Na	23	2	45	5220.204	ppb	0.796	1182200	5000	104.4	90	110	
Mg	24	2	45	4942.372	ppb	0.292	503224	5000	98.8	90	110	
Al	27	2	45	5255.035	ppb	0.114	126671	5000	105.1	90	110	
K	39	1	45	5291.822	ppb	1.464	28728494	5000	105.8	90	110	
K	39	2	45	5119.654	ppb	0.962	278529	5000	102.4	90	110	
Ca	40	1	45	5269.262	ppb	0.540	27797021	5000	105.4	90	110	
Ca	44	2	45	5288.262	ppb	1.889	14474	5000	105.8	90	110	
Ti	47	2	45	49.910	ppb	19.837	1263	50	99.8	90	110	
V	51	2	72	47.626	ppb	2.218	53746	50	95.3	90	110	
Cr	52	2	72	48.493	ppb	0.487	67283	50	97.0	90	110	
Mn	55	2	72	50.492	ppb	2.582	25811	50	101.0	90	110	
Fe	57	2	72	4926.263	ppb	1.254	124129	5000	98.5	90	110	
Co	59	2	72	48.258	ppb	0.179	115331	50	96.5	90	110	
Ni	60	2	72	49.385	ppb	2.654	33837	50	98.8	90	110	
Cu	63	2	72	47.630	ppb	1.060	92582	50	95.3	90	110	
Zn	66	2	72	49.245	ppb	2.462	12296	50	98.5	90	110	
As	75	2	72	49.296	ppb	1.418	8567	50	98.6	90	110	
Se	78	1	72	49.283	ppb	0.588	14823	50	98.6	90	110	
Sr	88	2	72	51.424	ppb	1.280	28326	50	102.8	90	110	
Zr	90	2	72	133.280	ppb	11.550	2127	50	266.6	90	110	>+\-10%
Nb	93	2	72	91.833	ppb	0.825	316680	100	91.8	90	110	
Mo	95	2	115	46.825	ppb	1.601	45585	50	93.7	90	110	
Pd	105	2	115	49.918	ppb	1.816	75550	50	99.8	90	110	
Ag	107	2	115	47.367	ppb	0.853	155742	50	94.7	90	110	
Cd	111	2	115	48.003	ppb	1.025	19952	50	96.0	90	110	
Sn	120	2	115	49.114	ppb	1.100	53447	50	98.2	90	110	
Sb	121	2	115	50.191	ppb	2.634	50041	50	100.4	90	110	
Ba	137	2	115	49.046	ppb	0.688	16814	50	98.1	90	110	
W	182	2	165	47.207	ppb	0.756	225985	50	94.4	90	110	
Pt	195	2	165	47.335	ppb	1.107	187694	50	94.7	90	110	
Tl	205	2	165	49.762	ppb	1.108	428546	50	99.5	90	110	
Pb	208	2	165	49.311	ppb	0.853	569285	50	98.6	90	110	
Th	232	2	165	46.176	ppb	0.458	672313	50	92.4	90	110	
U	238	2	165	46.669	ppb	1.350	733911	50	93.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1613693	2.01	1841092	87.65	60	120	
Sc (IS)	45	1	HMI H2	29863752	0.47	34041789	87.73	60	120	
Sc (IS)	45	2	HMI He	887655	0.57	989699	89.69	60	120	
Sc (IS)	45	3	No Gas	49797831	0.47	58466742	85.17	60	120	
Ge Internal Standard	72	1	HMI H2	12298043	1.13	14056514	87.49	60	120	
Ge Internal Standard	72	2	HMI He	1044262	0.55	1155188	90.40	60	120	
In Internal Standard	115	2	HMI He	3592656	0.75	3786036	94.89	60	120	
Ho-165	165	2	HMI He	18376570	1.17	18554642	99.04	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	123_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:27:36-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	7.594	ppb	86.4	6131424	10	
Be	9	1	6	0.029	ppb	139.6	30	0.5	
B	11	1	6	1.501	ppb	30.0	1137	0.5	>RL
Na	23	1	45	23.443	ppb	0.6	345708	25	
Na	23	2	45	17.020	ppb	2.5	23483	25	
Mg	24	2	45	0.908	ppb	109.9	390	25	
Al	27	2	45	1.513	ppb	54.7	127	15	
K	39	1	45	9.974	ppb	276.6	10581061	50	
K	39	2	45	-29.139	ppb	-16.9	17882	50	
Ca	40	1	45	6.643	ppb	2.6	89965	50	
Ca	44	2	45	22.875	ppb	54.1	90	25	
Ti	47	2	45	0.144	ppb	157.1	7	0.5	
V	51	2	72	0.372	ppb	62.0	4161	1	
Cr	52	2	72	-0.003	ppb	-696.8	273	1	
Mn	55	2	72	0.063	ppb	109.7	117	0.5	
Fe	57	2	72	0.804	ppb	260.7	220	25	
Co	59	2	72	0.002	ppb	207.6	20	0.5	
Ni	60	2	72	-0.006	ppb	-619.0	170	1	
Cu	63	2	72	0.058	ppb	71.9	1337	1	
Zn	66	2	72	-0.054	ppb	-848.8	313	5	
As	75	2	72	0.069	ppb	84.2	26	1	
Se	78	1	72	0.042	ppb	82.7	28	1	
Sr	88	2	72	0.044	ppb	167.3	33	0.5	
Zr	90	2	72	3.421	ppb	63.7	143	1	>RL
Nb	93	2	72	2.140	ppb	12.4	8180	2	>RL
Mo	95	2	115	0.042	ppb	47.8	90	0.5	
Pd	105	2	115	0.012	ppb	197.8	53	1	
Ag	107	2	115	0.023	ppb	21.7	120	1	
Cd	111	2	115	0.016	ppb	148.0	10	0.5	
Sn	120	2	115	0.043	ppb	139.8	290	1	
Sb	121	2	115	0.379	ppb	13.4	433	0.6	
Ba	137	2	115	-0.036	ppb	-79.4	10	0.5	
W	182	2	165	0.039	ppb	65.1	1870	1	
Pt	195	2	165	0.005	ppb	48.1	40	1	
Tl	205	2	165	0.020	ppb	72.0	273	0.1	
Pb	208	2	165	0.021	ppb	34.8	1133	0.5	
Th	232	2	165	0.036	ppb	6.8	747	1	
U	238	2	165	0.016	ppb	35.9	390	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1622785	1.25	1841092	88.14	60	120	
Sc (IS)	45	1	HMI H2	29852882	0.39	34041789	87.69	60	120	
Sc (IS)	45	2	HMI He	891668	0.64	989699	90.09	60	120	
Sc (IS)	45	3	No Gas	50184656	0.38	58466742	85.83	60	120	
Ge Internal Standard	72	1	HMI H2	12404383	0.46	14056514	88.25	60	120	
Ge Internal Standard	72	2	HMI He	1045981	1.26	1155188	90.55	60	120	
In Internal Standard	115	2	HMI He	3661882	0.36	3786036	96.72	60	120	
Ho-165	165	2	HMI He	18300584	0.88	18554642	98.63	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	124LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:31:24-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	20.160	ppb	38.694	6299687	50	40.3	70	130	>+/-30%
Be	9	1	6	1.072	ppb	4.816	483	1	107.2	70	130	
Na	23	2	45	58.315	ppb	6.532	32490	50	116.6	70	130	
Mg	24	2	45	49.681	ppb	7.465	5338	50	99.4	70	130	
Al	27	2	45	31.665	ppb	6.810	850	30	105.6	70	130	
K	39	2	45	74.936	ppb	10.434	23012	100	74.9	70	130	
Ca	44	2	45	58.729	ppb	47.713	187	50	117.5	70	130	
V	51	2	72	5.025	ppb	8.237	8977	5	100.5	70	130	
Cr	52	2	72	1.930	ppb	4.117	2924	2	96.5	70	130	
Mn	55	2	72	1.086	ppb	18.071	633	1	108.6	70	130	
Fe	57	2	72	44.899	ppb	6.060	1320	50	89.8	70	130	
Co	59	2	72	0.975	ppb	5.937	2330	1	97.5	70	130	
Ni	60	2	72	2.043	ppb	1.435	1557	2	102.2	70	130	
Cu	63	2	72	1.821	ppb	1.907	4688	2	91.1	70	130	
Zn	66	2	72	9.456	ppb	11.439	2607	10	94.6	70	130	
As	75	2	72	4.747	ppb	5.814	832	5	94.9	70	130	
Se	78	1	72	4.943	ppb	5.202	1509	5	98.9	70	130	
Sr	88	2	72	1.231	ppb	28.407	683	1	123.1	70	130	
Zr	90	2	72	30.518	ppb	8.528	553	0.5	6103.7	70	130	>+/-30%
Nb	93	2	72	4.652	ppb	3.943	16694	2	232.6	70	130	>+/-30%
Mo	95	2	115	1.858	ppb	6.589	1874	2	92.9	70	130	
Pd	105	2	115	-0.003	ppb	-0.527	30	1	-0.3	70	130	>+/-30%
Ag	107	2	115	4.745	ppb	2.265	15796	5	94.9	70	130	
Cd	111	2	115	1.072	ppb	16.786	453	1	107.2	70	130	
Sn	120	2	115	9.967	ppb	3.663	11148	10	99.7	70	130	
Sb	121	2	115	2.063	ppb	5.336	2124	2	103.1	70	130	
Ba	137	2	115	1.005	ppb	28.690	370	1	100.5	70	130	
W	182	2	165	4.642	ppb	2.289	23705	1	464.2	70	130	>+/-30%
Pt	195	2	165	0.016	ppb	59.533	83	1	1.6	70	130	>+/-30%
Tl	205	2	165	1.024	ppb	5.512	8907	1	102.4	70	130	
Pb	208	2	165	0.980	ppb	1.593	12163	1	98.0	70	130	
Th	232	2	165	1.904	ppb	3.571	27888	2	95.2	70	130	
U	238	2	165	0.943	ppb	4.618	14946	1	94.3	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1629659	1.17	1841092	88.52	60	120	
Sc (IS)	45	1	HMI H2	29969817	0.47	34041789	88.04	60	120	
Sc (IS)	45	2	HMI He	885274	0.64	989699	89.45	60	120	
Sc (IS)	45	3	No Gas	49916161	0.32	58466742	85.38	60	120	
Ge Internal Standard	72	1	HMI H2	12373326	0.44	14056514	88.03	60	120	
Ge Internal Standard	72	2	HMI He	1037528	0.88	1155188	89.81	60	120	
In Internal Standard	115	2	HMI He	3629281	0.09	3786036	95.86	60	120	
Ho-165	165	2	HMI He	18340294	0.71	18554642	98.84	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-2-a
Data File Name	125SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:35:11-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	30.369	ppb	30.369	19.96	179497	500000	
Li	7	2	45	18.534	ppb	18.534	34.82	9950	500000	
Li	7	3	45	31.537	ppb	31.537	2.87	6387386	50000	
Be	9	1	6	0.025	ppb	0.025	57.25	27	2000	
B	11	1	6	91.678	ppb	91.678	2.32	40817	2000	
Na	23	1	45	26291.546	ppb	26291.546	0.30	88600919	2000	>LDR
Na	23	2	45	25385.844	ppb	25385.844	1.29	5600269	400000	
Mg	24	2	45	35658.489	ppb	35658.489	0.27	3582232	400000	
Al	27	2	45	54.844	ppb	54.844	20.14	1393	400000	
K	39	1	45	984.468	ppb	984.468	2.21	13492569	400000	
K	39	2	45	2231.009	ppb	2231.009	1.03	130555	400000	
Ca	40	1	45	83943.820	ppb	83943.820	0.84	428063314	400000	
Ca	44	2	45	83894.771	ppb	83894.771	0.60	226302	400000	
Ti	47	2	45	0.151	ppb	0.151	308.18	7	4000	
V	51	2	72	-1.528	ppb	-1.528	-7.01	2144	2000	
Cr	52	2	72	0.322	ppb	0.322	9.42	717	5000	
Mn	55	2	72	44.954	ppb	44.954	2.95	22816	10000	
Fe	57	2	72	1523.135	ppb	1523.135	2.05	38235	400000	
Co	59	2	72	0.096	ppb	0.096	14.42	243	2000	
Ni	60	2	72	0.119	ppb	0.119	50.31	253	5000	
Cu	63	2	72	0.139	ppb	0.139	16.60	1480	5000	
Zn	66	2	72	0.939	ppb	0.939	24.76	550	5000	
As	75	2	72	29.453	ppb	29.453	3.93	5087	2000	
Se	78	1	72	0.013	ppb	0.013	361.57	19	2000	
Sr	88	2	72	568.906	ppb	568.906	1.62	311029	4000	
Zr	90	2	72	3.105	ppb	3.105	99.26	137	1000	
Nb	93	2	72	0.294	ppb	0.294	22.05	1797	200	
Mo	95	2	115	4.213	ppb	4.213	14.21	4149	2000	
Pd	105	2	115	-0.014	ppb	-0.014	-70.79	13	100	
Ag	107	2	115	0.004	ppb	0.004	125.35	53	100	
Cd	111	2	115	-0.008	ppb	-0.008	0.00	0	2000	
Sn	120	2	115	0.115	ppb	0.115	39.58	363	2000	
Sb	121	2	115	0.103	ppb	0.103	63.81	150	1000	
Ba	137	2	115	36.656	ppb	36.656	3.30	12586	5000	
W	182	2	165	-0.003	ppb	-0.003	-1075.00	1664	100	
Pt	195	2	165	0.009	ppb	0.009	95.82	53	100	
Tl	205	2	165	0.015	ppb	0.015	66.96	230	2000	
Pb	208	2	165	0.051	ppb	0.051	26.11	1467	5000	
Th	232	2	165	0.042	ppb	0.042	14.87	837	2000	
U	238	2	165	0.756	ppb	0.756	3.54	11913	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1532813	1.05	1841092	83.26	60	120	
Sc (IS)	45	1	HMI H2	28920665	0.34	34041789	84.96	60	120	
Sc (IS)	45	2	HMI He	876259	1.07	989699	88.54	60	120	
Sc (IS)	45	3	No Gas	49185933	0.44	58466742	84.13	60	120	
Ge Internal Standard	72	1	HMI H2	11963341	0.05	14056514	85.11	60	120	
Ge Internal Standard	72	2	HMI He	1036644	1.28	1155188	89.74	60	120	
In Internal Standard	115	2	HMI He	3596578	0.10	3786036	95.00	60	120	
Ho-165	165	2	HMI He	18196342	1.19	18554642	98.07	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-2-aSD@5
Data File Name	126SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:38:58-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	9.372	ppb	9.372	25.02	174624	500000	
Li	7	2	45	-10.904	ppb	-10.904	-193.85	9343	500000	
Li	7	3	45	13.609	ppb	13.609	28.51	6164054	50000	
Be	9	1	6	0.005	ppb	0.005	757.51	20	2000	
B	11	1	6	1.166	ppb	1.166	10.47	987	2000	
Na	23	1	45	76.115	ppb	76.115	6.03	525036	2000	
Na	23	2	45	40.316	ppb	40.316	9.88	28489	400000	
Mg	24	2	45	44.559	ppb	44.559	20.71	4814	400000	
Al	27	2	45	0.440	ppb	0.440	408.61	100	400000	
K	39	1	45	-0.915	ppb	-0.915	-2371.22	10475841	400000	
K	39	2	45	-24.385	ppb	-24.385	-19.06	17995	400000	
Ca	40	1	45	164.721	ppb	164.721	7.10	916094	400000	
Ca	44	2	45	84.357	ppb	84.357	14.43	257	400000	
Ti	47	2	45	0.146	ppb	0.146	156.25	7	4000	
V	51	2	72	-0.421	ppb	-0.421	-66.70	3327	2000	
Cr	52	2	72	0.029	ppb	0.029	132.67	317	5000	
Mn	55	2	72	0.076	ppb	0.076	81.55	123	10000	
Fe	57	2	72	3.464	ppb	3.464	8.15	287	400000	
Co	59	2	72	0.003	ppb	0.003	398.07	23	2000	
Ni	60	2	72	0.022	ppb	0.022	358.91	190	5000	
Cu	63	2	72	-0.040	ppb	-0.040	-260.73	1150	5000	
Zn	66	2	72	-0.202	ppb	-0.202	-41.32	277	5000	
As	75	2	72	0.155	ppb	0.155	62.35	41	2000	
Se	78	1	72	-0.015	ppb	-0.015	-101.48	11	2000	
Sr	88	2	72	0.830	ppb	0.830	23.92	467	4000	
Zr	90	2	72	-0.483	ppb	-0.483	-160.47	83	1000	
Nb	93	2	72	0.032	ppb	0.032	96.10	910	200	
Mo	95	2	115	0.060	ppb	0.060	63.72	107	2000	
Pd	105	2	115	-0.019	ppb	-0.019	-40.22	7	100	
Ag	107	2	115	-0.001	ppb	-0.001	-449.07	37	100	
Cd	111	2	115	0.000	ppb	0.000	4310.03	3	2000	
Sn	120	2	115	0.033	ppb	0.033	273.18	277	2000	
Sb	121	2	115	0.029	ppb	0.029	130.19	77	1000	
Ba	137	2	115	-0.007	ppb	-0.007	-419.57	20	5000	
W	182	2	165	-0.012	ppb	-0.012	-266.32	1644	100	
Pt	195	2	165	-0.002	ppb	-0.002	-176.67	13	100	
Tl	205	2	165	-0.001	ppb	-0.001	-286.14	93	2000	
Pb	208	2	165	0.004	ppb	0.004	175.12	950	5000	
Th	232	2	165	-0.003	ppb	-0.003	-340.02	193	2000	
U	238	2	165	-0.001	ppb	-0.001	-202.69	130	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1630133	0.77	1841092	88.54	60	120	
Sc (IS)	45	1	HMI H2	29660655	0.43	34041789	87.13	60	120	
Sc (IS)	45	2	HMI He	885342	0.55	989699	89.46	60	120	
Sc (IS)	45	3	No Gas	49668146	0.61	58466742	84.95	60	120	
Ge Internal Standard	72	1	HMI H2	12287773	0.71	14056514	87.42	60	120	
Ge Internal Standard	72	2	HMI He	1046322	0.73	1155188	90.58	60	120	
In Internal Standard	115	2	HMI He	3626442	0.65	3786036	95.78	60	120	
Ho-165	165	2	HMI He	18441779	0.90	18554642	99.39	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-2-b ms
Data File Name	127SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:42:47-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	112.239	ppb	112.239	3.56	213849	500000	
Li	7	2	45	76.509	ppb	76.509	14.30	11305	500000	
Li	7	3	45	107.109	ppb	107.109	4.96	7550823	50000	
Be	9	1	6	39.396	ppb	39.396	1.67	16059	2000	
B	11	1	6	118.863	ppb	118.863	1.24	52583	2000	
Na	23	1	45	26596.858	ppb	26596.858	0.64	88955535	2000	>LDR
Na	23	2	45	25384.284	ppb	25384.284	0.89	5587487	400000	
Mg	24	2	45	35590.844	ppb	35590.844	0.85	3567189	400000	
Al	27	2	45	471.568	ppb	471.568	4.62	11275	400000	
K	39	1	45	1010.863	ppb	1010.863	0.77	13479139	400000	
K	39	2	45	2322.597	ppb	2322.597	1.67	134846	400000	
Ca	40	1	45	85474.539	ppb	85474.539	0.32	432615314	400000	
Ca	44	2	45	86394.162	ppb	86394.162	1.19	232532	400000	
Ti	47	2	45	2.826	ppb	2.826	29.03	73	4000	
V	51	2	72	37.645	ppb	37.645	3.18	42530	2000	
Cr	52	2	72	39.030	ppb	39.030	0.68	53279	5000	
Mn	55	2	72	85.075	ppb	85.075	2.17	42684	10000	
Fe	57	2	72	1972.243	ppb	1972.243	2.43	48960	400000	
Co	59	2	72	37.592	ppb	37.592	1.64	88305	2000	
Ni	60	2	72	36.722	ppb	36.722	3.41	24765	5000	
Cu	63	2	72	36.522	ppb	36.522	0.54	70064	5000	
Zn	66	2	72	37.478	ppb	37.478	7.49	9280	5000	
As	75	2	72	68.112	ppb	68.112	2.64	11630	2000	
Se	78	1	72	37.411	ppb	37.411	2.42	10822	2000	
Sr	88	2	72	626.737	ppb	626.737	0.07	339228	4000	
Zr	90	2	72	3849.819	ppb	3849.819	1.44	57906	1000	
Nb	93	2	72	0.158	ppb	0.158	46.28	1320	200	
Mo	95	2	115	40.798	ppb	40.798	1.95	39232	2000	
Pd	105	2	115	-0.012	ppb	-0.012	-31.32	17	100	
Ag	107	2	115	38.224	ppb	38.224	0.91	124155	100	
Cd	111	2	115	37.976	ppb	37.976	1.80	15593	2000	
Sn	120	2	115	40.119	ppb	40.119	0.79	43171	2000	
Sb	121	2	115	39.762	ppb	39.762	3.03	39170	1000	
Ba	137	2	115	75.936	ppb	75.936	0.88	25708	5000	
W	182	2	165	12.528	ppb	12.528	1.94	59935	100	
Pt	195	2	165	-0.001	ppb	-0.001	-702.01	17	100	
Tl	205	2	165	39.298	ppb	39.298	0.82	331394	2000	
Pb	208	2	165	39.507	ppb	39.507	0.16	446730	5000	
Th	232	2	165	37.221	ppb	37.221	1.28	530662	2000	
U	238	2	165	38.855	ppb	38.855	0.48	598253	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1526482	0.91	1841092	82.91	60	120	
Sc (IS)	45	1	HMI H2	28704993	0.65	34041789	84.32	60	120	
Sc (IS)	45	2	HMI He	874283	1.11	989699	88.34	60	120	
Sc (IS)	45	3	No Gas	48991549	0.99	58466742	83.79	60	120	
Ge Internal Standard	72	1	HMI H2	11825306	0.82	14056514	84.13	60	120	
Ge Internal Standard	72	2	HMI He	1026411	1.39	1155188	88.85	60	120	
In Internal Standard	115	2	HMI He	3549330	2.15	3786036	93.75	60	120	
Ho-165	165	2	HMI He	17990981	1.20	18554642	96.96	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-2-c msd
Data File Name	128SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:46:37-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	112.278	ppb	112.278	4.88	215463	500000	
Li	7	2	45	82.660	ppb	82.660	19.18	11588	500000	
Li	7	3	45	107.366	ppb	107.366	2.87	7739454	50000	
Be	9	1	6	40.095	ppb	40.095	3.42	16583	2000	
B	11	1	6	121.000	ppb	121.000	2.10	54316	2000	
Na	23	1	45	26755.093	ppb	26755.093	0.66	90151649	2000	>LDR
Na	23	2	45	25819.539	ppb	25819.539	0.45	5751177	400000	
Mg	24	2	45	36162.098	ppb	36162.098	1.05	3668177	400000	
Al	27	2	45	478.392	ppb	478.392	5.83	11572	400000	
K	39	1	45	1007.928	ppb	1007.928	2.39	13569744	400000	
K	39	2	45	2316.721	ppb	2316.721	0.69	136151	400000	
Ca	40	1	45	86144.986	ppb	86144.986	0.69	439245487	400000	
Ca	44	2	45	88011.081	ppb	88011.081	0.60	239720	400000	
Ti	47	2	45	1.469	ppb	1.469	71.51	40	4000	
V	51	2	72	36.801	ppb	36.801	1.86	42513	2000	
Cr	52	2	72	39.529	ppb	39.529	1.78	55061	5000	
Mn	55	2	72	87.578	ppb	87.578	2.72	44834	10000	
Fe	57	2	72	1971.834	ppb	1971.834	1.97	49960	400000	
Co	59	2	72	38.493	ppb	38.493	0.86	92282	2000	
Ni	60	2	72	37.339	ppb	37.339	3.30	25697	5000	
Cu	63	2	72	37.237	ppb	37.237	1.34	72868	5000	
Zn	66	2	72	37.174	ppb	37.174	0.65	9390	5000	
As	75	2	72	68.341	ppb	68.341	2.12	11906	2000	
Se	78	1	72	37.281	ppb	37.281	2.66	10930	2000	
Sr	88	2	72	637.289	ppb	637.289	0.54	352019	4000	
Zr	90	2	72	3952.677	ppb	3952.677	0.60	60677	1000	
Nb	93	2	72	0.093	ppb	0.093	41.05	1123	200	
Mo	95	2	115	40.898	ppb	40.898	0.65	40172	2000	
Pd	105	2	115	-0.012	ppb	-0.012	-110.23	17	100	
Ag	107	2	115	38.833	ppb	38.833	0.67	128823	100	
Cd	111	2	115	36.395	ppb	36.395	0.81	15262	2000	
Sn	120	2	115	40.105	ppb	40.105	1.48	44084	2000	
Sb	121	2	115	40.976	ppb	40.976	1.85	41236	1000	
Ba	137	2	115	74.047	ppb	74.047	2.93	25595	5000	
W	182	2	165	12.704	ppb	12.704	1.99	61944	100	
Pt	195	2	165	0.000	ppb	0.000	4141.32	20	100	
Tl	205	2	165	39.934	ppb	39.934	0.92	343383	2000	
Pb	208	2	165	39.782	ppb	39.782	0.44	458731	5000	
Th	232	2	165	37.569	ppb	37.569	0.48	546170	2000	
U	238	2	165	38.555	ppb	38.555	0.38	605385	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1549204	0.74	1841092	84.15	60	120	
Sc (IS)	45	1	HMI H2	28918590	0.10	34041789	84.95	60	120	
Sc (IS)	45	2	HMI He	884786	0.93	989699	89.40	60	120	
Sc (IS)	45	3	No Gas	50186794	0.46	58466742	85.84	60	120	
Ge Internal Standard	72	1	HMI H2	11983788	0.37	14056514	85.25	60	120	
Ge Internal Standard	72	2	HMI He	1047447	0.92	1155188	90.67	60	120	
In Internal Standard	115	2	HMI He	3624802	1.43	3786036	95.74	60	120	
Ho-165	165	2	HMI He	18346777	1.31	18554642	98.88	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-2-a PDS
Data File Name	129SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:50:25-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	30.046	ppb	30.046	11.96	181323	500000	
Li	7	2	45	0.819	ppb	0.819	3065.21	9724	500000	
Li	7	3	45	30.289	ppb	30.289	1.23	6332015	50000	
Be	9	1	6	206.222	ppb	206.222	2.16	84203	2000	
B	11	1	6	90.474	ppb	90.474	2.33	40245	2000	
Na	23	1	45	25758.552	ppb	25758.552	1.37	87763369	2000	>LDR
Na	23	2	45	24539.894	ppb	24539.894	0.47	5529136	400000	
Mg	24	2	45	34085.529	ppb	34085.529	0.81	3496311	400000	
Al	27	2	45	2219.610	ppb	2219.610	0.62	53982	400000	
K	39	1	45	895.853	ppb	895.853	4.78	13342859	400000	
K	39	2	45	2239.172	ppb	2239.172	2.11	133749	400000	
Ca	40	1	45	82726.536	ppb	82726.536	1.50	426477314	400000	
Ca	44	2	45	83471.356	ppb	83471.356	0.89	229894	400000	
Ti	47	2	45	5.498	ppb	5.498	25.77	143	4000	
V	51	2	72	200.186	ppb	200.186	1.40	216890	2000	
Cr	52	2	72	198.743	ppb	198.743	0.80	278796	5000	
Mn	55	2	72	254.590	ppb	254.590	0.41	131641	10000	
Fe	57	2	72	3495.305	ppb	3495.305	2.18	89379	400000	
Co	59	2	72	192.053	ppb	192.053	0.96	465429	2000	
Ni	60	2	72	191.639	ppb	191.639	0.50	132662	5000	
Cu	63	2	72	189.231	ppb	189.231	1.05	369353	5000	
Zn	66	2	72	211.397	ppb	211.397	2.16	52440	5000	
As	75	2	72	219.185	ppb	219.185	1.42	38582	2000	
Se	78	1	72	192.098	ppb	192.098	1.86	56955	2000	
Sr	88	2	72	561.795	ppb	561.795	1.24	313799	4000	
Zr	90	2	72	20982.384	ppb	20982.384	1.16	325287	1000	>LDR
Nb	93	2	72	3.137	ppb	3.137	3.55	11755	200	
Mo	95	2	115	200.864	ppb	200.864	0.08	196202	2000	
Pd	105	2	115	0.029	ppb	0.029	117.68	80	100	
Ag	107	2	115	44.837	ppb	44.837	0.80	148055	100	
Cd	111	2	115	196.225	ppb	196.225	2.47	81903	2000	
Sn	120	2	115	209.440	ppb	209.440	1.24	228118	2000	
Sb	121	2	115	207.425	ppb	207.425	0.87	207561	1000	
Ba	137	2	115	239.561	ppb	239.561	1.60	82400	5000	
W	182	2	165	202.691	ppb	202.691	0.26	968662	100	
Pt	195	2	165	0.046	ppb	0.046	26.00	203	100	
Tl	205	2	165	219.835	ppb	219.835	0.05	1900660	2000	
Pb	208	2	165	207.028	ppb	207.028	3.78	2397479	5000	
Th	232	2	165	15.444	ppb	15.444	1.30	225928	2000	
U	238	2	165	208.687	ppb	208.687	0.86	3294913	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1530743	1.58	1841092	83.14	60	120	
Sc (IS)	45	1	HMI H2	29239102	0.41	34041789	85.89	60	120	
Sc (IS)	45	2	HMI He	894765	1.49	989699	90.41	60	120	
Sc (IS)	45	3	No Gas	48910096	1.10	58466742	83.65	60	120	
Ge Internal Standard	72	1	HMI H2	12133420	0.63	14056514	86.32	60	120	
Ge Internal Standard	72	2	HMI He	1059145	1.88	1155188	91.69	60	120	
In Internal Standard	115	2	HMI He	3607913	1.14	3786036	95.30	60	120	
Ho-165	165	2	HMI He	18450807	0.80	18554642	99.44	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-3-a
Data File Name	130SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:54:11-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	30.750	ppb	30.750	17.18	182064	500000	
Li	7	2	45	-2.350	ppb	-2.350	-198.28	9800	500000	
Li	7	3	45	29.679	ppb	29.679	8.52	6403258	50000	
Be	9	1	6	0.209	ppb	0.209	16.41	103	2000	
B	11	1	6	91.504	ppb	91.504	2.36	41204	2000	
Na	23	1	45	26142.401	ppb	26142.401	0.74	89274919	2000	>LDR
Na	23	2	45	24737.400	ppb	24737.400	0.77	5658736	400000	
Mg	24	2	45	34832.301	ppb	34832.301	1.86	3627683	400000	
Al	27	2	45	70.657	ppb	70.657	10.68	1834	400000	
K	39	1	45	933.475	ppb	933.475	5.06	13500696	400000	
K	39	2	45	2262.983	ppb	2262.983	1.96	137023	400000	
Ca	40	1	45	83571.969	ppb	83571.969	1.07	431841700	400000	
Ca	44	2	45	84902.413	ppb	84902.413	0.89	237476	400000	
Ti	47	2	45	0.786	ppb	0.786	75.18	23	4000	
V	51	2	72	-2.011	ppb	-2.011	-3.24	1677	2000	
Cr	52	2	72	0.239	ppb	0.239	33.59	617	5000	
Mn	55	2	72	47.033	ppb	47.033	2.89	24421	10000	
Fe	57	2	72	1539.422	ppb	1539.422	1.51	39545	400000	
Co	59	2	72	0.137	ppb	0.137	37.66	347	2000	
Ni	60	2	72	0.227	ppb	0.227	72.71	333	5000	
Cu	63	2	72	0.115	ppb	0.115	38.85	1467	5000	
Zn	66	2	72	3.453	ppb	3.453	7.92	1183	5000	
As	75	2	72	30.139	ppb	30.139	0.77	5326	2000	
Se	78	1	72	0.126	ppb	0.126	17.57	52	2000	
Sr	88	2	72	583.530	ppb	583.530	0.45	326379	4000	
Zr	90	2	72	17.942	ppb	17.942	50.55	370	1000	
Nb	93	2	72	-0.167	ppb	-0.167	-6.91	227	200	
Mo	95	2	115	4.440	ppb	4.440	6.74	4498	2000	
Pd	105	2	115	0.013	ppb	0.013	118.61	57	100	
Ag	107	2	115	0.011	ppb	0.011	98.09	80	100	
Cd	111	2	115	0.015	ppb	0.015	148.53	10	2000	
Sn	120	2	115	0.148	ppb	0.148	34.49	410	2000	
Sb	121	2	115	0.720	ppb	0.720	17.15	787	1000	
Ba	137	2	115	35.395	ppb	35.395	5.15	12510	5000	
W	182	2	165	0.092	ppb	0.092	57.15	2160	100	
Pt	195	2	165	0.001	ppb	0.001	473.17	23	100	
Tl	205	2	165	0.057	ppb	0.057	33.81	607	2000	
Pb	208	2	165	0.106	ppb	0.106	8.16	2150	5000	
Th	232	2	165	0.019	ppb	0.019	74.29	517	2000	
U	238	2	165	0.804	ppb	0.804	3.40	12974	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1549995	1.20	1841092	84.19	60	120	
Sc (IS)	45	1	HMI H2	29307389	0.71	34041789	86.09	60	120	
Sc (IS)	45	2	HMI He	908550	1.33	989699	91.80	60	120	
Sc (IS)	45	3	No Gas	49534839	1.13	58466742	84.72	60	120	
Ge Internal Standard	72	1	HMI H2	12051389	0.77	14056514	85.74	60	120	
Ge Internal Standard	72	2	HMI He	1060667	1.48	1155188	91.82	60	120	
In Internal Standard	115	2	HMI He	3704119	1.79	3786036	97.84	60	120	
Ho-165	165	2	HMI He	18641160	1.07	18554642	100.47	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-4-a
Data File Name	131SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:58:00-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	0.531	ppb	0.531	379.55	167775	500000	
Li	7	2	45	-33.688	ppb	-33.688	-57.16	8843	500000	
Li	7	3	45	1.450	ppb	1.450	358.70	5926864	50000	
Be	9	1	6	0.066	ppb	0.066	78.88	43	2000	
B	11	1	6	445.605	ppb	445.605	1.34	196064	2000	
Na	23	1	45	5190.692	ppb	5190.692	1.26	17846228	2000	
Na	23	2	45	5191.816	ppb	5191.816	1.20	1179221	400000	
Mg	24	2	45	94069.843	ppb	94069.843	1.40	9599087	400000	
Al	27	2	45	4.294	ppb	4.294	71.63	193	400000	
K	39	1	45	5252.912	ppb	5252.912	1.17	27924279	400000	
K	39	2	45	6506.940	ppb	6506.940	1.82	349765	400000	
Ca	40	1	45	141376.428	ppb	141376.428	0.49	726921163	400000	
Ca	44	2	45	141535.096	ppb	141535.096	0.24	387815	400000	
Ti	47	2	45	0.144	ppb	0.144	314.46	7	4000	
V	51	2	72	-2.097	ppb	-2.097	-3.48	1577	2000	
Cr	52	2	72	0.321	ppb	0.321	50.70	727	5000	
Mn	55	2	72	1075.001	ppb	1075.001	0.30	553323	10000	
Fe	57	2	72	11817.375	ppb	11817.375	0.44	300497	400000	
Co	59	2	72	4.067	ppb	4.067	2.70	9831	2000	
Ni	60	2	72	9.998	ppb	9.998	5.55	7059	5000	
Cu	63	2	72	0.103	ppb	0.103	37.64	1437	5000	
Zn	66	2	72	3.509	ppb	3.509	8.06	1190	5000	
As	75	2	72	31.579	ppb	31.579	1.88	5548	2000	
Se	78	1	72	0.140	ppb	0.140	42.38	56	2000	
Sr	88	2	72	587.217	ppb	587.217	0.67	326622	4000	
Zr	90	2	72	32.276	ppb	32.276	18.65	590	1000	
Nb	93	2	72	-0.155	ppb	-0.155	-25.04	267	200	
Mo	95	2	115	0.572	ppb	0.572	8.41	607	2000	
Pd	105	2	115	-0.014	ppb	-0.014	-110.53	13	100	
Ag	107	2	115	0.000	ppb	0.000	-660.40	40	100	
Cd	111	2	115	0.009	ppb	0.009	326.76	7	2000	
Sn	120	2	115	0.102	ppb	0.102	30.19	350	2000	
Sb	121	2	115	0.296	ppb	0.296	26.13	343	1000	
Ba	137	2	115	50.017	ppb	50.017	1.18	17225	5000	
W	182	2	165	0.074	ppb	0.074	29.22	2057	100	
Pt	195	2	165	-0.003	ppb	-0.003	-99.74	10	100	
Tl	205	2	165	0.016	ppb	0.016	23.57	247	2000	
Pb	208	2	165	0.119	ppb	0.119	28.03	2274	5000	
Th	232	2	165	0.016	ppb	0.016	17.41	467	2000	
U	238	2	165	2.995	ppb	2.995	3.05	47508	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1526950	1.64	1841092	82.94	60	120	
Sc (IS)	45	1	HMI H2	29162442	0.42	34041789	85.67	60	120	
Sc (IS)	45	2	HMI He	890145	0.53	989699	89.94	60	120	
Sc (IS)	45	3	No Gas	49310871	1.06	58466742	84.34	60	120	
Ge Internal Standard	72	1	HMI H2	12003337	0.14	14056514	85.39	60	120	
Ge Internal Standard	72	2	HMI He	1054797	0.60	1155188	91.31	60	120	
In Internal Standard	115	2	HMI He	3609607	2.12	3786036	95.34	60	120	
Ho-165	165	2	HMI He	18481372	0.61	18554642	99.61	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-5-a
Data File Name	132SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:01:47-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	8.031	ppb	8.031	57.82	169467	500000	
Li	7	2	45	-34.538	ppb	-34.538	-5.46	8853	500000	
Li	7	3	45	3.129	ppb	3.129	188.78	5867552	50000	
Be	9	1	6	0.009	ppb	0.009	501.73	20	2000	
B	11	1	6	255.719	ppb	255.719	2.72	113043	2000	
Na	23	1	45	3649.303	ppb	3649.303	0.45	12502641	2000	
Na	23	2	45	3363.557	ppb	3363.557	0.19	773396	400000	
Mg	24	2	45	47706.460	ppb	47706.460	0.70	4884625	400000	
Al	27	2	45	5.508	ppb	5.508	52.15	223	400000	
K	39	1	45	2287.624	ppb	2287.624	1.17	17805401	400000	
K	39	2	45	3577.804	ppb	3577.804	1.25	201681	400000	
Ca	40	1	45	54957.843	ppb	54957.843	0.70	279912736	400000	
Ca	44	2	45	53958.959	ppb	53958.959	1.47	148354	400000	
Ti	47	2	45	-0.118	ppb	-0.118	0.00	0	4000	
V	51	2	72	-2.557	ppb	-2.557	-4.58	1093	2000	
Cr	52	2	72	0.245	ppb	0.245	26.64	623	5000	
Mn	55	2	72	500.204	ppb	500.204	1.10	258306	10000	
Fe	57	2	72	51222.352	ppb	51222.352	2.08	1305728	400000	
Co	59	2	72	4.232	ppb	4.232	3.73	10261	2000	
Ni	60	2	72	9.492	ppb	9.492	0.81	6732	5000	
Cu	63	2	72	0.062	ppb	0.062	76.93	1360	5000	
Zn	66	2	72	818.409	ppb	818.409	0.83	201901	5000	
As	75	2	72	19.843	ppb	19.843	2.48	3502	2000	
Se	78	1	72	0.031	ppb	0.031	131.80	24	2000	
Sr	88	2	72	149.120	ppb	149.120	1.80	83204	4000	
Zr	90	2	72	8.922	ppb	8.922	10.94	230	1000	
Nb	93	2	72	-0.156	ppb	-0.156	-31.76	263	200	
Mo	95	2	115	0.092	ppb	0.092	65.78	137	2000	
Pd	105	2	115	-0.023	ppb	-0.023	0.00	0	100	
Ag	107	2	115	-0.006	ppb	-0.006	-48.92	20	100	
Cd	111	2	115	0.024	ppb	0.024	55.33	13	2000	
Sn	120	2	115	0.083	ppb	0.083	72.05	327	2000	
Sb	121	2	115	0.425	ppb	0.425	1.66	470	1000	
Ba	137	2	115	55.282	ppb	55.282	7.53	18927	5000	
W	182	2	165	0.073	ppb	0.073	29.44	2064	100	
Pt	195	2	165	-0.003	ppb	-0.003	-43.05	7	100	
Tl	205	2	165	0.264	ppb	0.264	11.19	2404	2000	
Pb	208	2	165	0.059	ppb	0.059	29.10	1590	5000	
Th	232	2	165	0.010	ppb	0.010	38.42	387	2000	
U	238	2	165	0.265	ppb	0.265	3.86	4351	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1532192	1.59	1841092	83.22	60	120	
Sc (IS)	45	1	HMI H2	28884281	0.13	34041789	84.85	60	120	
Sc (IS)	45	2	HMI He	893084	0.60	989699	90.24	60	120	
Sc (IS)	45	3	No Gas	48600359	0.86	58466742	83.12	60	120	
Ge Internal Standard	72	1	HMI H2	12071451	0.67	14056514	85.88	60	120	
Ge Internal Standard	72	2	HMI He	1058068	1.06	1155188	91.59	60	120	
In Internal Standard	115	2	HMI He	3591099	1.49	3786036	94.85	60	120	
Ho-165	165	2	HMI He	18586277	0.48	18554642	100.17	60	120	

Sample Report

Sample Table

Sample Name	280-115787-g-1-b
Data File Name	133SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:05:35-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-4.154	ppb	-4.154	-95.18	165852	500000	
Li	7	2	45	-38.060	ppb	-38.060	-54.71	8940	500000	
Li	7	3	45	-4.940	ppb	-4.940	-79.13	5843515	50000	
Be	9	1	6	0.015	ppb	0.015	327.61	23	2000	
B	11	1	6	4.439	ppb	4.439	10.83	2414	2000	
Na	23	1	45	-2.984	ppb	-2.984	-41.15	248396	2000	
Na	23	2	45	-14.004	ppb	-14.004	-7.68	16890	400000	
Mg	24	2	45	17.694	ppb	17.694	4.66	2150	400000	
Al	27	2	45	11.786	ppb	11.786	30.40	383	400000	
K	39	1	45	-1460.148	ppb	-1460.148	-1.21	5409972	400000	
K	39	2	45	-22.088	ppb	-22.088	-17.23	18623	400000	
Ca	40	1	45	53.586	ppb	53.586	7.31	329540	400000	
Ca	44	2	45	38.865	ppb	38.865	12.25	137	400000	
Ti	47	2	45	0.009	ppb	0.009	2431.11	3	4000	
V	51	2	72	-1.852	ppb	-1.852	-8.93	1850	2000	
Cr	52	2	72	0.124	ppb	0.124	61.10	457	5000	
Mn	55	2	72	0.476	ppb	0.476	33.65	333	10000	
Fe	57	2	72	21.933	ppb	21.933	7.66	763	400000	
Co	59	2	72	0.014	ppb	0.014	51.18	50	2000	
Ni	60	2	72	0.013	ppb	0.013	707.87	187	5000	
Cu	63	2	72	0.033	ppb	0.033	66.20	1310	5000	
Zn	66	2	72	1.328	ppb	1.328	19.15	660	5000	
As	75	2	72	0.070	ppb	0.070	21.51	27	2000	
Se	78	1	72	-0.023	ppb	-0.023	-58.92	8	2000	
Sr	88	2	72	0.227	ppb	0.227	15.02	137	4000	
Zr	90	2	72	1.584	ppb	1.584	66.61	117	1000	
Nb	93	2	72	-0.154	ppb	-0.154	-9.78	273	200	
Mo	95	2	115	0.000	ppb	0.000	6370.82	50	2000	
Pd	105	2	115	-0.023	ppb	-0.023	0.00	0	100	
Ag	107	2	115	-0.007	ppb	-0.007	-87.95	20	100	
Cd	111	2	115	-0.008	ppb	-0.008	0.00	0	2000	
Sn	120	2	115	-0.002	ppb	-0.002	-3104.37	247	2000	
Sb	121	2	115	0.129	ppb	0.129	23.55	183	1000	
Ba	137	2	115	0.161	ppb	0.161	49.10	80	5000	
W	182	2	165	-0.011	ppb	-0.011	-295.67	1664	100	
Pt	195	2	165	-0.001	ppb	-0.001	-442.47	17	100	
Tl	205	2	165	0.005	ppb	0.005	73.15	153	2000	
Pb	208	2	165	0.014	ppb	0.014	15.18	1077	5000	
Th	232	2	165	0.007	ppb	0.007	50.95	333	2000	
U	238	2	165	0.000	ppb	0.000	992.09	150	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1561497	0.97	1841092	84.81	60	120	
Sc (IS)	45	1	HMI H2	29189509	0.27	34041789	85.75	60	120	
Sc (IS)	45	2	HMI He	910301	1.54	989699	91.98	60	120	
Sc (IS)	45	3	No Gas	49459706	0.76	58466742	84.59	60	120	
Ge Internal Standard	72	1	HMI H2	12018028	0.49	14056514	85.50	60	120	
Ge Internal Standard	72	2	HMI He	1062342	1.45	1155188	91.96	60	120	
In Internal Standard	115	2	HMI He	3744791	1.87	3786036	98.91	60	120	
Ho-165	165	2	HMI He	18646880	1.00	18554642	100.50	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	134_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:09:25-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	515.937	ppb	0.360	397075	500	103.2	90	110	
Li	7	2	45	457.478	ppb	4.278	21159	500	91.5	90	110	
Li	7	3	45	518.769	ppb	1.391	13963913	500	103.8	90	110	
Be	9	1	6	51.202	ppb	2.760	21333	50	102.4	90	110	
B	11	1	6	52.177	ppb	0.814	23833	50	104.4	90	110	
Na	23	1	45	5290.025	ppb	0.876	18225771	5000	105.8	90	110	
Na	23	2	45	5124.525	ppb	1.780	1188704	5000	102.5	90	110	
Mg	24	2	45	4834.229	ppb	1.015	504003	5000	96.7	90	110	
Al	27	2	45	5243.786	ppb	1.315	129417	5000	104.9	90	110	
K	39	1	45	5363.847	ppb	1.151	28363900	5000	107.3	90	110	
K	39	2	45	5080.221	ppb	1.271	283149	5000	101.6	90	110	
Ca	40	1	45	5247.052	ppb	1.148	27094614	5000	104.9	90	110	
Ca	44	2	45	5255.458	ppb	3.152	14728	5000	105.1	90	110	
Ti	47	2	45	46.623	ppb	15.733	1210	50	93.2	90	110	
V	51	2	72	46.729	ppb	1.036	54001	50	93.5	90	110	
Cr	52	2	72	47.801	ppb	1.275	67819	50	95.6	90	110	
Mn	55	2	72	50.473	ppb	1.144	26382	50	100.9	90	110	
Fe	57	2	72	4980.258	ppb	1.566	128319	5000	99.6	90	110	
Co	59	2	72	48.639	ppb	2.942	118847	50	97.3	90	110	
Ni	60	2	72	48.515	ppb	1.973	33991	50	97.0	90	110	
Cu	63	2	72	47.393	ppb	1.580	94216	50	94.8	90	110	
Zn	66	2	72	48.544	ppb	4.552	12396	50	97.1	90	110	
As	75	2	72	48.799	ppb	1.234	8672	50	97.6	90	110	
Se	78	1	72	50.427	ppb	2.912	14853	50	100.9	90	110	
Sr	88	2	72	51.569	ppb	2.396	29044	50	103.1	90	110	
Zr	90	2	72	48.239	ppb	6.241	847	50	96.5	90	110	
Nb	93	2	72	92.193	ppb	1.156	325099	100	92.2	90	110	
Mo	95	2	115	46.695	ppb	3.144	47153	50	93.4	90	110	
Pd	105	2	115	48.154	ppb	1.215	75611	50	96.3	90	110	
Ag	107	2	115	46.631	ppb	1.493	159040	50	93.3	90	110	
Cd	111	2	115	46.825	ppb	3.761	20182	50	93.6	90	110	
Sn	120	2	115	49.323	ppb	2.090	55672	50	98.6	90	110	
Sb	121	2	115	49.899	ppb	3.043	51601	50	99.8	90	110	
Ba	137	2	115	48.603	ppb	4.632	17278	50	97.2	90	110	
W	182	2	165	47.710	ppb	0.405	232567	50	95.4	90	110	
Pt	195	2	165	46.920	ppb	1.468	189462	50	93.8	90	110	
Tl	205	2	165	50.039	ppb	0.243	438866	50	100.1	90	110	
Pb	208	2	165	49.970	ppb	0.625	587491	50	99.9	90	110	
Th	232	2	165	46.465	ppb	0.545	688899	50	92.9	90	110	
U	238	2	165	46.949	ppb	0.616	751875	50	93.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1560479	1.43	1841092	84.76	60	120	
Sc (IS)	45	1	HMI H2	29233288	0.75	34041789	85.87	60	120	
Sc (IS)	45	2	HMI He	908893	1.00	989699	91.84	60	120	
Sc (IS)	45	3	No Gas	48769036	0.97	58466742	83.41	60	120	
Ge Internal Standard	72	1	HMI H2	12045919	0.82	14056514	85.70	60	120	
Ge Internal Standard	72	2	HMI He	1067855	0.96	1155188	92.44	60	120	
In Internal Standard	115	2	HMI He	3727529	2.33	3786036	98.45	60	120	
Ho-165	165	2	HMI He	18713099	0.77	18554642	100.85	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	135_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:13:12-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	4.089	ppb	136.1	5904557	10	
Be	9	1	6	-0.017	ppb	-234.7	10	0.5	
B	11	1	6	2.045	ppb	5.0	1380	0.5	>RL
Na	23	1	45	-9.438	ppb	-10.7	229066	25	
Na	23	2	45	-21.808	ppb	-10.5	14965	25	
Mg	24	2	45	2.632	ppb	44.0	573	25	
Al	27	2	45	1.055	ppb	85.1	117	15	
K	39	1	45	32.044	ppb	70.7	10538224	50	
K	39	2	45	-32.647	ppb	-35.3	17902	50	
Ca	40	1	45	4.492	ppb	3.4	77766	50	
Ca	44	2	45	3.406	ppb	310.6	37	25	
Ti	47	2	45	-0.118	ppb	0.0	0	0.5	
V	51	2	72	-0.546	ppb	-86.3	3234	1	
Cr	52	2	72	0.000	ppb	-9381.3	280	1	
Mn	55	2	72	0.035	ppb	132.2	103	0.5	
Fe	57	2	72	3.851	ppb	42.2	300	25	
Co	59	2	72	0.007	ppb	86.1	33	0.5	
Ni	60	2	72	-0.019	ppb	-217.5	163	1	
Cu	63	2	72	0.103	ppb	45.4	1440	1	
Zn	66	2	72	0.149	ppb	202.0	367	5	
As	75	2	72	0.048	ppb	13.3	23	1	
Se	78	1	72	0.053	ppb	77.8	31	1	
Sr	88	2	72	0.067	ppb	41.5	47	0.5	
Zr	90	2	72	1.392	ppb	176.1	113	1	>RL
Nb	93	2	72	2.140	ppb	7.2	8269	2	>RL
Mo	95	2	115	0.010	ppb	390.5	60	0.5	
Pd	105	2	115	0.026	ppb	15.3	77	1	
Ag	107	2	115	0.018	ppb	52.9	103	1	
Cd	111	2	115	-0.008	ppb	0.0	0	0.5	
Sn	120	2	115	0.025	ppb	160.1	277	1	
Sb	121	2	115	0.330	ppb	37.8	393	0.6	
Ba	137	2	115	-0.037	ppb	-76.0	10	0.5	
W	182	2	165	0.035	ppb	70.3	1907	1	
Pt	195	2	165	0.006	ppb	44.6	47	1	
Tl	205	2	165	0.023	ppb	42.4	310	0.1	
Pb	208	2	165	0.011	ppb	124.7	1050	0.5	
Th	232	2	165	0.026	ppb	19.4	630	1	
U	238	2	165	0.016	ppb	52.1	397	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1609095	1.43	1841092	87.40	60	120	
Sc (IS)	45	1	HMI H2	29520682	0.84	34041789	86.72	60	120	
Sc (IS)	45	2	HMI He	901677	0.91	989699	91.11	60	120	
Sc (IS)	45	3	No Gas	48783523	1.02	58466742	83.44	60	120	
Ge Internal Standard	72	1	HMI H2	12126880	0.17	14056514	86.27	60	120	
Ge Internal Standard	72	2	HMI He	1058198	0.70	1155188	91.60	60	120	
In Internal Standard	115	2	HMI He	3742765	1.80	3786036	98.86	60	120	
Ho-165	165	2	HMI He	18831571	0.39	18554642	101.49	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	136LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:17:00-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	17.533	ppb	11.669	6111369	50	35.1	70	130	>+/-30%
Be	9	1	6	1.277	ppb	1.027	560	1	127.7	70	130	
Na	23	2	45	22.475	ppb	7.637	25065	50	45.0	70	130	>+/-30%
Mg	24	2	45	51.158	ppb	0.947	5608	50	102.3	70	130	
Al	27	2	45	34.479	ppb	15.279	937	30	114.9	70	130	
K	39	2	45	82.476	ppb	27.273	23897	100	82.5	70	130	
Ca	44	2	45	65.508	ppb	13.727	210	50	131.0	70	130	>+/-30%
V	51	2	72	4.335	ppb	2.718	8450	5	86.7	70	130	
Cr	52	2	72	1.973	ppb	13.025	3050	2	98.7	70	130	
Mn	55	2	72	0.993	ppb	12.441	600	1	99.3	70	130	
Fe	57	2	72	47.453	ppb	10.854	1417	50	94.9	70	130	
Co	59	2	72	1.041	ppb	5.027	2544	1	104.1	70	130	
Ni	60	2	72	1.987	ppb	12.126	1553	2	99.4	70	130	
Cu	63	2	72	1.862	ppb	4.159	4874	2	93.1	70	130	
Zn	66	2	72	10.587	ppb	16.966	2950	10	105.9	70	130	
As	75	2	72	4.687	ppb	1.213	841	5	93.7	70	130	
Se	78	1	72	4.768	ppb	2.000	1441	5	95.4	70	130	
Sr	88	2	72	1.139	ppb	5.803	647	1	113.9	70	130	
Zr	90	2	72	5.003	ppb	44.687	170	0.5	1000.6	70	130	>+/-30%
Nb	93	2	72	4.435	ppb	3.547	16327	2	221.8	70	130	>+/-30%
Mo	95	2	115	1.867	ppb	10.957	1944	2	93.3	70	130	
Pd	105	2	115	-0.004	ppb	-656.113	30	1	-0.4	70	130	>+/-30%
Ag	107	2	115	4.750	ppb	2.563	16300	5	95.0	70	130	
Cd	111	2	115	0.955	ppb	12.007	417	1	95.5	70	130	
Sn	120	2	115	10.040	ppb	4.379	11572	10	100.4	70	130	
Sb	121	2	115	2.210	ppb	3.929	2344	2	110.5	70	130	
Ba	137	2	115	1.010	ppb	9.817	383	1	101.0	70	130	
W	182	2	165	4.649	ppb	1.977	24393	1	464.9	70	130	>+/-30%
Pt	195	2	165	0.018	ppb	30.365	93	1	1.8	70	130	>+/-30%
Tl	205	2	165	0.990	ppb	1.338	8853	1	99.0	70	130	
Pb	208	2	165	0.996	ppb	1.673	12693	1	99.6	70	130	
Th	232	2	165	1.884	ppb	3.002	28362	2	94.2	70	130	
U	238	2	165	0.945	ppb	4.487	15387	1	94.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1593455	0.80	1841092	86.55	60	120	
Sc (IS)	45	1	HMI H2	29394247	0.37	34041789	86.35	60	120	
Sc (IS)	45	2	HMI He	904839	1.51	989699	91.43	60	120	
Sc (IS)	45	3	No Gas	48748543	0.63	58466742	83.38	60	120	
Ge Internal Standard	72	1	HMI H2	12242341	0.82	14056514	87.09	60	120	
Ge Internal Standard	72	2	HMI He	1061721	1.21	1155188	91.91	60	120	
In Internal Standard	115	2	HMI He	3742400	2.82	3786036	98.85	60	120	
Ho-165	165	2	HMI He	18848328	0.92	18554642	101.58	60	120	

Sample Report

Sample Table

Sample Name	280-115787-a-2-b
Data File Name	137SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:20:47-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	204.626	ppb	204.626	2.54	245312	500000	
Li	7	2	45	148.330	ppb	148.330	18.77	12903	500000	
Li	7	3	45	197.097	ppb	197.097	1.63	8620870	50000	
Be	9	1	6	0.011	ppb	0.011	399.89	20	2000	
B	11	1	6	1069.193	ppb	1069.193	0.80	445824	2000	
Na	23	1	45	443990.400	ppb	443990.400	0.66	1429486059	2000	>LDR
Na	23	2	45	420957.906	ppb	420957.906	1.16	91599772	400000	
Mg	24	2	45	507.731	ppb	507.731	1.67	50754	400000	
Al	27	2	45	137.169	ppb	137.169	7.07	3314	400000	
K	39	1	45	-535.747	ppb	-535.747	-3.27	8080963	400000	
K	39	2	45	656.989	ppb	656.989	2.89	51334	400000	
Ca	40	1	45	3809.288	ppb	3809.288	1.01	18658170	400000	
Ca	44	2	45	9426.815	ppb	9426.815	2.93	25196	400000	
Ti	47	2	45	2.984	ppb	2.984	19.59	77	4000	
V	51	2	72	-1.440	ppb	-1.440	-6.27	2190	2000	
Cr	52	2	72	0.360	ppb	0.360	17.53	753	5000	
Mn	55	2	72	12.010	ppb	12.010	5.02	6035	10000	
Fe	57	2	72	44.497	ppb	44.497	12.93	1283	400000	
Co	59	2	72	0.044	ppb	0.044	21.64	117	2000	
Ni	60	2	72	0.167	ppb	0.167	62.38	280	5000	
Cu	63	2	72	0.769	ppb	0.769	21.51	2630	5000	
Zn	66	2	72	4.559	ppb	4.559	23.26	1393	5000	
As	75	2	72	0.313	ppb	0.313	5.20	67	2000	
Se	78	1	72	0.041	ppb	0.041	72.37	25	2000	
Sr	88	2	72	1172.984	ppb	1172.984	0.82	628646	4000	
Zr	90	2	72	27.228	ppb	27.228	30.80	493	1000	
Nb	93	2	72	0.485	ppb	0.485	24.21	2404	200	
Mo	95	2	115	11.129	ppb	11.129	4.91	10758	2000	
Pd	105	2	115	0.015	ppb	0.015	168.96	57	100	
Ag	107	2	115	0.014	ppb	0.014	60.21	87	100	
Cd	111	2	115	0.025	ppb	0.025	151.09	13	2000	
Sn	120	2	115	0.539	ppb	0.539	16.73	813	2000	
Sb	121	2	115	0.081	ppb	0.081	26.07	127	1000	
Ba	137	2	115	14.552	ppb	14.552	4.60	4955	5000	
W	182	2	165	1.143	ppb	1.143	5.66	6945	100	
Pt	195	2	165	0.006	ppb	0.006	173.85	43	100	
Tl	205	2	165	0.013	ppb	0.013	38.03	213	2000	
Pb	208	2	165	0.465	ppb	0.465	8.55	6094	5000	
Th	232	2	165	0.076	ppb	0.076	15.74	1300	2000	
U	238	2	165	28.867	ppb	28.867	1.13	442539	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1448822	0.60	1841092	78.69	60	120	
Sc (IS)	45	1	HMI H2	27706865	1.21	34041789	81.39	60	120	
Sc (IS)	45	2	HMI He	867183	1.60	989699	87.62	60	120	
Sc (IS)	45	3	No Gas	47099238	0.54	58466742	80.56	60	120	
Ge Internal Standard	72	1	HMI H2	11355587	0.94	14056514	80.79	60	120	
Ge Internal Standard	72	2	HMI He	1016311	1.31	1155188	87.98	60	120	
In Internal Standard	115	2	HMI He	3556947	1.39	3786036	93.95	60	120	
Ho-165	165	2	HMI He	17911450	0.78	18554642	96.53	60	120	

Sample Report

Sample Table

Sample Name	280-115787-e-3-b
Data File Name	138SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:24:39-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	313.780	ppb	313.780	2.21	290732	500000	
Li	7	2	45	267.956	ppb	267.956	8.60	15819	500000	
Li	7	3	45	294.368	ppb	294.368	1.58	10381427	50000	
Be	9	1	6	0.003	ppb	0.003	867.89	17	2000	
B	11	1	6	1593.373	ppb	1593.373	2.46	646590	2000	
Na	23	1	45	663559.755	ppb	663559.755	0.81	2132518315	2000	>LDR
Na	23	2	45	607899.962	ppb	607899.962	3.56	133048148	400000	
Mg	24	2	45	889.737	ppb	889.737	2.29	89275	400000	
Al	27	2	45	183.139	ppb	183.139	5.94	4421	400000	
K	39	1	45	1308.756	ppb	1308.756	1.89	13934992	400000	
K	39	2	45	2380.848	ppb	2380.848	3.13	137433	400000	
Ca	40	1	45	6997.233	ppb	6997.233	0.18	34168775	400000	
Ca	44	2	45	21836.398	ppb	21836.398	3.97	58645	400000	
Ti	47	2	45	3.107	ppb	3.107	14.19	80	4000	
V	51	2	72	17.894	ppb	17.894	6.20	21824	2000	
Cr	52	2	72	2.340	ppb	2.340	5.83	3397	5000	
Mn	55	2	72	7.045	ppb	7.045	3.39	3561	10000	
Fe	57	2	72	80.198	ppb	80.198	5.62	2147	400000	
Co	59	2	72	0.031	ppb	0.031	103.93	87	2000	
Ni	60	2	72	0.704	ppb	0.704	10.34	633	5000	
Cu	63	2	72	0.278	ppb	0.278	44.65	1700	5000	
Zn	66	2	72	2.924	ppb	2.924	13.12	1003	5000	
As	75	2	72	1.259	ppb	1.259	2.30	225	2000	
Se	78	1	72	0.322	ppb	0.322	23.23	103	2000	
Sr	88	2	72	3223.305	ppb	3223.305	4.11	1718582	4000	
Zr	90	2	72	42.849	ppb	42.849	15.16	723	1000	
Nb	93	2	72	0.433	ppb	0.433	11.42	2214	200	
Mo	95	2	115	25.641	ppb	25.641	2.04	24499	2000	
Pd	105	2	115	0.049	ppb	0.049	23.97	107	100	
Ag	107	2	115	0.002	ppb	0.002	329.15	47	100	
Cd	111	2	115	0.034	ppb	0.034	112.74	17	2000	
Sn	120	2	115	2.510	ppb	2.510	2.18	2900	2000	
Sb	121	2	115	0.751	ppb	0.751	5.13	780	1000	
Ba	137	2	115	13.189	ppb	13.189	5.06	4454	5000	
W	182	2	165	4.269	ppb	4.269	1.45	21001	100	
Pt	195	2	165	0.004	ppb	0.004	43.39	33	100	
Tl	205	2	165	0.008	ppb	0.008	40.44	170	2000	
Pb	208	2	165	0.382	ppb	0.382	6.47	5064	5000	
Th	232	2	165	0.073	ppb	0.073	7.89	1237	2000	
U	238	2	165	6.575	ppb	6.575	4.42	98873	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1410928	2.23	1841092	76.64	60	120	
Sc (IS)	45	1	HMI H2	27656924	0.43	34041789	81.24	60	120	
Sc (IS)	45	2	HMI He	872831	3.12	989699	88.19	60	120	
Sc (IS)	45	3	No Gas	48451903	1.08	58466742	82.87	60	120	
Ge Internal Standard	72	1	HMI H2	11277924	1.35	14056514	80.23	60	120	
Ge Internal Standard	72	2	HMI He	1011862	2.75	1155188	87.59	60	120	
In Internal Standard	115	2	HMI He	3524237	2.17	3786036	93.09	60	120	
Ho-165	165	2	HMI He	17558816	1.87	18554642	94.63	60	120	

Sample Report

Sample Table

Sample Name	280-115787-e-4-b
Data File Name	139SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:28:30-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	347.646	ppb	347.646	1.13	315250	500000	
Li	7	2	45	290.012	ppb	290.012	11.77	16353	500000	
Li	7	3	45	331.046	ppb	331.046	1.77	10899462	50000	
Be	9	1	6	0.101	ppb	0.101	79.85	53	2000	
B	11	1	6	1402.535	ppb	1402.535	2.70	571556	2000	
Na	23	1	45	668336.131	ppb	668336.131	1.18	2220341727	2000	>LDR
Na	23	2	45	634526.581	ppb	634526.581	0.33	139037221	400000	
Mg	24	2	45	1140.133	ppb	1140.133	1.34	114411	400000	
Al	27	2	45	750.395	ppb	750.395	3.89	17875	400000	
K	39	1	45	-393.189	ppb	-393.189	-2.21	8807768	400000	
K	39	2	45	841.849	ppb	841.849	2.65	60904	400000	
Ca	40	1	45	9863.205	ppb	9863.205	1.11	49767874	400000	
Ca	44	2	45	28852.491	ppb	28852.491	0.25	77577	400000	
Ti	47	2	45	4.969	ppb	4.969	31.51	127	4000	
V	51	2	72	3.886	ppb	3.886	12.21	7622	2000	
Cr	52	2	72	1.165	ppb	1.165	2.43	1834	5000	
Mn	55	2	72	21.168	ppb	21.168	3.80	10561	10000	
Fe	57	2	72	312.619	ppb	312.619	2.71	7836	400000	
Co	59	2	72	0.217	ppb	0.217	27.18	520	2000	
Ni	60	2	72	2.429	ppb	2.429	12.43	1780	5000	
Cu	63	2	72	1.427	ppb	1.427	3.41	3851	5000	
Zn	66	2	72	6.928	ppb	6.928	10.55	1954	5000	
As	75	2	72	0.183	ppb	0.183	60.36	44	2000	
Se	78	1	72	0.134	ppb	0.134	39.19	52	2000	
Sr	88	2	72	4174.879	ppb	4174.879	0.69	2234521	4000	
Zr	90	2	72	53.407	ppb	53.407	20.12	880	1000	
Nb	93	2	72	0.225	ppb	0.225	6.02	1527	200	
Mo	95	2	115	16.045	ppb	16.045	4.91	15319	2000	
Pd	105	2	115	0.096	ppb	0.096	51.97	177	100	
Ag	107	2	115	0.043	ppb	0.043	16.91	180	100	
Cd	111	2	115	-0.008	ppb	-0.008	0.00	0	2000	
Sn	120	2	115	0.118	ppb	0.118	98.24	357	2000	
Sb	121	2	115	0.144	ppb	0.144	18.37	187	1000	
Ba	137	2	115	8.319	ppb	8.319	10.82	2807	5000	
W	182	2	165	0.366	ppb	0.366	14.53	3281	100	
Pt	195	2	165	-0.002	ppb	-0.002	-197.92	10	100	
Tl	205	2	165	0.015	ppb	0.015	47.98	227	2000	
Pb	208	2	165	0.364	ppb	0.364	1.74	4864	5000	
Th	232	2	165	0.412	ppb	0.412	5.45	5955	2000	
U	238	2	165	15.699	ppb	15.699	1.07	236223	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1416917	2.54	1841092	76.96	60	120	
Sc (IS)	45	1	HMI H2	28590055	0.53	34041789	83.99	60	120	
Sc (IS)	45	2	HMI He	873226	1.17	989699	88.23	60	120	
Sc (IS)	45	3	No Gas	48216063	0.23	58466742	82.47	60	120	
Ge Internal Standard	72	1	HMI H2	11558378	0.83	14056514	82.23	60	120	
Ge Internal Standard	72	2	HMI He	1014943	1.26	1155188	87.86	60	120	
In Internal Standard	115	2	HMI He	3515471	1.57	3786036	92.85	60	120	
Ho-165	165	2	HMI He	17575812	1.39	18554642	94.72	60	120	

Sample Report

Sample Table

Sample Name	280-115787-e-5-b
Data File Name	140SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:32:19-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	1.497	ppb	1.497	479.77	159766	500000	
Li	7	2	45	-25.099	ppb	-25.099	-97.79	8720	500000	
Li	7	3	45	-3.174	ppb	-3.174	-150.69	5499425	50000	
Be	9	1	6	-0.014	ppb	-0.014	-194.26	10	2000	
B	11	1	6	1358.614	ppb	1358.614	2.34	540544	2000	
Na	23	1	45	1060297.478	ppb	1060297.478	0.48	3412982242	2000	>LDR
Na	23	2	45	968423.449	ppb	968423.449	1.32	208448250	400000	
Mg	24	2	45	9674.543	ppb	9674.543	1.00	951667	400000	
Al	27	2	45	97.575	ppb	97.575	10.93	2360	400000	
K	39	1	45	-712.809	ppb	-712.809	-1.49	7515880	400000	
K	39	2	45	278.893	ppb	278.893	11.21	32267	400000	
Ca	40	1	45	41002.741	ppb	41002.741	1.11	200311190	400000	
Ca	44	2	45	44641.226	ppb	44641.226	3.09	117912	400000	
Ti	47	2	45	1.241	ppb	1.241	68.01	33	4000	
V	51	2	72	0.348	ppb	0.348	61.12	3884	2000	
Cr	52	2	72	0.618	ppb	0.618	6.48	1063	5000	
Mn	55	2	72	147.351	ppb	147.351	2.01	70726	10000	
Fe	57	2	72	92.634	ppb	92.634	1.83	2380	400000	
Co	59	2	72	0.332	ppb	0.332	6.83	760	2000	
Ni	60	2	72	2.324	ppb	2.324	18.26	1654	5000	
Cu	63	2	72	1.566	ppb	1.566	8.01	3981	5000	
Zn	66	2	72	10.628	ppb	10.628	7.25	2737	5000	
As	75	2	72	1.748	ppb	1.748	9.19	299	2000	
Se	78	1	72	0.119	ppb	0.119	47.42	47	2000	
Sr	88	2	72	1114.631	ppb	1114.631	0.14	577578	4000	
Zr	90	2	72	73.616	ppb	73.616	17.12	1143	1000	
Nb	93	2	72	0.040	ppb	0.040	202.56	880	200	
Mo	95	2	115	15.769	ppb	15.769	1.54	14255	2000	
Pd	105	2	115	0.034	ppb	0.034	42.32	80	100	
Ag	107	2	115	0.059	ppb	0.059	10.32	217	100	
Cd	111	2	115	0.079	ppb	0.079	49.10	33	2000	
Sn	120	2	115	0.242	ppb	0.242	30.79	463	2000	
Sb	121	2	115	1.221	ppb	1.221	5.87	1170	1000	
Ba	137	2	115	38.602	ppb	38.602	2.14	12266	5000	
W	182	2	165	0.032	ppb	0.032	152.65	1680	100	
Pt	195	2	165	0.000	ppb	0.000	-1072.37	17	100	
Tl	205	2	165	0.020	ppb	0.020	31.67	253	2000	
Pb	208	2	165	0.163	ppb	0.163	6.40	2527	5000	
Th	232	2	165	0.061	ppb	0.061	7.40	1017	2000	
U	238	2	165	72.309	ppb	72.309	0.22	1035130	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1383015	1.63	1841092	75.12	60	120	
Sc (IS)	45	1	HMI H2	27703151	1.00	34041789	81.38	60	120	
Sc (IS)	45	2	HMI He	857915	1.51	989699	86.68	60	120	
Sc (IS)	45	3	No Gas	46329936	1.37	58466742	79.24	60	120	
Ge Internal Standard	72	1	HMI H2	11283450	0.95	14056514	80.27	60	120	
Ge Internal Standard	72	2	HMI He	982652	0.74	1155188	85.06	60	120	
In Internal Standard	115	2	HMI He	3329054	1.09	3786036	87.93	60	120	
Ho-165	165	2	HMI He	16728289	0.25	18554642	90.16	60	120	

Sample Report

Sample Table

Sample Name	280-115787-g-6-b
Data File Name	141SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:36:09-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	337.120	ppb	337.120	2.76	298600	500000	
Li	7	2	45	303.146	ppb	303.146	7.23	16537	500000	
Li	7	3	45	310.148	ppb	310.148	2.28	10498240	50000	
Be	9	1	6	0.013	ppb	0.013	209.45	20	2000	
B	11	1	6	954.633	ppb	954.633	0.98	385988	2000	
Na	23	1	45	670573.932	ppb	670573.932	1.15	2141141728	2000	>LDR
Na	23	2	45	625356.575	ppb	625356.575	0.53	135960345	400000	
Mg	24	2	45	910.915	ppb	910.915	2.51	90767	400000	
Al	27	2	45	149.719	ppb	149.719	3.40	3607	400000	
K	39	1	45	-483.532	ppb	-483.532	-2.86	8179927	400000	
K	39	2	45	732.957	ppb	732.957	4.14	55037	400000	
Ca	40	1	45	8911.468	ppb	8911.468	0.60	43222183	400000	
Ca	44	2	45	21463.527	ppb	21463.527	0.25	57263	400000	
Ti	47	2	45	2.456	ppb	2.456	35.04	63	4000	
V	51	2	72	-1.097	ppb	-1.097	-5.40	2497	2000	
Cr	52	2	72	4.953	ppb	4.953	5.13	6812	5000	
Mn	55	2	72	16.517	ppb	16.517	3.81	8129	10000	
Fe	57	2	72	107.211	ppb	107.211	11.82	2770	400000	
Co	59	2	72	0.195	ppb	0.195	8.00	460	2000	
Ni	60	2	72	9.784	ppb	9.784	5.04	6545	5000	
Cu	63	2	72	0.517	ppb	0.517	26.53	2120	5000	
Zn	66	2	72	7.018	ppb	7.018	12.18	1944	5000	
As	75	2	72	0.289	ppb	0.289	30.41	61	2000	
Se	78	1	72	0.072	ppb	0.072	92.41	33	2000	
Sr	88	2	72	2834.015	ppb	2834.015	1.07	1492610	4000	
Zr	90	2	72	25.292	ppb	25.292	20.88	457	1000	
Nb	93	2	72	0.041	ppb	0.041	144.22	897	200	
Mo	95	2	115	6.178	ppb	6.178	3.58	5815	2000	
Pd	105	2	115	0.062	ppb	0.062	16.71	123	100	
Ag	107	2	115	0.012	ppb	0.012	81.99	77	100	
Cd	111	2	115	0.001	ppb	0.001	2593.77	3	2000	
Sn	120	2	115	0.114	ppb	0.114	58.50	347	2000	
Sb	121	2	115	0.259	ppb	0.259	22.39	293	1000	
Ba	137	2	115	6.915	ppb	6.915	5.74	2294	5000	
W	182	2	165	0.112	ppb	0.112	33.61	2080	100	
Pt	195	2	165	-0.002	ppb	-0.002	-206.71	10	100	
Tl	205	2	165	0.006	ppb	0.006	77.90	150	2000	
Pb	208	2	165	0.305	ppb	0.305	5.02	4114	5000	
Th	232	2	165	0.054	ppb	0.054	3.36	950	2000	
U	238	2	165	5.471	ppb	5.471	0.66	80427	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1404822	0.50	1841092	76.30	60	120	
Sc (IS)	45	1	HMI H2	27479065	0.24	34041789	80.72	60	120	
Sc (IS)	45	2	HMI He	866381	0.82	989699	87.54	60	120	
Sc (IS)	45	3	No Gas	47863511	0.46	58466742	81.86	60	120	
Ge Internal Standard	72	1	HMI H2	11176717	0.08	14056514	79.51	60	120	
Ge Internal Standard	72	2	HMI He	998707	1.04	1155188	86.45	60	120	
In Internal Standard	115	2	HMI He	3450281	1.38	3786036	91.13	60	120	
Ho-165	165	2	HMI He	17153785	0.99	18554642	92.45	60	120	

Sample Report

Sample Table

Sample Name	280-115787-g-7-b
Data File Name	142SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:40:01-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	325.087	ppb	325.087	3.76	290302	500000	
Li	7	2	45	264.344	ppb	264.344	13.84	15859	500000	
Li	7	3	45	297.929	ppb	297.929	0.40	10328959	50000	
Be	9	1	6	0.066	ppb	0.066	69.92	40	2000	
B	11	1	6	1189.610	ppb	1189.610	0.43	481041	2000	
Na	23	1	45	638141.189	ppb	638141.189	0.60	2015032450	2000	>LDR
Na	23	2	45	584165.890	ppb	584165.890	0.97	128950818	400000	
Mg	24	2	45	1056.589	ppb	1056.589	1.23	106846	400000	
Al	27	2	45	1564.498	ppb	1564.498	1.37	37432	400000	
K	39	1	45	-82.064	ppb	-82.064	-22.55	9344238	400000	
K	39	2	45	1022.095	ppb	1022.095	2.06	70403	400000	
Ca	40	1	45	8271.839	ppb	8271.839	0.60	39679057	400000	
Ca	44	2	45	15572.382	ppb	15572.382	0.88	42192	400000	
Ti	47	2	45	18.773	ppb	18.773	18.35	473	4000	
V	51	2	72	0.952	ppb	0.952	23.44	4631	2000	
Cr	52	2	72	19.934	ppb	19.934	1.31	27049	5000	
Mn	55	2	72	37.029	ppb	37.029	4.79	18429	10000	
Fe	57	2	72	1071.203	ppb	1071.203	2.42	26395	400000	
Co	59	2	72	1.180	ppb	1.180	4.90	2757	2000	
Ni	60	2	72	54.627	ppb	54.627	0.72	36373	5000	
Cu	63	2	72	2.361	ppb	2.361	1.31	5595	5000	
Zn	66	2	72	130.566	ppb	130.566	3.52	31171	5000	
As	75	2	72	0.395	ppb	0.395	8.78	80	2000	
Se	78	1	72	0.123	ppb	0.123	90.03	47	2000	
Sr	88	2	72	1574.168	ppb	1574.168	1.03	842894	4000	
Zr	90	2	72	133.799	ppb	133.799	10.51	2077	1000	
Nb	93	2	72	0.177	ppb	0.177	27.33	1367	200	
Mo	95	2	115	17.766	ppb	17.766	3.66	16868	2000	
Pd	105	2	115	0.004	ppb	0.004	12.37	40	100	
Ag	107	2	115	0.099	ppb	0.099	17.71	357	100	
Cd	111	2	115	0.025	ppb	0.025	57.35	13	2000	
Sn	120	2	115	0.334	ppb	0.334	9.45	583	2000	
Sb	121	2	115	0.262	ppb	0.262	20.06	300	1000	
Ba	137	2	115	18.579	ppb	18.579	5.28	6215	5000	
W	182	2	165	0.345	ppb	0.345	20.03	3171	100	
Pt	195	2	165	-0.002	ppb	-0.002	-109.98	10	100	
Tl	205	2	165	0.024	ppb	0.024	38.12	293	2000	
Pb	208	2	165	3.038	ppb	3.038	1.15	34199	5000	
Th	232	2	165	0.590	ppb	0.590	7.97	8393	2000	
U	238	2	165	12.328	ppb	12.328	0.71	184738	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1405195	0.30	1841092	76.32	60	120	
Sc (IS)	45	1	HMI H2	27175292	0.88	34041789	79.83	60	120	
Sc (IS)	45	2	HMI He	879692	1.06	989699	88.88	60	120	
Sc (IS)	45	3	No Gas	47949021	0.41	58466742	82.01	60	120	
Ge Internal Standard	72	1	HMI H2	11054173	0.66	14056514	78.64	60	120	
Ge Internal Standard	72	2	HMI He	1015392	0.80	1155188	87.90	60	120	
In Internal Standard	115	2	HMI He	3499623	1.88	3786036	92.44	60	120	
Ho-165	165	2	HMI He	17500322	1.21	18554642	94.32	60	120	

Sample Report

Sample Table

Sample Name	280-115887-e-1-b
Data File Name	143SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:43:53-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	231.821	ppb	231.821	1.16	255718	500000	
Li	7	2	45	202.878	ppb	202.878	5.42	14418	500000	
Li	7	3	45	216.500	ppb	216.500	3.96	9039329	50000	
Be	9	1	6	-0.005	ppb	-0.005	-853.77	13	2000	
B	11	1	6	1138.262	ppb	1138.262	3.35	464616	2000	
Na	23	1	45	470138.526	ppb	470138.526	1.06	1507566591	2000	>LDR
Na	23	2	45	429738.141	ppb	429738.141	1.03	95014379	400000	
Mg	24	2	45	751.202	ppb	751.202	1.32	76162	400000	
Al	27	2	45	1386.818	ppb	1386.818	1.95	33245	400000	
K	39	1	45	-489.495	ppb	-489.495	-1.07	8195607	400000	
K	39	2	45	738.652	ppb	738.652	2.26	56262	400000	
Ca	40	1	45	4536.007	ppb	4536.007	0.12	22118491	400000	
Ca	44	2	45	13328.517	ppb	13328.517	0.85	36176	400000	
Ti	47	2	45	7.748	ppb	7.748	29.70	197	4000	
V	51	2	72	3.531	ppb	3.531	6.26	7315	2000	
Cr	52	2	72	19.072	ppb	19.072	2.53	26084	5000	
Mn	55	2	72	14.212	ppb	14.212	6.21	7175	10000	
Fe	57	2	72	612.672	ppb	612.672	2.56	15295	400000	
Co	59	2	72	0.456	ppb	0.456	15.22	1083	2000	
Ni	60	2	72	13.954	ppb	13.954	2.04	9487	5000	
Cu	63	2	72	2.697	ppb	2.697	5.20	6268	5000	
Zn	66	2	72	9.286	ppb	9.286	7.68	2530	5000	
As	75	2	72	0.249	ppb	0.249	11.84	56	2000	
Se	78	1	72	0.125	ppb	0.125	30.60	48	2000	
Sr	88	2	72	1790.345	ppb	1790.345	0.69	965804	4000	
Zr	90	2	72	74.610	ppb	74.610	20.48	1207	1000	
Nb	93	2	72	0.085	ppb	0.085	42.20	1070	200	
Mo	95	2	115	10.075	ppb	10.075	2.63	9697	2000	
Pd	105	2	115	0.026	ppb	0.026	92.22	73	100	
Ag	107	2	115	1.863	ppb	1.863	3.67	6078	100	
Cd	111	2	115	0.009	ppb	0.009	162.27	7	2000	
Sn	120	2	115	0.236	ppb	0.236	47.73	487	2000	
Sb	121	2	115	0.058	ppb	0.058	72.98	103	1000	
Ba	137	2	115	25.155	ppb	25.155	5.14	8503	5000	
W	182	2	165	0.566	ppb	0.566	13.43	4178	100	
Pt	195	2	165	-0.001	ppb	-0.001	-685.85	17	100	
Tl	205	2	165	0.015	ppb	0.015	44.52	227	2000	
Pb	208	2	165	0.513	ppb	0.513	6.09	6484	5000	
Th	232	2	165	0.313	ppb	0.313	8.76	4561	2000	
U	238	2	165	23.130	ppb	23.130	1.37	346736	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1419038	2.19	1841092	77.08	60	120	
Sc (IS)	45	1	HMI H2	27595175	0.23	34041789	81.06	60	120	
Sc (IS)	45	2	HMI He	881119	1.46	989699	89.03	60	120	
Sc (IS)	45	3	No Gas	47761936	0.49	58466742	81.69	60	120	
Ge Internal Standard	72	1	HMI H2	11216293	0.74	14056514	79.79	60	120	
Ge Internal Standard	72	2	HMI He	1022978	0.89	1155188	88.56	60	120	
In Internal Standard	115	2	HMI He	3540214	2.08	3786036	93.51	60	120	
Ho-165	165	2	HMI He	17513011	0.48	18554642	94.39	60	120	

Sample Report

Sample Table

Sample Name	280-115887-g-2-b
Data File Name	144SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:47:46-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	298.888	ppb	298.888	1.13	284137	500000	
Li	7	2	45	234.764	ppb	234.764	6.43	14988	500000	
Li	7	3	45	273.149	ppb	273.149	2.00	9812499	50000	
Be	9	1	6	-0.023	ppb	-0.023	-138.82	7	2000	
B	11	1	6	1209.617	ppb	1209.617	1.12	485306	2000	
Na	23	1	45	608869.490	ppb	608869.490	0.27	1954475971	2000	>LDR
Na	23	2	45	557660.960	ppb	557660.960	0.28	121743588	400000	
Mg	24	2	45	838.409	ppb	838.409	1.41	83891	400000	
Al	27	2	45	432.216	ppb	432.216	2.28	10291	400000	
K	39	1	45	-495.927	ppb	-495.927	-5.36	8183870	400000	
K	39	2	45	704.022	ppb	704.022	4.38	53833	400000	
Ca	40	1	45	7266.084	ppb	7266.084	1.38	35437903	400000	
Ca	44	2	45	11230.516	ppb	11230.516	1.65	30095	400000	
Ti	47	2	45	5.383	ppb	5.383	37.04	137	4000	
V	51	2	72	9.602	ppb	9.602	7.59	13237	2000	
Cr	52	2	72	0.689	ppb	0.689	13.84	1177	5000	
Mn	55	2	72	46.768	ppb	46.768	2.74	22879	10000	
Fe	57	2	72	314.619	ppb	314.619	1.88	7766	400000	
Co	59	2	72	0.163	ppb	0.163	18.68	387	2000	
Ni	60	2	72	0.511	ppb	0.511	11.83	500	5000	
Cu	63	2	72	0.991	ppb	0.991	9.54	2990	5000	
Zn	66	2	72	27.505	ppb	27.505	5.38	6709	5000	
As	75	2	72	0.226	ppb	0.226	20.57	51	2000	
Se	78	1	72	0.052	ppb	0.052	28.07	28	2000	
Sr	88	2	72	896.767	ppb	896.767	0.75	472596	4000	
Zr	90	2	72	34.668	ppb	34.668	5.03	593	1000	
Nb	93	2	72	-0.018	ppb	-0.018	-164.74	707	200	
Mo	95	2	115	8.582	ppb	8.582	2.41	8129	2000	
Pd	105	2	115	-0.016	ppb	-0.016	-74.94	10	100	
Ag	107	2	115	0.020	ppb	0.020	87.65	103	100	
Cd	111	2	115	-0.008	ppb	-0.008	0.00	0	2000	
Sn	120	2	115	0.512	ppb	0.512	27.39	770	2000	
Sb	121	2	115	0.779	ppb	0.779	8.87	797	1000	
Ba	137	2	115	17.254	ppb	17.254	5.53	5745	5000	
W	182	2	165	0.167	ppb	0.167	31.51	2327	100	
Pt	195	2	165	-0.002	ppb	-0.002	-116.96	10	100	
Tl	205	2	165	0.004	ppb	0.004	74.87	133	2000	
Pb	208	2	165	0.296	ppb	0.296	1.45	4040	5000	
Th	232	2	165	0.130	ppb	0.130	4.52	1994	2000	
U	238	2	165	8.710	ppb	8.710	2.33	128445	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1394323	1.19	1841092	75.73	60	120	
Sc (IS)	45	1	HMI H2	27624777	0.20	34041789	81.15	60	120	
Sc (IS)	45	2	HMI He	869960	1.69	989699	87.90	60	120	
Sc (IS)	45	3	No Gas	47301274	0.97	58466742	80.90	60	120	
Ge Internal Standard	72	1	HMI H2	11176962	1.32	14056514	79.51	60	120	
Ge Internal Standard	72	2	HMI He	999355	1.77	1155188	86.51	60	120	
In Internal Standard	115	2	HMI He	3479013	2.22	3786036	91.89	60	120	
Ho-165	165	2	HMI He	17217448	1.13	18554642	92.79	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	145_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:51:36-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	509.562	ppb	0.962	394683	500	101.9	90	110	
Li	7	2	45	453.273	ppb	4.203	20648	500	90.7	90	110	
Li	7	3	45	490.613	ppb	0.449	13461677	500	98.1	90	110	
Be	9	1	6	50.559	ppb	2.646	20719	50	101.1	90	110	
B	11	1	6	72.427	ppb	2.287	32383	50	144.9	90	110	>+\-10%
Na	23	1	45	6853.174	ppb	1.627	23561852	5000	137.1	90	110	>+\-10%
Na	23	2	45	6425.419	ppb	2.192	1456251	5000	128.5	90	110	>+\-10%
Mg	24	2	45	4888.415	ppb	0.662	499693	5000	97.8	90	110	
Al	27	2	45	5335.427	ppb	0.578	129117	5000	106.7	90	110	
K	39	1	45	5523.605	ppb	0.968	28934211	5000	110.5	90	110	>+\-10%
K	39	2	45	5155.997	ppb	0.780	281495	5000	103.1	90	110	
Ca	40	1	45	5323.380	ppb	0.435	27520094	5000	106.5	90	110	
Ca	44	2	45	5241.116	ppb	3.276	14404	5000	104.8	90	110	
Ti	47	2	45	54.720	ppb	13.002	1390	50	109.4	90	110	
V	51	2	72	47.824	ppb	1.643	53700	50	95.6	90	110	
Cr	52	2	72	47.678	ppb	1.296	65843	50	95.4	90	110	
Mn	55	2	72	51.788	ppb	1.355	26345	50	103.6	90	110	
Fe	57	2	72	4895.973	ppb	2.548	122796	5000	97.9	90	110	
Co	59	2	72	47.827	ppb	2.132	113754	50	95.7	90	110	
Ni	60	2	72	46.844	ppb	1.703	31953	50	93.7	90	110	
Cu	63	2	72	46.438	ppb	0.591	89875	50	92.9	90	110	
Zn	66	2	72	50.893	ppb	2.556	12636	50	101.8	90	110	
As	75	2	72	48.666	ppb	1.098	8418	50	97.3	90	110	
Se	78	1	72	48.674	ppb	3.122	14337	50	97.3	90	110	
Sr	88	2	72	53.018	ppb	1.460	29067	50	106.0	90	110	
Zr	90	2	72	32.877	ppb	9.325	590	50	65.8	90	110	>+\-10%
Nb	93	2	72	90.807	ppb	1.151	311672	100	90.8	90	110	
Mo	95	2	115	45.334	ppb	1.042	44705	50	90.7	90	110	
Pd	105	2	115	47.206	ppb	2.348	72377	50	94.4	90	110	
Ag	107	2	115	44.945	ppb	1.514	149695	50	89.9	90	110	>+\-10%
Cd	111	2	115	46.508	ppb	2.722	19578	50	93.0	90	110	
Sn	120	2	115	48.666	ppb	0.424	53651	50	97.3	90	110	
Sb	121	2	115	49.452	ppb	1.420	49947	50	98.9	90	110	
Ba	137	2	115	48.974	ppb	3.496	17005	50	97.9	90	110	
W	182	2	165	46.854	ppb	1.098	218744	50	93.7	90	110	
Pt	195	2	165	45.767	ppb	1.238	176981	50	91.5	90	110	
Tl	205	2	165	49.213	ppb	0.364	413333	50	98.4	90	110	
Pb	208	2	165	49.187	ppb	0.981	553811	50	98.4	90	110	
Th	232	2	165	46.076	ppb	1.118	654210	50	92.2	90	110	
U	238	2	165	45.975	ppb	0.413	705107	50	92.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1535385	1.51	1841092	83.40	60	120	
Sc (IS)	45	1	HMI H2	29265837	0.05	34041789	85.97	60	120	
Sc (IS)	45	2	HMI He	891181	0.65	989699	90.05	60	120	
Sc (IS)	45	3	No Gas	48545604	0.40	58466742	83.03	60	120	
Ge Internal Standard	72	1	HMI H2	12044379	0.42	14056514	85.69	60	120	
Ge Internal Standard	72	2	HMI He	1039335	0.50	1155188	89.97	60	120	
In Internal Standard	115	2	HMI He	3639449	1.00	3786036	96.13	60	120	
Ho-165	165	2	HMI He	17920446	0.58	18554642	96.58	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	146_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:55:24-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-2.849	ppb	-111.6	5804575	10	
Be	9	1	6	0.007	ppb	352.1	20	0.5	
B	11	1	6	13.462	ppb	1.9	6558	0.5	>RL
Na	23	1	45	900.030	ppb	0.6	3249292	25	>RL
Na	23	2	45	782.358	ppb	1.2	196771	25	>RL
Mg	24	2	45	2.281	ppb	26.3	537	25	
Al	27	2	45	0.520	ppb	366.1	103	15	
K	39	1	45	174.796	ppb	16.2	10696507	50	>RL
K	39	2	45	-27.976	ppb	-20.1	18135	50	
Ca	40	1	45	3.469	ppb	10.5	70289	50	
Ca	44	2	45	2.138	ppb	388.0	33	25	
Ti	47	2	45	0.012	ppb	1850.0	3	0.5	
V	51	2	72	-1.257	ppb	-3.3	2460	1	
Cr	52	2	72	0.020	ppb	246.1	307	1	
Mn	55	2	72	0.023	ppb	403.7	97	0.5	
Fe	57	2	72	3.684	ppb	114.3	293	25	
Co	59	2	72	0.006	ppb	68.6	30	0.5	
Ni	60	2	72	-0.028	ppb	-115.6	157	1	
Cu	63	2	72	0.176	ppb	24.3	1574	1	
Zn	66	2	72	-0.304	ppb	-5.2	253	5	
As	75	2	72	0.109	ppb	65.8	33	1	
Se	78	1	72	0.042	ppb	219.8	27	1	
Sr	88	2	72	0.116	ppb	40.3	73	0.5	
Zr	90	2	72	1.006	ppb	165.9	107	1	>RL
Nb	93	2	72	2.073	ppb	7.3	7989	2	>RL
Mo	95	2	115	0.023	ppb	204.5	73	0.5	
Pd	105	2	115	0.011	ppb	242.8	53	1	
Ag	107	2	115	0.017	ppb	33.0	100	1	
Cd	111	2	115	0.000	ppb	8217.5	3	0.5	
Sn	120	2	115	-0.024	ppb	-207.2	220	1	
Sb	121	2	115	0.271	ppb	4.6	330	0.6	
Ba	137	2	115	-0.027	ppb	-249.0	13	0.5	
W	182	2	165	0.040	ppb	60.3	1864	1	
Pt	195	2	165	0.015	ppb	77.0	80	1	
Tl	205	2	165	0.017	ppb	31.3	253	0.1	
Pb	208	2	165	0.010	ppb	94.1	997	0.5	
Th	232	2	165	0.029	ppb	6.7	643	1	
U	238	2	165	0.018	ppb	28.2	427	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1583938	1.97	1841092	86.03	60	120	
Sc (IS)	45	1	HMI H2	28646625	0.57	34041789	84.15	60	120	
Sc (IS)	45	2	HMI He	901231	1.58	989699	91.06	60	120	
Sc (IS)	45	3	No Gas	48851226	0.76	58466742	83.55	60	120	
Ge Internal Standard	72	1	HMI H2	11799045	0.53	14056514	83.94	60	120	
Ge Internal Standard	72	2	HMI He	1051963	0.94	1155188	91.06	60	120	
In Internal Standard	115	2	HMI He	3737517	1.88	3786036	98.72	60	120	
Ho-165	165	2	HMI He	18196203	1.11	18554642	98.07	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	147LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:59:13-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	14.164	ppb	27.574	6013368	50	28.3	70	130	>+/-30%
Be	9	1	6	1.058	ppb	28.205	463	1	105.8	70	130	
Na	23	2	45	647.773	ppb	1.312	167061	50	1295.5	70	130	>+/-30%
Mg	24	2	45	50.787	ppb	2.901	5571	50	101.6	70	130	
Al	27	2	45	36.324	ppb	8.189	983	30	121.1	70	130	
K	39	2	45	70.772	ppb	21.029	23306	100	70.8	70	130	
Ca	44	2	45	74.955	ppb	29.653	237	50	149.9	70	130	>+/-30%
V	51	2	72	3.511	ppb	16.137	7546	5	70.2	70	130	
Cr	52	2	72	1.891	ppb	4.042	2927	2	94.6	70	130	
Mn	55	2	72	1.075	ppb	19.040	640	1	107.5	70	130	
Fe	57	2	72	53.377	ppb	24.175	1560	50	106.8	70	130	
Co	59	2	72	0.830	ppb	7.751	2024	1	83.0	70	130	
Ni	60	2	72	1.576	ppb	10.793	1263	2	78.8	70	130	
Cu	63	2	72	2.011	ppb	3.036	5148	2	100.6	70	130	
Zn	66	2	72	10.907	ppb	6.423	3014	10	109.1	70	130	
As	75	2	72	4.493	ppb	2.953	804	5	89.9	70	130	
Se	78	1	72	4.727	ppb	6.738	1385	5	94.5	70	130	
Sr	88	2	72	1.460	ppb	6.037	823	1	146.0	70	130	>+/-30%
Zr	90	2	72	8.300	ppb	22.363	220	0.5	1660.0	70	130	>+/-30%
Nb	93	2	72	4.569	ppb	2.873	16727	2	228.4	70	130	>+/-30%
Mo	95	2	115	1.792	ppb	1.929	1867	2	89.6	70	130	
Pd	105	2	115	-0.015	ppb	-99.139	13	1	-1.5	70	130	>+/-30%
Ag	107	2	115	4.567	ppb	1.003	15693	5	91.3	70	130	
Cd	111	2	115	0.993	ppb	19.986	433	1	99.3	70	130	
Sn	120	2	115	9.507	ppb	4.852	10988	10	95.1	70	130	
Sb	121	2	115	2.007	ppb	2.958	2134	2	100.4	70	130	
Ba	137	2	115	0.934	ppb	16.580	357	1	93.4	70	130	
W	182	2	165	4.519	ppb	1.691	23118	1	451.9	70	130	>+/-30%
Pt	195	2	165	0.026	ppb	37.208	123	1	2.6	70	130	>+/-30%
Tl	205	2	165	0.959	ppb	6.079	8340	1	95.9	70	130	
Pb	208	2	165	0.935	ppb	2.141	11646	1	93.5	70	130	
Th	232	2	165	1.845	ppb	3.427	27022	2	92.2	70	130	
U	238	2	165	0.924	ppb	0.747	14646	1	92.4	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1580751	0.35	1841092	85.86	60	120	
Sc (IS)	45	1	HMI H2	28803574	0.93	34041789	84.61	60	120	
Sc (IS)	45	2	HMI He	905091	1.01	989699	91.45	60	120	
Sc (IS)	45	3	No Gas	48385634	0.70	58466742	82.76	60	120	
Ge Internal Standard	72	1	HMI H2	11866304	0.71	14056514	84.42	60	120	
Ge Internal Standard	72	2	HMI He	1057618	0.97	1155188	91.55	60	120	
In Internal Standard	115	2	HMI He	3745443	1.01	3786036	98.93	60	120	
Ho-165	165	2	HMI He	18341865	1.80	18554642	98.85	60	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA-5405008
Data File Name	148ICSA_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T01:03:03-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-13.077	ppb	-37.0	5373758	1	
Be	9	1	6	-0.007	ppb	-849.0	13	1	
B	11	1	6	10.908	ppb	8.9	5064	1	>RL or LOD
Na	23	1	45	100825.159	ppb	0.7	324176169	100000	>RL or LOD
K	39	1	45	103687.190	ppb	1.3	339569302	100000	>RL or LOD
Ca	40	1	45	99273.798	ppb	1.3	484000886	100000	
Ti	47	2	45	1894.838	ppb	2.4	46405	1	>RL or LOD
V	51	2	72	-1.170	ppb	-11.0	2400	1	
Cr	52	2	72	0.159	ppb	16.2	470	1	
Mn	55	2	72	0.642	ppb	16.2	390	1	
Co	59	2	72	0.017	ppb	74.1	53	1	
Ni	60	2	72	0.177	ppb	112.8	280	1	
Cu	63	2	72	0.422	ppb	33.3	1927	1	
Zn	66	2	72	0.297	ppb	78.0	377	1	
As	75	2	72	0.157	ppb	27.1	39	1	
Se	78	1	72	0.111	ppb	103.1	44	1	
Sr	88	2	72	1.077	ppb	30.1	570	1	>RL or LOD
Zr	90	2	72	5.344	ppb	57.0	163	1	>RL or LOD
Nb	93	2	72	0.536	ppb	6.7	2504	1	
Mo	95	2	115	1902.459	ppb	1.2	1778571	2000	
Pd	105	2	115	-0.005	ppb	-171.2	27	1	
Ag	107	2	115	0.014	ppb	91.8	83	1	
Cd	111	2	115	0.318	ppb	35.9	130	1	
Sn	120	2	115	0.087	ppb	81.6	320	1	
Sb	121	2	115	0.123	ppb	47.3	163	1	
Ba	137	2	115	0.057	ppb	92.0	40	1	
W	182	2	165	0.173	ppb	24.9	2424	1	
Pt	195	2	165	0.002	ppb	202.4	27	1	
Tl	205	2	165	0.006	ppb	165.9	153	1	
Pb	208	2	165	0.072	ppb	16.9	1663	1	
Th	232	2	165	0.016	ppb	29.4	447	1	
U	238	2	165	0.007	ppb	54.9	237	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1486347	1.44	1841092	80.73	60	120	
Sc (IS)	45	1	HMI H2	27653313	0.84	34041789	81.23	60	120	
Sc (IS)	45	2	HMI He	860698	1.61	989699	86.97	60	120	
Sc (IS)	45	3	No Gas	46518303	1.93	58466742	79.56	60	120	
Ge Internal Standard	72	1	HMI H2	11148601	0.56	14056514	79.31	60	120	
Ge Internal Standard	72	2	HMI He	989357	0.65	1155188	85.64	60	120	
In Internal Standard	115	2	HMI He	3453871	0.46	3786036	91.23	60	120	
Ho-165	165	2	HMI He	17713968	0.22	18554642	95.47	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-5405009
Data File Name	149ICSB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T01:06:52-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	232.630	ppb	1.823	257353	100	232.6	80	120	>+\-20%
Li	7	2	45	179.541	ppb	15.377	13590	100	179.5	80	120	>+\-20%
Li	7	3	45	214.281	ppb	3.709	8770034	100	214.3	80	120	>+\-20%
Be	9	1	6	96.272	ppb	2.893	37394	100	96.3	80	120	
B	11	1	6	26.396	ppb	2.317	11442	100	26.4	80	120	>+\-20%
Na	23	1	45	105048.966	ppb	1.292	338736302	100	105049.0	80	120	>+\-20%
K	39	1	45	108583.389	ppb	1.668	356181315	100	108583.4	80	120	>+\-20%
Ca	40	1	45	104676.435	ppb	1.421	511846366	100	104676.4	80	120	>+\-20%
V	51	2	72	91.444	ppb	1.438	94952	100	91.4	80	120	
Cr	52	2	72	90.097	ppb	1.754	118767	100	90.1	80	120	
Mn	55	2	72	98.083	ppb	1.965	47666	100	98.1	80	120	
Co	59	2	72	91.365	ppb	0.949	207857	100	91.4	80	120	
Ni	60	2	72	90.808	ppb	1.012	59088	100	90.8	80	120	
Cu	63	2	72	87.687	ppb	1.725	161276	100	87.7	80	120	
Zn	66	2	72	92.423	ppb	2.263	21697	100	92.4	80	120	
As	75	2	72	89.506	ppb	2.313	14796	100	89.5	80	120	
Se	78	1	72	90.860	ppb	1.293	24855	100	90.9	80	120	
Sr	88	2	72	27.352	ppb	0.511	14348	100	27.4	80	120	>+\-20%
Zr	90	2	72	16.397	ppb	70.621	323	100	16.4	80	120	>+\-20%
Nb	93	2	72	164.210	ppb	0.580	538532	100	164.2	80	120	
Mo	95	2	115	1937.976	ppb	0.365	1824413	100	1938.0	80	120	>+\-20%
Pd	105	2	115	85.416	ppb	1.416	125115	100	85.4	80	120	
Ag	107	2	115	79.876	ppb	0.309	254217	100	79.9	80	120	>+\-20%
Cd	111	2	115	87.897	ppb	2.905	35366	100	87.9	80	120	
Sn	120	2	115	92.122	ppb	1.208	96849	100	92.1	80	120	
Sb	121	2	115	97.146	ppb	1.196	93731	100	97.1	80	120	
Ba	137	2	115	95.269	ppb	2.795	31601	100	95.3	80	120	
W	182	2	165	87.576	ppb	0.115	402610	100	87.6	80	120	
Pt	195	2	165	82.403	ppb	1.064	314859	100	82.4	80	120	
Tl	205	2	165	89.433	ppb	1.045	742143	100	89.4	80	120	
Pb	208	2	165	89.713	ppb	0.599	997419	100	89.7	80	120	
Th	232	2	165	87.321	ppb	0.585	1224965	100	87.3	80	120	
U	238	2	165	94.549	ppb	1.023	1432791	100	94.5	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1455771	0.86	1841092	79.07	60	120	
Sc (IS)	45	1	HMI H2	27736206	1.22	34041789	81.48	60	120	
Sc (IS)	45	2	HMI He	864161	0.93	989699	87.32	60	120	
Sc (IS)	45	3	No Gas	46513961	0.36	58466742	79.56	60	120	
Ge Internal Standard	72	1	HMI H2	11189620	1.09	14056514	79.60	60	120	
Ge Internal Standard	72	2	HMI He	994236	1.77	1155188	86.07	60	120	
In Internal Standard	115	2	HMI He	3477997	0.50	3786036	91.86	60	120	
Ho-165	165	2	HMI He	17708171	0.75	18554642	95.44	60	120	

Sample Report

Sample Table

Sample Name	rinse
Data File Name	150SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T01:10:40-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-2.403	ppb	-2.403	-68.52	164171	500000	
Be	9	1	6	0.091	ppb	0.091	57.56	53	2000	
B	11	1	6	6.864	ppb	6.864	6.86	3417	2000	
Na	23	1	45	460.242	ppb	460.242	2.46	1792608	2000	
K	39	1	45	319.677	ppb	319.677	3.42	11218063	400000	
Ca	40	1	45	64.426	ppb	64.426	9.95	379683	400000	
Se	78	1	72	0.123	ppb	0.123	62.87	51	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1522354	1.17	1841092	82.69	60	120	
Sc (IS)	45	1	HMI H2	28759052	0.31	34041789	84.48	60	120	
Ge Internal Standard	72	1	HMI H2	11910403	0.51	14056514	84.73	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	151WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T01:59:35-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.033	ppb	-42.32592922	3	0.5
Na	23	2	45	219.375	ppb	3.44950083	71261	25
Mg	24	2	45	-0.074	ppb	-606.4023621	300	25
Al	27	2	45	-0.925	ppb	-76.80576118	70	15
K	39	2	45	-2.001	ppb	-364.6039423	19968	50
Ca	44	2	45	18.292	ppb	84.09971618	80	25
V	51	2	72	-1.178	ppb	-26.55989306	2874	1
Cr	52	2	72	-0.053	ppb	-77.23417306	230	1
Mn	55	2	72	0.050	ppb	158.0429744	123	0.5
Fe	57	2	72	1.545	ppb	38.93708401	273	25
Co	59	2	72	0.006	ppb	190.7070758	37	0.5
Ni	60	2	72	-0.070	ppb	-94.39645333	143	1
Cu	63	2	72	0.177	ppb	78.10815704	1794	1
Zn	66	2	72	-0.236	ppb	-32.85071106	307	5
As	75	2	72	0.060	ppb	112.4357387	29	1
Se	78	1	72	0.031	ppb	125.2899882	27	1
Nb	93	2	72	0.030	ppb	49.41202587	1030	2
Mo	95	2	115	-0.016	ppb	-50.81319061	40	0.5
Pd	105	2	115	-0.009	ppb	-150.6216856	27	1
Ag	107	2	115	0.005	ppb	103.3075264	73	1
Cd	111	2	115	-0.008	ppb	0	0	0.5
Sn	120	2	115	0.043	ppb	208.0977226	353	1
Sb	121	2	115	-0.004	ppb	-621.0973992	53	0.6
Ba	137	2	115	-0.041	ppb	-99.25788656	10	0.5
W	182	2	165	-0.041	ppb	-67.70926263	1734	1
Pt	195	2	165	0.005	ppb	22.43061661	47	1
Tl	205	2	165	-0.001	ppb	-229.1992832	113	0.1
Pb	208	2	165	0.020	ppb	59.87995879	1300	0.5
Th	232	2	165	0.001	ppb	331.1752807	293	1
U	238	2	165	-0.004	ppb	-47.40495412	90	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1573707	0.54	1841092	85.48	60	120	
Sc (IS)	45	1	HMI H2	32358995	0.65	34041789	95.06	60	120	
Sc (IS)	45	2	HMI He	924258	0.63	989699	93.39	60	120	
Sc (IS)	45	3	No Gas	59407536	0.76	58466742	101.61	60	120	
Ge Internal Standard	72	1	HMI H2	13507926	1.35	14056514	96.10	60	120	
Ge Internal Standard	72	2	HMI He	1196079	7.80	1155188	103.54	60	120	
In Internal Standard	115	2	HMI He	4458213	0.77	3786036	117.75	60	120	
Ho-165	165	2	HMI He	21278352	1.10	18554642	114.68	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	152_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:03:22-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	399.792	ppb	2.279	378723	500	80.0	90	110	>+\-10%
Li	7	2	45	406.815	ppb	4.708	20124	500	81.4	90	110	>+\-10%
Li	7	3	45	378.574	ppb	1.089	13567898	500	75.7	90	110	>+\-10%
Be	9	1	6	49.557	ppb	4.642	20925	50	99.1	90	110	
B	11	1	6	50.572	ppb	5.516	23426	50	101.1	90	110	
Na	23	1	45	5389.815	ppb	0.502	20352178	5000	107.8	90	110	
Na	23	2	45	5609.604	ppb	0.295	1313530	5000	112.2	90	110	>+\-10%
Mg	24	2	45	4848.703	ppb	1.927	510946	5000	97.0	90	110	
Al	27	2	45	5400.011	ppb	2.041	134723	5000	108.0	90	110	
K	39	1	45	5717.208	ppb	1.428	32395240	5000	114.3	90	110	>+\-10%
K	39	2	45	5229.061	ppb	0.316	294049	5000	104.6	90	110	
Ca	40	1	45	5277.299	ppb	1.464	29871855	5000	105.5	90	110	
Ca	44	2	45	5559.574	ppb	1.663	15749	5000	111.2	90	110	>+\-10%
Ti	47	2	45	46.062	ppb	10.826	1207	50	92.1	90	110	
V	51	2	72	48.596	ppb	0.633	56082	50	97.2	90	110	
Cr	52	2	72	48.160	ppb	2.192	68415	50	96.3	90	110	
Mn	55	2	72	52.087	ppb	2.400	27267	50	104.2	90	110	
Fe	57	2	72	5022.563	ppb	1.667	129583	5000	100.5	90	110	
Co	59	2	72	48.701	ppb	1.500	119169	50	97.4	90	110	
Ni	60	2	72	48.550	ppb	2.707	34058	50	97.1	90	110	
Cu	63	2	72	46.751	ppb	0.767	93079	50	93.5	90	110	
Zn	66	2	72	46.702	ppb	6.547	11959	50	93.4	90	110	
As	75	2	72	49.293	ppb	0.250	8772	50	98.6	90	110	
Se	78	1	72	43.088	ppb	2.066	14103	50	86.2	90	110	>+\-10%
Sr	88	2	72	54.572	ppb	2.469	30784	50	109.1	90	110	
Zr	90	2	72	31.751	ppb	18.365	590	50	63.5	90	110	>+\-10%
Nb	93	2	72	96.920	ppb	0.499	342199	100	96.9	90	110	
Mo	95	2	115	41.439	ppb	1.648	48176	50	82.9	90	110	>+\-10%
Pd	105	2	115	41.822	ppb	1.381	75586	50	83.6	90	110	>+\-10%
Ag	107	2	115	39.787	ppb	1.384	156220	50	79.6	90	110	>+\-10%
Cd	111	2	115	40.999	ppb	3.220	20346	50	82.0	90	110	>+\-10%
Sn	120	2	115	45.006	ppb	0.441	58510	50	90.0	90	110	
Sb	121	2	115	43.723	ppb	1.345	52065	50	87.4	90	110	>+\-10%
Ba	137	2	115	44.368	ppb	2.285	18166	50	88.7	90	110	>+\-10%
W	182	2	165	40.244	ppb	1.221	220921	50	80.5	90	110	>+\-10%
Pt	195	2	165	38.264	ppb	0.645	173773	50	76.5	90	110	>+\-10%
Tl	205	2	165	41.936	ppb	0.830	413631	50	83.9	90	110	>+\-10%
Pb	208	2	165	42.013	ppb	1.593	555621	50	84.0	90	110	>+\-10%
Th	232	2	165	39.477	ppb	0.757	658239	50	79.0	90	110	>+\-10%
U	238	2	165	39.167	ppb	0.500	705418	50	78.3	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1581632	0.56	1841092	85.91	60	120	
Sc (IS)	45	1	HMI H2	32046041	0.77	34041789	94.14	60	120	
Sc (IS)	45	2	HMI He	918834	1.35	989699	92.84	60	120	
Sc (IS)	45	3	No Gas	56223861	0.94	58466742	96.16	60	120	
Ge Internal Standard	72	1	HMI H2	13382026	1.14	14056514	95.20	60	120	
Ge Internal Standard	72	2	HMI He	1069325	1.22	1155188	92.57	60	120	
In Internal Standard	115	2	HMI He	4290097	0.65	3786036	113.31	60	120	
Ho-165	165	2	HMI He	21043850	0.81	18554642	113.42	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	153_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:07:08-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-47.087	ppb	-11.0	5868338	10	
Be	9	1	6	0.037	ppb	36.3	33	0.5	
B	11	1	6	3.547	ppb	10.4	2067	0.5	>RL
Na	23	1	45	164.594	ppb	0.9	888277	25	>RL
Na	23	2	45	156.998	ppb	2.0	56438	25	>RL
Mg	24	2	45	1.115	ppb	29.0	423	25	
Al	27	2	45	0.695	ppb	306.3	110	15	
K	39	1	45	237.881	ppb	8.0	12084589	50	>RL
K	39	2	45	-16.055	ppb	-30.9	19103	50	
Ca	40	1	45	1.311	ppb	36.4	65846	50	
Ca	44	2	45	4.277	ppb	143.0	40	25	
Ti	47	2	45	0.011	ppb	1946.9	3	0.5	
V	51	2	72	-0.430	ppb	-23.5	3367	1	
Cr	52	2	72	0.013	ppb	148.1	300	1	
Mn	55	2	72	0.014	ppb	836.4	93	0.5	
Fe	57	2	72	1.220	ppb	151.1	233	25	
Co	59	2	72	0.006	ppb	67.4	30	0.5	
Ni	60	2	72	-0.005	ppb	-2768.5	173	1	
Cu	63	2	72	0.293	ppb	20.3	1817	1	
Zn	66	2	72	-0.218	ppb	-138.5	277	5	
As	75	2	72	0.074	ppb	91.1	27	1	
Se	78	1	72	0.048	ppb	88.8	32	1	
Sr	88	2	72	0.019	ppb	161.8	20	0.5	
Zr	90	2	72	-0.124	ppb	-3284.6	90	1	
Nb	93	2	72	2.393	ppb	15.5	9190	2	>RL
Mo	95	2	115	0.023	ppb	98.8	83	0.5	
Pd	105	2	115	0.008	ppb	107.0	57	1	
Ag	107	2	115	0.005	ppb	84.1	70	1	
Cd	111	2	115	0.013	ppb	162.1	10	0.5	
Sn	120	2	115	0.021	ppb	45.2	313	1	
Sb	121	2	115	0.192	ppb	40.1	287	0.6	
Ba	137	2	115	-0.024	ppb	-58.5	17	0.5	
W	182	2	165	-0.003	ppb	-1341.3	1884	1	
Pt	195	2	165	0.014	ppb	38.1	87	1	
Tl	205	2	165	0.013	ppb	96.8	243	0.1	
Pb	208	2	165	0.011	ppb	131.2	1147	0.5	
Th	232	2	165	0.034	ppb	26.4	807	1	
U	238	2	165	0.012	ppb	36.6	367	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1602306	1.07	1841092	87.03	60	120	
Sc (IS)	45	1	HMI H2	31747435	1.11	34041789	93.26	60	120	
Sc (IS)	45	2	HMI He	918250	1.27	989699	92.78	60	120	
Sc (IS)	45	3	No Gas	56104557	1.90	58466742	95.96	60	120	
Ge Internal Standard	72	1	HMI H2	13257430	0.12	14056514	94.32	60	120	
Ge Internal Standard	72	2	HMI He	1062113	0.96	1155188	91.94	60	120	
In Internal Standard	115	2	HMI He	4314187	1.29	3786036	113.95	60	120	
Ho-165	165	2	HMI He	20622802	0.81	18554642	111.15	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	154WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:10:56-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.003	ppb	-1200.473175	17	0.5
Na	23	2	45	150.814	ppb	0.750876034	55043	25
Mg	24	2	45	-0.059	ppb	-903.307891	300	25
Al	27	2	45	1.097	ppb	98.21174287	120	15
K	39	2	45	-4.458	ppb	-76.33771679	19721	50
Ca	44	2	45	14.896	ppb	48.12972939	70	25
V	51	2	72	-0.453	ppb	-36.37130636	3317	1
Cr	52	2	72	-0.059	ppb	-41.42386325	197	1
Mn	55	2	72	-0.003	ppb	-4312.534938	83	0.5
Fe	57	2	72	2.074	ppb	146.9474546	253	25
Co	59	2	72	0.012	ppb	89.1051745	43	0.5
Ni	60	2	72	-0.048	ppb	-183.1336184	143	1
Cu	63	2	72	0.071	ppb	132.7507935	1373	1
Zn	66	2	72	-0.320	ppb	-26.73222293	250	5
As	75	2	72	0.060	ppb	29.59180817	25	1
Se	78	1	72	-0.030	ppb	-64.00810663	7	1
Nb	93	2	72	1.093	ppb	12.54759951	4604	2
Mo	95	2	115	-0.029	ppb	-61.90127955	23	0.5
Pd	105	2	115	0.004	ppb	323.5920066	50	1
Ag	107	2	115	0.004	ppb	259.1082763	67	1
Cd	111	2	115	-0.008	ppb	0	0	0.5
Sn	120	2	115	-0.022	ppb	-324.8346949	257	1
Sb	121	2	115	0.047	ppb	36.38981451	113	0.6
Ba	137	2	115	0.065	ppb	77.27863987	53	0.5
W	182	2	165	-0.023	ppb	-158.0855746	1780	1
Pt	195	2	165	0.008	ppb	106.2136568	60	1
Tl	205	2	165	0.003	ppb	148.2564495	147	0.1
Pb	208	2	165	0.013	ppb	100.3330836	1177	0.5
Th	232	2	165	0.012	ppb	14.69009366	463	1
U	238	2	165	-0.001	ppb	-381.3106776	140	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1622793	3.55	1841092	88.14	60	120	
Sc (IS)	45	1	HMI H2	31564249	0.46	34041789	92.72	60	120	
Sc (IS)	45	2	HMI He	918839	0.57	989699	92.84	60	120	
Sc (IS)	45	3	No Gas	54943399	0.16	58466742	93.97	60	120	
Ge Internal Standard	72	1	HMI H2	13212235	0.90	14056514	93.99	60	120	
Ge Internal Standard	72	2	HMI He	1054465	0.75	1155188	91.28	60	120	
In Internal Standard	115	2	HMI He	4307847	0.48	3786036	113.78	60	120	
Ho-165	165	2	HMI He	20680256	0.63	18554642	111.46	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	155WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:14:43-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.033	ppb	-41.09124162	3	0.5
Na	23	2	45	131.967	ppb	1.137899469	50179	25
Mg	24	2	45	0.709	ppb	106.0193718	377	25
Al	27	2	45	1.149	ppb	216.0151907	120	15
K	39	2	45	-2.820	ppb	-349.7807452	19607	50
Ca	44	2	45	17.418	ppb	101.6471603	77	25
V	51	2	72	-0.536	ppb	-52.07989969	3231	1
Cr	52	2	72	-0.028	ppb	-155.0643767	240	1
Mn	55	2	72	0.022	ppb	305.0305086	97	0.5
Fe	57	2	72	2.333	ppb	80.97964837	260	25
Co	59	2	72	-0.001	ppb	-724.1515408	13	0.5
Ni	60	2	72	-0.077	ppb	-209.046218	123	1
Cu	63	2	72	0.011	ppb	692.4414153	1257	1
Zn	66	2	72	0.168	ppb	230.2056306	370	5
As	75	2	72	0.072	ppb	132.2279364	27	1
Se	78	1	72	-0.009	ppb	-73.14106882	13	1
Nb	93	2	72	0.729	ppb	13.07679802	3341	2
Mo	95	2	115	0.017	ppb	143.8179999	77	0.5
Pd	105	2	115	-0.017	ppb	-31.92873714	10	1
Ag	107	2	115	0.001	ppb	354.3806504	53	1
Cd	111	2	115	-0.008	ppb	0	0	0.5
Sn	120	2	115	0.012	ppb	259.0172578	300	1
Sb	121	2	115	0.020	ppb	42.5842389	80	0.6
Ba	137	2	115	-0.024	ppb	-158.9378685	17	0.5
W	182	2	165	-0.031	ppb	-61.30967771	1727	1
Pt	195	2	165	0.003	ppb	159.3206014	37	1
Tl	205	2	165	0.001	ppb	108.3882132	123	0.1
Pb	208	2	165	0.005	ppb	149.1656744	1067	0.5
Th	232	2	165	0.005	ppb	129.6220897	340	1
U	238	2	165	0.000	ppb	4674.407904	160	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1613797	1.34	1841092	87.65	60	120	
Sc (IS)	45	1	HMI H2	31791544	0.22	34041789	93.39	60	120	
Sc (IS)	45	2	HMI He	909453	0.87	989699	91.89	60	120	
Sc (IS)	45	3	No Gas	55013824	0.14	58466742	94.09	60	120	
Ge Internal Standard	72	1	HMI H2	13213199	0.81	14056514	94.00	60	120	
Ge Internal Standard	72	2	HMI He	1054661	0.83	1155188	91.30	60	120	
In Internal Standard	115	2	HMI He	4284297	0.67	3786036	113.16	60	120	
Ho-165	165	2	HMI He	20535178	0.36	18554642	110.67	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	156WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:18:31-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.017	ppb	-1.202301003	10	0.5
Na	23	2	45	118.178	ppb	4.387727604	46962	25
Mg	24	2	45	-0.056	ppb	-690.3515164	297	25
Al	27	2	45	0.336	ppb	431.9847373	100	15
K	39	2	45	-4.572	ppb	-174.2469069	19484	50
Ca	44	2	45	14.015	ppb	54.48485139	67	25
V	51	2	72	-0.692	ppb	-16.5248854	3034	1
Cr	52	2	72	0.002	ppb	1534.349034	280	1
Mn	55	2	72	0.096	ppb	23.08508106	133	0.5
Fe	57	2	72	1.508	ppb	108.4197541	237	25
Co	59	2	72	0.002	ppb	546.9952215	20	0.5
Ni	60	2	72	-0.026	ppb	-279.8563716	157	1
Cu	63	2	72	0.077	ppb	102.7035853	1370	1
Zn	66	2	72	-0.296	ppb	-33.75351872	253	5
As	75	2	72	0.073	ppb	72.13542087	27	1
Se	78	1	72	0.008	ppb	411.8566421	19	1
Nb	93	2	72	0.487	ppb	28.97353569	2470	2
Mo	95	2	115	0.003	ppb	700.1939214	60	0.5
Pd	105	2	115	-0.008	ppb	-192.4897433	27	1
Ag	107	2	115	-0.006	ppb	-73.13394456	27	1
Cd	111	2	115	0.006	ppb	400.5095034	7	0.5
Sn	120	2	115	0.006	ppb	1248.230138	287	1
Sb	121	2	115	0.001	ppb	2306.279969	57	0.6
Ba	137	2	115	-0.015	ppb	-431.5302963	20	0.5
W	182	2	165	-0.029	ppb	-21.87944035	1730	1
Pt	195	2	165	0.007	ppb	92.17343407	53	1
Tl	205	2	165	-0.006	ppb	-64.80993796	63	0.1
Pb	208	2	165	0.003	ppb	253.113498	1037	0.5
Th	232	2	165	0.002	ppb	384.3866843	293	1
U	238	2	165	-0.002	ppb	-179.2970112	130	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1606194	0.89	1841092	87.24	60	120	
Sc (IS)	45	1	HMI H2	31847283	0.90	34041789	93.55	60	120	
Sc (IS)	45	2	HMI He	908086	0.75	989699	91.75	60	120	
Sc (IS)	45	3	No Gas	54224471	0.41	58466742	92.74	60	120	
Ge Internal Standard	72	1	HMI H2	13127054	0.14	14056514	93.39	60	120	
Ge Internal Standard	72	2	HMI He	1043419	0.40	1155188	90.32	60	120	
In Internal Standard	115	2	HMI He	4231728	1.98	3786036	111.77	60	120	
Ho-165	165	2	HMI He	20429403	0.33	18554642	110.10	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	157WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:22:18-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.018	ppb	-127.4353298	10	0.5
Na	23	2	45	99.048	ppb	8.891250328	42271	25
Mg	24	2	45	0.066	ppb	939.9002536	307	25
Al	27	2	45	0.085	ppb	1882.825102	93	15
K	39	2	45	-6.438	ppb	-101.5731721	19247	50
Ca	44	2	45	-0.278	ppb	-1979.61568	27	25
V	51	2	72	-0.516	ppb	-33.07811188	3184	1
Cr	52	2	72	0.005	ppb	1417.907887	280	1
Mn	55	2	72	0.033	ppb	157.4933624	100	0.5
Fe	57	2	72	0.535	ppb	167.8227296	210	25
Co	59	2	72	0.004	ppb	72.74693385	23	0.5
Ni	60	2	72	-0.097	ppb	-40.77867446	107	1
Cu	63	2	72	0.110	ppb	23.55359579	1420	1
Zn	66	2	72	-0.062	ppb	-512.4331838	307	5
As	75	2	72	0.066	ppb	58.22222099	25	1
Se	78	1	72	-0.013	ppb	-159.7899955	12	1
Nb	93	2	72	0.302	ppb	33.41121029	1820	2
Mo	95	2	115	-0.026	ppb	-102.6090273	27	0.5
Pd	105	2	115	-0.017	ppb	-32.06367808	10	1
Ag	107	2	115	-0.005	ppb	-192.5137259	30	1
Cd	111	2	115	0.006	ppb	401.4458687	7	0.5
Sn	120	2	115	-0.057	ppb	-21.2016658	207	1
Sb	121	2	115	0.029	ppb	144.9273486	90	0.6
Ba	137	2	115	-0.023	ppb	-218.9985434	17	0.5
W	182	2	165	-0.013	ppb	-388.7302371	1800	1
Pt	195	2	165	0.003	ppb	40.99327816	37	1
Tl	205	2	165	0.002	ppb	181.3591945	133	0.1
Pb	208	2	165	0.000	ppb	2854.633983	990	0.5
Th	232	2	165	0.004	ppb	30.54366189	317	1
U	238	2	165	-0.003	ppb	-65.75237432	103	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1649677	0.18	1841092	89.60	60	120	
Sc (IS)	45	1	HMI H2	31686324	0.51	34041789	93.08	60	120	
Sc (IS)	45	2	HMI He	901295	1.78	989699	91.07	60	120	
Sc (IS)	45	3	No Gas	54180566	0.48	58466742	92.67	60	120	
Ge Internal Standard	72	1	HMI H2	13239696	0.28	14056514	94.19	60	120	
Ge Internal Standard	72	2	HMI He	1033111	1.55	1155188	89.43	60	120	
In Internal Standard	115	2	HMI He	4226548	1.24	3786036	111.64	60	120	
Ho-165	165	2	HMI He	20258965	1.32	18554642	109.19	60	120	

Calibration Blank Report

Sample Table

Sample Name	ICIS-5408711
Data File Name	158CALB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:26:05-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	164683	0.00
Li	7	2	HMI He	8796	0.03
Li	7	3	No Gas	5867720	0.00
Be	9	1	HMI H2	10	1000.00
B	11	1	HMI H2	1413	0.60
Na	23	1	HMI H2	615928	0.00
Na	23	2	HMI He	39668	0.00
Mg	24	2	HMI He	400	5.96
Al	27	2	HMI He	40	225.35
K	39	2	HMI He	19120	0.02
Ca	44	2	HMI He	53	146.37
Ti	47	2	HMI He	0	#VALUE!
V	51	2	HMI He	3211	0.28
Cr	52	2	HMI He	303	16.85
Mn	55	2	HMI He	53	20.30
Fe	57	2	HMI He	153	20.10
Co	59	2	HMI He	7	2598.08
Ni	60	2	HMI He	163	9.43
Cu	63	2	HMI He	1293	0.54
Zn	66	2	HMI He	287	4.92
As	75	2	HMI He	35	111.21
Se	78	1	HMI H2	15	387.09
Sr	88	2	HMI He	47	70.14
Zr	90	2	HMI He	80	0.00
Nb	93	2	HMI He	1227	0.17
Mo	95	2	HMI He	43	153.73
Pd	105	2	HMI He	33	137.48
Ag	107	2	HMI He	70	35.36
Cd	111	2	HMI He	0	#VALUE!
Sn	120	2	HMI He	167	20.47
Sb	121	2	HMI He	57	64.83
Ba	137	2	HMI He	3	5196.15
W	182	2	HMI He	1584	0.46
Pt	195	2	HMI He	40	62.50
Tl	205	2	HMI He	120	6.94
Pb	208	2	HMI He	867	1.63
Th	232	2	HMI He	303	6.99
U	238	2	HMI He	130	32.95

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li-6 Internal Standard	6	1	HMI H2	1639580	1.51
Sc (IS)	45	1	HMI H2	31715490	0.55
Sc (IS)	45	2	HMI He	891522	0.49
Sc (IS)	45	3	No Gas	54087154	1.33
Ge Internal Standard	72	1	HMI H2	13102322	0.45
Ge Internal Standard	72	2	HMI He	1026205	0.67
In Internal Standard	115	2	HMI He	4195206	0.29
Ho-165	165	2	HMI He	20206547	0.95

Calibration Standard Report

Sample Table

Sample Name	IC-5408712
Data File Name	159CALS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:29:51-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	594929	0.00
Li	7	2	HMI He	30559	0.02
Li	7	3	No Gas	20823598	0.00
Be	9	1	HMI H2	40141	0.01
B	11	1	HMI H2	45042	0.00
Na	23	1	HMI H2	37521249	0.00
Na	23	2	HMI He	2375218	0.00
Mg	24	2	HMI He	1108088	0.00
Al	27	2	HMI He	253189	0.00
K	39	1	HMI H2	49680786	0.00
K	39	2	HMI He	533228	0.00
Ca	40	1	HMI H2	56368594	0.00
Ca	44	2	HMI He	29233	0.01
Ti	47	2	HMI He	2350	0.39
V	51	2	HMI He	104010	0.00
Cr	52	2	HMI He	129788	0.00
Mn	55	2	HMI He	51499	0.00
Fe	57	2	HMI He	242883	0.00
Co	59	2	HMI He	222389	0.00
Ni	60	2	HMI He	63178	0.00
Cu	63	2	HMI He	174030	0.00
Zn	66	2	HMI He	23440	0.02
As	75	2	HMI He	16978	0.00
Se	78	1	HMI H2	27352	0.00
Sr	88	2	HMI He	57303	0.00
Zr	90	2	HMI He	857	0.75
Nb	93	2	HMI He	692868	0.00
Mo	95	2	HMI He	90194	0.00
Pd	105	2	HMI He	137354	0.00
Ag	107	2	HMI He	294002	0.00
Cd	111	2	HMI He	38083	0.01
Sn	120	2	HMI He	106429	0.00
Sb	121	2	HMI He	97504	0.00
Ba	137	2	HMI He	33649	0.01
Nd	146	2	HMI He	120204	0.00
Sm	147	2	HMI He	103704	0.00
Sm	150	2	HMI He	100733	0.00
Gd	156	1	HMI H2	608556	0.00
Gd	157	1	HMI H2	466610	0.00
W	182	2	HMI He	426984	0.00
Pt	195	2	HMI He	342204	0.00
Tl	205	2	HMI He	791700	0.00
Pb	208	2	HMI He	1056137	0.00
Th	232	2	HMI He	1637306	0.00
U	238	2	HMI He	1722378	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1578413	2.14	1639580	96.27	60	120	
Sc (IS)	45	1	HMI H2	31114225	0.25	31715490	98.10	60	120	
Sc (IS)	45	2	HMI He	884793	0.85	891522	99.25	60	120	
Sc (IS)	45	3	No Gas	52024684	0.69	54087154	96.19	60	120	
Ge Internal Standard	72	1	HMI H2	12827905	0.46	13102322	97.91	60	120	
Ge Internal Standard	72	2	HMI He	1013985	0.71	1026205	98.81	60	120	
In Internal Standard	115	2	HMI He	4055304	1.34	4195206	96.67	60	120	
Ho-165	165	2	HMI He	20014586	0.84	20206547	99.05	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	160_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:33:37-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	521.762	ppb	0.820	381939	500	104.4	90	110	
Li	7	2	45	528.323	ppb	7.015	20311	500	105.7	90	110	
Li	7	3	45	515.109	ppb	0.696	13551261	500	103.0	90	110	
Be	9	1	6	51.094	ppb	1.325	20448	50	102.2	90	110	
B	11	1	6	49.018	ppb	2.830	22708	50	98.0	90	110	
Na	23	1	45	5241.916	ppb	1.021	19660278	5000	104.8	90	110	
Na	23	2	45	5238.040	ppb	1.162	1266117	5000	104.8	90	110	
Mg	24	2	45	4503.432	ppb	0.929	500469	5000	90.1	90	110	
Al	27	2	45	5148.613	ppb	1.012	130725	5000	103.0	90	110	
K	39	1	45	5304.087	ppb	1.016	31345595	5000	106.1	90	110	
K	39	2	45	5158.934	ppb	0.674	284991	5000	103.2	90	110	
Ca	40	1	45	5242.136	ppb	0.557	29137493	5000	104.8	90	110	
Ca	44	2	45	5250.908	ppb	3.869	15412	5000	105.0	90	110	
Ti	47	2	45	51.496	ppb	6.503	1213	50	103.0	90	110	
V	51	2	72	51.319	ppb	0.812	55085	50	102.6	90	110	
Cr	52	2	72	51.304	ppb	2.090	66918	50	102.6	90	110	
Mn	55	2	72	49.986	ppb	2.866	25841	50	100.0	90	110	
Fe	57	2	72	5160.757	ppb	3.066	125753	5000	103.2	90	110	
Co	59	2	72	51.234	ppb	1.121	114277	50	102.5	90	110	
Ni	60	2	72	50.545	ppb	0.609	32110	50	101.1	90	110	
Cu	63	2	72	51.269	ppb	1.334	90109	50	102.5	90	110	
Zn	66	2	72	50.072	ppb	2.561	11915	50	100.1	90	110	
As	75	2	72	49.494	ppb	0.104	8446	50	99.0	90	110	
Se	78	1	72	51.485	ppb	2.677	13918	50	103.0	90	110	
Sr	88	2	72	51.927	ppb	0.919	29869	50	103.9	90	110	
Zr	90	2	72	46.775	ppb	25.293	443	50	93.5	90	110	
Nb	93	2	72	100.811	ppb	0.607	350870	100	100.8	90	110	
Mo	95	2	115	50.765	ppb	3.167	45655	50	101.5	90	110	
Pd	105	2	115	53.622	ppb	1.083	73452	50	107.2	90	110	
Ag	107	2	115	51.724	ppb	0.657	151625	50	103.4	90	110	
Cd	111	2	115	52.568	ppb	1.109	19952	50	105.1	90	110	
Sn	120	2	115	50.725	ppb	1.012	53896	50	101.5	90	110	
Sb	121	2	115	51.631	ppb	1.433	50218	50	103.3	90	110	
Ba	137	2	115	48.694	ppb	3.234	16337	50	97.4	90	110	
W	182	2	165	50.961	ppb	1.036	217586	50	101.9	90	110	
Pt	195	2	165	51.333	ppb	1.160	175069	50	102.7	90	110	
Tl	205	2	165	51.061	ppb	1.851	402845	50	102.1	90	110	
Pb	208	2	165	51.011	ppb	0.740	537229	50	102.0	90	110	
Th	232	2	165	39.143	ppb	1.119	638807	50	78.3	90	110	>+\-10%
U	238	2	165	39.905	ppb	1.257	684910	50	79.8	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1573269	1.00	1639580	95.96	60	120	
Sc (IS)	45	1	HMI H2	30653600	0.27	31715490	96.65	60	120	
Sc (IS)	45	2	HMI He	887027	0.80	891522	99.50	60	120	
Sc (IS)	45	3	No Gas	52360879	0.27	54087154	96.81	60	120	
Ge Internal Standard	72	1	HMI H2	12671469	0.25	13102322	96.71	60	120	
Ge Internal Standard	72	2	HMI He	1017021	1.49	1026205	99.11	60	120	
In Internal Standard	115	2	HMI He	4042475	1.61	4195206	96.36	60	120	
Ho-165	165	2	HMI He	19943853	1.37	20206547	98.70	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	161_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:37:23-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	8.340	ppb	27.0	5973635	10	
Be	9	1	6	0.032	ppb	113.4	23	0.5	
B	11	1	6	0.496	ppb	62.6	1657	0.5	
Na	23	1	45	-28.829	ppb	-9.9	520185	25	
Na	23	2	45	-21.333	ppb	-12.7	34354	25	
Mg	24	2	45	-0.240	ppb	-84.2	370	25	
Al	27	2	45	4.622	ppb	19.8	157	15	
K	39	1	45	-82.518	ppb	-74.9	11832843	50	
K	39	2	45	0.646	ppb	1472.7	18993	50	
Ca	40	1	45	1.502	ppb	31.2	65557	50	
Ca	44	2	45	-5.542	ppb	-37.0	37	25	
Ti	47	2	45	0.290	ppb	173.2	7	0.5	
V	51	2	72	0.551	ppb	8.8	3751	1	
Cr	52	2	72	-0.069	ppb	-76.4	210	1	
Mn	55	2	72	0.066	ppb	125.4	87	0.5	
Fe	57	2	72	2.064	ppb	144.2	203	25	
Co	59	2	72	0.018	ppb	54.0	47	0.5	
Ni	60	2	72	-0.040	ppb	-232.6	137	1	
Cu	63	2	72	0.091	ppb	84.2	1443	1	
Zn	66	2	72	-0.106	ppb	-200.0	260	5	
As	75	2	72	-0.045	ppb	-34.5	27	1	
Se	78	1	72	0.092	ppb	46.1	41	1	
Sr	88	2	72	-0.040	ppb	-24.3	23	0.5	
Zr	90	2	72	0.453	ppb	876.7	83	1	
Nb	93	2	72	2.703	ppb	8.8	10635	2	>RL
Mo	95	2	115	0.047	ppb	83.0	87	0.5	
Pd	105	2	115	0.048	ppb	73.5	100	1	
Ag	107	2	115	0.026	ppb	116.3	147	1	
Cd	111	2	115	0.034	ppb	86.7	13	0.5	
Sn	120	2	115	0.133	ppb	89.7	310	1	
Sb	121	2	115	0.291	ppb	33.7	347	0.6	
Ba	137	2	115	0.058	ppb	103.8	23	0.5	
W	182	2	165	0.077	ppb	30.8	1904	1	
Pt	195	2	165	0.016	ppb	111.9	93	1	
Tl	205	2	165	0.033	ppb	12.0	383	0.1	
Pb	208	2	165	0.015	ppb	122.3	1023	0.5	
Th	232	2	165	0.028	ppb	33.3	753	1	
U	238	2	165	0.021	ppb	48.3	500	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1657573	1.72	1639580	101.10	60	120	
Sc (IS)	45	1	HMI H2	32520100	2.00	31715490	102.54	60	120	
Sc (IS)	45	2	HMI He	884090	1.79	891522	99.17	60	120	
Sc (IS)	45	3	No Gas	53844321	0.79	54087154	99.55	60	120	
Ge Internal Standard	72	1	HMI H2	13420348	2.35	13102322	102.43	60	120	
Ge Internal Standard	72	2	HMI He	1020446	1.63	1026205	99.44	60	120	
In Internal Standard	115	2	HMI He	4137158	2.16	4195206	98.62	60	120	
Ho-165	165	2	HMI He	20098051	1.70	20206547	99.46	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	162LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:41:11-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	17.767	ppb	44.271	6096151	50	35.5	70	130	>+/-30%
Be	9	1	6	1.067	ppb	21.019	453	1	106.7	70	130	
Na	23	2	45	22.452	ppb	8.259	44113	50	44.9	70	130	>+/-30%
Mg	24	2	45	46.221	ppb	7.827	5451	50	92.4	70	130	
Al	27	2	45	40.224	ppb	9.638	1047	30	134.1	70	130	>+/-30%
K	39	2	45	103.710	ppb	10.168	24034	100	103.7	70	130	
Ca	44	2	45	46.649	ppb	48.528	187	50	93.3	70	130	
V	51	2	72	5.141	ppb	7.824	8253	5	102.8	70	130	
Cr	52	2	72	2.051	ppb	13.784	2920	2	102.6	70	130	
Mn	55	2	72	1.100	ppb	30.103	610	1	110.0	70	130	
Fe	57	2	72	58.757	ppb	20.225	1557	50	117.5	70	130	
Co	59	2	72	1.143	ppb	9.914	2517	1	114.3	70	130	
Ni	60	2	72	2.096	ppb	8.047	1463	2	104.8	70	130	
Cu	63	2	72	2.122	ppb	14.130	4881	2	106.1	70	130	
Zn	66	2	72	9.682	ppb	11.738	2494	10	96.8	70	130	
As	75	2	72	4.599	ppb	2.804	803	5	92.0	70	130	
Se	78	1	72	5.373	ppb	7.196	1499	5	107.5	70	130	
Sr	88	2	72	0.993	ppb	7.567	607	1	99.3	70	130	
Zr	90	2	72	5.883	ppb	146.491	123	0.5	1176.6	70	130	>+/-30%
Nb	93	2	72	6.480	ppb	7.876	23323	2	324.0	70	130	>+/-30%
Mo	95	2	115	2.137	ppb	4.693	1964	2	106.8	70	130	
Pd	105	2	115	0.042	ppb	62.610	90	1	4.2	70	130	>+/-30%
Ag	107	2	115	5.339	ppb	1.235	15719	5	106.8	70	130	
Cd	111	2	115	0.897	ppb	21.491	340	1	89.7	70	130	
Sn	120	2	115	10.431	ppb	5.571	11212	10	104.3	70	130	
Sb	121	2	115	2.210	ppb	12.309	2204	2	110.5	70	130	
Ba	137	2	115	0.846	ppb	38.297	287	1	84.6	70	130	
W	182	2	165	5.186	ppb	5.823	23218	1	518.6	70	130	>+/-30%
Pt	195	2	165	0.015	ppb	39.666	90	1	1.5	70	130	>+/-30%
Tl	205	2	165	1.000	ppb	5.436	7893	1	100.0	70	130	
Pb	208	2	165	0.996	ppb	6.451	11169	1	99.6	70	130	
Th	232	2	165	1.677	ppb	4.490	27276	2	83.9	70	130	
U	238	2	165	0.859	ppb	4.296	14656	1	85.9	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1634568	0.08	1639580	99.69	60	120	
Sc (IS)	45	1	HMI H2	30977081	0.51	31715490	97.67	60	120	
Sc (IS)	45	2	HMI He	874991	1.92	891522	98.15	60	120	
Sc (IS)	45	3	No Gas	53625328	0.92	54087154	99.15	60	120	
Ge Internal Standard	72	1	HMI H2	12960789	0.33	13102322	98.92	60	120	
Ge Internal Standard	72	2	HMI He	1001550	0.82	1026205	97.60	60	120	
In Internal Standard	115	2	HMI He	4044713	1.32	4195206	96.41	60	120	
Ho-165	165	2	HMI He	19675559	1.85	20206547	97.37	60	120	

Blank Report

Sample Table

Sample Name	mb 280-434890/1-a
Data File Name	163_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:44:59-06:00
Sample Type	Blank
Dilution	1
Comment	434890 6020
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	3.170	ppb	456.2325897	165288	0.5
Li	7	2	45	0.974	ppb	1159.043964	8740	0.5
Li	7	3	45	-0.419	ppb	-363.3650504	5795265	10
Be	9	1	6	0.010	ppb	399.6596213	13	0.5
B	11	1	6	-0.185	ppb	-310.4598055	1293	0.5
Na	23	1	45	-39.122	ppb	-23.3446802	465734	25
Na	23	2	45	-26.758	ppb	-20.17387693	33075	25
Mg	24	2	45	2.019	ppb	23.38897604	620	25
Al	27	2	45	11.494	ppb	18.36428308	330	15
K	39	1	45	-1406.333	ppb	-7.51334256	6371206	50
K	39	2	45	-7.951	ppb	-66.35272618	18539	50
Ca	40	1	45	18.846	ppb	17.6984081	162131	50
Ca	44	2	45	3.562	ppb	304.073141	63	25
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5
V	51	2	72	-0.923	ppb	-11.21834148	2244	1
Cr	52	2	72	0.080	ppb	68.87323746	403	1
Mn	55	2	72	0.292	ppb	42.21370313	203	0.5
Fe	57	2	72	15.982	ppb	25.14609769	540	25
Co	59	2	72	0.020	ppb	70.01803175	50	0.5
Ni	60	2	72	0.029	ppb	144.7832585	180	1
Cu	63	2	72	0.056	ppb	98.26528828	1377	1
Zn	66	2	72	1.996	ppb	10.07515003	747	5
As	75	2	72	-0.025	ppb	-266.132687	30	1
Se	78	1	72	-0.010	ppb	-265.5054436	12	1
Sr	88	2	72	0.053	ppb	66.33640278	77	0.5
Zr	90	2	72	-1.993	ppb	-307.2315084	63	1
Nb	93	2	72	0.399	ppb	7.567526772	2597	2
Mo	95	2	115	-0.017	ppb	-198.9373459	27	0.5
Pd	105	2	115	-0.007	ppb	-168.6109348	23	1
Ag	107	2	115	-0.002	ppb	-499.6088531	63	1
Cd	111	2	115	0.026	ppb	173.2050808	10	0.5
Sn	120	2	115	0.157	ppb	20.58929254	333	1
Sb	121	2	115	0.062	ppb	6.966067026	117	0.6
Ba	137	2	115	0.157	ppb	29.70689151	57	0.5
W	182	2	165	0.017	ppb	89.41337496	1634	1
Pt	195	2	165	-0.001	ppb	-905.1220714	37	1
Tl	205	2	165	0.001	ppb	581.2997232	127	0.1
Pb	208	2	165	0.063	ppb	20.52680147	1520	0.5
Th	232	2	165	0.010	ppb	80.68054862	470	1
U	238	2	165	0.002	ppb	143.3167518	167	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1600944	3.25	1639580	97.64	60	120	
Sc (IS)	45	1	HMI H2	31622915	7.26	31715490	99.71	60	120	
Sc (IS)	45	2	HMI He	883458	0.89	891522	99.10	60	120	
Sc (IS)	45	3	No Gas	53468468	0.72	54087154	98.86	60	120	
Ge Internal Standard	72	1	HMI H2	13002490	5.27	13102322	99.24	60	120	
Ge Internal Standard	72	2	HMI He	1015418	0.98	1026205	98.95	60	120	
In Internal Standard	115	2	HMI He	4119574	1.34	4195206	98.20	60	120	
Ho-165	165	2	HMI He	19957692	0.70	20206547	98.77	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-434890/2-a
Data File Name	164_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:48:47-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	434890 6020
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	82.669	82.669	ppb	5.891	196971	400	20.7	80	120	>+/-20%
Li	7	2	45	91.234	91.234	ppb	20.940	10864	400	22.8	80	120	>+/-20%
Li	7	3	45	87.123	87.123	ppb	2.115	7061969	400	21.8	80	120	>+/-20%
Be	9	1	6	41.180	41.180	ppb	1.976	16700	40	102.9	80	120	
Na	23	2	45	-34.574	-34.574	ppb	-11.571	31725	40	-86.4	80	120	>+/-20%
Mg	24	2	45	1.697	1.697	ppb	34.728	593	40	4.2	80	120	>+/-20%
Al	27	2	45	416.550	416.550	ppb	1.299	10731	40	1041.4	80	120	>+/-20%
K	39	2	45	-8.248	-8.248	ppb	-49.140	18803	40	-20.6	80	120	>+/-20%
Ca	44	2	45	261.659	261.659	ppb	27.644	827	40	654.1	80	120	>+/-20%
V	51	2	72	39.697	39.697	ppb	1.830	43513	40	99.2	80	120	
Cr	52	2	72	41.638	41.638	ppb	3.021	54603	40	104.1	80	120	
Mn	55	2	72	40.368	40.368	ppb	3.579	20966	40	100.9	80	120	
Fe	57	2	72	434.605	434.605	ppb	5.510	10775	40	1086.5	80	120	>+/-20%
Co	59	2	72	41.554	41.554	ppb	1.053	93071	40	103.9	80	120	
Ni	60	2	72	41.093	41.093	ppb	1.202	26242	40	102.7	80	120	
Cu	63	2	72	42.015	42.015	ppb	1.305	74381	40	105.0	80	120	
Zn	66	2	72	41.919	41.919	ppb	3.494	10064	40	104.8	80	120	
As	75	2	72	38.362	38.362	ppb	1.392	6581	40	95.9	80	120	
Se	78	1	72	39.254	39.254	ppb	1.896	10716	40	98.1	80	120	
Nb	93	2	72	0.315	0.315	ppb	31.697	2320	40	0.8	80	120	>+/-20%
Mo	95	2	115	38.244	38.244	ppb	0.958	34841	40	95.6	80	120	
Pd	105	2	115	-0.011	-0.011	ppb	-37.106	17	40	0.0	80	120	>+/-20%
Ag	107	2	115	42.389	42.389	ppb	1.916	125800	40	106.0	80	120	
Cd	111	2	115	40.205	40.205	ppb	5.414	15446	40	100.5	80	120	
Sn	120	2	115	40.969	40.969	ppb	1.937	44104	40	102.4	80	120	
Sb	121	2	115	39.668	39.668	ppb	2.587	39079	40	99.2	80	120	
Ba	137	2	115	40.491	40.491	ppb	2.075	13751	40	101.2	80	120	
W	182	2	165	12.822	12.822	ppb	1.356	56259	40	32.1	80	120	>+/-20%
Pt	195	2	165	-0.008	-0.008	ppb	-22.097	13	40	0.0	80	120	>+/-20%
Tl	205	2	165	41.086	41.086	ppb	1.564	326177	40	102.7	80	120	
Pb	208	2	165	41.327	41.327	ppb	1.359	438078	40	103.3	80	120	
Th	232	2	165	30.869	30.869	ppb	1.556	506943	40	77.2	80	120	>+/-20%
U	238	2	165	32.019	32.019	ppb	1.613	552976	40	80.0	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1593993	0.45	1639580	97.22	60	120	
Sc (IS)	45	1	HMI H2	31049445	0.89	31715490	97.90	60	120	
Sc (IS)	45	2	HMI He	896844	1.69	891522	100.60	60	120	
Sc (IS)	45	3	No Gas	52728891	0.50	54087154	97.49	60	120	
Ge Internal Standard	72	1	HMI H2	12793791	1.39	13102322	97.65	60	120	
Ge Internal Standard	72	2	HMI He	1021174	0.74	1026205	99.51	60	120	
In Internal Standard	115	2	HMI He	4092399	0.80	4195206	97.55	60	120	
Ho-165	165	2	HMI He	20065518	0.34	20206547	99.30	60	120	

Sample Report

Sample Table

Sample Name	280-115971-c-1-b
Data File Name	165SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:52:35-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	32.639	ppb	32.639	12.66	171590	500000	
Li	7	2	45	8.247	ppb	8.247	157.92	8783	500000	
Li	7	3	45	28.087	ppb	28.087	4.61	6101576	50000	
Be	9	1	6	0.536	ppb	0.536	33.09	217	2000	
B	11	1	6	38.779	ppb	38.779	1.82	17688	2000	
Na	23	1	45	66196.832	ppb	66196.832	0.73	239254063	2000	>LDR
Na	23	2	45	64823.515	ppb	64823.515	1.09	14965127	400000	
Mg	24	2	45	2644.215	ppb	2644.215	1.25	289092	400000	
Al	27	2	45	9574.104	ppb	9574.104	0.69	238968	400000	
K	39	1	45	1619.102	ppb	1619.102	2.00	17381506	400000	
K	39	2	45	3020.895	ppb	3020.895	0.51	171849	400000	
Ca	40	1	45	47932.500	ppb	47932.500	0.66	263680089	400000	
Ca	44	2	45	47301.076	ppb	47301.076	0.61	136114	400000	
Ti	47	2	45	143.719	ppb	143.719	5.95	3329	4000	
V	51	2	72	5.274	ppb	5.274	4.85	8343	2000	
Cr	52	2	72	9.273	ppb	9.273	3.28	12089	5000	
Mn	55	2	72	115.297	ppb	115.297	1.74	58334	10000	
Fe	57	2	72	3885.463	ppb	3885.463	1.99	92795	400000	
Co	59	2	72	1.933	ppb	1.933	0.84	4231	2000	
Ni	60	2	72	2.205	ppb	2.205	3.54	1523	5000	
Cu	63	2	72	5.732	ppb	5.732	3.26	10985	5000	
Zn	66	2	72	16.757	ppb	16.757	11.66	4089	5000	
As	75	2	72	0.493	ppb	0.493	23.93	116	2000	
Se	78	1	72	1.170	ppb	1.170	7.62	328	2000	
Sr	88	2	72	666.683	ppb	666.683	0.08	375076	4000	
Zr	90	2	72	575.884	ppb	575.884	8.33	4478	1000	
Nb	93	2	72	0.730	ppb	0.730	17.86	3674	200	
Mo	95	2	115	16.632	ppb	16.632	2.59	14905	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-213.42	27	100	
Ag	107	2	115	0.052	ppb	0.052	32.60	220	100	
Cd	111	2	115	0.079	ppb	0.079	87.87	30	2000	
Sn	120	2	115	0.314	ppb	0.314	3.25	490	2000	
Sb	121	2	115	0.485	ppb	0.485	16.46	523	1000	
Ba	137	2	115	142.168	ppb	142.168	1.27	47413	5000	
W	182	2	165	58.467	ppb	58.467	0.28	247688	100	
Pt	195	2	165	-0.008	ppb	-0.008	-22.18	13	100	
Tl	205	2	165	0.089	ppb	0.089	13.90	817	2000	
Pb	208	2	165	6.028	ppb	6.028	1.94	63797	5000	
Th	232	2	165	2.236	ppb	2.236	1.74	36519	2000	
U	238	2	165	30.184	ppb	30.184	0.66	514548	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1525260	1.03	1639580	93.03	60	120	
Sc (IS)	45	1	HMI H2	30387069	0.71	31715490	95.81	60	120	
Sc (IS)	45	2	HMI He	872182	0.68	891522	97.83	60	120	
Sc (IS)	45	3	No Gas	52282923	0.65	54087154	96.66	60	120	
Ge Internal Standard	72	1	HMI H2	12588295	0.44	13102322	96.08	60	120	
Ge Internal Standard	72	2	HMI He	996226	0.93	1026205	97.08	60	120	
In Internal Standard	115	2	HMI He	4019813	0.90	4195206	95.82	60	120	
Ho-165	165	2	HMI He	19805433	0.45	20206547	98.01	60	120	

Sample Report

Sample Table

Sample Name	280-115971-c-1-bSD@5
Data File Name	166SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:56:21-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	8.990	ppb	8.990	34.50	164333	500000	
Li	7	2	45	-6.663	ppb	-6.663	-317.89	8389	500000	
Li	7	3	45	7.432	ppb	7.432	45.61	5851287	50000	
Be	9	1	6	0.066	ppb	0.066	76.27	37	2000	
B	11	1	6	7.250	ppb	7.250	13.56	4601	2000	
Na	23	1	45	13436.579	ppb	13436.579	0.87	49869719	2000	>LDR
Na	23	2	45	13734.292	ppb	13734.292	0.83	3173635	400000	
Mg	24	2	45	589.594	ppb	589.594	1.16	64204	400000	
Al	27	2	45	2354.703	ppb	2354.703	3.48	58287	400000	
K	39	1	45	308.446	ppb	308.446	7.42	12725317	400000	
K	39	2	45	688.419	ppb	688.419	2.52	53140	400000	
Ca	40	1	45	9693.124	ppb	9693.124	1.51	54271023	400000	
Ca	44	2	45	9828.933	ppb	9828.933	1.30	28078	400000	
Ti	47	2	45	50.805	ppb	50.805	14.22	1167	4000	
V	51	2	72	1.329	ppb	1.329	28.60	4454	2000	
Cr	52	2	72	1.952	ppb	1.952	8.58	2790	5000	
Mn	55	2	72	24.106	ppb	24.106	4.61	12289	10000	
Fe	57	2	72	835.592	ppb	835.592	0.72	20166	400000	
Co	59	2	72	0.410	ppb	0.410	14.05	907	2000	
Ni	60	2	72	0.522	ppb	0.522	29.10	483	5000	
Cu	63	2	72	1.268	ppb	1.268	15.15	3421	5000	
Zn	66	2	72	3.795	ppb	3.795	19.43	1147	5000	
As	75	2	72	0.049	ppb	0.049	79.60	42	2000	
Se	78	1	72	0.316	ppb	0.316	36.55	100	2000	
Sr	88	2	72	134.834	ppb	134.834	0.92	76239	4000	
Zr	90	2	72	103.990	ppb	103.990	31.89	877	1000	
Nb	93	2	72	0.295	ppb	0.295	57.22	2202	200	
Mo	95	2	115	3.507	ppb	3.507	11.69	3181	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-288.57	27	100	
Ag	107	2	115	0.003	ppb	0.003	490.21	77	100	
Cd	111	2	115	0.053	ppb	0.053	50.63	20	2000	
Sn	120	2	115	0.136	ppb	0.136	35.65	303	2000	
Sb	121	2	115	0.168	ppb	0.168	27.56	217	1000	
Ba	137	2	115	30.097	ppb	30.097	7.25	10054	5000	
W	182	2	165	12.151	ppb	12.151	0.84	52705	100	
Pt	195	2	165	-0.003	ppb	-0.003	-217.04	30	100	
Tl	205	2	165	0.028	ppb	0.028	36.81	340	2000	
Pb	208	2	165	1.304	ppb	1.304	5.23	14464	5000	
Th	232	2	165	0.446	ppb	0.446	6.36	7523	2000	
U	238	2	165	6.151	ppb	6.151	0.89	104960	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1602745	0.88	1639580	97.75	60	120	
Sc (IS)	45	1	HMI H2	30903874	0.39	31715490	97.44	60	120	
Sc (IS)	45	2	HMI He	864611	0.54	891522	96.98	60	120	
Sc (IS)	45	3	No Gas	52870749	0.66	54087154	97.75	60	120	
Ge Internal Standard	72	1	HMI H2	12741411	0.18	13102322	97.25	60	120	
Ge Internal Standard	72	2	HMI He	1000702	0.88	1026205	97.51	60	120	
In Internal Standard	115	2	HMI He	4023842	0.85	4195206	95.92	60	120	
Ho-165	165	2	HMI He	19805340	0.60	20206547	98.01	60	120	

Sample Report

Sample Table

Sample Name	280-115971-c-1-c ms
Data File Name	167SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:00:08-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	106.283	ppb	106.283	4.35	201699	500000	
Li	7	2	45	117.662	ppb	117.662	22.61	10981	500000	
Li	7	3	45	105.949	ppb	105.949	6.72	7222971	50000	
Be	9	1	6	41.680	ppb	41.680	2.80	16106	2000	
B	11	1	6	64.550	ppb	64.550	3.43	28448	2000	
Na	23	1	45	65048.266	ppb	65048.266	0.61	233884970	2000	>LDR
Na	23	2	45	63901.004	ppb	63901.004	0.58	14548888	400000	
Mg	24	2	45	2673.650	ppb	2673.650	0.47	288268	400000	
Al	27	2	45	10403.409	ppb	10403.409	0.63	256077	400000	
K	39	1	45	1528.726	ppb	1528.726	1.40	16956813	400000	
K	39	2	45	2978.274	ppb	2978.274	0.70	167327	400000	
Ca	40	1	45	46737.561	ppb	46737.561	0.99	255758123	400000	
Ca	44	2	45	46594.832	ppb	46594.832	1.40	132212	400000	
Ti	47	2	45	140.871	ppb	140.871	9.18	3217	4000	
V	51	2	72	45.139	ppb	45.139	1.57	47465	2000	
Cr	52	2	72	48.848	ppb	48.848	1.26	61949	5000	
Mn	55	2	72	158.398	ppb	158.398	0.57	79501	10000	
Fe	57	2	72	4175.746	ppb	4175.746	0.60	98953	400000	
Co	59	2	72	42.007	ppb	42.007	0.83	91075	2000	
Ni	60	2	72	41.475	ppb	41.475	1.48	25637	5000	
Cu	63	2	72	44.616	ppb	44.616	1.36	76382	5000	
Zn	66	2	72	56.777	ppb	56.777	3.37	13097	5000	
As	75	2	72	38.832	ppb	38.832	1.31	6447	2000	
Se	78	1	72	39.563	ppb	39.563	1.18	10489	2000	
Sr	88	2	72	693.765	ppb	693.765	0.29	387293	4000	
Zr	90	2	72	7073.854	ppb	7073.854	1.09	53729	1000	>LDR
Nb	93	2	72	0.501	ppb	0.501	13.42	2870	200	
Mo	95	2	115	53.393	ppb	53.393	0.95	47293	2000	
Pd	105	2	115	0.011	ppb	0.011	141.04	47	100	
Ag	107	2	115	40.793	ppb	40.793	2.21	117746	100	
Cd	111	2	115	40.892	ppb	40.892	2.31	15282	2000	
Sn	120	2	115	17.567	ppb	17.567	5.23	18480	2000	
Sb	121	2	115	27.719	ppb	27.719	2.96	26573	1000	
Ba	137	2	115	183.693	ppb	183.693	2.00	60662	5000	
W	182	2	165	69.162	ppb	69.162	1.71	293210	100	
Pt	195	2	165	0.005	ppb	0.005	230.86	57	100	
Tl	205	2	165	39.638	ppb	39.638	0.60	311188	2000	
Pb	208	2	165	44.931	ppb	44.931	1.02	470922	5000	
Th	232	2	165	33.086	ppb	33.086	0.36	537291	2000	
U	238	2	165	61.345	ppb	61.345	0.65	1047511	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1518757	0.27	1639580	92.63	60	120	
Sc (IS)	45	1	HMI H2	30227952	0.54	31715490	95.31	60	120	
Sc (IS)	45	2	HMI He	860096	1.05	891522	96.48	60	120	
Sc (IS)	45	3	No Gas	51814364	1.51	54087154	95.80	60	120	
Ge Internal Standard	72	1	HMI H2	12424272	0.49	13102322	94.82	60	120	
Ge Internal Standard	72	2	HMI He	988508	0.90	1026205	96.33	60	120	
In Internal Standard	115	2	HMI He	3979993	1.01	4195206	94.87	60	120	
Ho-165	165	2	HMI He	19842140	1.31	20206547	98.20	60	120	

Sample Report

Sample Table

Sample Name	280-115971-c-1-d msd
Data File Name	168SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:03:56-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	103.267	ppb	103.267	2.64	199863	500000	
Li	7	2	45	106.296	ppb	106.296	20.50	10728	500000	
Li	7	3	45	107.113	ppb	107.113	5.97	7202169	50000	
Be	9	1	6	40.995	ppb	40.995	1.09	15849	2000	
B	11	1	6	65.539	ppb	65.539	2.34	28876	2000	
Na	23	1	45	64844.925	ppb	64844.925	1.16	232483730	2000	>LDR
Na	23	2	45	64462.104	ppb	64462.104	0.46	14660803	400000	
Mg	24	2	45	2527.352	ppb	2527.352	0.98	272216	400000	
Al	27	2	45	9135.992	ppb	9135.992	2.11	224633	400000	
K	39	1	45	1463.033	ppb	1463.033	1.35	16666515	400000	
K	39	2	45	2850.045	ppb	2850.045	0.42	160753	400000	
Ca	40	1	45	46756.814	ppb	46756.814	1.13	255124876	400000	
Ca	44	2	45	48016.376	ppb	48016.376	1.06	136109	400000	
Ti	47	2	45	153.370	ppb	153.370	8.18	3501	4000	
V	51	2	72	45.223	ppb	45.223	1.75	47351	2000	
Cr	52	2	72	48.696	ppb	48.696	0.22	61504	5000	
Mn	55	2	72	151.724	ppb	151.724	0.63	75835	10000	
Fe	57	2	72	3981.538	ppb	3981.538	1.41	93956	400000	
Co	59	2	72	41.339	ppb	41.339	0.36	89258	2000	
Ni	60	2	72	39.954	ppb	39.954	3.64	24602	5000	
Cu	63	2	72	44.783	ppb	44.783	1.48	76342	5000	
Zn	66	2	72	50.948	ppb	50.948	2.80	11732	5000	
As	75	2	72	37.981	ppb	37.981	1.55	6281	2000	
Se	78	1	72	38.480	ppb	38.480	0.46	10228	2000	
Sr	88	2	72	694.382	ppb	694.382	0.45	386011	4000	
Zr	90	2	72	7359.793	ppb	7359.793	1.41	55663	1000	>LDR
Nb	93	2	72	0.497	ppb	0.497	5.92	2847	200	
Mo	95	2	115	53.608	ppb	53.608	1.17	47384	2000	
Pd	105	2	115	0.001	ppb	0.001	654.44	33	100	
Ag	107	2	115	39.029	ppb	39.029	1.11	112436	100	
Cd	111	2	115	39.478	ppb	39.478	2.37	14728	2000	
Sn	120	2	115	15.858	ppb	15.858	0.78	16667	2000	
Sb	121	2	115	28.368	ppb	28.368	0.66	27141	1000	
Ba	137	2	115	180.039	ppb	180.039	1.42	59332	5000	
W	182	2	165	69.454	ppb	69.454	1.17	293074	100	
Pt	195	2	165	-0.009	ppb	-0.009	-34.20	10	100	
Tl	205	2	165	38.770	ppb	38.770	1.46	302921	2000	
Pb	208	2	165	44.098	ppb	44.098	0.98	459982	5000	
Th	232	2	165	32.764	ppb	32.764	0.99	529514	2000	
U	238	2	165	61.249	ppb	61.249	1.05	1040887	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1519718	1.87	1639580	92.69	60	120	
Sc (IS)	45	1	HMI H2	30141463	0.45	31715490	95.04	60	120	
Sc (IS)	45	2	HMI He	859215	1.37	891522	96.38	60	120	
Sc (IS)	45	3	No Gas	51536558	1.01	54087154	95.28	60	120	
Ge Internal Standard	72	1	HMI H2	12455361	0.35	13102322	95.06	60	120	
Ge Internal Standard	72	2	HMI He	984364	0.75	1026205	95.92	60	120	
In Internal Standard	115	2	HMI He	3972422	1.78	4195206	94.69	60	120	
Ho-165	165	2	HMI He	19746838	0.54	20206547	97.72	60	120	

Sample Report

Sample Table

Sample Name	280-115971-c-1-b PDS
Data File Name	169SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:07:44-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	25.462	ppb	25.462	22.70	167681	500000	
Li	7	2	45	16.182	ppb	16.182	81.96	8793	500000	
Li	7	3	45	23.770	ppb	23.770	10.43	5910084	50000	
Be	9	1	6	205.824	ppb	205.824	0.45	79002	2000	
B	11	1	6	37.372	ppb	37.372	5.46	16914	2000	
Na	23	1	45	64486.428	ppb	64486.428	2.20	231863830	2000	>LDR
Na	23	2	45	63342.692	ppb	63342.692	0.27	14363842	400000	
Mg	24	2	45	2668.743	ppb	2668.743	1.62	286571	400000	
Al	27	2	45	12030.323	ppb	12030.323	0.62	294931	400000	
K	39	1	45	1597.457	ppb	1597.457	2.87	17211186	400000	
K	39	2	45	3038.007	ppb	3038.007	0.45	169637	400000	
Ca	40	1	45	46233.980	ppb	46233.980	1.22	253005816	400000	
Ca	44	2	45	47135.908	ppb	47135.908	1.30	133231	400000	
Ti	47	2	45	181.451	ppb	181.451	6.81	4129	4000	
V	51	2	72	211.749	ppb	211.749	1.16	210610	2000	
Cr	52	2	72	214.492	ppb	214.492	0.38	270234	5000	
Mn	55	2	72	318.622	ppb	318.622	1.20	159374	10000	
Fe	57	2	72	5792.463	ppb	5792.463	1.29	136788	400000	
Co	59	2	72	208.000	ppb	208.000	0.78	449587	2000	
Ni	60	2	72	202.597	ppb	202.597	0.89	124235	5000	
Cu	63	2	72	211.157	ppb	211.157	0.86	355788	5000	
Zn	66	2	72	227.709	ppb	227.709	0.57	51536	5000	
As	75	2	72	194.830	ppb	194.830	0.81	32121	2000	
Se	78	1	72	199.167	ppb	199.167	1.73	52948	2000	
Sr	88	2	72	653.162	ppb	653.162	1.11	363501	4000	
Zr	90	2	72	42527.244	ppb	42527.244	0.33	321638	1000	>LDR
Nb	93	2	72	4.296	ppb	4.296	4.66	15623	200	
Mo	95	2	115	223.466	ppb	223.466	0.66	196876	2000	
Pd	105	2	115	0.036	ppb	0.036	95.98	80	100	
Ag	107	2	115	45.916	ppb	45.916	1.54	131901	100	
Cd	111	2	115	208.368	ppb	208.368	1.96	77522	2000	
Sn	120	2	115	212.276	ppb	212.276	0.76	220543	2000	
Sb	121	2	115	203.410	ppb	203.410	0.92	193751	1000	
Ba	137	2	115	346.889	ppb	346.889	2.00	113992	5000	
W	182	2	165	288.256	ppb	288.256	11.45	1204566	100	
Pt	195	2	165	0.061	ppb	0.061	20.90	243	100	
Tl	205	2	165	262.435	ppb	262.435	2.02	2036942	2000	
Pb	208	2	165	241.208	ppb	241.208	1.18	2496648	5000	
Th	232	2	165	15.347	ppb	15.347	0.20	246670	2000	
U	238	2	165	242.778	ppb	242.778	1.06	4100077	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1509344	0.66	1639580	92.06	60	120	
Sc (IS)	45	1	HMI H2	30229911	0.90	31715490	95.32	60	120	
Sc (IS)	45	2	HMI He	856629	1.00	891522	96.09	60	120	
Sc (IS)	45	3	No Gas	51195569	0.58	54087154	94.65	60	120	
Ge Internal Standard	72	1	HMI H2	12472654	0.90	13102322	95.19	60	120	
Ge Internal Standard	72	2	HMI He	985557	1.31	1026205	96.04	60	120	
In Internal Standard	115	2	HMI He	3961789	1.89	4195206	94.44	60	120	
Ho-165	165	2	HMI He	19626118	1.27	20206547	97.13	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	170_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:11:31-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	527.181	ppb	1.439	378926	500	105.4	90	110	
Li	7	2	45	554.063	ppb	0.925	20104	500	110.8	90	110	>+\-10%
Li	7	3	45	519.071	ppb	1.544	13301419	500	103.8	90	110	
Be	9	1	6	49.531	ppb	3.527	19907	50	99.1	90	110	
B	11	1	6	45.383	ppb	2.512	21212	50	90.8	90	110	
Na	23	1	45	5239.870	ppb	0.879	19380080	5000	104.8	90	110	
Na	23	2	45	5364.513	ppb	1.885	1247564	5000	107.3	90	110	
Mg	24	2	45	4550.764	ppb	0.776	486962	5000	91.0	90	110	
Al	27	2	45	5137.955	ppb	1.435	125598	5000	102.8	90	110	
K	39	1	45	5145.162	ppb	0.579	30323434	5000	102.9	90	110	
K	39	2	45	5120.498	ppb	1.524	272493	5000	102.4	90	110	
Ca	40	1	45	5223.636	ppb	0.736	28631735	5000	104.5	90	110	
Ca	44	2	45	4988.774	ppb	3.232	14107	5000	99.8	90	110	
Ti	47	2	45	58.885	ppb	14.912	1337	50	117.8	90	110	>+\-10%
V	51	2	72	50.274	ppb	0.822	52536	50	100.5	90	110	
Cr	52	2	72	50.375	ppb	2.116	63898	50	100.8	90	110	
Mn	55	2	72	48.671	ppb	4.164	24472	50	97.3	90	110	
Fe	57	2	72	5123.047	ppb	0.911	121418	5000	102.5	90	110	
Co	59	2	72	51.062	ppb	1.301	110740	50	102.1	90	110	
Ni	60	2	72	49.418	ppb	2.433	30523	50	98.8	90	110	
Cu	63	2	72	50.803	ppb	1.314	86827	50	101.6	90	110	
Zn	66	2	72	49.435	ppb	2.976	11442	50	98.9	90	110	
As	75	2	72	48.944	ppb	0.863	8121	50	97.9	90	110	
Se	78	1	72	51.016	ppb	1.107	13689	50	102.0	90	110	
Sr	88	2	72	51.204	ppb	1.744	28633	50	102.4	90	110	
Zr	90	2	72	109.088	ppb	25.966	903	50	218.2	90	110	>+\-10%
Nb	93	2	72	87.229	ppb	0.562	295359	100	87.2	90	110	>+\-10%
Mo	95	2	115	49.755	ppb	2.380	43872	50	99.5	90	110	
Pd	105	2	115	52.274	ppb	0.269	70169	50	104.5	90	110	
Ag	107	2	115	50.686	ppb	0.832	145610	50	101.4	90	110	
Cd	111	2	115	50.033	ppb	1.472	18610	50	100.1	90	110	
Sn	120	2	115	50.488	ppb	2.433	52560	50	101.0	90	110	
Sb	121	2	115	51.624	ppb	3.522	49198	50	103.2	90	110	
Ba	137	2	115	50.985	ppb	3.674	16757	50	102.0	90	110	
W	182	2	165	50.579	ppb	1.013	212543	50	101.2	90	110	
Pt	195	2	165	50.259	ppb	0.545	168677	50	100.5	90	110	
Tl	205	2	165	50.942	ppb	0.634	395535	50	101.9	90	110	
Pb	208	2	165	51.072	ppb	1.054	529357	50	102.1	90	110	
Th	232	2	165	38.701	ppb	0.547	621578	50	77.4	90	110	>+\-10%
U	238	2	165	40.106	ppb	0.539	677463	50	80.2	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1580166	1.23	1639580	96.38	60	120	
Sc (IS)	45	1	HMI H2	30228188	0.34	31715490	95.31	60	120	
Sc (IS)	45	2	HMI He	854136	1.20	891522	95.81	60	120	
Sc (IS)	45	3	No Gas	51167994	0.55	54087154	94.60	60	120	
Ge Internal Standard	72	1	HMI H2	12578069	0.66	13102322	96.00	60	120	
Ge Internal Standard	72	2	HMI He	988852	1.15	1026205	96.36	60	120	
In Internal Standard	115	2	HMI He	3961527	1.49	4195206	94.43	60	120	
Ho-165	165	2	HMI He	19625813	0.63	20206547	97.13	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	171_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:15:18-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	7.592	ppb	91.3	5739234	10	
Be	9	1	6	0.017	ppb	221.7	17	0.5	
B	11	1	6	-0.197	ppb	-47.1	1300	0.5	
Na	23	1	45	-36.205	ppb	-6.4	460552	25	
Na	23	2	45	-31.179	ppb	-4.9	31084	25	
Mg	24	2	45	-0.324	ppb	-129.9	350	25	
Al	27	2	45	1.424	ppb	82.2	73	15	
K	39	1	45	-3.904	ppb	-450.4	11376261	50	
K	39	2	45	-4.834	ppb	-367.6	18145	50	
Ca	40	1	45	1.728	ppb	13.7	62661	50	
Ca	44	2	45	-5.143	ppb	-105.9	37	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	0.975	ppb	33.7	4044	1	
Cr	52	2	72	0.012	ppb	488.1	307	1	
Mn	55	2	72	0.058	ppb	194.7	80	0.5	
Fe	57	2	72	0.819	ppb	160.4	167	25	
Co	59	2	72	0.009	ppb	58.1	27	0.5	
Ni	60	2	72	-0.038	ppb	-110.0	133	1	
Cu	63	2	72	-0.006	ppb	-1632.0	1233	1	
Zn	66	2	72	-0.381	ppb	-71.8	190	5	
As	75	2	72	-0.031	ppb	-76.6	28	1	
Se	78	1	72	0.071	ppb	72.7	33	1	
Sr	88	2	72	0.021	ppb	45.9	57	0.5	
Zr	90	2	72	0.384	ppb	1214.7	80	1	
Nb	93	2	72	3.022	ppb	7.6	11348	2	>RL
Mo	95	2	115	0.025	ppb	172.6	63	0.5	
Pd	105	2	115	0.053	ppb	17.5	103	1	
Ag	107	2	115	-0.003	ppb	-213.6	57	1	
Cd	111	2	115	0.017	ppb	173.2	7	0.5	
Sn	120	2	115	0.238	ppb	14.4	410	1	
Sb	121	2	115	0.493	ppb	2.8	530	0.6	
Ba	137	2	115	-0.010	ppb	0.0	0	0.5	
W	182	2	165	0.085	ppb	41.0	1900	1	
Pt	195	2	165	0.010	ppb	87.7	73	1	
Tl	205	2	165	0.014	ppb	46.9	227	0.1	
Pb	208	2	165	0.003	ppb	541.2	873	0.5	
Th	232	2	165	0.024	ppb	16.3	680	1	
U	238	2	165	0.018	ppb	15.8	437	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1609566	1.58	1639580	98.17	60	120	
Sc (IS)	45	1	HMI H2	30451968	0.53	31715490	96.02	60	120	
Sc (IS)	45	2	HMI He	857217	0.37	891522	96.15	60	120	
Sc (IS)	45	3	No Gas	51842856	1.34	54087154	95.85	60	120	
Ge Internal Standard	72	1	HMI H2	12660500	0.55	13102322	96.63	60	120	
Ge Internal Standard	72	2	HMI He	986453	0.83	1026205	96.13	60	120	
In Internal Standard	115	2	HMI He	4013361	1.30	4195206	95.67	60	120	
Ho-165	165	2	HMI He	19694016	0.79	20206547	97.46	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-1-b
Data File Name	172SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:19:06-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	182.253	ppb	182.253	0.66	219692	500000	
Li	7	2	45	158.420	ppb	158.420	10.35	11355	500000	
Li	7	3	45	174.191	ppb	174.191	5.66	7903751	50000	
Be	9	1	6	0.014	ppb	0.014	316.01	13	2000	
B	11	1	6	1473.165	ppb	1473.165	0.58	571509	2000	
Na	23	1	45	205272.753	ppb	205272.753	0.88	692642336	2000	>LDR
Na	23	2	45	200257.145	ppb	200257.145	1.01	43611356	400000	
Mg	24	2	45	168938.965	ppb	168938.965	0.09	17432509	400000	
Al	27	2	45	9.029	ppb	9.029	25.71	250	400000	
K	39	1	45	11238.540	ppb	11238.540	0.64	49677543	400000	
K	39	2	45	12678.000	ppb	12678.000	1.98	624973	400000	
Ca	40	1	45	264939.941	ppb	264939.941	1.13	1362637633	400000	
Ca	44	2	45	262229.823	ppb	262229.823	0.76	712840	400000	
Ti	47	2	45	0.459	ppb	0.459	173.21	10	4000	
V	51	2	72	-1.346	ppb	-1.346	-18.78	1684	2000	
Cr	52	2	72	0.066	ppb	0.066	44.68	357	5000	
Mn	55	2	72	745.229	ppb	745.229	0.55	355850	10000	
Fe	57	2	72	1363.599	ppb	1363.599	1.65	30854	400000	
Co	59	2	72	5.169	ppb	5.169	1.43	10674	2000	
Ni	60	2	72	5.069	ppb	5.069	4.02	3114	5000	
Cu	63	2	72	0.194	ppb	0.194	49.75	1497	5000	
Zn	66	2	72	5.515	ppb	5.515	19.71	1447	5000	
As	75	2	72	3.958	ppb	3.958	5.28	654	2000	
Se	78	1	72	0.151	ppb	0.151	53.33	51	2000	
Sr	88	2	72	3302.066	ppb	3302.066	0.38	1754411	4000	
Zr	90	2	72	94.736	ppb	94.736	14.98	757	1000	
Nb	93	2	72	2.310	ppb	2.310	6.14	8540	200	
Mo	95	2	115	9.406	ppb	9.406	1.73	7976	2000	
Pd	105	2	115	0.059	ppb	0.059	32.01	107	100	
Ag	107	2	115	0.000	ppb	0.000	17001.09	63	100	
Cd	111	2	115	0.028	ppb	0.028	99.74	10	2000	
Sn	120	2	115	0.113	ppb	0.113	10.19	263	2000	
Sb	121	2	115	0.200	ppb	0.200	10.71	233	1000	
Ba	137	2	115	13.297	ppb	13.297	7.85	4188	5000	
W	182	2	165	0.050	ppb	0.050	65.37	1680	100	
Pt	195	2	165	-0.002	ppb	-0.002	-408.58	30	100	
Tl	205	2	165	0.011	ppb	0.011	57.99	193	2000	
Pb	208	2	165	0.081	ppb	0.081	6.78	1617	5000	
Th	232	2	165	0.044	ppb	0.044	9.31	967	2000	
U	238	2	165	0.428	ppb	0.428	3.39	7092	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1398473	1.11	1639580	85.29	60	120	
Sc (IS)	45	1	HMI H2	28417161	0.99	31715490	89.60	60	120	
Sc (IS)	45	2	HMI He	824242	1.52	891522	92.45	60	120	
Sc (IS)	45	3	No Gas	49610551	0.86	54087154	91.72	60	120	
Ge Internal Standard	72	1	HMI H2	11648575	0.38	13102322	88.90	60	120	
Ge Internal Standard	72	2	HMI He	940925	1.04	1026205	91.69	60	120	
In Internal Standard	115	2	HMI He	3795042	1.13	4195206	90.46	60	120	
Ho-165	165	2	HMI He	18906193	1.00	20206547	93.56	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-2-b
Data File Name	173SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:22:59-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	49.617	ppb	49.617	13.62	173781	500000	
Li	7	2	45	30.803	ppb	30.803	107.66	8913	500000	
Li	7	3	45	46.748	ppb	46.748	12.14	6225082	50000	
Be	9	1	6	0.012	ppb	0.012	339.77	13	2000	
B	11	1	6	486.850	ppb	486.850	3.45	196268	2000	
Na	23	1	45	46993.750	ppb	46993.750	1.05	165269944	2000	>LDR
Na	23	2	45	46424.514	ppb	46424.514	0.34	10320648	400000	
Mg	24	2	45	214098.175	ppb	214098.175	0.43	22486766	400000	
Al	27	2	45	12.193	ppb	12.193	15.65	330	400000	
K	39	1	45	4548.639	ppb	4548.639	1.38	27477029	400000	
K	39	2	45	6026.648	ppb	6026.648	1.63	311893	400000	
Ca	40	1	45	321854.528	ppb	321854.528	0.34	1720787974	400000	
Ca	44	2	45	311495.174	ppb	311495.174	0.35	861957	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.868	ppb	-1.868	-15.28	1227	2000	
Cr	52	2	72	0.083	ppb	0.083	116.68	387	5000	
Mn	55	2	72	2787.114	ppb	2787.114	1.34	1363023	10000	
Fe	57	2	72	395.866	ppb	395.866	5.81	9277	400000	
Co	59	2	72	3.864	ppb	3.864	6.37	8173	2000	
Ni	60	2	72	5.512	ppb	5.512	8.26	3457	5000	
Cu	63	2	72	0.071	ppb	0.071	184.12	1330	5000	
Zn	66	2	72	3.769	ppb	3.769	13.22	1100	5000	
As	75	2	72	0.257	ppb	0.257	11.99	74	2000	
Se	78	1	72	0.143	ppb	0.143	60.99	51	2000	
Sr	88	2	72	1478.199	ppb	1478.199	0.49	804585	4000	
Zr	90	2	72	89.459	ppb	89.459	3.33	737	1000	
Nb	93	2	72	0.950	ppb	0.950	22.72	4283	200	
Mo	95	2	115	2.052	ppb	2.052	2.41	1790	2000	
Pd	105	2	115	0.043	ppb	0.043	26.72	87	100	
Ag	107	2	115	0.009	ppb	0.009	156.04	90	100	
Cd	111	2	115	0.037	ppb	0.037	114.76	13	2000	
Sn	120	2	115	0.184	ppb	0.184	33.39	337	2000	
Sb	121	2	115	0.164	ppb	0.164	38.76	203	1000	
Ba	137	2	115	12.729	ppb	12.729	5.49	4054	5000	
W	182	2	165	0.069	ppb	0.069	25.36	1780	100	
Pt	195	2	165	-0.005	ppb	-0.005	-112.46	20	100	
Tl	205	2	165	0.018	ppb	0.018	61.09	247	2000	
Pb	208	2	165	0.017	ppb	0.017	42.77	993	5000	
Th	232	2	165	0.015	ppb	0.015	20.34	530	2000	
U	238	2	165	0.216	ppb	0.216	6.19	3677	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1447666	2.07	1639580	88.29	60	120	
Sc (IS)	45	1	HMI H2	29538509	0.52	31715490	93.14	60	120	
Sc (IS)	45	2	HMI He	838966	0.73	891522	94.10	60	120	
Sc (IS)	45	3	No Gas	50965649	0.60	54087154	94.23	60	120	
Ge Internal Standard	72	1	HMI H2	12125767	0.48	13102322	92.55	60	120	
Ge Internal Standard	72	2	HMI He	963863	1.38	1026205	93.93	60	120	
In Internal Standard	115	2	HMI He	3836604	1.35	4195206	91.45	60	120	
Ho-165	165	2	HMI He	19142870	0.99	20206547	94.74	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-3-b
Data File Name	174SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:26:49-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	74.577	ppb	74.577	7.30	184303	500000	
Li	7	2	45	78.958	ppb	78.958	24.12	9844	500000	
Li	7	3	45	72.288	ppb	72.288	3.35	6575112	50000	
Be	9	1	6	0.041	ppb	0.041	103.35	23	2000	
B	11	1	6	759.763	ppb	759.763	1.22	299367	2000	
Na	23	1	45	58016.320	ppb	58016.320	0.17	204179464	2000	>LDR
Na	23	2	45	57645.638	ppb	57645.638	1.33	12718779	400000	
Mg	24	2	45	290240.836	ppb	290240.836	0.86	30278532	400000	
Al	27	2	45	7.089	ppb	7.089	57.37	207	400000	
K	39	1	45	10741.845	ppb	10741.845	0.89	49910736	400000	
K	39	2	45	12256.597	ppb	12256.597	1.09	611582	400000	
Ca	40	1	45	344570.950	ppb	344570.950	0.77	1844684559	400000	
Ca	44	2	45	337106.796	ppb	337106.796	0.32	926561	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.953	ppb	-1.953	-5.06	1133	2000	
Cr	52	2	72	3.538	ppb	3.538	4.21	4601	5000	
Mn	55	2	72	2938.520	ppb	2938.520	0.53	1425721	10000	
Fe	57	2	72	3320.963	ppb	3320.963	1.34	76146	400000	
Co	59	2	72	4.363	ppb	4.363	0.21	9157	2000	
Ni	60	2	72	6.384	ppb	6.384	5.64	3944	5000	
Cu	63	2	72	-0.114	ppb	-0.114	-31.05	1020	5000	
Zn	66	2	72	1.579	ppb	1.579	40.96	613	5000	
As	75	2	72	3.220	ppb	3.220	6.73	546	2000	
Se	78	1	72	0.091	ppb	0.091	53.20	37	2000	
Sr	88	2	72	3067.912	ppb	3067.912	0.60	1656335	4000	
Zr	90	2	72	119.080	ppb	119.080	25.64	950	1000	
Nb	93	2	72	0.525	ppb	0.525	22.14	2857	200	
Mo	95	2	115	2.048	ppb	2.048	6.10	1754	2000	
Pd	105	2	115	0.055	ppb	0.055	84.91	100	100	
Ag	107	2	115	-0.006	ppb	-0.006	-98.31	47	100	
Cd	111	2	115	0.028	ppb	0.028	1.34	10	2000	
Sn	120	2	115	0.099	ppb	0.099	42.36	247	2000	
Sb	121	2	115	0.143	ppb	0.143	29.26	180	1000	
Ba	137	2	115	15.705	ppb	15.705	4.33	4908	5000	
W	182	2	165	0.001	ppb	0.001	4110.32	1497	100	
Pt	195	2	165	-0.004	ppb	-0.004	-104.40	23	100	
Tl	205	2	165	0.005	ppb	0.005	105.59	153	2000	
Pb	208	2	165	0.062	ppb	0.062	34.44	1437	5000	
Th	232	2	165	0.017	ppb	0.017	44.54	547	2000	
U	238	2	165	5.320	ppb	5.320	1.72	87291	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1417529	0.65	1639580	86.46	60	120	
Sc (IS)	45	1	HMI H2	29577981	0.67	31715490	93.26	60	120	
Sc (IS)	45	2	HMI He	833357	1.47	891522	93.48	60	120	
Sc (IS)	45	3	No Gas	50733841	0.31	54087154	93.80	60	120	
Ge Internal Standard	72	1	HMI H2	12166161	0.68	13102322	92.86	60	120	
Ge Internal Standard	72	2	HMI He	956150	1.36	1026205	93.17	60	120	
In Internal Standard	115	2	HMI He	3764149	1.35	4195206	89.73	60	120	
Ho-165	165	2	HMI He	19037007	0.87	20206547	94.21	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-4-b
Data File Name	175SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:30:38-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	57.578	ppb	57.578	5.09	176488	500000	
Li	7	2	45	35.743	ppb	35.743	27.22	9110	500000	
Li	7	3	45	55.469	ppb	55.469	8.45	6218398	50000	
Be	9	1	6	-0.005	ppb	-0.005	-307.97	7	2000	
B	11	1	6	641.885	ppb	641.885	1.35	253317	2000	
Na	23	1	45	56103.149	ppb	56103.149	0.26	196561184	2000	>LDR
Na	23	2	45	54665.641	ppb	54665.641	0.96	12264825	400000	
Mg	24	2	45	223760.260	ppb	223760.260	1.09	23731570	400000	
Al	27	2	45	14.968	ppb	14.968	14.84	400	400000	
K	39	1	45	6759.094	ppb	6759.094	0.62	35345719	400000	
K	39	2	45	8099.272	ppb	8099.272	0.53	417053	400000	
Ca	40	1	45	431169.901	ppb	431169.901	0.79	2297694686	400000	
Ca	44	2	45	472879.645	ppb	472879.645	0.92	1321590	400000	
Ti	47	2	45	0.599	ppb	0.599	86.61	13	4000	
V	51	2	72	-1.958	ppb	-1.958	-6.47	1150	2000	
Cr	52	2	72	0.341	ppb	0.341	18.18	710	5000	
Mn	55	2	72	3233.442	ppb	3233.442	1.28	1595058	10000	
Fe	57	2	72	2640.529	ppb	2640.529	1.93	61584	400000	
Co	59	2	72	5.197	ppb	5.197	0.89	11088	2000	
Ni	60	2	72	8.820	ppb	8.820	6.20	5481	5000	
Cu	63	2	72	-0.048	ppb	-0.048	-181.66	1147	5000	
Zn	66	2	72	4.764	ppb	4.764	3.97	1330	5000	
As	75	2	72	1.211	ppb	1.211	7.32	229	2000	
Se	78	1	72	0.040	ppb	0.040	39.31	24	2000	
Sr	88	2	72	2720.496	ppb	2720.496	0.78	1493517	4000	
Zr	90	2	72	140.862	ppb	140.862	9.94	1127	1000	
Nb	93	2	72	0.317	ppb	0.317	18.43	2217	200	
Mo	95	2	115	1.825	ppb	1.825	17.53	1610	2000	
Pd	105	2	115	0.061	ppb	0.061	33.16	110	100	
Ag	107	2	115	0.000	ppb	0.000	-982.19	63	100	
Cd	111	2	115	0.018	ppb	0.018	86.61	7	2000	
Sn	120	2	115	0.171	ppb	0.171	11.73	327	2000	
Sb	121	2	115	0.091	ppb	0.091	56.31	137	1000	
Ba	137	2	115	19.203	ppb	19.203	2.85	6162	5000	
W	182	2	165	0.046	ppb	0.046	34.46	1700	100	
Pt	195	2	165	0.000	ppb	0.000	-1295.99	37	100	
Tl	205	2	165	0.011	ppb	0.011	54.90	200	2000	
Pb	208	2	165	0.020	ppb	0.020	30.94	1037	5000	
Th	232	2	165	0.011	ppb	0.011	22.54	457	2000	
U	238	2	165	2.831	ppb	2.831	1.01	47127	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1418774	0.76	1639580	86.53	60	120	
Sc (IS)	45	1	HMI H2	29442860	0.72	31715490	92.83	60	120	
Sc (IS)	45	2	HMI He	847269	2.09	891522	95.04	60	120	
Sc (IS)	45	3	No Gas	49870066	0.12	54087154	92.20	60	120	
Ge Internal Standard	72	1	HMI H2	12210160	0.24	13102322	93.19	60	120	
Ge Internal Standard	72	2	HMI He	972309	2.21	1026205	94.75	60	120	
In Internal Standard	115	2	HMI He	3865339	1.71	4195206	92.14	60	120	
Ho-165	165	2	HMI He	19296505	1.69	20206547	95.50	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-5-b
Data File Name	176SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:34:27-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	157.113	ppb	157.113	1.64	219061	500000	
Li	7	2	45	139.427	ppb	139.427	14.87	11525	500000	
Li	7	3	45	163.007	ppb	163.007	1.20	7671297	50000	
Be	9	1	6	-0.005	ppb	-0.005	-739.62	7	2000	
B	11	1	6	3038.083	ppb	3038.083	0.68	1156260	2000	
Na	23	1	45	232733.808	ppb	232733.808	0.40	820144921	2000	>LDR
Na	23	2	45	224944.916	ppb	224944.916	0.98	51481173	400000	
Mg	24	2	45	185672.570	ppb	185672.570	0.91	20134298	400000	
Al	27	2	45	14.715	ppb	14.715	4.39	403	400000	
K	39	1	45	13754.674	ppb	13754.674	0.64	61017042	400000	
K	39	2	45	15101.998	ppb	15101.998	0.47	778967	400000	
Ca	40	1	45	288087.630	ppb	288087.630	0.51	1547636190	400000	
Ca	44	2	45	291567.687	ppb	291567.687	0.41	833023	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.926	ppb	-1.926	-17.18	1203	2000	
Cr	52	2	72	0.200	ppb	0.200	10.31	547	5000	
Mn	55	2	72	1740.609	ppb	1740.609	0.66	877636	10000	
Fe	57	2	72	1197.243	ppb	1197.243	1.37	28623	400000	
Co	59	2	72	2.111	ppb	2.111	4.54	4608	2000	
Ni	60	2	72	3.555	ppb	3.555	3.06	2354	5000	
Cu	63	2	72	0.115	ppb	0.115	86.73	1447	5000	
Zn	66	2	72	2.583	ppb	2.583	27.69	863	5000	
As	75	2	72	0.660	ppb	0.660	13.74	143	2000	
Se	78	1	72	0.096	ppb	0.096	55.58	39	2000	
Sr	88	2	72	5090.255	ppb	5090.255	0.52	2856009	4000	
Zr	90	2	72	42.724	ppb	42.724	17.25	403	1000	
Nb	93	2	72	0.165	ppb	0.165	35.28	1747	200	
Mo	95	2	115	0.468	ppb	0.468	25.58	457	2000	
Pd	105	2	115	0.087	ppb	0.087	23.09	150	100	
Ag	107	2	115	-0.006	ppb	-0.006	-61.78	50	100	
Cd	111	2	115	0.026	ppb	0.026	173.21	10	2000	
Sn	120	2	115	0.129	ppb	0.129	33.07	293	2000	
Sb	121	2	115	0.065	ppb	0.065	85.32	117	1000	
Ba	137	2	115	12.805	ppb	12.805	4.51	4254	5000	
W	182	2	165	0.010	ppb	0.010	432.75	1590	100	
Pt	195	2	165	-0.009	ppb	-0.009	-34.32	10	100	
Tl	205	2	165	0.004	ppb	0.004	108.37	147	2000	
Pb	208	2	165	0.021	ppb	0.021	36.34	1063	5000	
Th	232	2	165	0.010	ppb	0.010	55.34	453	2000	
U	238	2	165	0.416	ppb	0.416	3.44	7189	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1373340	1.32	1639580	83.76	60	120	
Sc (IS)	45	1	HMI H2	29679547	0.39	31715490	93.58	60	120	
Sc (IS)	45	2	HMI He	866241	1.29	891522	97.16	60	120	
Sc (IS)	45	3	No Gas	49153386	0.10	54087154	90.88	60	120	
Ge Internal Standard	72	1	HMI H2	12191189	0.86	13102322	93.05	60	120	
Ge Internal Standard	72	2	HMI He	993609	1.12	1026205	96.82	60	120	
In Internal Standard	115	2	HMI He	4001004	1.50	4195206	95.37	60	120	
Ho-165	165	2	HMI He	19736558	0.99	20206547	97.67	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-6-b
Data File Name	177SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:38:17-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	70.404	ppb	70.404	0.43	183491	500000	
Li	7	2	45	65.824	ppb	65.824	15.35	9954	500000	
Li	7	3	45	66.041	ppb	66.041	0.92	6287794	50000	
Be	9	1	6	-0.014	ppb	-0.014	-117.42	3	2000	
B	11	1	6	1213.663	ppb	1213.663	1.42	463126	2000	
Na	23	1	45	81034.412	ppb	81034.412	1.10	286361776	2000	>LDR
Na	23	2	45	78827.039	ppb	78827.039	0.15	18062516	400000	
Mg	24	2	45	185048.950	ppb	185048.950	0.22	20063595	400000	
Al	27	2	45	4.615	ppb	4.615	35.08	153	400000	
K	39	1	45	9575.387	ppb	9575.387	1.06	45918284	400000	
K	39	2	45	10983.893	ppb	10983.893	1.02	571463	400000	
Ca	40	1	45	425887.947	ppb	425887.947	0.85	2291266953	400000	
Ca	44	2	45	477147.985	ppb	477147.985	0.94	1362847	400000	
Ti	47	2	45	0.581	ppb	0.581	44.12	13	4000	
V	51	2	72	-1.987	ppb	-1.987	-8.70	1157	2000	
Cr	52	2	72	0.078	ppb	0.078	66.35	397	5000	
Mn	55	2	72	2338.289	ppb	2338.289	10.65	1191409	10000	
Fe	57	2	72	142.793	ppb	142.793	10.93	3584	400000	
Co	59	2	72	5.770	ppb	5.770	3.05	12710	2000	
Ni	60	2	72	11.983	ppb	11.983	7.66	7632	5000	
Cu	63	2	72	0.089	ppb	0.089	50.63	1417	5000	
Zn	66	2	72	2.163	ppb	2.163	10.80	777	5000	
As	75	2	72	0.188	ppb	0.188	22.93	65	2000	
Se	78	1	72	0.035	ppb	0.035	25.76	23	2000	
Sr	88	2	72	3796.474	ppb	3796.474	0.24	2151623	4000	
Zr	90	2	72	24.792	ppb	24.792	47.59	270	1000	
Nb	93	2	72	0.103	ppb	0.103	35.25	1553	200	
Mo	95	2	115	1.121	ppb	1.121	8.63	1043	2000	
Pd	105	2	115	0.116	ppb	0.116	26.60	190	100	
Ag	107	2	115	-0.012	ppb	-0.012	-18.12	33	100	
Cd	111	2	115	0.009	ppb	0.009	173.21	3	2000	
Sn	120	2	115	0.118	ppb	0.118	70.29	283	2000	
Sb	121	2	115	0.072	ppb	0.072	73.11	123	1000	
Ba	137	2	115	11.616	ppb	11.616	9.79	3871	5000	
W	182	2	165	0.043	ppb	0.043	84.31	1737	100	
Pt	195	2	165	-0.007	ppb	-0.007	-50.91	17	100	
Tl	205	2	165	0.010	ppb	0.010	52.50	200	2000	
Pb	208	2	165	0.007	ppb	0.007	192.65	920	5000	
Th	232	2	165	0.006	ppb	0.006	33.12	393	2000	
U	238	2	165	1.031	ppb	1.031	4.76	17733	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1375099	1.57	1639580	83.87	60	120	
Sc (IS)	45	1	HMI H2	29724550	0.58	31715490	93.72	60	120	
Sc (IS)	45	2	HMI He	866045	0.99	891522	97.14	60	120	
Sc (IS)	45	3	No Gas	49208971	0.62	54087154	90.98	60	120	
Ge Internal Standard	72	1	HMI H2	12171085	0.07	13102322	92.89	60	120	
Ge Internal Standard	72	2	HMI He	1003678	1.41	1026205	97.80	60	120	
In Internal Standard	115	2	HMI He	4017217	1.68	4195206	95.76	60	120	
Ho-165	165	2	HMI He	19840645	0.37	20206547	98.19	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-7-b
Data File Name	178SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:42:06-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	14.315	ppb	14.315	35.60	169616	500000	
Li	7	2	45	4.535	ppb	4.535	299.43	8910	500000	
Li	7	3	45	14.709	ppb	14.709	17.80	5541647	50000	
Be	9	1	6	0.003	ppb	0.003	814.13	10	2000	
B	11	1	6	1721.870	ppb	1721.870	7.20	697513	2000	
Na	23	1	45	160096.162	ppb	160096.162	5.87	597543284	2000	>LDR
Na	23	2	45	165158.543	ppb	165158.543	0.80	38977680	400000	
Mg	24	2	45	86039.182	ppb	86039.182	0.59	9618870	400000	
Al	27	2	45	7.414	ppb	7.414	46.31	230	400000	
K	39	1	45	3778.484	ppb	3778.484	7.75	26280702	400000	
K	39	2	45	5546.832	ppb	5546.832	2.04	307055	400000	
Ca	40	1	45	94817.609	ppb	94817.609	7.54	539105032	400000	
Ca	44	2	45	101602.728	ppb	101602.728	1.45	299300	400000	
Ti	47	2	45	0.285	ppb	0.285	173.21	7	4000	
V	51	2	72	-1.758	ppb	-1.758	-4.41	1440	2000	
Cr	52	2	72	0.947	ppb	0.947	5.38	1570	5000	
Mn	55	2	72	875.463	ppb	875.463	0.34	463605	10000	
Fe	57	2	72	295.734	ppb	295.734	2.70	7542	400000	
Co	59	2	72	1.193	ppb	1.193	8.28	2737	2000	
Ni	60	2	72	3.198	ppb	3.198	7.41	2240	5000	
Cu	63	2	72	0.161	ppb	0.161	72.19	1600	5000	
Zn	66	2	72	2.972	ppb	2.972	16.48	1000	5000	
As	75	2	72	1.035	ppb	1.035	10.32	216	2000	
Se	78	1	72	0.016	ppb	0.016	440.13	19	2000	
Sr	88	2	72	1103.123	ppb	1103.123	1.56	650089	4000	
Zr	90	2	72	41.876	ppb	41.876	6.91	417	1000	
Nb	93	2	72	-0.036	ppb	-0.036	-65.37	1120	200	
Mo	95	2	115	4.544	ppb	4.544	1.46	4271	2000	
Pd	105	2	115	0.028	ppb	0.028	105.89	73	100	
Ag	107	2	115	-0.015	ppb	-0.015	-49.69	23	100	
Cd	111	2	115	0.025	ppb	0.025	99.50	10	2000	
Sn	120	2	115	0.192	ppb	0.192	32.67	377	2000	
Sb	121	2	115	0.056	ppb	0.056	51.44	113	1000	
Ba	137	2	115	55.307	ppb	55.307	1.58	19201	5000	
W	182	2	165	0.097	ppb	0.097	32.55	1997	100	
Pt	195	2	165	-0.007	ppb	-0.007	-24.94	17	100	
Tl	205	2	165	-0.001	ppb	-0.001	-236.55	113	2000	
Pb	208	2	165	0.013	ppb	0.013	195.02	1003	5000	
Th	232	2	165	0.003	ppb	0.003	152.24	357	2000	
U	238	2	165	0.640	ppb	0.640	2.73	11239	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1463608	4.30	1639580	89.27	60	120	
Sc (IS)	45	1	HMI H2	31466993	3.64	31715490	99.22	60	120	
Sc (IS)	45	2	HMI He	893017	1.10	891522	100.17	60	120	
Sc (IS)	45	3	No Gas	49127994	0.47	54087154	90.83	60	120	
Ge Internal Standard	72	1	HMI H2	13082253	3.53	13102322	99.85	60	120	
Ge Internal Standard	72	2	HMI He	1043529	0.49	1026205	101.69	60	120	
In Internal Standard	115	2	HMI He	4184526	1.42	4195206	99.75	60	120	
Ho-165	165	2	HMI He	20163971	0.36	20206547	99.79	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-8-b
Data File Name	179SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:45:54-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	30.530	ppb	30.530	35.26	166461	500000	
Li	7	2	45	17.062	ppb	17.062	83.25	8986	500000	
Li	7	3	45	24.056	ppb	24.056	5.03	5513872	50000	
Be	9	1	6	-0.005	ppb	-0.005	-678.08	7	2000	
B	11	1	6	902.952	ppb	902.952	1.25	349360	2000	
Na	23	1	45	60824.155	ppb	60824.155	0.63	214429997	2000	>LDR
Na	23	2	45	58401.006	ppb	58401.006	0.07	13505605	400000	
Mg	24	2	45	133193.269	ppb	133193.269	0.05	14563680	400000	
Al	27	2	45	6.837	ppb	6.837	14.87	210	400000	
K	39	1	45	4508.691	ppb	4508.691	0.45	27420296	400000	
K	39	2	45	5845.612	ppb	5845.612	0.29	315475	400000	
Ca	40	1	45	193784.246	ppb	193784.246	0.86	1039407131	400000	
Ca	44	2	45	188637.497	ppb	188637.497	0.71	543430	400000	
Ti	47	2	45	0.433	ppb	0.433	100.48	10	4000	
V	51	2	72	-1.770	ppb	-1.770	-3.57	1397	2000	
Cr	52	2	72	0.145	ppb	0.145	38.14	490	5000	
Mn	55	2	72	1176.841	ppb	1176.841	0.63	609959	10000	
Fe	57	2	72	66.875	ppb	66.875	19.26	1790	400000	
Co	59	2	72	2.779	ppb	2.779	10.82	6228	2000	
Ni	60	2	72	4.683	ppb	4.683	4.24	3134	5000	
Cu	63	2	72	0.113	ppb	0.113	24.92	1483	5000	
Zn	66	2	72	2.539	ppb	2.539	24.25	877	5000	
As	75	2	72	0.526	ppb	0.526	18.20	124	2000	
Se	78	1	72	0.028	ppb	0.028	403.29	21	2000	
Sr	88	2	72	1339.516	ppb	1339.516	0.67	772560	4000	
Zr	90	2	72	40.037	ppb	40.037	14.98	393	1000	
Nb	93	2	72	-0.104	ppb	-0.104	-26.36	860	200	
Mo	95	2	115	7.217	ppb	7.217	1.04	6605	2000	
Pd	105	2	115	0.010	ppb	0.010	217.07	47	100	
Ag	107	2	115	-0.011	ppb	-0.011	-18.67	37	100	
Cd	111	2	115	0.009	ppb	0.009	173.21	3	2000	
Sn	120	2	115	0.190	ppb	0.190	43.61	367	2000	
Sb	121	2	115	0.052	ppb	0.052	124.15	107	1000	
Ba	137	2	115	19.362	ppb	19.362	7.40	6575	5000	
W	182	2	165	0.047	ppb	0.047	47.28	1787	100	
Pt	195	2	165	-0.009	ppb	-0.009	-33.20	10	100	
Tl	205	2	165	0.001	ppb	0.001	183.09	130	2000	
Pb	208	2	165	0.004	ppb	0.004	59.64	913	5000	
Th	232	2	165	0.000	ppb	0.000	361.43	307	2000	
U	238	2	165	0.667	ppb	0.667	1.93	11739	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1392783	0.43	1639580	84.95	60	120	
Sc (IS)	45	1	HMI H2	29633076	0.40	31715490	93.43	60	120	
Sc (IS)	45	2	HMI He	873390	0.80	891522	97.97	60	120	
Sc (IS)	45	3	No Gas	47727913	0.42	54087154	88.24	60	120	
Ge Internal Standard	72	1	HMI H2	12352813	0.40	13102322	94.28	60	120	
Ge Internal Standard	72	2	HMI He	1021385	1.22	1026205	99.53	60	120	
In Internal Standard	115	2	HMI He	4090096	0.86	4195206	97.49	60	120	
Ho-165	165	2	HMI He	20240930	0.45	20206547	100.17	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-9-b
Data File Name	180SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:49:44-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	56.876	ppb	56.876	12.06	177895	500000	
Li	7	2	45	42.986	ppb	42.986	39.83	9664	500000	
Li	7	3	45	62.433	ppb	62.433	10.53	6012887	50000	
Be	9	1	6	0.014	ppb	0.014	234.00	13	2000	
B	11	1	6	831.731	ppb	831.731	2.77	321734	2000	
Na	23	1	45	84786.984	ppb	84786.984	1.00	299617622	2000	>LDR
Na	23	2	45	80735.941	ppb	80735.941	2.79	18891498	400000	
Mg	24	2	45	46493.494	ppb	46493.494	2.89	5148273	400000	
Al	27	2	45	15.898	ppb	15.898	32.15	440	400000	
K	39	1	45	9875.451	ppb	9875.451	0.48	47012319	400000	
K	39	2	45	11167.315	ppb	11167.315	1.68	593126	400000	
Ca	40	1	45	114881.627	ppb	114881.627	1.00	618141711	400000	
Ca	44	2	45	114611.222	ppb	114611.222	2.39	334380	400000	
Ti	47	2	45	0.291	ppb	0.291	173.21	7	4000	
V	51	2	72	-1.993	ppb	-1.993	-11.53	1313	2000	
Cr	52	2	72	0.050	ppb	0.050	111.87	410	5000	
Mn	55	2	72	199.786	ppb	199.786	9.28	116404	10000	
Fe	57	2	72	298.696	ppb	298.696	5.25	8400	400000	
Co	59	2	72	0.238	ppb	0.238	18.72	603	2000	
Ni	60	2	72	0.451	ppb	0.451	25.75	503	5000	
Cu	63	2	72	-0.222	ppb	-0.222	-57.91	1010	5000	
Zn	66	2	72	1.067	ppb	1.067	26.26	600	5000	
As	75	2	72	0.988	ppb	0.988	17.17	227	2000	
Se	78	1	72	-0.012	ppb	-0.012	-196.28	11	2000	
Sr	88	2	72	1098.057	ppb	1098.057	8.21	712132	4000	
Zr	90	2	72	7.616	ppb	7.616	99.35	153	1000	
Nb	93	2	72	-0.131	ppb	-0.131	-25.08	857	200	
Mo	95	2	115	5.782	ppb	5.782	2.56	5331	2000	
Pd	105	2	115	0.034	ppb	0.034	43.92	80	100	
Ag	107	2	115	-0.015	ppb	-0.015	-12.64	23	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.019	ppb	0.019	150.36	183	2000	
Sb	121	2	115	0.001	ppb	0.001	2516.45	57	1000	
Ba	137	2	115	31.095	ppb	31.095	5.10	10615	5000	
W	182	2	165	0.029	ppb	0.029	68.37	1714	100	
Pt	195	2	165	-0.010	ppb	-0.010	-17.36	7	100	
Tl	205	2	165	0.002	ppb	0.002	363.71	133	2000	
Pb	208	2	165	0.013	ppb	0.013	101.36	1010	5000	
Th	232	2	165	0.001	ppb	0.001	420.72	313	2000	
U	238	2	165	0.503	ppb	0.503	3.97	8904	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1392450	1.39	1639580	84.93	60	120	
Sc (IS)	45	1	HMI H2	29726008	0.34	31715490	93.73	60	120	
Sc (IS)	45	2	HMI He	884806	2.39	891522	99.25	60	120	
Sc (IS)	45	3	No Gas	47455631	1.44	54087154	87.74	60	120	
Ge Internal Standard	72	1	HMI H2	12279957	0.22	13102322	93.72	60	120	
Ge Internal Standard	72	2	HMI He	1154235	9.17	1026205	112.48	60	120	
In Internal Standard	115	2	HMI He	4114150	1.35	4195206	98.07	60	120	
Ho-165	165	2	HMI He	20264778	1.24	20206547	100.29	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	181_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:53:30-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	466.944	ppb	2.327	353288	500	93.4	90	110	
Li	7	2	45	461.971	ppb	11.435	18859	500	92.4	90	110	
Li	7	3	45	475.070	ppb	0.974	11872029	500	95.0	90	110	
Be	9	1	6	51.056	ppb	2.785	18923	50	102.1	90	110	
B	11	1	6	68.788	ppb	2.610	28999	50	137.6	90	110	>+\-10%
Na	23	1	45	5125.986	ppb	1.006	18957242	5000	102.5	90	110	
Na	23	2	45	5189.046	ppb	1.772	1254660	5000	103.8	90	110	
Mg	24	2	45	4399.667	ppb	0.554	488981	5000	88.0	90	110	>+\-10%
Al	27	2	45	5176.105	ppb	0.611	131420	5000	103.5	90	110	
K	39	1	45	5188.134	ppb	1.340	30457962	5000	103.8	90	110	
K	39	2	45	5084.610	ppb	0.530	281176	5000	101.7	90	110	
Ca	40	1	45	5239.238	ppb	1.423	28693644	5000	104.8	90	110	
Ca	44	2	45	5199.202	ppb	2.584	15262	5000	104.0	90	110	
Ti	47	2	45	44.567	ppb	10.833	1050	50	89.1	90	110	>+\-10%
V	51	2	72	48.915	ppb	1.937	53536	50	97.8	90	110	
Cr	52	2	72	49.881	ppb	1.577	66168	50	99.8	90	110	
Mn	55	2	72	48.968	ppb	3.895	25747	50	97.9	90	110	
Fe	57	2	72	5022.965	ppb	1.166	124466	5000	100.5	90	110	
Co	59	2	72	49.734	ppb	1.380	112793	50	99.5	90	110	
Ni	60	2	72	49.372	ppb	5.954	31886	50	98.7	90	110	
Cu	63	2	72	49.419	ppb	1.145	88362	50	98.8	90	110	
Zn	66	2	72	49.354	ppb	6.661	11946	50	98.7	90	110	
As	75	2	72	48.189	ppb	3.310	8362	50	96.4	90	110	
Se	78	1	72	51.227	ppb	0.875	13665	50	102.5	90	110	
Sr	88	2	72	52.367	ppb	2.704	30624	50	104.7	90	110	
Zr	90	2	72	62.506	ppb	18.641	577	50	125.0	90	110	>+\-10%
Nb	93	2	72	88.054	ppb	0.697	311748	100	88.1	90	110	>+\-10%
Mo	95	2	115	48.920	ppb	2.165	45741	50	97.8	90	110	
Pd	105	2	115	51.208	ppb	1.149	72903	50	102.4	90	110	
Ag	107	2	115	49.921	ppb	0.956	152117	50	99.8	90	110	
Cd	111	2	115	50.907	ppb	1.417	20082	50	101.8	90	110	
Sn	120	2	115	51.297	ppb	2.963	56643	50	102.6	90	110	
Sb	121	2	115	50.847	ppb	1.707	51406	50	101.7	90	110	
Ba	137	2	115	48.593	ppb	3.873	16948	50	97.2	90	110	
W	182	2	165	49.365	ppb	1.304	215602	50	98.7	90	110	
Pt	195	2	165	49.720	ppb	1.228	173416	50	99.4	90	110	
Tl	205	2	165	50.549	ppb	0.732	407879	50	101.1	90	110	
Pb	208	2	165	50.654	ppb	0.770	545584	50	101.3	90	110	
Th	232	2	165	38.616	ppb	1.117	644541	50	77.2	90	110	>+\-10%
U	238	2	165	39.511	ppb	0.668	693572	50	79.0	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1457076	1.02	1639580	88.87	60	120	
Sc (IS)	45	1	HMI H2	30205379	0.85	31715490	95.24	60	120	
Sc (IS)	45	2	HMI He	887059	0.61	891522	99.50	60	120	
Sc (IS)	45	3	No Gas	48042154	0.53	54087154	88.82	60	120	
Ge Internal Standard	72	1	HMI H2	12504536	0.54	13102322	95.44	60	120	
Ge Internal Standard	72	2	HMI He	1033953	0.60	1026205	100.76	60	120	
In Internal Standard	115	2	HMI He	4201835	1.24	4195206	100.16	60	120	
Ho-165	165	2	HMI He	20395133	0.31	20206547	100.93	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	182_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:57:16-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-15.092	ppb	-32.8	5129176	10	
Be	9	1	6	-0.024	ppb	0.0	0	0.5	
B	11	1	6	14.013	ppb	4.4	7012	0.5	>RL
Na	23	1	45	-47.034	ppb	-3.0	421060	25	
Na	23	2	45	-53.081	ppb	-4.7	27453	25	
Mg	24	2	45	11.227	ppb	4.3	1670	25	
Al	27	2	45	0.630	ppb	90.2	57	15	
K	39	1	45	86.905	ppb	8.8	11703586	50	>RL
K	39	2	45	-16.490	ppb	-72.6	18452	50	
Ca	40	1	45	5.365	ppb	10.2	82622	50	
Ca	44	2	45	-13.677	ppb	-56.3	13	25	
Ti	47	2	45	0.415	ppb	99.9	10	0.5	
V	51	2	72	0.017	ppb	1910.4	3284	1	
Cr	52	2	72	-0.001	ppb	-5087.6	307	1	
Mn	55	2	72	0.048	ppb	76.5	80	0.5	
Fe	57	2	72	2.281	ppb	104.7	213	25	
Co	59	2	72	0.016	ppb	14.9	43	0.5	
Ni	60	2	72	-0.076	ppb	-114.3	117	1	
Cu	63	2	72	-0.110	ppb	-40.9	1120	1	
Zn	66	2	72	-0.065	ppb	-255.1	277	5	
As	75	2	72	-0.056	ppb	-41.2	25	1	
Se	78	1	72	0.002	ppb	2469.9	15	1	
Sr	88	2	72	0.016	ppb	331.8	57	0.5	
Zr	90	2	72	11.891	ppb	27.1	177	1	>RL
Nb	93	2	72	3.120	ppb	8.1	12373	2	>RL
Mo	95	2	115	0.016	ppb	290.6	60	0.5	
Pd	105	2	115	0.034	ppb	30.9	83	1	
Ag	107	2	115	-0.011	ppb	-32.0	37	1	
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5	
Sn	120	2	115	0.076	ppb	74.5	257	1	
Sb	121	2	115	0.331	ppb	19.8	400	0.6	
Ba	137	2	115	0.037	ppb	115.7	17	0.5	
W	182	2	165	0.049	ppb	91.9	1834	1	
Pt	195	2	165	-0.002	ppb	-211.6	33	1	
Tl	205	2	165	0.005	ppb	79.5	167	0.1	
Pb	208	2	165	-0.006	ppb	-123.0	820	0.5	
Th	232	2	165	0.029	ppb	39.8	800	1	
U	238	2	165	0.014	ppb	25.0	377	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1478665	3.13	1639580	90.19	60	120	
Sc (IS)	45	1	HMI H2	30424655	0.85	31715490	95.93	60	120	
Sc (IS)	45	2	HMI He	900850	1.29	891522	101.05	60	120	
Sc (IS)	45	3	No Gas	49270378	0.15	54087154	91.09	60	120	
Ge Internal Standard	72	1	HMI H2	12580917	0.53	13102322	96.02	60	120	
Ge Internal Standard	72	2	HMI He	1044757	0.91	1026205	101.81	60	120	
In Internal Standard	115	2	HMI He	4291858	1.24	4195206	102.30	60	120	
Ho-165	165	2	HMI He	20645131	0.99	20206547	102.17	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-10-b
Data File Name	183SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:01:02-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-0.645	ppb	-0.645	-1118.57	150667	500000	
Li	7	2	45	-33.105	ppb	-33.105	-86.30	7759	500000	
Li	7	3	45	-10.923	ppb	-10.923	-50.57	4991834	50000	
Be	9	1	6	0.005	ppb	0.005	1012.21	10	2000	
B	11	1	6	194.570	ppb	194.570	0.65	76609	2000	
Na	23	1	45	22814.204	ppb	22814.204	0.86	79253449	2000	>LDR
Na	23	2	45	22281.909	ppb	22281.909	0.28	5080950	400000	
Mg	24	2	45	69619.807	ppb	69619.807	0.85	7471494	400000	
Al	27	2	45	7.948	ppb	7.948	7.25	233	400000	
K	39	1	45	1839.415	ppb	1839.415	0.94	17412126	400000	
K	39	2	45	3162.567	ppb	3162.567	2.51	175942	400000	
Ca	40	1	45	157454.190	ppb	157454.190	0.83	828515294	400000	
Ca	44	2	45	151895.051	ppb	151895.051	0.83	429474	400000	
Ti	47	2	45	0.293	ppb	0.293	173.21	7	4000	
V	51	2	72	-1.636	ppb	-1.636	-6.29	1503	2000	
Cr	52	2	72	0.092	ppb	0.092	115.53	413	5000	
Mn	55	2	72	1197.230	ppb	1197.230	0.21	608217	10000	
Fe	57	2	72	102.272	ppb	102.272	7.03	2600	400000	
Co	59	2	72	1.672	ppb	1.672	7.29	3681	2000	
Ni	60	2	72	2.846	ppb	2.846	2.00	1930	5000	
Cu	63	2	72	0.386	ppb	0.386	4.78	1920	5000	
Zn	66	2	72	2.103	ppb	2.103	43.36	760	5000	
As	75	2	72	0.405	ppb	0.405	29.36	101	2000	
Se	78	1	72	0.030	ppb	0.030	164.92	21	2000	
Sr	88	2	72	450.633	ppb	450.633	0.30	254797	4000	
Zr	90	2	72	8.515	ppb	8.515	25.55	143	1000	
Nb	93	2	72	2.018	ppb	2.018	7.67	8089	200	
Mo	95	2	115	1.716	ppb	1.716	7.56	1587	2000	
Pd	105	2	115	-0.011	ppb	-0.011	-98.48	17	100	
Ag	107	2	115	-0.016	ppb	-0.016	-21.05	20	100	
Cd	111	2	115	0.009	ppb	0.009	173.21	3	2000	
Sn	120	2	115	0.071	ppb	0.071	124.80	237	2000	
Sb	121	2	115	0.064	ppb	0.064	37.23	117	1000	
Ba	137	2	115	20.717	ppb	20.717	11.10	6962	5000	
W	182	2	165	0.035	ppb	0.035	284.48	1700	100	
Pt	195	2	165	-0.002	ppb	-0.002	-542.22	33	100	
Tl	205	2	165	0.015	ppb	0.015	4.88	233	2000	
Pb	208	2	165	0.015	ppb	0.015	90.04	1003	5000	
Th	232	2	165	0.037	ppb	0.037	8.60	897	2000	
U	238	2	165	3.222	ppb	3.222	1.24	55088	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1399958	1.71	1639580	85.39	60	120	
Sc (IS)	45	1	HMI H2	29071264	1.09	31715490	91.66	60	120	
Sc (IS)	45	2	HMI He	857211	0.49	891522	96.15	60	120	
Sc (IS)	45	3	No Gas	47402031	1.12	54087154	87.64	60	120	
Ge Internal Standard	72	1	HMI H2	12085033	0.22	13102322	92.24	60	120	
Ge Internal Standard	72	2	HMI He	1001139	1.03	1026205	97.56	60	120	
In Internal Standard	115	2	HMI He	4049070	0.19	4195206	96.52	60	120	
Ho-165	165	2	HMI He	19820997	0.68	20206547	98.09	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-11-b
Data File Name	184SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:04:49-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	13.846	ppb	13.846	59.28	154272	500000	
Li	7	2	45	0.571	ppb	0.571	741.10	8353	500000	
Li	7	3	45	6.544	ppb	6.544	73.92	5201519	50000	
Be	9	1	6	-0.004	ppb	-0.004	-379.50	7	2000	
B	11	1	6	256.436	ppb	256.436	1.14	97311	2000	
Na	23	1	45	18080.282	ppb	18080.282	0.84	62013596	2000	>LDR
Na	23	2	45	17582.734	ppb	17582.734	0.20	3961036	400000	
Mg	24	2	45	103147.012	ppb	103147.012	1.01	10913097	400000	
Al	27	2	45	25.535	ppb	25.535	21.00	657	400000	
K	39	1	45	3976.404	ppb	3976.404	1.95	24644110	400000	
K	39	2	45	5380.529	ppb	5380.529	0.71	282463	400000	
Ca	40	1	45	339480.172	ppb	339480.172	0.68	1760321040	400000	
Ca	44	2	45	327177.088	ppb	327177.088	0.48	912041	400000	
Ti	47	2	45	0.438	ppb	0.438	173.21	10	4000	
V	51	2	72	-1.874	ppb	-1.874	-11.09	1240	2000	
Cr	52	2	72	0.205	ppb	0.205	43.24	547	5000	
Mn	55	2	72	2859.214	ppb	2859.214	0.98	1421592	10000	
Fe	57	2	72	990.687	ppb	990.687	2.01	23383	400000	
Co	59	2	72	7.431	ppb	7.431	0.32	15976	2000	
Ni	60	2	72	13.391	ppb	13.391	2.94	8309	5000	
Cu	63	2	72	0.115	ppb	0.115	31.46	1427	5000	
Zn	66	2	72	7.146	ppb	7.146	2.76	1874	5000	
As	75	2	72	2.170	ppb	2.170	5.70	388	2000	
Se	78	1	72	0.059	ppb	0.059	71.98	28	2000	
Sr	88	2	72	1241.647	ppb	1241.647	1.08	687059	4000	
Zr	90	2	72	23.512	ppb	23.512	22.45	253	1000	
Nb	93	2	72	1.112	ppb	1.112	17.02	4891	200	
Mo	95	2	115	2.565	ppb	2.565	5.01	2334	2000	
Pd	105	2	115	0.021	ppb	0.021	129.43	60	100	
Ag	107	2	115	-0.013	ppb	-0.013	-26.35	30	100	
Cd	111	2	115	0.018	ppb	0.018	173.21	7	2000	
Sn	120	2	115	0.208	ppb	0.208	97.12	380	2000	
Sb	121	2	115	0.034	ppb	0.034	100.37	87	1000	
Ba	137	2	115	17.175	ppb	17.175	7.57	5728	5000	
W	182	2	165	0.062	ppb	0.062	73.76	1800	100	
Pt	195	2	165	0.000	ppb	0.000	900.66	40	100	
Tl	205	2	165	0.025	ppb	0.025	12.68	310	2000	
Pb	208	2	165	0.073	ppb	0.073	14.18	1600	5000	
Th	232	2	165	0.025	ppb	0.025	22.31	693	2000	
U	238	2	165	7.010	ppb	7.010	2.10	118871	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1354404	0.86	1639580	82.61	60	120	
Sc (IS)	45	1	HMI H2	28648790	0.55	31715490	90.33	60	120	
Sc (IS)	45	2	HMI He	845189	1.57	891522	94.80	60	120	
Sc (IS)	45	3	No Gas	47109314	0.34	54087154	87.10	60	120	
Ge Internal Standard	72	1	HMI H2	11780113	0.54	13102322	89.91	60	120	
Ge Internal Standard	72	2	HMI He	979897	0.73	1026205	95.49	60	120	
In Internal Standard	115	2	HMI He	4018200	0.81	4195206	95.78	60	120	
Ho-165	165	2	HMI He	19681297	1.23	20206547	97.40	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-12-b
Data File Name	185SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:08:38-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	75.198	ppb	75.198	4.12	178285	500000	
Li	7	2	45	46.440	ppb	46.440	20.48	9447	500000	
Li	7	3	45	66.245	ppb	66.245	2.22	6009516	50000	
Be	9	1	6	0.046	ppb	0.046	74.73	23	2000	
B	11	1	6	1238.031	ppb	1238.031	0.38	449286	2000	
Na	23	1	45	154472.642	ppb	154472.642	0.81	524230779	2000	>LDR
Na	23	2	45	146694.007	ppb	146694.007	0.86	33255439	400000	
Mg	24	2	45	127942.893	ppb	127942.893	1.09	13737463	400000	
Al	27	2	45	8.892	ppb	8.892	26.61	257	400000	
K	39	1	45	7923.886	ppb	7923.886	1.43	38369245	400000	
K	39	2	45	9162.949	ppb	9162.949	1.05	475164	400000	
Ca	40	1	45	336448.621	ppb	336448.621	1.27	1739937627	400000	
Ca	44	2	45	324304.067	ppb	324304.067	0.69	917388	400000	
Ti	47	2	45	0.147	ppb	0.147	173.21	3	4000	
V	51	2	72	-2.013	ppb	-2.013	-8.46	1107	2000	
Cr	52	2	72	0.146	ppb	0.146	75.77	473	5000	
Mn	55	2	72	1877.220	ppb	1877.220	0.41	936920	10000	
Fe	57	2	72	849.850	ppb	849.850	1.03	20155	400000	
Co	59	2	72	12.074	ppb	12.074	0.30	26054	2000	
Ni	60	2	72	17.154	ppb	17.154	3.27	10641	5000	
Cu	63	2	72	0.110	ppb	0.110	45.70	1423	5000	
Zn	66	2	72	3.214	ppb	3.214	19.95	997	5000	
As	75	2	72	1.273	ppb	1.273	14.57	242	2000	
Se	78	1	72	0.022	ppb	0.022	183.52	19	2000	
Sr	88	2	72	2631.062	ppb	2631.062	0.89	1461267	4000	
Zr	90	2	72	86.091	ppb	86.091	16.22	727	1000	
Nb	93	2	72	0.634	ppb	0.634	15.16	3304	200	
Mo	95	2	115	7.241	ppb	7.241	0.34	6462	2000	
Pd	105	2	115	0.080	ppb	0.080	19.15	140	100	
Ag	107	2	115	-0.008	ppb	-0.008	-194.40	43	100	
Cd	111	2	115	0.018	ppb	0.018	173.21	7	2000	
Sn	120	2	115	0.190	ppb	0.190	19.03	357	2000	
Sb	121	2	115	0.034	ppb	0.034	123.38	87	1000	
Ba	137	2	115	11.540	ppb	11.540	2.83	3821	5000	
W	182	2	165	0.035	ppb	0.035	83.67	1674	100	
Pt	195	2	165	-0.002	ppb	-0.002	-578.26	33	100	
Tl	205	2	165	0.016	ppb	0.016	52.29	243	2000	
Pb	208	2	165	0.039	ppb	0.039	15.19	1243	5000	
Th	232	2	165	0.008	ppb	0.008	47.09	423	2000	
U	238	2	165	0.473	ppb	0.473	5.05	8076	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1307621	0.23	1639580	79.75	60	120	
Sc (IS)	45	1	HMI H2	28572845	0.58	31715490	90.09	60	120	
Sc (IS)	45	2	HMI He	857686	0.59	891522	96.20	60	120	
Sc (IS)	45	3	No Gas	47010729	1.10	54087154	86.92	60	120	
Ge Internal Standard	72	1	HMI H2	11754067	1.00	13102322	89.71	60	120	
Ge Internal Standard	72	2	HMI He	983581	0.72	1026205	95.85	60	120	
In Internal Standard	115	2	HMI He	3988059	0.76	4195206	95.06	60	120	
Ho-165	165	2	HMI He	19520883	0.33	20206547	96.61	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-13-b
Data File Name	186SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:12:27-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	35.570	ppb	35.570	6.79	159902	500000	
Li	7	2	45	15.695	ppb	15.695	140.54	8576	500000	
Li	7	3	45	22.251	ppb	22.251	20.08	5420437	50000	
Be	9	1	6	-0.003	ppb	-0.003	-1007.03	7	2000	
B	11	1	6	1176.171	ppb	1176.171	2.51	433677	2000	
Na	23	1	45	78854.146	ppb	78854.146	0.23	263577263	2000	>LDR
Na	23	2	45	75116.561	ppb	75116.561	0.35	16624939	400000	
Mg	24	2	45	166877.428	ppb	166877.428	0.16	17473327	400000	
Al	27	2	45	8.470	ppb	8.470	10.66	240	400000	
K	39	1	45	4589.402	ppb	4589.402	1.19	26290978	400000	
K	39	2	45	5843.012	ppb	5843.012	1.36	301984	400000	
Ca	40	1	45	370764.875	ppb	370764.875	0.92	1886634052	400000	
Ca	44	2	45	369455.131	ppb	369455.131	6.26	1019617	400000	
Ti	47	2	45	0.303	ppb	0.303	173.21	7	4000	
V	51	2	72	-2.023	ppb	-2.023	-4.51	1080	2000	
Cr	52	2	72	0.130	ppb	0.130	25.28	447	5000	
Mn	55	2	72	3146.572	ppb	3146.572	1.39	1545556	10000	
Fe	57	2	72	822.933	ppb	822.933	1.07	19214	400000	
Co	59	2	72	5.978	ppb	5.978	1.14	12700	2000	
Ni	60	2	72	6.954	ppb	6.954	3.87	4338	5000	
Cu	63	2	72	0.065	ppb	0.065	74.42	1327	5000	
Zn	66	2	72	3.328	ppb	3.328	9.87	1007	5000	
As	75	2	72	1.091	ppb	1.091	5.37	209	2000	
Se	78	1	72	0.023	ppb	0.023	108.30	19	2000	
Sr	88	2	72	1580.530	ppb	1580.530	0.51	864054	4000	
Zr	90	2	72	26.604	ppb	26.604	36.53	273	1000	
Nb	93	2	72	0.437	ppb	0.437	3.93	2600	200	
Mo	95	2	115	4.078	ppb	4.078	4.25	3587	2000	
Pd	105	2	115	0.022	ppb	0.022	105.62	60	100	
Ag	107	2	115	-0.010	ppb	-0.010	-136.01	37	100	
Cd	111	2	115	0.045	ppb	0.045	33.79	17	2000	
Sn	120	2	115	0.272	ppb	0.272	22.91	433	2000	
Sb	121	2	115	0.000	ppb	0.000	3471.96	53	1000	
Ba	137	2	115	14.995	ppb	14.995	5.57	4871	5000	
W	182	2	165	0.024	ppb	0.024	79.22	1604	100	
Pt	195	2	165	-0.007	ppb	-0.007	-62.91	13	100	
Tl	205	2	165	0.010	ppb	0.010	79.45	187	2000	
Pb	208	2	165	0.047	ppb	0.047	12.58	1303	5000	
Th	232	2	165	0.011	ppb	0.011	14.97	453	2000	
U	238	2	165	3.394	ppb	3.394	1.84	56248	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1328898	2.28	1639580	81.05	60	120	
Sc (IS)	45	1	HMI H2	28113312	0.60	31715490	88.64	60	120	
Sc (IS)	45	2	HMI He	836383	1.10	891522	93.82	60	120	
Sc (IS)	45	3	No Gas	47138123	1.45	54087154	87.15	60	120	
Ge Internal Standard	72	1	HMI H2	11598835	0.25	13102322	88.53	60	120	
Ge Internal Standard	72	2	HMI He	968088	0.84	1026205	94.34	60	120	
In Internal Standard	115	2	HMI He	3911323	1.25	4195206	93.23	60	120	
Ho-165	165	2	HMI He	19218006	1.23	20206547	95.11	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-14-b
Data File Name	187SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:16:17-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	64.409	ppb	64.409	6.09	169149	500000	
Li	7	2	45	45.248	ppb	45.248	40.13	8976	500000	
Li	7	3	45	59.222	ppb	59.222	6.43	5623211	50000	
Be	9	1	6	0.007	ppb	0.007	460.84	10	2000	
B	11	1	6	1118.483	ppb	1118.483	1.68	398993	2000	
Na	23	1	45	135780.444	ppb	135780.444	0.17	448060713	2000	>LDR
Na	23	2	45	128944.937	ppb	128944.937	0.29	27852355	400000	
Mg	24	2	45	225697.837	ppb	225697.837	0.61	23087469	400000	
Al	27	2	45	10.541	ppb	10.541	37.08	283	400000	
K	39	1	45	9255.185	ppb	9255.185	0.32	41825504	400000	
K	39	2	45	10511.711	ppb	10511.711	0.46	516739	400000	
Ca	40	1	45	495816.895	ppb	495816.895	0.70	2492823536	400000	
Ca	44	2	45	554744.288	ppb	554744.288	1.38	1495019	400000	
Ti	47	2	45	1.530	ppb	1.530	95.81	33	4000	
V	51	2	72	-1.953	ppb	-1.953	-5.57	1110	2000	
Cr	52	2	72	0.285	ppb	0.285	18.87	617	5000	
Mn	55	2	72	3449.557	ppb	3449.557	0.58	1639063	10000	
Fe	57	2	72	6901.366	ppb	6901.366	0.97	154829	400000	
Co	59	2	72	0.880	ppb	0.880	6.53	1814	2000	
Ni	60	2	72	4.087	ppb	4.087	5.43	2527	5000	
Cu	63	2	72	0.048	ppb	0.048	117.23	1257	5000	
Zn	66	2	72	2.911	ppb	2.911	25.64	883	5000	
As	75	2	72	2.611	ppb	2.611	7.82	440	2000	
Se	78	1	72	0.080	ppb	0.080	74.69	32	2000	
Sr	88	2	72	3912.470	ppb	3912.470	1.39	2068762	4000	
Zr	90	2	72	118.372	ppb	118.372	8.24	923	1000	
Nb	93	2	72	0.282	ppb	0.282	36.54	2020	200	
Mo	95	2	115	2.672	ppb	2.672	2.73	2310	2000	
Pd	105	2	115	0.080	ppb	0.080	29.80	133	100	
Ag	107	2	115	-0.016	ppb	-0.016	-22.73	20	100	
Cd	111	2	115	0.037	ppb	0.037	86.61	13	2000	
Sn	120	2	115	0.095	ppb	0.095	11.57	247	2000	
Sb	121	2	115	0.013	ppb	0.013	214.02	63	1000	
Ba	137	2	115	12.584	ppb	12.584	7.01	3994	5000	
W	182	2	165	0.011	ppb	0.011	440.21	1510	100	
Pt	195	2	165	0.000	ppb	0.000	-5508.26	37	100	
Tl	205	2	165	-0.009	ppb	-0.009	-7.90	43	2000	
Pb	208	2	165	0.003	ppb	0.003	409.44	830	5000	
Th	232	2	165	0.010	ppb	0.010	140.22	437	2000	
U	238	2	165	1.430	ppb	1.430	2.72	23152	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1285234	1.53	1639580	78.39	60	120	
Sc (IS)	45	1	HMI H2	27778600	0.99	31715490	87.59	60	120	
Sc (IS)	45	2	HMI He	817074	0.70	891522	91.65	60	120	
Sc (IS)	45	3	No Gas	44705691	0.54	54087154	82.65	60	120	
Ge Internal Standard	72	1	HMI H2	11315437	0.05	13102322	86.36	60	120	
Ge Internal Standard	72	2	HMI He	936386	0.83	1026205	91.25	60	120	
In Internal Standard	115	2	HMI He	3821738	0.62	4195206	91.10	60	120	
Ho-165	165	2	HMI He	18717170	0.88	20206547	92.63	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-15-b
Data File Name	188SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:20:06-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	67.048	ppb	67.048	6.01	167267	500000	
Li	7	2	45	58.325	ppb	58.325	43.47	9156	500000	
Li	7	3	45	61.728	ppb	61.728	4.47	5593304	50000	
Be	9	1	6	0.028	ppb	0.028	168.97	17	2000	
B	11	1	6	825.997	ppb	825.997	0.96	290189	2000	
Na	23	1	45	87784.694	ppb	87784.694	0.14	284912822	2000	>LDR
Na	23	2	45	83654.907	ppb	83654.907	0.83	17919328	400000	
Mg	24	2	45	246030.370	ppb	246030.370	0.15	24939429	400000	
Al	27	2	45	11.250	ppb	11.250	33.39	297	400000	
K	39	1	45	9133.198	ppb	9133.198	0.76	40702722	400000	
K	39	2	45	10287.701	ppb	10287.701	0.58	501530	400000	
Ca	40	1	45	500497.410	ppb	500497.410	0.30	2473385456	400000	
Ca	44	2	45	551571.238	ppb	551571.238	1.52	1473032	400000	
Ti	47	2	45	0.308	ppb	0.308	173.21	7	4000	
V	51	2	72	-1.956	ppb	-1.956	-2.36	1097	2000	
Cr	52	2	72	0.251	ppb	0.251	37.02	570	5000	
Mn	55	2	72	3184.393	ppb	3184.393	0.34	1497823	10000	
Fe	57	2	72	3467.536	ppb	3467.536	0.83	77082	400000	
Co	59	2	72	2.425	ppb	2.425	4.10	4934	2000	
Ni	60	2	72	7.437	ppb	7.437	7.44	4434	5000	
Cu	63	2	72	0.251	ppb	0.251	53.21	1563	5000	
Zn	66	2	72	2.290	ppb	2.290	30.90	743	5000	
As	75	2	72	1.915	ppb	1.915	12.17	328	2000	
Se	78	1	72	0.038	ppb	0.038	138.22	21	2000	
Sr	88	2	72	3298.452	ppb	3298.452	0.58	1726628	4000	
Zr	90	2	72	123.795	ppb	123.795	14.34	953	1000	
Nb	93	2	72	0.114	ppb	0.114	37.02	1470	200	
Mo	95	2	115	1.573	ppb	1.573	13.60	1360	2000	
Pd	105	2	115	0.078	ppb	0.078	27.40	130	100	
Ag	107	2	115	-0.013	ppb	-0.013	-68.05	27	100	
Cd	111	2	115	0.019	ppb	0.019	86.62	7	2000	
Sn	120	2	115	0.145	ppb	0.145	49.91	293	2000	
Sb	121	2	115	0.047	ppb	0.047	99.90	93	1000	
Ba	137	2	115	15.109	ppb	15.109	2.41	4734	5000	
W	182	2	165	0.035	ppb	0.035	78.23	1600	100	
Pt	195	2	165	-0.008	ppb	-0.008	-36.92	10	100	
Tl	205	2	165	-0.001	ppb	-0.001	-509.28	107	2000	
Pb	208	2	165	0.011	ppb	0.011	82.08	910	5000	
Th	232	2	165	0.004	ppb	0.004	67.73	337	2000	
U	238	2	165	2.533	ppb	2.533	1.08	40732	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1264348	0.61	1639580	77.11	60	120	
Sc (IS)	45	1	HMI H2	27303190	0.17	31715490	86.09	60	120	
Sc (IS)	45	2	HMI He	809696	0.54	891522	90.82	60	120	
Sc (IS)	45	3	No Gas	44210074	0.31	54087154	81.74	60	120	
Ge Internal Standard	72	1	HMI H2	11118940	0.66	13102322	84.86	60	120	
Ge Internal Standard	72	2	HMI He	926977	1.16	1026205	90.33	60	120	
In Internal Standard	115	2	HMI He	3773953	1.37	4195206	89.96	60	120	
Ho-165	165	2	HMI He	18630066	0.84	20206547	92.20	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-16-b
Data File Name	189SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:23:55-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	49.194	ppb	49.194	10.45	162818	500000	
Li	7	2	45	31.094	ppb	31.094	47.87	8603	500000	
Li	7	3	45	47.195	ppb	47.195	7.96	5436993	50000	
Be	9	1	6	-0.024	ppb	-0.024	0.00	0	2000	
B	11	1	6	841.025	ppb	841.025	2.87	304887	2000	
Na	23	1	45	79542.644	ppb	79542.644	0.34	261984856	2000	>LDR
Na	23	2	45	76011.036	ppb	76011.036	1.08	16269324	400000	
Mg	24	2	45	127135.859	ppb	127135.859	0.78	12874918	400000	
Al	27	2	45	8.947	ppb	8.947	9.47	243	400000	
K	39	1	45	7301.346	ppb	7301.346	0.79	35092636	400000	
K	39	2	45	8628.490	ppb	8628.490	0.68	423040	400000	
Ca	40	1	45	229971.509	ppb	229971.509	0.74	1153102009	400000	
Ca	44	2	45	224207.340	ppb	224207.340	0.99	598198	400000	
Ti	47	2	45	0.156	ppb	0.156	173.21	3	4000	
V	51	2	72	-2.020	ppb	-2.020	-6.07	1050	2000	
Cr	52	2	72	0.125	ppb	0.125	59.41	427	5000	
Mn	55	2	72	1820.068	ppb	1820.068	0.64	866640	10000	
Fe	57	2	72	3164.484	ppb	3164.484	1.08	71219	400000	
Co	59	2	72	1.392	ppb	1.392	4.69	2870	2000	
Ni	60	2	72	2.202	ppb	2.202	4.44	1433	5000	
Cu	63	2	72	0.201	ppb	0.201	18.51	1503	5000	
Zn	66	2	72	2.371	ppb	2.371	32.31	770	5000	
As	75	2	72	0.924	ppb	0.924	30.32	176	2000	
Se	78	1	72	0.024	ppb	0.024	169.97	19	2000	
Sr	88	2	72	1598.307	ppb	1598.307	0.21	846926	4000	
Zr	90	2	72	50.482	ppb	50.482	6.14	437	1000	
Nb	93	2	72	0.017	ppb	0.017	103.09	1177	200	
Mo	95	2	115	2.578	ppb	2.578	6.27	2197	2000	
Pd	105	2	115	0.055	ppb	0.055	14.74	100	100	
Ag	107	2	115	-0.013	ppb	-0.013	-42.06	27	100	
Cd	111	2	115	0.038	ppb	0.038	86.60	13	2000	
Sn	120	2	115	0.169	ppb	0.169	28.69	317	2000	
Sb	121	2	115	0.021	ppb	0.021	90.35	70	1000	
Ba	137	2	115	26.290	ppb	26.290	8.44	8213	5000	
W	182	2	165	0.030	ppb	0.030	100.16	1580	100	
Pt	195	2	165	-0.003	ppb	-0.003	-246.65	27	100	
Tl	205	2	165	0.000	ppb	0.000	-2218.61	110	2000	
Pb	208	2	165	0.093	ppb	0.093	11.96	1717	5000	
Th	232	2	165	0.000	ppb	0.000	1272.04	283	2000	
U	238	2	165	2.579	ppb	2.579	1.47	41511	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1305290	2.44	1639580	79.61	60	120	
Sc (IS)	45	1	HMI H2	27702395	0.50	31715490	87.35	60	120	
Sc (IS)	45	2	HMI He	808924	0.53	891522	90.74	60	120	
Sc (IS)	45	3	No Gas	44465454	0.46	54087154	82.21	60	120	
Ge Internal Standard	72	1	HMI H2	11401751	0.89	13102322	87.02	60	120	
Ge Internal Standard	72	2	HMI He	938368	0.67	1026205	91.44	60	120	
In Internal Standard	115	2	HMI He	3764886	0.69	4195206	89.74	60	120	
Ho-165	165	2	HMI He	18651443	0.57	20206547	92.30	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-17-b
Data File Name	190SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:27:46-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	71.166	ppb	71.166	8.36	162283	500000	
Li	7	2	45	38.914	ppb	38.914	62.55	8646	500000	
Li	7	3	45	54.449	ppb	54.449	5.01	5471077	50000	
Be	9	1	6	-0.024	ppb	-0.024	0.00	0	2000	
B	11	1	6	991.653	ppb	991.653	0.74	342531	2000	
Na	23	1	45	121208.009	ppb	121208.009	0.25	377935234	2000	>LDR
Na	23	2	45	115078.423	ppb	115078.423	0.12	24291376	400000	
Mg	24	2	45	185506.074	ppb	185506.074	0.28	18540563	400000	
Al	27	2	45	10.821	ppb	10.821	36.83	283	400000	
K	39	1	45	9198.542	ppb	9198.542	0.44	39333477	400000	
K	39	2	45	10347.842	ppb	10347.842	0.74	497267	400000	
Ca	40	1	45	367443.171	ppb	367443.171	1.21	1745419494	400000	
Ca	44	2	45	356799.642	ppb	356799.642	0.70	939471	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.932	ppb	-1.932	-12.94	1110	2000	
Cr	52	2	72	0.160	ppb	0.160	17.20	460	5000	
Mn	55	2	72	2653.942	ppb	2653.942	1.49	1238710	10000	
Fe	57	2	72	5018.493	ppb	5018.493	1.95	110632	400000	
Co	59	2	72	1.668	ppb	1.668	7.42	3374	2000	
Ni	60	2	72	4.944	ppb	4.944	5.28	2974	5000	
Cu	63	2	72	-0.023	ppb	-0.023	-449.79	1123	5000	
Zn	66	2	72	4.119	ppb	4.119	16.36	1123	5000	
As	75	2	72	2.758	ppb	2.758	2.74	455	2000	
Se	78	1	72	0.018	ppb	0.018	298.79	16	2000	
Sr	88	2	72	3046.631	ppb	3046.631	1.22	1582386	4000	
Zr	90	2	72	48.826	ppb	48.826	41.98	417	1000	
Nb	93	2	72	-0.064	ppb	-0.064	-38.87	897	200	
Mo	95	2	115	3.430	ppb	3.430	4.16	2880	2000	
Pd	105	2	115	0.111	ppb	0.111	25.36	170	100	
Ag	107	2	115	-0.016	ppb	-0.016	-23.60	20	100	
Cd	111	2	115	0.038	ppb	0.038	115.15	13	2000	
Sn	120	2	115	0.152	ppb	0.152	72.95	297	2000	
Sb	121	2	115	0.015	ppb	0.015	120.85	63	1000	
Ba	137	2	115	17.922	ppb	17.922	3.97	5545	5000	
W	182	2	165	0.008	ppb	0.008	153.72	1477	100	
Pt	195	2	165	-0.005	ppb	-0.005	-60.05	20	100	
Tl	205	2	165	-0.005	ppb	-0.005	-24.46	70	2000	
Pb	208	2	165	0.010	ppb	0.010	115.47	890	5000	
Th	232	2	165	0.001	ppb	0.001	1301.68	287	2000	
U	238	2	165	2.474	ppb	2.474	1.84	39438	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1243803	0.57	1639580	75.86	60	120	
Sc (IS)	45	1	HMI H2	26243975	0.06	31715490	82.75	60	120	
Sc (IS)	45	2	HMI He	798345	0.77	891522	89.55	60	120	
Sc (IS)	45	3	No Gas	43981476	0.39	54087154	81.32	60	120	
Ge Internal Standard	72	1	HMI H2	10696652	0.21	13102322	81.64	60	120	
Ge Internal Standard	72	2	HMI He	919839	1.16	1026205	89.64	60	120	
In Internal Standard	115	2	HMI He	3726582	0.79	4195206	88.83	60	120	
Ho-165	165	2	HMI He	18466346	0.57	20206547	91.39	60	120	

Sample Report

Sample Table

Sample Name	280-115872-f-3-b
Data File Name	191SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:31:35-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-22.624	ppb	-22.624	-7.82	135832	500000	
Li	7	2	45	-50.108	ppb	-50.108	-57.09	7175	500000	
Li	7	3	45	-28.346	ppb	-28.346	-8.56	4542495	50000	
Be	9	1	6	-0.014	ppb	-0.014	-122.97	3	2000	
B	11	1	6	136.978	ppb	136.978	2.09	51329	2000	
Na	23	1	45	19419.442	ppb	19419.442	0.59	64711212	2000	>LDR
Na	23	2	45	18684.967	ppb	18684.967	1.55	4136943	400000	
Mg	24	2	45	17024.997	ppb	17024.997	0.71	1771779	400000	
Al	27	2	45	7.136	ppb	7.136	79.62	207	400000	
K	39	1	45	3490.823	ppb	3490.823	0.33	22304451	400000	
K	39	2	45	4853.759	ppb	4853.759	0.86	252291	400000	
Ca	40	1	45	94135.239	ppb	94135.239	0.39	474560340	400000	
Ca	44	2	45	92453.586	ppb	92453.586	0.40	253477	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.409	ppb	0.409	24.12	3377	2000	
Cr	52	2	72	7.541	ppb	7.541	3.41	9484	5000	
Mn	55	2	72	0.764	ppb	0.764	14.11	420	10000	
Fe	57	2	72	25.956	ppb	25.956	19.57	737	400000	
Co	59	2	72	0.072	ppb	0.072	16.12	157	2000	
Ni	60	2	72	0.149	ppb	0.149	86.91	240	5000	
Cu	63	2	72	0.223	ppb	0.223	46.74	1567	5000	
Zn	66	2	72	9.495	ppb	9.495	7.75	2340	5000	
As	75	2	72	1.420	ppb	1.420	12.48	259	2000	
Se	78	1	72	0.100	ppb	0.100	57.96	37	2000	
Sr	88	2	72	890.823	ppb	890.823	0.71	480771	4000	
Zr	90	2	72	3.456	ppb	3.456	101.55	100	1000	
Nb	93	2	72	-0.105	ppb	-0.105	-37.35	800	200	
Mo	95	2	115	1.061	ppb	1.061	2.48	967	2000	
Pd	105	2	115	0.029	ppb	0.029	156.24	70	100	
Ag	107	2	115	-0.008	ppb	-0.008	-114.87	43	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.130	ppb	0.130	40.32	290	2000	
Sb	121	2	115	0.166	ppb	0.166	52.05	210	1000	
Ba	137	2	115	178.954	ppb	178.954	1.39	58291	5000	
W	182	2	165	0.220	ppb	0.220	34.64	2364	100	
Pt	195	2	165	-0.002	ppb	-0.002	-406.65	30	100	
Tl	205	2	165	0.004	ppb	0.004	219.09	140	2000	
Pb	208	2	165	0.064	ppb	0.064	32.24	1447	5000	
Th	232	2	165	-0.001	ppb	-0.001	-340.07	267	2000	
U	238	2	165	4.708	ppb	4.708	0.79	76714	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1323589	0.53	1639580	80.73	60	120	
Sc (IS)	45	1	HMI H2	27849995	0.12	31715490	87.81	60	120	
Sc (IS)	45	2	HMI He	831127	0.61	891522	93.23	60	120	
Sc (IS)	45	3	No Gas	45318908	0.74	54087154	83.79	60	120	
Ge Internal Standard	72	1	HMI H2	11500640	0.95	13102322	87.78	60	120	
Ge Internal Standard	72	2	HMI He	955742	1.22	1026205	93.13	60	120	
In Internal Standard	115	2	HMI He	3926256	0.62	4195206	93.59	60	120	
Ho-165	165	2	HMI He	18904721	0.21	20206547	93.56	60	120	

Sample Report

Sample Table

Sample Name	280-115872-f-4-b
Data File Name	192SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:35:22-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-17.654	ppb	-17.654	-3.25	133837	500000	
Li	7	2	45	-54.876	ppb	-54.876	-5.33	6962	500000	
Li	7	3	45	-32.959	ppb	-32.959	-8.88	4392581	50000	
Be	9	1	6	-0.014	ppb	-0.014	-124.89	3	2000	
B	11	1	6	154.127	ppb	154.127	1.33	57180	2000	
Na	23	1	45	20621.440	ppb	20621.440	0.58	66726421	2000	>LDR
Na	23	2	45	19488.366	ppb	19488.366	0.75	4243673	400000	
Mg	24	2	45	16664.507	ppb	16664.507	1.50	1706165	400000	
Al	27	2	45	45.300	ppb	45.300	4.28	1097	400000	
K	39	1	45	2424.473	ppb	2424.473	2.74	18140988	400000	
K	39	2	45	3708.034	ppb	3708.034	0.60	193774	400000	
Ca	40	1	45	98196.563	ppb	98196.563	1.33	480917620	400000	
Ca	44	2	45	96878.839	ppb	96878.839	1.33	261306	400000	
Ti	47	2	45	0.152	ppb	0.152	173.21	3	4000	
V	51	2	72	0.383	ppb	0.383	12.00	3314	2000	
Cr	52	2	72	0.770	ppb	0.770	12.78	1207	5000	
Mn	55	2	72	0.448	ppb	0.448	29.14	263	10000	
Fe	57	2	72	20.736	ppb	20.736	21.80	610	400000	
Co	59	2	72	0.034	ppb	0.034	35.01	77	2000	
Ni	60	2	72	0.056	ppb	0.056	252.27	183	5000	
Cu	63	2	72	0.404	ppb	0.404	12.72	1840	5000	
Zn	66	2	72	5.557	ppb	5.557	10.85	1463	5000	
As	75	2	72	1.016	ppb	1.016	5.98	192	2000	
Se	78	1	72	0.211	ppb	0.211	39.58	63	2000	
Sr	88	2	72	991.333	ppb	991.333	0.86	528662	4000	
Zr	90	2	72	8.251	ppb	8.251	84.18	133	1000	
Nb	93	2	72	-0.130	ppb	-0.130	-13.19	710	200	
Mo	95	2	115	1.894	ppb	1.894	14.70	1677	2000	
Pd	105	2	115	0.022	ppb	0.022	35.43	60	100	
Ag	107	2	115	-0.016	ppb	-0.016	-45.34	20	100	
Cd	111	2	115	0.027	ppb	0.027	99.04	10	2000	
Sn	120	2	115	0.113	ppb	0.113	59.66	270	2000	
Sb	121	2	115	0.062	ppb	0.062	54.77	110	1000	
Ba	137	2	115	131.462	ppb	131.462	2.55	42410	5000	
W	182	2	165	0.215	ppb	0.215	18.32	2310	100	
Pt	195	2	165	-0.008	ppb	-0.008	-0.08	10	100	
Tl	205	2	165	-0.007	ppb	-0.007	-86.21	60	2000	
Pb	208	2	165	0.005	ppb	0.005	455.09	850	5000	
Th	232	2	165	0.001	ppb	0.001	468.82	297	2000	
U	238	2	165	5.127	ppb	5.127	0.86	82342	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1313718	1.52	1639580	80.13	60	120	
Sc (IS)	45	1	HMI H2	27057018	0.44	31715490	85.31	60	120	
Sc (IS)	45	2	HMI He	817706	0.92	891522	91.72	60	120	
Sc (IS)	45	3	No Gas	44419531	0.45	54087154	82.13	60	120	
Ge Internal Standard	72	1	HMI H2	11175403	0.26	13102322	85.29	60	120	
Ge Internal Standard	72	2	HMI He	944374	0.95	1026205	92.03	60	120	
In Internal Standard	115	2	HMI He	3889100	1.46	4195206	92.70	60	120	
Ho-165	165	2	HMI He	18636258	0.22	20206547	92.23	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	193_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:39:08-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	486.938	ppb	1.483	321422	500	97.4	90	110	
Li	7	2	45	458.845	ppb	13.042	17117	500	91.8	90	110	
Li	7	3	45	459.412	ppb	1.759	10692529	500	91.9	90	110	
Be	9	1	6	51.525	ppb	1.450	17387	50	103.0	90	110	
B	11	1	6	61.715	ppb	5.269	23807	50	123.4	90	110	>+\-10%
Na	23	1	45	5265.215	ppb	0.522	17289907	5000	105.3	90	110	
Na	23	2	45	5139.473	ppb	2.195	1132225	5000	102.8	90	110	
Mg	24	2	45	4427.189	ppb	0.730	448200	5000	88.5	90	110	>+\-10%
Al	27	2	45	5249.408	ppb	1.098	121400	5000	105.0	90	110	
K	39	1	45	5395.762	ppb	1.375	27749049	5000	107.9	90	110	
K	39	2	45	5182.853	ppb	2.048	260781	5000	103.7	90	110	
Ca	40	1	45	5436.356	ppb	2.308	26455676	5000	108.7	90	110	
Ca	44	2	45	5239.475	ppb	2.636	14014	5000	104.8	90	110	
Ti	47	2	45	52.490	ppb	16.948	1127	50	105.0	90	110	
V	51	2	72	49.030	ppb	0.848	48439	50	98.1	90	110	
Cr	52	2	72	49.913	ppb	0.763	59774	50	99.8	90	110	
Mn	55	2	72	48.761	ppb	1.159	23143	50	97.5	90	110	
Fe	57	2	72	4962.514	ppb	1.616	111021	5000	99.3	90	110	
Co	59	2	72	48.924	ppb	1.426	100165	50	97.8	90	110	
Ni	60	2	72	47.560	ppb	2.912	27734	50	95.1	90	110	
Cu	63	2	72	49.057	ppb	1.736	79190	50	98.1	90	110	
Zn	66	2	72	51.496	ppb	1.317	11242	50	103.0	90	110	
As	75	2	72	48.098	ppb	0.800	7534	50	96.2	90	110	
Se	78	1	72	50.361	ppb	2.349	11909	50	100.7	90	110	
Sr	88	2	72	52.784	ppb	1.691	27868	50	105.6	90	110	
Zr	90	2	72	55.403	ppb	28.426	470	50	110.8	90	110	>+\-10%
Nb	93	2	72	88.239	ppb	1.216	282024	100	88.2	90	110	>+\-10%
Mo	95	2	115	47.469	ppb	3.753	41061	50	94.9	90	110	
Pd	105	2	115	49.896	ppb	2.697	65707	50	99.8	90	110	
Ag	107	2	115	48.284	ppb	1.073	136077	50	96.6	90	110	
Cd	111	2	115	48.824	ppb	2.490	17815	50	97.6	90	110	
Sn	120	2	115	49.169	ppb	0.563	50228	50	98.3	90	110	
Sb	121	2	115	49.573	ppb	1.365	46362	50	99.1	90	110	
Ba	137	2	115	49.807	ppb	1.714	16060	50	99.6	90	110	
W	182	2	165	48.728	ppb	0.948	195263	50	97.5	90	110	
Pt	195	2	165	48.596	ppb	0.707	155503	50	97.2	90	110	
Tl	205	2	165	50.537	ppb	0.289	374131	50	101.1	90	110	
Pb	208	2	165	50.694	ppb	0.283	500933	50	101.4	90	110	
Th	232	2	165	39.028	ppb	0.096	597635	50	78.1	90	110	>+\-10%
U	238	2	165	39.885	ppb	0.218	642358	50	79.8	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1326537	1.05	1639580	80.91	60	120	
Sc (IS)	45	1	HMI H2	26842353	0.78	31715490	84.63	60	120	
Sc (IS)	45	2	HMI He	808053	1.26	891522	90.64	60	120	
Sc (IS)	45	3	No Gas	44084138	0.35	54087154	81.51	60	120	
Ge Internal Standard	72	1	HMI H2	11085426	0.46	13102322	84.61	60	120	
Ge Internal Standard	72	2	HMI He	933490	1.05	1026205	90.97	60	120	
In Internal Standard	115	2	HMI He	3886091	0.51	4195206	92.63	60	120	
Ho-165	165	2	HMI He	18711731	1.27	20206547	92.60	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	194_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:42:54-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-22.663	ppb	-22.0	4522384	10	
Be	9	1	6	0.035	ppb	145.6	20	0.5	
B	11	1	6	10.844	ppb	1.6	5195	0.5	>RL
Na	23	1	45	-41.249	ppb	-0.9	391557	25	
Na	23	2	45	-48.269	ppb	-7.1	25853	25	
Mg	24	2	45	18.789	ppb	15.2	2280	25	
Al	27	2	45	2.597	ppb	78.3	97	15	
K	39	1	45	117.376	ppb	17.4	10469400	50	>RL
K	39	2	45	-5.850	ppb	-49.9	17191	50	
Ca	40	1	45	9.750	ppb	1.9	94613	50	
Ca	44	2	45	14.094	ppb	119.0	87	25	
Ti	47	2	45	0.155	ppb	173.2	3	0.5	
V	51	2	72	-0.078	ppb	-281.1	2880	1	
Cr	52	2	72	-0.018	ppb	-61.9	257	1	
Mn	55	2	72	0.057	ppb	210.1	77	0.5	
Fe	57	2	72	1.721	ppb	167.5	180	25	
Co	59	2	72	0.013	ppb	119.1	33	0.5	
Ni	60	2	72	-0.051	ppb	-33.9	120	1	
Cu	63	2	72	-0.062	ppb	-120.7	1090	1	
Zn	66	2	72	-0.281	ppb	-67.0	203	5	
As	75	2	72	-0.065	ppb	-18.7	22	1	
Se	78	1	72	0.015	ppb	342.6	16	1	
Sr	88	2	72	0.019	ppb	199.1	53	0.5	
Zr	90	2	72	0.891	ppb	165.0	80	1	
Nb	93	2	72	3.248	ppb	8.1	11589	2	>RL
Mo	95	2	115	-0.008	ppb	-308.4	33	0.5	
Pd	105	2	115	0.009	ppb	184.0	43	1	
Ag	107	2	115	-0.010	ppb	-111.4	37	1	
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5	
Sn	120	2	115	0.208	ppb	17.5	367	1	
Sb	121	2	115	0.357	ppb	35.7	387	0.6	
Ba	137	2	115	0.031	ppb	149.0	13	0.5	
W	182	2	165	0.081	ppb	79.4	1787	1	
Pt	195	2	165	-0.003	ppb	-54.9	27	1	
Tl	205	2	165	0.004	ppb	280.2	143	0.1	
Pb	208	2	165	-0.002	ppb	-324.8	777	0.5	
Th	232	2	165	0.023	ppb	42.0	630	1	
U	238	2	165	0.014	ppb	33.5	347	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1344137	0.30	1639580	81.98	60	120	
Sc (IS)	45	1	HMI H2	26955438	0.88	31715490	84.99	60	120	
Sc (IS)	45	2	HMI He	814481	1.32	891522	91.36	60	120	
Sc (IS)	45	3	No Gas	44385259	0.57	54087154	82.06	60	120	
Ge Internal Standard	72	1	HMI H2	11159276	0.53	13102322	85.17	60	120	
Ge Internal Standard	72	2	HMI He	944145	0.81	1026205	92.00	60	120	
In Internal Standard	115	2	HMI He	3896246	1.56	4195206	92.87	60	120	
Ho-165	165	2	HMI He	18674818	0.56	20206547	92.42	60	120	

Blank Report

Sample Table

Sample Name	mb 280-435417/1-a
Data File Name	195_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:46:41-06:00
Sample Type	Blank
Dilution	1
Comment	435417 6020
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-19.339	ppb	-25.14059289	132689	0.5
Li	7	2	45	-53.798	ppb	-21.72560152	6935	0.5
Li	7	3	45	-33.528	ppb	-16.6089473	4388115	10
Be	9	1	6	-0.024	ppb	0	0	0.5
B	11	1	6	9.843	ppb	10.99311641	4738	0.5
Na	23	1	45	-54.241	ppb	-0.848887674	349967	25
Na	23	2	45	-54.387	ppb	-3.252632349	24471	25
Mg	24	2	45	36.277	ppb	14.94622364	4054	25
Al	27	2	45	2.741	ppb	31.57604066	100	15
K	39	1	45	-1356.818	ppb	-0.785642054	5609951	50
K	39	2	45	0.306	ppb	3786.958183	17431	50
Ca	40	1	45	15.077	ppb	9.804698302	120606	50
Ca	44	2	45	30.352	ppb	74.346661	130	25
Ti	47	2	45	0.465	ppb	100.2074681	10	0.5
V	51	2	72	-1.155	ppb	-20.3479959	1867	1
Cr	52	2	72	0.112	ppb	51.94707583	413	1
Mn	55	2	72	0.963	ppb	12.9413969	510	0.5
Fe	57	2	72	22.274	ppb	30.60491675	643	25
Co	59	2	72	0.015	ppb	37.78779116	37	0.5
Ni	60	2	72	-0.074	ppb	-48.15188346	107	1
Cu	63	2	72	-0.125	ppb	-28.21349305	987	1
Zn	66	2	72	0.340	ppb	172.0970487	337	5
As	75	2	72	-0.119	ppb	-26.18505459	13	1
Se	78	1	72	-0.013	ppb	-343.182463	9	1
Sr	88	2	72	0.283	ppb	37.32968707	193	0.5
Zr	90	2	72	4.128	ppb	52.83333177	103	1
Nb	93	2	72	2.396	ppb	7.858584346	8837	2
Mo	95	2	115	0.004	ppb	509.3001452	43	0.5
Pd	105	2	115	0.004	ppb	203.5441938	37	1
Ag	107	2	115	-0.010	ppb	-123.5112904	37	1
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5
Sn	120	2	115	0.135	ppb	54.01272897	293	1
Sb	121	2	115	0.071	ppb	90.09209243	120	0.6
Ba	137	2	115	0.083	ppb	37.02797934	30	0.5
W	182	2	165	0.055	ppb	85.05648369	1677	1
Pt	195	2	165	0.000	ppb	-11544.90549	37	1
Tl	205	2	165	0.009	ppb	74.56505794	177	0.1
Pb	208	2	165	0.034	ppb	32.41001792	1130	0.5
Th	232	2	165	0.064	ppb	6.394591146	1257	1
U	238	2	165	0.007	ppb	28.32436882	240	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1321239	1.08	1639580	80.58	60	120	
Sc (IS)	45	1	HMI H2	26951570	0.53	31715490	84.98	60	120	
Sc (IS)	45	2	HMI He	812036	0.47	891522	91.08	60	120	
Sc (IS)	45	3	No Gas	44450019	0.60	54087154	82.18	60	120	
Ge Internal Standard	72	1	HMI H2	11004361	0.75	13102322	83.99	60	120	
Ge Internal Standard	72	2	HMI He	942977	0.59	1026205	91.89	60	120	
In Internal Standard	115	2	HMI He	3905712	0.54	4195206	93.10	60	120	
Ho-165	165	2	HMI He	18620444	0.48	20206547	92.15	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-435417/2-a
Data File Name	196_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:50:29-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	435417 6020
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	61.415	61.415	ppb	6.130	162069	400	15.4	80	120	>+/-20%
Li	7	2	45	17.608	17.608	ppb	201.699	8366	400	4.4	80	120	>+/-20%
Li	7	3	45	50.961	50.961	ppb	15.628	5338357	400	12.7	80	120	>+/-20%
Be	9	1	6	39.005	39.005	ppb	5.164	13153	40	97.5	80	120	
Na	23	2	45	-74.042	-74.042	ppb	-3.323	20262	40	-185.1	80	120	>+/-20%
Mg	24	2	45	15.916	15.916	ppb	5.529	1984	40	39.8	80	120	>+/-20%
Al	27	2	45	421.898	421.898	ppb	1.980	9844	40	1054.7	80	120	>+/-20%
K	39	2	45	2.908	2.908	ppb	574.759	17558	40	7.3	80	120	>+/-20%
Ca	44	2	45	201.949	201.949	ppb	14.919	590	40	504.9	80	120	>+/-20%
V	51	2	72	38.018	38.018	ppb	3.380	38418	40	95.0	80	120	
Cr	52	2	72	39.219	39.219	ppb	3.396	47268	40	98.0	80	120	
Mn	55	2	72	40.056	40.056	ppb	1.205	19120	40	100.1	80	120	
Fe	57	2	72	409.607	409.607	ppb	2.468	9340	40	1024.0	80	120	>+/-20%
Co	59	2	72	39.467	39.467	ppb	0.881	81234	40	98.7	80	120	
Ni	60	2	72	39.703	39.703	ppb	3.839	23306	40	99.3	80	120	
Cu	63	2	72	38.701	38.701	ppb	3.163	63058	40	96.8	80	120	
Zn	66	2	72	40.503	40.503	ppb	2.717	8943	40	101.3	80	120	
As	75	2	72	36.059	36.059	ppb	3.752	5687	40	90.1	80	120	
Se	78	1	72	37.416	37.416	ppb	1.524	8808	40	93.5	80	120	
Nb	93	2	72	1.350	1.350	ppb	14.167	5445	40	3.4	80	120	>+/-20%
Mo	95	2	115	35.620	35.620	ppb	2.182	31022	40	89.1	80	120	
Pd	105	2	115	-0.001	-0.001	ppb	-953.163	30	40	0.0	80	120	>+/-20%
Ag	107	2	115	39.725	39.725	ppb	1.146	112713	40	99.3	80	120	
Cd	111	2	115	38.409	38.409	ppb	2.558	14108	40	96.0	80	120	
Sn	120	2	115	38.839	38.839	ppb	1.777	39972	40	97.1	80	120	
Sb	121	2	115	38.548	38.548	ppb	2.490	36308	40	96.4	80	120	
Ba	137	2	115	39.588	39.588	ppb	1.944	12853	40	99.0	80	120	
W	182	2	165	10.500	10.500	ppb	0.688	43221	40	26.2	80	120	>+/-20%
Pt	195	2	165	-0.008	-0.008	ppb	-64.028	10	40	0.0	80	120	>+/-20%
Tl	205	2	165	39.954	39.954	ppb	1.063	295756	40	99.9	80	120	
Pb	208	2	165	40.705	40.705	ppb	1.145	402337	40	101.8	80	120	
Th	232	2	165	30.636	30.636	ppb	1.840	469107	40	76.6	80	120	>+/-20%
U	238	2	165	31.416	31.416	ppb	0.475	505909	40	78.5	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1325355	0.69	1639580	80.84	60	120	
Sc (IS)	45	1	HMI H2	26797905	0.13	31715490	84.49	60	120	
Sc (IS)	45	2	HMI He	812343	0.90	891522	91.12	60	120	
Sc (IS)	45	3	No Gas	43271431	0.71	54087154	80.00	60	120	
Ge Internal Standard	72	1	HMI H2	11031349	0.12	13102322	84.19	60	120	
Ge Internal Standard	72	2	HMI He	938405	0.71	1026205	91.44	60	120	
In Internal Standard	115	2	HMI He	3912235	0.80	4195206	93.25	60	120	
Ho-165	165	2	HMI He	18708973	0.24	20206547	92.59	60	120	

Sample Report

Sample Table

Sample Name	280-116281-f-1-b
Data File Name	197SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:54:17-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-8.153	ppb	-8.153	-70.82	132989	500000	
Li	7	2	45	-41.259	ppb	-41.259	-39.13	7079	500000	
Li	7	3	45	-29.060	ppb	-29.060	-14.49	4305482	50000	
Be	9	1	6	0.106	ppb	0.106	70.78	43	2000	
B	11	1	6	22.148	ppb	22.148	3.44	9183	2000	
Na	23	1	45	8928.128	ppb	8928.128	1.32	28247795	2000	
Na	23	2	45	8619.804	ppb	8619.804	2.08	1856439	400000	
Mg	24	2	45	6674.715	ppb	6674.715	1.69	668942	400000	
Al	27	2	45	4053.729	ppb	4053.729	0.33	92860	400000	
K	39	1	45	5892.430	ppb	5892.430	1.02	28661796	400000	
K	39	2	45	7077.556	ppb	7077.556	1.59	346310	400000	
Ca	40	1	45	20436.600	ppb	20436.600	0.71	96908945	400000	
Ca	44	2	45	19570.283	ppb	19570.283	1.49	51692	400000	
Ti	47	2	45	127.170	ppb	127.170	7.59	2704	4000	
V	51	2	72	8.718	ppb	8.718	6.95	10795	2000	
Cr	52	2	72	5.481	ppb	5.481	1.83	6675	5000	
Mn	55	2	72	183.729	ppb	183.729	1.89	85354	10000	
Fe	57	2	72	3822.553	ppb	3822.553	1.61	83861	400000	
Co	59	2	72	2.265	ppb	2.265	3.93	4551	2000	
Ni	60	2	72	7.799	ppb	7.799	12.16	4581	5000	
Cu	63	2	72	16.526	ppb	16.526	3.64	26916	5000	
Zn	66	2	72	37.952	ppb	37.952	7.05	8189	5000	
As	75	2	72	3.239	ppb	3.239	1.42	526	2000	
Se	78	1	72	0.381	ppb	0.381	13.73	100	2000	
Sr	88	2	72	128.489	ppb	128.489	1.68	66429	4000	
Zr	90	2	72	425.880	ppb	425.880	17.25	3060	1000	
Nb	93	2	72	1.112	ppb	1.112	13.46	4564	200	
Mo	95	2	115	2.176	ppb	2.176	3.81	1864	2000	
Pd	105	2	115	0.003	ppb	0.003	1022.04	33	100	
Ag	107	2	115	0.006	ppb	0.006	160.30	80	100	
Cd	111	2	115	0.086	ppb	0.086	88.07	30	2000	
Sn	120	2	115	0.368	ppb	0.368	11.17	513	2000	
Sb	121	2	115	0.704	ppb	0.704	21.97	690	1000	
Ba	137	2	115	39.016	ppb	39.016	0.64	12209	5000	
W	182	2	165	0.098	ppb	0.098	43.53	1830	100	
Pt	195	2	165	-0.005	ppb	-0.005	-103.87	20	100	
Tl	205	2	165	0.019	ppb	0.019	61.06	247	2000	
Pb	208	2	165	3.914	ppb	3.914	0.53	38868	5000	
Th	232	2	165	0.221	ppb	0.221	15.10	3614	2000	
U	238	2	165	0.142	ppb	0.142	4.26	2374	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1313163	0.86	1639580	80.09	60	120	
Sc (IS)	45	1	HMI H2	26187881	1.12	31715490	82.57	60	120	
Sc (IS)	45	2	HMI He	800280	1.87	891522	89.77	60	120	
Sc (IS)	45	3	No Gas	43045413	1.10	54087154	79.59	60	120	
Ge Internal Standard	72	1	HMI H2	10821369	0.22	13102322	82.59	60	120	
Ge Internal Standard	72	2	HMI He	915032	0.30	1026205	89.17	60	120	
In Internal Standard	115	2	HMI He	3771212	1.82	4195206	89.89	60	120	
Ho-165	165	2	HMI He	18451378	0.50	20206547	91.31	60	120	

Sample Report

Sample Table

Sample Name	280-116245-d-1-d
Data File Name	198SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:58:03-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	467.461	ppb	467.461	1.46	286263	500000	
Li	7	2	45	409.220	ppb	409.220	3.12	15462	500000	
Li	7	3	45	435.424	ppb	435.424	1.05	9589062	50000	
Be	9	1	6	0.035	ppb	0.035	55.92	17	2000	
B	11	1	6	3242.701	ppb	3242.701	0.73	1005445	2000	
Na	23	1	45	287971.959	ppb	287971.959	0.52	836205801	2000	>LDR
Na	23	2	45	265034.893	ppb	265034.893	1.24	54230324	400000	
Mg	24	2	45	483146.988	ppb	483146.988	1.63	46844501	400000	
Al	27	2	45	28.516	ppb	28.516	5.08	667	400000	
K	39	1	45	56021.410	ppb	56021.410	0.48	176683397	400000	
K	39	2	45	63912.743	ppb	63912.743	0.94	2894144	400000	
Ca	40	1	45	467400.000	ppb	467400.000	0.34	2069199703	400000	
Ca	44	2	45	510144.656	ppb	510144.656	1.30	1303451	400000	
Ti	47	2	45	1.785	ppb	1.785	42.52	37	4000	
V	51	2	72	-1.772	ppb	-1.772	-8.33	1200	2000	
Cr	52	2	72	0.176	ppb	0.176	23.61	457	5000	
Mn	55	2	72	1291.589	ppb	1291.589	0.27	575393	10000	
Fe	57	2	72	877.266	ppb	877.266	1.60	18569	400000	
Co	59	2	72	4.821	ppb	4.821	3.67	9290	2000	
Ni	60	2	72	6.805	ppb	6.805	5.00	3851	5000	
Cu	63	2	72	-0.030	ppb	-0.030	-258.06	1060	5000	
Zn	66	2	72	9.755	ppb	9.755	7.33	2200	5000	
As	75	2	72	0.159	ppb	0.159	43.46	53	2000	
Se	78	1	72	0.207	ppb	0.207	27.19	55	2000	
Sr	88	2	72	2004.415	ppb	2004.415	1.18	993830	4000	
Zr	90	2	72	199.508	ppb	199.508	10.49	1413	1000	
Nb	93	2	72	0.587	ppb	0.587	29.93	2814	200	
Mo	95	2	115	0.095	ppb	0.095	47.75	113	2000	
Pd	105	2	115	0.071	ppb	0.071	25.53	117	100	
Ag	107	2	115	-0.006	ppb	-0.006	-92.30	43	100	
Cd	111	2	115	0.098	ppb	0.098	33.61	33	2000	
Sn	120	2	115	0.230	ppb	0.230	39.14	363	2000	
Sb	121	2	115	0.101	ppb	0.101	8.44	137	1000	
Ba	137	2	115	18.736	ppb	18.736	0.86	5628	5000	
W	182	2	165	0.038	ppb	0.038	109.69	1524	100	
Pt	195	2	165	-0.004	ppb	-0.004	-178.40	23	100	
Tl	205	2	165	0.006	ppb	0.006	34.85	150	2000	
Pb	208	2	165	0.162	ppb	0.162	22.45	2260	5000	
Th	232	2	165	0.092	ppb	0.092	7.11	1600	2000	
U	238	2	165	5.259	ppb	5.259	1.31	79960	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1118982	2.07	1639580	68.25	60	120	
Sc (IS)	45	1	HMI H2	24459035	0.80	31715490	77.12	60	120	
Sc (IS)	45	2	HMI He	774655	2.38	891522	86.89	60	120	
Sc (IS)	45	3	No Gas	40709454	0.70	54087154	75.27	60	120	
Ge Internal Standard	72	1	HMI H2	9897917	0.72	13102322	75.54	60	120	
Ge Internal Standard	72	2	HMI He	877883	2.33	1026205	85.55	60	120	
In Internal Standard	115	2	HMI He	3619550	2.95	4195206	86.28	60	120	
Ho-165	165	2	HMI He	17642230	1.33	20206547	87.31	60	120	

Sample Report

Sample Table

Sample Name	280-116245-d-2-b
Data File Name	199SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:01:58-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	816.203	ppb	816.203	1.36	409282	500000	
Li	7	2	45	780.745	ppb	780.745	2.49	21687	500000	
Li	7	3	45	736.242	ppb	736.242	0.56	12412931	50000	
Be	9	1	6	0.175	ppb	0.175	44.17	53	2000	
B	11	1	6	6902.616	ppb	6902.616	1.34	2016910	2000	
Na	23	1	45	289237.339	ppb	289237.339	0.34	848616014	2000	>LDR
Na	23	2	45	273592.775	ppb	273592.775	1.06	53804114	400000	
Mg	24	2	45	1355108.636	ppb	1355108.636	1.11	126283391	400000	
Al	27	2	45	432.461	ppb	432.461	3.47	9247	400000	
K	39	1	45	49759.225	ppb	49759.225	0.32	159606211	400000	
K	39	2	45	57660.730	ppb	57660.730	0.66	2510770	400000	
Ca	40	1	45	450483.420	ppb	450483.420	0.55	2015096023	400000	
Ca	44	2	45	503746.958	ppb	503746.958	2.37	1236732	400000	
Ti	47	2	45	12.820	ppb	12.820	10.66	253	4000	
V	51	2	72	-1.445	ppb	-1.445	-26.64	1430	2000	
Cr	52	2	72	0.257	ppb	0.257	27.59	527	5000	
Mn	55	2	72	5770.362	ppb	5770.362	0.45	2473926	10000	
Fe	57	2	72	3608.060	ppb	3608.060	1.33	73098	400000	
Co	59	2	72	223.183	ppb	223.183	0.88	413621	2000	
Ni	60	2	72	715.320	ppb	715.320	0.07	375750	5000	
Cu	63	2	72	0.708	ppb	0.708	19.19	2084	5000	
Zn	66	2	72	460.802	ppb	460.802	2.05	89175	5000	
As	75	2	72	9.831	ppb	9.831	4.39	1416	2000	
Se	78	1	72	0.521	ppb	0.521	3.12	120	2000	
Sr	88	2	72	2151.549	ppb	2151.549	0.65	1026546	4000	
Zr	90	2	72	367.694	ppb	367.694	14.26	2450	1000	
Nb	93	2	72	0.652	ppb	0.652	17.79	2890	200	
Mo	95	2	115	10.567	ppb	10.567	6.08	8246	2000	
Pd	105	2	115	0.087	ppb	0.087	85.15	130	100	
Ag	107	2	115	0.022	ppb	0.022	43.19	113	100	
Cd	111	2	115	0.234	ppb	0.234	15.56	77	2000	
Sn	120	2	115	0.301	ppb	0.301	16.81	413	2000	
Sb	121	2	115	0.603	ppb	0.603	20.66	553	1000	
Ba	137	2	115	12.759	ppb	12.759	2.86	3701	5000	
W	182	2	165	0.077	ppb	0.077	39.05	1634	100	
Pt	195	2	165	-0.001	ppb	-0.001	-485.69	30	100	
Tl	205	2	165	0.005	ppb	0.005	189.51	137	2000	
Pb	208	2	165	2.308	ppb	2.308	3.12	21741	5000	
Th	232	2	165	0.549	ppb	0.549	6.23	8000	2000	
U	238	2	165	28.738	ppb	28.738	1.42	426858	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1055087	1.23	1639580	64.35	60	120	
Sc (IS)	45	1	HMI H2	24714167	0.59	31715490	77.92	60	120	
Sc (IS)	45	2	HMI He	744434	0.83	891522	83.50	60	120	
Sc (IS)	45	3	No Gas	38391201	0.25	54087154	70.98	60	120	
Ge Internal Standard	72	1	HMI H2	9822598	0.86	13102322	74.97	60	120	
Ge Internal Standard	72	2	HMI He	844948	0.61	1026205	82.34	60	120	
In Internal Standard	115	2	HMI He	3492703	1.48	4195206	83.25	60	120	
Ho-165	165	2	HMI He	17257899	0.89	20206547	85.41	60	120	

Sample Report

Sample Table

Sample Name	280-116245-d-3-b
Data File Name	200SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:05:50-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	273.670	ppb	273.670	2.82	217017	500000	
Li	7	2	45	216.973	ppb	216.973	8.36	11475	500000	
Li	7	3	45	220.512	ppb	220.512	4.53	6615762	50000	
Be	9	1	6	0.435	ppb	0.435	39.47	120	2000	
B	11	1	6	1676.913	ppb	1676.913	1.73	480315	2000	
Na	23	1	45	154317.617	ppb	154317.617	0.96	441774473	2000	>LDR
Na	23	2	45	144266.883	ppb	144266.883	1.10	28739297	400000	
Mg	24	2	45	518375.807	ppb	518375.807	0.56	48911691	400000	
Al	27	2	45	2621.155	ppb	2621.155	1.94	56556	400000	
K	39	1	45	30127.091	ppb	30127.091	0.37	97800382	400000	
K	39	2	45	35972.561	ppb	35972.561	1.11	1592147	400000	
Ca	40	1	45	509425.932	ppb	509425.932	0.51	2222379167	400000	
Ca	44	2	45	563173.508	ppb	563173.508	0.38	1400101	400000	
Ti	47	2	45	61.206	ppb	61.206	14.86	1223	4000	
V	51	2	72	2.903	ppb	2.903	10.73	5208	2000	
Cr	52	2	72	1.999	ppb	1.999	10.44	2467	5000	
Mn	55	2	72	3509.414	ppb	3509.414	0.69	1541215	10000	
Fe	57	2	72	9549.177	ppb	9549.177	1.48	197942	400000	
Co	59	2	72	4.092	ppb	4.092	0.83	7772	2000	
Ni	60	2	72	8.443	ppb	8.443	3.15	4678	5000	
Cu	63	2	72	3.063	ppb	3.063	6.49	5605	5000	
Zn	66	2	72	28.031	ppb	28.031	4.70	5781	5000	
As	75	2	72	1.330	ppb	1.330	9.20	222	2000	
Se	78	1	72	0.301	ppb	0.301	36.65	73	2000	
Sr	88	2	72	1964.533	ppb	1964.533	0.20	960125	4000	
Zr	90	2	72	1133.131	ppb	1133.131	4.78	7592	1000	
Nb	93	2	72	0.525	ppb	0.525	7.02	2584	200	
Mo	95	2	115	0.349	ppb	0.349	6.00	317	2000	
Pd	105	2	115	0.059	ppb	0.059	64.61	100	100	
Ag	107	2	115	0.028	ppb	0.028	5.34	133	100	
Cd	111	2	115	0.119	ppb	0.119	66.61	40	2000	
Sn	120	2	115	0.417	ppb	0.417	33.73	537	2000	
Sb	121	2	115	0.207	ppb	0.207	61.81	227	1000	
Ba	137	2	115	62.827	ppb	62.827	4.25	18750	5000	
W	182	2	165	1.184	ppb	1.184	9.78	5822	100	
Pt	195	2	165	-0.010	ppb	-0.010	-18.01	3	100	
Tl	205	2	165	0.037	ppb	0.037	38.94	360	2000	
Pb	208	2	165	4.114	ppb	4.114	0.68	39015	5000	
Th	232	2	165	1.864	ppb	1.864	1.72	27146	2000	
U	238	2	165	1.630	ppb	1.630	1.95	24861	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1032979	2.01	1639580	63.00	60	120	
Sc (IS)	45	1	HMI H2	24102749	0.71	31715490	76.00	60	120	
Sc (IS)	45	2	HMI He	753747	1.84	891522	84.55	60	120	
Sc (IS)	45	3	No Gas	38277837	1.05	54087154	70.77	60	120	
Ge Internal Standard	72	1	HMI H2	9745175	1.24	13102322	74.38	60	120	
Ge Internal Standard	72	2	HMI He	865487	1.34	1026205	84.34	60	120	
In Internal Standard	115	2	HMI He	3598141	1.42	4195206	85.77	60	120	
Ho-165	165	2	HMI He	17637811	1.30	20206547	87.29	60	120	

Sample Report

Sample Table

Sample Name	280-116248-d-1-b
Data File Name	201SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:09:42-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	3.211	ppb	3.211	161.78	125523	500000	
Li	7	2	45	-25.961	ppb	-25.961	-20.17	6792	500000	
Li	7	3	45	-14.986	ppb	-14.986	-21.50	3959305	50000	
Be	9	1	6	1.831	ppb	1.831	21.48	493	2000	
B	11	1	6	259.415	ppb	259.415	2.16	75902	2000	
Na	23	1	45	237089.805	ppb	237089.805	1.24	674712790	2000	>LDR
Na	23	2	45	221572.370	ppb	221572.370	0.48	43088666	400000	
Mg	24	2	45	201922.601	ppb	201922.601	1.20	18604319	400000	
Al	27	2	45	16250.026	ppb	16250.026	0.37	342264	400000	
K	39	1	45	7508.870	ppb	7508.870	1.90	30971075	400000	
K	39	2	45	8481.633	ppb	8481.633	0.39	378626	400000	
Ca	40	1	45	430120.607	ppb	430120.607	1.56	1865912132	400000	
Ca	44	2	45	477555.016	ppb	477555.016	0.92	1159342	400000	
Ti	47	2	45	418.599	ppb	418.599	6.47	8179	4000	
V	51	2	72	45.240	ppb	45.240	2.21	40905	2000	
Cr	52	2	72	43.570	ppb	43.570	2.27	47546	5000	
Mn	55	2	72	689.876	ppb	689.876	0.53	297576	10000	
Fe	57	2	72	27109.200	ppb	27109.200	0.20	551709	400000	
Co	59	2	72	10.218	ppb	10.218	1.42	19053	2000	
Ni	60	2	72	25.047	ppb	25.047	1.45	13367	5000	
Cu	63	2	72	40.251	ppb	40.251	1.63	59356	5000	
Zn	66	2	72	57.305	ppb	57.305	1.36	11365	5000	
As	75	2	72	14.790	ppb	14.790	2.34	2130	2000	
Se	78	1	72	16.231	ppb	16.231	5.41	3378	2000	
Sr	88	2	72	3570.861	ppb	3570.861	1.12	1713925	4000	
Zr	90	2	72	828.485	ppb	828.485	5.99	5471	1000	
Nb	93	2	72	0.937	ppb	0.937	4.09	3734	200	
Mo	95	2	115	8.878	ppb	8.878	5.75	6879	2000	
Pd	105	2	115	0.096	ppb	0.096	28.06	140	100	
Ag	107	2	115	0.235	ppb	0.235	20.61	650	100	
Cd	111	2	115	0.277	ppb	0.277	22.69	90	2000	
Sn	120	2	115	0.865	ppb	0.865	21.06	923	2000	
Sb	121	2	115	0.311	ppb	0.311	16.32	307	1000	
Ba	137	2	115	179.897	ppb	179.897	1.65	51769	5000	
W	182	2	165	10.506	ppb	10.506	0.65	39887	100	
Pt	195	2	165	-0.003	ppb	-0.003	-270.76	27	100	
Tl	205	2	165	0.266	ppb	0.266	3.70	1917	2000	
Pb	208	2	165	16.174	ppb	16.174	0.75	147904	5000	
Th	232	2	165	8.197	ppb	8.197	1.45	115972	2000	
U	238	2	165	50.866	ppb	50.866	1.36	755494	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1044563	1.33	1639580	63.71	60	120	
Sc (IS)	45	1	HMI H2	23970290	1.17	31715490	75.58	60	120	
Sc (IS)	45	2	HMI He	736048	1.73	891522	82.56	60	120	
Sc (IS)	45	3	No Gas	38023550	1.19	54087154	70.30	60	120	
Ge Internal Standard	72	1	HMI H2	9733867	0.54	13102322	74.29	60	120	
Ge Internal Standard	72	2	HMI He	850019	1.16	1026205	82.83	60	120	
In Internal Standard	115	2	HMI He	3468266	1.26	4195206	82.67	60	120	
Ho-165	165	2	HMI He	17256875	0.85	20206547	85.40	60	120	

Sample Report

Sample Table

Sample Name	280-116248-d-2-b
Data File Name	202SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:13:32-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	16.103	ppb	16.103	45.86	128212	500000	
Li	7	2	45	-0.207	ppb	-0.207	-4208.45	7235	500000	
Li	7	3	45	-8.270	ppb	-8.270	-84.34	4011441	50000	
Be	9	1	6	1.178	ppb	1.178	18.74	313	2000	
B	11	1	6	260.843	ppb	260.843	1.44	75028	2000	
Na	23	1	45	313346.294	ppb	313346.294	0.56	880524414	2000	>LDR
Na	23	2	45	290446.461	ppb	290446.461	0.81	56293899	400000	
Mg	24	2	45	83927.257	ppb	83927.257	1.16	7708870	400000	
Al	27	2	45	15917.876	ppb	15917.876	0.24	334225	400000	
K	39	1	45	8598.429	ppb	8598.429	1.17	33740059	400000	
K	39	2	45	9573.440	ppb	9573.440	0.62	423991	400000	
Ca	40	1	45	154400.017	ppb	154400.017	1.30	661535603	400000	
Ca	44	2	45	156665.534	ppb	156665.534	0.73	379136	400000	
Ti	47	2	45	418.030	ppb	418.030	1.29	8146	4000	
V	51	2	72	26.323	ppb	26.323	1.02	24836	2000	
Cr	52	2	72	37.636	ppb	37.636	0.67	40979	5000	
Mn	55	2	72	749.764	ppb	749.764	1.20	322439	10000	
Fe	57	2	72	22998.961	ppb	22998.961	0.72	466657	400000	
Co	59	2	72	13.167	ppb	13.167	1.36	24478	2000	
Ni	60	2	72	31.455	ppb	31.455	0.98	16700	5000	
Cu	63	2	72	45.898	ppb	45.898	0.20	67334	5000	
Zn	66	2	72	62.287	ppb	62.287	6.95	12296	5000	
As	75	2	72	9.469	ppb	9.469	8.85	1369	2000	
Se	78	1	72	0.873	ppb	0.873	22.23	191	2000	
Sr	88	2	72	3132.584	ppb	3132.584	1.01	1499026	4000	
Zr	90	2	72	711.247	ppb	711.247	9.12	4691	1000	
Nb	93	2	72	0.504	ppb	0.504	5.02	2470	200	
Mo	95	2	115	55.888	ppb	55.888	1.26	43799	2000	
Pd	105	2	115	0.080	ppb	0.080	30.56	123	100	
Ag	107	2	115	0.118	ppb	0.118	21.64	360	100	
Cd	111	2	115	0.322	ppb	0.322	60.03	107	2000	
Sn	120	2	115	0.481	ppb	0.481	6.55	583	2000	
Sb	121	2	115	0.196	ppb	0.196	37.80	213	1000	
Ba	137	2	115	75.825	ppb	75.825	1.92	22155	5000	
W	182	2	165	0.575	ppb	0.575	12.86	3491	100	
Pt	195	2	165	-0.009	ppb	-0.009	-41.72	7	100	
Tl	205	2	165	0.288	ppb	0.288	14.44	2087	2000	
Pb	208	2	165	16.572	ppb	16.572	1.88	152779	5000	
Th	232	2	165	7.830	ppb	7.830	1.51	111695	2000	
U	238	2	165	4.173	ppb	4.173	1.38	62599	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1026842	0.97	1639580	62.63	60	120	
Sc (IS)	45	1	HMI H2	23671525	0.60	31715490	74.64	60	120	
Sc (IS)	45	2	HMI He	733719	0.93	891522	82.30	60	120	
Sc (IS)	45	3	No Gas	37808968	0.43	54087154	69.90	60	120	
Ge Internal Standard	72	1	HMI H2	9661016	0.66	13102322	73.74	60	120	
Ge Internal Standard	72	2	HMI He	847428	0.36	1026205	82.58	60	120	
In Internal Standard	115	2	HMI He	3521831	0.77	4195206	83.95	60	120	
Ho-165	165	2	HMI He	17399669	0.26	20206547	86.11	60	120	

Sample Report

Sample Table

Sample Name	280-116248-d-3-b
Data File Name	203SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:17:18-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	31.172	ppb	31.172	6.26	133177	500000	
Li	7	2	45	-14.565	ppb	-14.565	-79.86	7199	500000	
Li	7	3	45	11.249	ppb	11.249	48.24	4152335	50000	
Be	9	1	6	0.245	ppb	0.245	15.95	70	2000	
B	11	1	6	320.073	ppb	320.073	0.89	91756	2000	
Na	23	1	45	486198.465	ppb	486198.465	0.05	1365901526	2000	>LDR
Na	23	2	45	448199.677	ppb	448199.677	0.23	89634389	400000	
Mg	24	2	45	245289.769	ppb	245289.769	0.79	23251700	400000	
Al	27	2	45	2214.927	ppb	2214.927	0.54	48022	400000	
K	39	1	45	15476.494	ppb	15476.494	0.61	53644211	400000	
K	39	2	45	16094.879	ppb	16094.879	1.51	724573	400000	
Ca	40	1	45	224978.812	ppb	224978.812	0.66	963880146	400000	
Ca	44	2	45	248418.702	ppb	248418.702	1.44	620430	400000	
Ti	47	2	45	81.231	ppb	81.231	4.86	1634	4000	
V	51	2	72	1.816	ppb	1.816	19.25	4288	2000	
Cr	52	2	72	2.673	ppb	2.673	5.32	3224	5000	
Mn	55	2	72	74.002	ppb	74.002	1.73	32691	10000	
Fe	57	2	72	2984.902	ppb	2984.902	0.50	62241	400000	
Co	59	2	72	1.818	ppb	1.818	14.88	3474	2000	
Ni	60	2	72	2.520	ppb	2.520	10.80	1500	5000	
Cu	63	2	72	2.973	ppb	2.973	14.22	5498	5000	
Zn	66	2	72	9.564	ppb	9.564	10.42	2144	5000	
As	75	2	72	1.194	ppb	1.194	21.77	203	2000	
Se	78	1	72	5.596	ppb	5.596	5.62	1152	2000	
Sr	88	2	72	9256.142	ppb	9256.142	1.20	4544033	4000	
Zr	90	2	72	1103.988	ppb	1103.988	3.86	7432	1000	
Nb	93	2	72	0.388	ppb	0.388	23.36	2190	200	
Mo	95	2	115	9.183	ppb	9.183	3.25	7289	2000	
Pd	105	2	115	0.251	ppb	0.251	14.73	330	100	
Ag	107	2	115	0.060	ppb	0.060	11.16	213	100	
Cd	111	2	115	0.059	ppb	0.059	85.05	20	2000	
Sn	120	2	115	0.389	ppb	0.389	26.20	503	2000	
Sb	121	2	115	0.127	ppb	0.127	14.67	157	1000	
Ba	137	2	115	26.085	ppb	26.085	3.44	7686	5000	
W	182	2	165	0.116	ppb	0.116	19.50	1804	100	
Pt	195	2	165	-0.006	ppb	-0.006	-84.79	17	100	
Tl	205	2	165	0.046	ppb	0.046	8.16	420	2000	
Pb	208	2	165	2.832	ppb	2.832	1.36	26886	5000	
Th	232	2	165	1.673	ppb	1.673	2.89	24224	2000	
U	238	2	165	13.652	ppb	13.652	1.14	205757	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1025582	0.44	1639580	62.55	60	120	
Sc (IS)	45	1	HMI H2	23669484	0.30	31715490	74.63	60	120	
Sc (IS)	45	2	HMI He	757193	0.66	891522	84.93	60	120	
Sc (IS)	45	3	No Gas	37146393	1.61	54087154	68.68	60	120	
Ge Internal Standard	72	1	HMI H2	9573790	0.89	13102322	73.07	60	120	
Ge Internal Standard	72	2	HMI He	869328	1.11	1026205	84.71	60	120	
In Internal Standard	115	2	HMI He	3551100	1.64	4195206	84.65	60	120	
Ho-165	165	2	HMI He	17504031	0.53	20206547	86.63	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	204_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:21:10-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	421.992	ppb	3.405	283829	500	84.4	90	110	>+\-10%
Li	7	2	45	353.469	ppb	6.133	14962	500	70.7	90	110	>+\-10%
Li	7	3	45	396.456	ppb	0.544	8739565	500	79.3	90	110	>+\-10%
Be	9	1	6	50.896	ppb	0.689	15208	50	101.8	90	110	
B	11	1	6	65.691	ppb	0.619	22374	50	131.4	90	110	>+\-10%
Na	23	1	45	5661.559	ppb	0.804	17720881	5000	113.2	90	110	>+\-10%
Na	23	2	45	5290.046	ppb	1.351	1160106	5000	105.8	90	110	
Mg	24	2	45	4395.738	ppb	1.294	443358	5000	87.9	90	110	>+\-10%
Al	27	2	45	5232.904	ppb	0.534	120577	5000	104.7	90	110	
K	39	1	45	5473.919	ppb	1.525	26749488	5000	109.5	90	110	
K	39	2	45	5185.768	ppb	0.967	259909	5000	103.7	90	110	
Ca	40	1	45	5462.893	ppb	0.321	25395515	5000	109.3	90	110	
Ca	44	2	45	5203.149	ppb	2.450	13861	5000	104.1	90	110	
Ti	47	2	45	63.438	ppb	3.337	1357	50	126.9	90	110	>+\-10%
V	51	2	72	47.732	ppb	1.444	47817	50	95.5	90	110	
Cr	52	2	72	47.897	ppb	0.897	58094	50	95.8	90	110	
Mn	55	2	72	49.627	ppb	1.119	23850	50	99.3	90	110	
Fe	57	2	72	4871.165	ppb	1.107	110343	5000	97.4	90	110	
Co	59	2	72	47.929	ppb	1.259	99363	50	95.9	90	110	
Ni	60	2	72	48.696	ppb	2.623	28756	50	97.4	90	110	
Cu	63	2	72	47.603	ppb	2.837	77829	50	95.2	90	110	
Zn	66	2	72	49.233	ppb	5.842	10888	50	98.5	90	110	
As	75	2	72	48.281	ppb	4.588	7654	50	96.6	90	110	
Se	78	1	72	50.705	ppb	1.803	11481	50	101.4	90	110	
Sr	88	2	72	56.087	ppb	1.712	29973	50	112.2	90	110	>+\-10%
Zr	90	2	72	126.181	ppb	16.837	990	50	252.4	90	110	>+\-10%
Nb	93	2	72	87.155	ppb	1.674	282033	100	87.2	90	110	>+\-10%
Mo	95	2	115	47.363	ppb	1.376	41101	50	94.7	90	110	
Pd	105	2	115	49.337	ppb	0.274	65174	50	98.7	90	110	
Ag	107	2	115	47.928	ppb	0.683	135496	50	95.9	90	110	
Cd	111	2	115	48.479	ppb	3.441	17742	50	97.0	90	110	
Sn	120	2	115	49.876	ppb	2.051	51102	50	99.8	90	110	
Sb	121	2	115	50.222	ppb	1.856	47111	50	100.4	90	110	
Ba	137	2	115	50.428	ppb	4.010	16307	50	100.9	90	110	
W	182	2	165	48.079	ppb	0.710	193296	50	96.2	90	110	
Pt	195	2	165	47.383	ppb	0.810	152098	50	94.8	90	110	
Tl	205	2	165	50.336	ppb	0.434	373812	50	100.7	90	110	
Pb	208	2	165	50.679	ppb	0.443	502384	50	101.4	90	110	
Th	232	2	165	38.861	ppb	0.428	596964	50	77.7	90	110	>+\-10%
U	238	2	165	39.627	ppb	0.483	640215	50	79.3	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1174607	0.44	1639580	71.64	60	120	
Sc (IS)	45	1	HMI H2	25638820	0.52	31715490	80.84	60	120	
Sc (IS)	45	2	HMI He	805060	1.26	891522	90.30	60	120	
Sc (IS)	45	3	No Gas	38984197	0.41	54087154	72.08	60	120	
Ge Internal Standard	72	1	HMI H2	10614434	0.70	13102322	81.01	60	120	
Ge Internal Standard	72	2	HMI He	945154	1.37	1026205	92.10	60	120	
In Internal Standard	115	2	HMI He	3898552	1.61	4195206	92.93	60	120	
Ho-165	165	2	HMI He	18771216	1.14	20206547	92.90	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	205_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:24:57-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-52.372	ppb	-9.9	3720693	10	
Be	9	1	6	0.064	ppb	129.0	27	0.5	
B	11	1	6	15.051	ppb	4.5	5992	0.5	>RL
Na	23	1	45	117.880	ppb	0.9	865169	25	>RL
Na	23	2	45	97.669	ppb	0.6	58446	25	>RL
Mg	24	2	45	58.416	ppb	3.9	6455	25	>RL
Al	27	2	45	3.340	ppb	14.4	117	15	
K	39	1	45	218.030	ppb	22.0	10377132	50	>RL
K	39	2	45	20.071	ppb	65.8	18803	50	
Ca	40	1	45	15.188	ppb	4.6	116398	50	
Ca	44	2	45	26.933	ppb	34.0	123	25	>RL
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.366	ppb	-33.6	2707	1	
Cr	52	2	72	-0.002	ppb	-2381.4	287	1	
Mn	55	2	72	0.132	ppb	75.8	117	0.5	
Fe	57	2	72	2.726	ppb	74.7	210	25	
Co	59	2	72	0.013	ppb	57.8	33	0.5	
Ni	60	2	72	0.001	ppb	2656.6	157	1	
Cu	63	2	72	-0.015	ppb	-691.8	1210	1	
Zn	66	2	72	0.060	ppb	629.1	287	5	
As	75	2	72	-0.070	ppb	-53.0	22	1	
Se	78	1	72	0.035	ppb	218.1	20	1	
Sr	88	2	72	0.119	ppb	41.4	110	0.5	
Zr	90	2	72	0.912	ppb	461.2	83	1	
Nb	93	2	72	3.386	ppb	8.3	12486	2	>RL
Mo	95	2	115	0.023	ppb	150.3	63	0.5	
Pd	105	2	115	0.043	ppb	32.7	93	1	
Ag	107	2	115	-0.005	ppb	-367.6	53	1	
Cd	111	2	115	0.017	ppb	173.2	7	0.5	
Sn	120	2	115	0.091	ppb	85.3	263	1	
Sb	121	2	115	0.293	ppb	19.3	347	0.6	
Ba	137	2	115	0.058	ppb	28.2	23	0.5	
W	182	2	165	0.088	ppb	55.7	1860	1	
Pt	195	2	165	0.042	ppb	50.8	177	1	
Tl	205	2	165	0.006	ppb	132.0	160	0.1	
Pb	208	2	165	-0.004	ppb	-352.1	777	0.5	
Th	232	2	165	0.025	ppb	41.6	673	1	
U	238	2	165	0.014	ppb	31.3	350	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1191223	0.46	1639580	72.65	60	120	
Sc (IS)	45	1	HMI H2	25898025	0.52	31715490	81.66	60	120	
Sc (IS)	45	2	HMI He	831633	1.57	891522	93.28	60	120	
Sc (IS)	45	3	No Gas	39913265	0.78	54087154	73.79	60	120	
Ge Internal Standard	72	1	HMI H2	10714583	0.26	13102322	81.78	60	120	
Ge Internal Standard	72	2	HMI He	979472	0.86	1026205	95.45	60	120	
In Internal Standard	115	2	HMI He	4136349	1.51	4195206	98.60	60	120	
Ho-165	165	2	HMI He	19154582	0.27	20206547	94.79	60	120	

Sample Report

Sample Table

Sample Name	280-116248-d-4-b
Data File Name	206SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:28:45-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-3.958	ppb	-3.958	-80.20	122781	500000	
Li	7	2	45	-42.381	ppb	-42.381	-13.76	6819	500000	
Li	7	3	45	-22.679	ppb	-22.679	-8.91	3742538	50000	
Be	9	1	6	0.177	ppb	0.177	80.93	53	2000	
B	11	1	6	328.806	ppb	328.806	2.78	96600	2000	
Na	23	1	45	418465.615	ppb	418465.615	0.48	1187143529	2000	>LDR
Na	23	2	45	383901.033	ppb	383901.033	0.62	78371192	400000	
Mg	24	2	45	28084.745	ppb	28084.745	0.52	2717550	400000	
Al	27	2	45	1854.233	ppb	1854.233	0.65	41038	400000	
K	39	1	45	3308.754	ppb	3308.754	1.65	18608630	400000	
K	39	2	45	4415.246	ppb	4415.246	1.66	214931	400000	
Ca	40	1	45	38872.913	ppb	38872.913	0.72	168198984	400000	
Ca	44	2	45	40493.473	ppb	40493.473	2.04	103269	400000	
Ti	47	2	45	84.776	ppb	84.776	8.86	1740	4000	
V	51	2	72	3.039	ppb	3.039	10.24	5508	2000	
Cr	52	2	72	4.553	ppb	4.553	5.77	5468	5000	
Mn	55	2	72	63.845	ppb	63.845	2.50	29043	10000	
Fe	57	2	72	3044.449	ppb	3044.449	0.17	65374	400000	
Co	59	2	72	1.398	ppb	1.398	4.81	2750	2000	
Ni	60	2	72	2.723	ppb	2.723	6.95	1657	5000	
Cu	63	2	72	3.024	ppb	3.024	7.71	5741	5000	
Zn	66	2	72	8.489	ppb	8.489	6.14	1987	5000	
As	75	2	72	4.691	ppb	4.691	3.02	732	2000	
Se	78	1	72	0.113	ppb	0.113	69.99	35	2000	
Sr	88	2	72	778.211	ppb	778.211	0.23	393438	4000	
Zr	90	2	72	196.613	ppb	196.613	4.62	1420	1000	
Nb	93	2	72	3.060	ppb	3.060	3.09	10414	200	
Mo	95	2	115	9.189	ppb	9.189	3.69	7653	2000	
Pd	105	2	115	0.024	ppb	0.024	59.45	60	100	
Ag	107	2	115	0.073	ppb	0.073	34.72	260	100	
Cd	111	2	115	0.028	ppb	0.028	99.12	10	2000	
Sn	120	2	115	0.261	ppb	0.261	32.57	403	2000	
Sb	121	2	115	0.171	ppb	0.171	27.27	203	1000	
Ba	137	2	115	17.249	ppb	17.249	1.18	5335	5000	
W	182	2	165	1.041	ppb	1.041	5.68	5421	100	
Pt	195	2	165	0.027	ppb	0.027	77.50	120	100	
Tl	205	2	165	0.051	ppb	0.051	10.96	473	2000	
Pb	208	2	165	1.792	ppb	1.792	1.99	17873	5000	
Th	232	2	165	1.212	ppb	1.212	2.33	18201	2000	
U	238	2	165	9.147	ppb	9.147	1.55	142520	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1051497	1.05	1639580	64.13	60	120	
Sc (IS)	45	1	HMI H2	23900729	0.80	31715490	75.36	60	120	
Sc (IS)	45	2	HMI He	772852	1.04	891522	86.69	60	120	
Sc (IS)	45	3	No Gas	36731837	0.83	54087154	67.91	60	120	
Ge Internal Standard	72	1	HMI H2	9799508	0.50	13102322	74.79	60	120	
Ge Internal Standard	72	2	HMI He	895243	1.03	1026205	87.24	60	120	
In Internal Standard	115	2	HMI He	3725579	1.33	4195206	88.81	60	120	
Ho-165	165	2	HMI He	18093400	0.97	20206547	89.54	60	120	

Sample Report

Sample Table

Sample Name	280-116248-d-5-b
Data File Name	207SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:32:38-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	44.450	ppb	44.450	10.65	136619	500000	
Li	7	2	45	-0.752	ppb	-0.752	-2466.02	7506	500000	
Li	7	3	45	38.522	ppb	38.522	12.64	4313393	50000	
Be	9	1	6	0.278	ppb	0.278	72.64	77	2000	
B	11	1	6	588.903	ppb	588.903	1.05	164737	2000	
Na	23	1	45	442032.199	ppb	442032.199	0.62	1233405475	2000	>LDR
Na	23	2	45	408413.923	ppb	408413.923	0.72	82234390	400000	
Mg	24	2	45	443021.517	ppb	443021.517	0.28	42278125	400000	
Al	27	2	45	4183.786	ppb	4183.786	0.87	91298	400000	
K	39	1	45	27178.469	ppb	27178.469	0.58	86914859	400000	
K	39	2	45	32333.387	ppb	32333.387	1.95	1449062	400000	
Ca	40	1	45	494272.708	ppb	494272.708	0.53	2103185462	400000	
Ca	44	2	45	599884.507	ppb	599884.507	0.97	1508315	400000	
Ti	47	2	45	106.717	ppb	106.717	4.85	2160	4000	
V	51	2	72	6.897	ppb	6.897	1.95	8650	2000	
Cr	52	2	72	4.969	ppb	4.969	2.66	5751	5000	
Mn	55	2	72	390.722	ppb	390.722	0.12	171738	10000	
Fe	57	2	72	9610.605	ppb	9610.605	0.58	199348	400000	
Co	59	2	72	5.767	ppb	5.767	6.70	10951	2000	
Ni	60	2	72	6.004	ppb	6.004	6.02	3367	5000	
Cu	63	2	72	5.369	ppb	5.369	1.63	9013	5000	
Zn	66	2	72	18.438	ppb	18.438	3.62	3891	5000	
As	75	2	72	15.826	ppb	15.826	1.58	2320	2000	
Se	78	1	72	0.249	ppb	0.249	29.09	60	2000	
Sr	88	2	72	12769.530	ppb	12769.530	0.45	6244820	4000	
Zr	90	2	72	984.451	ppb	984.451	12.05	6606	1000	
Nb	93	2	72	2.075	ppb	2.075	9.65	7169	200	
Mo	95	2	115	0.693	ppb	0.693	29.70	593	2000	
Pd	105	2	115	0.366	ppb	0.366	20.88	477	100	
Ag	107	2	115	0.035	ppb	0.035	32.41	153	100	
Cd	111	2	115	0.147	ppb	0.147	52.13	50	2000	
Sn	120	2	115	0.401	ppb	0.401	16.85	523	2000	
Sb	121	2	115	0.220	ppb	0.220	36.01	240	1000	
Ba	137	2	115	64.295	ppb	64.295	1.68	19288	5000	
W	182	2	165	0.424	ppb	0.424	13.93	2934	100	
Pt	195	2	165	0.078	ppb	0.078	19.15	267	100	
Tl	205	2	165	0.069	ppb	0.069	33.95	580	2000	
Pb	208	2	165	7.751	ppb	7.751	2.00	71954	5000	
Th	232	2	165	2.625	ppb	2.625	2.20	37676	2000	
U	238	2	165	5.894	ppb	5.894	0.71	88495	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1005229	1.57	1639580	61.31	60	120	
Sc (IS)	45	1	HMI H2	23508884	0.67	31715490	74.12	60	120	
Sc (IS)	45	2	HMI He	762295	1.10	891522	85.50	60	120	
Sc (IS)	45	3	No Gas	36024400	1.31	54087154	66.60	60	120	
Ge Internal Standard	72	1	HMI H2	9335393	0.78	13102322	71.25	60	120	
Ge Internal Standard	72	2	HMI He	866036	1.61	1026205	84.39	60	120	
In Internal Standard	115	2	HMI He	3615385	0.90	4195206	86.18	60	120	
Ho-165	165	2	HMI He	17424969	1.15	20206547	86.23	60	120	

Sample Report

Sample Table

Sample Name	280-116248-I-7-b
Data File Name	208SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:36:34-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	10.117	ppb	10.117	66.20	127691	500000	
Li	7	2	45	-20.720	ppb	-20.720	-104.95	7075	500000	
Li	7	3	45	-8.453	ppb	-8.453	-72.58	3887405	50000	
Be	9	1	6	0.629	ppb	0.629	51.28	170	2000	
B	11	1	6	636.404	ppb	636.404	2.37	180839	2000	
Na	23	1	45	535564.761	ppb	535564.761	1.18	1521862857	2000	>LDR
Na	23	2	45	487249.124	ppb	487249.124	1.03	97323285	400000	
Mg	24	2	45	82519.588	ppb	82519.588	1.15	7813038	400000	
Al	27	2	45	9063.119	ppb	9063.119	1.50	196152	400000	
K	39	1	45	9412.559	ppb	9412.559	1.39	36509597	400000	
K	39	2	45	10323.680	ppb	10323.680	1.48	470005	400000	
Ca	40	1	45	82964.468	ppb	82964.468	0.86	359559661	400000	
Ca	44	2	45	90412.527	ppb	90412.527	0.97	225583	400000	
Ti	47	2	45	265.682	ppb	265.682	5.70	5338	4000	
V	51	2	72	22.322	ppb	22.322	2.04	22178	2000	
Cr	52	2	72	14.623	ppb	14.623	0.86	16610	5000	
Mn	55	2	72	233.047	ppb	233.047	1.13	103590	10000	
Fe	57	2	72	13351.548	ppb	13351.548	0.72	279977	400000	
Co	59	2	72	4.369	ppb	4.369	1.01	8396	2000	
Ni	60	2	72	9.267	ppb	9.267	9.90	5181	5000	
Cu	63	2	72	12.021	ppb	12.021	2.72	19037	5000	
Zn	66	2	72	29.664	ppb	29.664	1.71	6178	5000	
As	75	2	72	3.045	ppb	3.045	6.07	475	2000	
Se	78	1	72	0.352	ppb	0.352	27.18	84	2000	
Sr	88	2	72	3404.742	ppb	3404.742	0.69	1683518	4000	
Zr	90	2	72	494.564	ppb	494.564	4.93	3391	1000	
Nb	93	2	72	1.091	ppb	1.091	7.75	4304	200	
Mo	95	2	115	6.683	ppb	6.683	4.48	5375	2000	
Pd	105	2	115	0.177	ppb	0.177	19.93	243	100	
Ag	107	2	115	0.055	ppb	0.055	22.10	203	100	
Cd	111	2	115	0.288	ppb	0.288	69.77	97	2000	
Sn	120	2	115	0.596	ppb	0.596	6.27	703	2000	
Sb	121	2	115	0.175	ppb	0.175	33.95	200	1000	
Ba	137	2	115	58.334	ppb	58.334	5.26	17389	5000	
W	182	2	165	0.726	ppb	0.726	14.31	4038	100	
Pt	195	2	165	0.019	ppb	0.019	65.20	90	100	
Tl	205	2	165	0.183	ppb	0.183	10.59	1357	2000	
Pb	208	2	165	7.460	ppb	7.460	1.29	68970	5000	
Th	232	2	165	5.378	ppb	5.378	1.60	76546	2000	
U	238	2	165	12.951	ppb	12.951	1.64	193390	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1021612	1.11	1639580	62.31	60	120	
Sc (IS)	45	1	HMI H2	23942870	0.68	31715490	75.49	60	120	
Sc (IS)	45	2	HMI He	756336	1.22	891522	84.84	60	120	
Sc (IS)	45	3	No Gas	36659050	0.25	54087154	67.78	60	120	
Ge Internal Standard	72	1	HMI H2	9732393	0.17	13102322	74.28	60	120	
Ge Internal Standard	72	2	HMI He	875639	0.36	1026205	85.33	60	120	
In Internal Standard	115	2	HMI He	3592506	0.92	4195206	85.63	60	120	
Ho-165	165	2	HMI He	17343948	0.96	20206547	85.83	60	120	

Sample Report

Sample Table

Sample Name	280-116248-I-7-bSD@5
Data File Name	209SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:40:23-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-34.685	ppb	-34.685	-11.15	119098	500000	
Li	7	2	45	-59.278	ppb	-59.278	-9.60	6585	500000	
Li	7	3	45	-49.231	ppb	-49.231	-7.45	3609436	50000	
Be	9	1	6	0.226	ppb	0.226	56.91	70	2000	
B	11	1	6	135.110	ppb	135.110	2.61	42240	2000	
Na	23	1	45	108258.547	ppb	108258.547	0.47	325342588	2000	>LDR
Na	23	2	45	100480.386	ppb	100480.386	1.61	20814193	400000	
Mg	24	2	45	17928.562	ppb	17928.562	1.10	1758471	400000	
Al	27	2	45	1875.359	ppb	1875.359	1.66	42068	400000	
K	39	1	45	2024.080	ppb	2024.080	2.00	15718696	400000	
K	39	2	45	2111.263	ppb	2111.263	1.40	112924	400000	
Ca	40	1	45	16749.727	ppb	16749.727	0.15	76715221	400000	
Ca	44	2	45	18399.036	ppb	18399.036	2.33	47575	400000	
Ti	47	2	45	54.292	ppb	54.292	11.06	1130	4000	
V	51	2	72	3.386	ppb	3.386	4.38	6002	2000	
Cr	52	2	72	2.784	ppb	2.784	2.05	3557	5000	
Mn	55	2	72	47.486	ppb	47.486	0.47	22311	10000	
Fe	57	2	72	2686.957	ppb	2686.957	1.04	59569	400000	
Co	59	2	72	0.910	ppb	0.910	6.49	1850	2000	
Ni	60	2	72	1.915	ppb	1.915	6.99	1247	5000	
Cu	63	2	72	2.528	ppb	2.528	2.78	5144	5000	
Zn	66	2	72	6.815	ppb	6.815	9.76	1697	5000	
As	75	2	72	0.505	ppb	0.505	11.41	109	2000	
Se	78	1	72	0.116	ppb	0.116	100.32	37	2000	
Sr	88	2	72	579.242	ppb	579.242	0.79	302246	4000	
Zr	90	2	72	99.893	ppb	99.893	3.62	780	1000	
Nb	93	2	72	0.207	ppb	0.207	37.98	1757	200	
Mo	95	2	115	1.451	ppb	1.451	3.14	1270	2000	
Pd	105	2	115	0.007	ppb	0.007	274.23	40	100	
Ag	107	2	115	-0.006	ppb	-0.006	-90.49	47	100	
Cd	111	2	115	0.046	ppb	0.046	91.58	17	2000	
Sn	120	2	115	0.292	ppb	0.292	7.03	443	2000	
Sb	121	2	115	0.035	ppb	0.035	35.81	83	1000	
Ba	137	2	115	12.427	ppb	12.427	5.15	3937	5000	
W	182	2	165	0.223	ppb	0.223	44.92	2260	100	
Pt	195	2	165	0.005	ppb	0.005	141.73	50	100	
Tl	205	2	165	0.037	ppb	0.037	9.29	370	2000	
Pb	208	2	165	1.543	ppb	1.543	3.81	15411	5000	
Th	232	2	165	1.056	ppb	1.056	2.21	15817	2000	
U	238	2	165	2.640	ppb	2.640	3.69	40983	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1104156	1.48	1639580	67.34	60	120	
Sc (IS)	45	1	HMI H2	25290368	0.35	31715490	79.74	60	120	
Sc (IS)	45	2	HMI He	783382	1.25	891522	87.87	60	120	
Sc (IS)	45	3	No Gas	38341869	0.66	54087154	70.89	60	120	
Ge Internal Standard	72	1	HMI H2	10427873	0.40	13102322	79.59	60	120	
Ge Internal Standard	72	2	HMI He	923989	0.83	1026205	90.04	60	120	
In Internal Standard	115	2	HMI He	3815901	0.27	4195206	90.96	60	120	
Ho-165	165	2	HMI He	17997396	1.27	20206547	89.07	60	120	

Sample Report

Sample Table

Sample Name	280-116248-I-7-c ms
Data File Name	210SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:44:10-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	82.518	ppb	82.518	15.89	146237	500000	
Li	7	2	45	37.963	ppb	37.963	42.02	7999	500000	
Li	7	3	45	57.086	ppb	57.086	8.66	4476392	50000	
Be	9	1	6	43.381	ppb	43.381	2.49	11165	2000	
B	11	1	6	633.243	ppb	633.243	1.55	178154	2000	
Na	23	1	45	523233.228	ppb	523233.228	2.77	1432048619	2000	>LDR
Na	23	2	45	478820.887	ppb	478820.887	0.17	93646799	400000	
Mg	24	2	45	81610.703	ppb	81610.703	0.89	7565696	400000	
Al	27	2	45	9333.332	ppb	9333.332	1.30	197792	400000	
K	39	1	45	9283.306	ppb	9283.306	3.11	34802934	400000	
K	39	2	45	10072.031	ppb	10072.031	0.42	449376	400000	
Ca	40	1	45	80400.100	ppb	80400.100	3.42	335570582	400000	
Ca	44	2	45	89419.625	ppb	89419.625	1.03	218437	400000	
Ti	47	2	45	251.916	ppb	251.916	2.00	4954	4000	
V	51	2	72	59.893	ppb	59.893	0.63	54025	2000	
Cr	52	2	72	50.864	ppb	50.864	2.37	56226	5000	
Mn	55	2	72	265.704	ppb	265.704	1.13	116227	10000	
Fe	57	2	72	12987.150	ppb	12987.150	0.29	268025	400000	
Co	59	2	72	40.917	ppb	40.917	1.25	77339	2000	
Ni	60	2	72	44.773	ppb	44.773	1.98	24115	5000	
Cu	63	2	72	47.605	ppb	47.605	0.61	70978	5000	
Zn	66	2	72	64.505	ppb	64.505	5.66	12940	5000	
As	75	2	72	39.339	ppb	39.339	3.54	5694	2000	
Se	78	1	72	38.263	ppb	38.263	2.77	7680	2000	
Sr	88	2	72	3438.690	ppb	3438.690	0.93	1673291	4000	
Zr	90	2	72	6757.597	ppb	6757.597	6.36	44750	1000	>LDR
Nb	93	2	72	0.684	ppb	0.684	11.74	3041	200	
Mo	95	2	115	41.367	ppb	41.367	2.13	32632	2000	
Pd	105	2	115	0.076	ppb	0.076	17.89	120	100	
Ag	107	2	115	36.440	ppb	36.440	1.21	93659	100	
Cd	111	2	115	38.172	ppb	38.172	1.53	12700	2000	
Sn	120	2	115	20.984	ppb	20.984	2.42	19625	2000	
Sb	121	2	115	23.248	ppb	23.248	1.33	19852	1000	
Ba	137	2	115	93.536	ppb	93.536	1.27	27502	5000	
W	182	2	165	9.465	ppb	9.465	1.93	35903	100	
Pt	195	2	165	-0.002	ppb	-0.002	-210.69	27	100	
Tl	205	2	165	38.109	ppb	38.109	0.95	259007	2000	
Pb	208	2	165	45.676	ppb	45.676	0.44	414426	5000	
Th	232	2	165	35.584	ppb	35.584	0.70	500240	2000	
U	238	2	165	44.258	ppb	44.258	0.12	654316	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1011333	1.53	1639580	61.68	60	120	
Sc (IS)	45	1	HMI H2	23071457	2.75	31715490	72.75	60	120	
Sc (IS)	45	2	HMI He	740510	0.76	891522	83.06	60	120	
Sc (IS)	45	3	No Gas	35767962	1.58	54087154	66.13	60	120	
Ge Internal Standard	72	1	HMI H2	9407624	1.66	13102322	71.80	60	120	
Ge Internal Standard	72	2	HMI He	861754	0.34	1026205	83.97	60	120	
In Internal Standard	115	2	HMI He	3543605	0.83	4195206	84.47	60	120	
Ho-165	165	2	HMI He	17177481	0.39	20206547	85.01	60	120	

Sample Report

Sample Table

Sample Name	280-116248-I-7-d msd
Data File Name	211SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:47:59-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	83.599	ppb	83.599	8.98	145107	500000	
Li	7	2	45	8.394	ppb	8.394	122.76	7479	500000	
Li	7	3	45	48.555	ppb	48.555	5.49	4432024	50000	
Be	9	1	6	42.743	ppb	42.743	0.95	10904	2000	
B	11	1	6	631.002	ppb	631.002	0.57	176012	2000	
Na	23	1	45	516227.320	ppb	516227.320	0.50	1398653952	2000	>LDR
Na	23	2	45	462432.352	ppb	462432.352	1.26	90653382	400000	
Mg	24	2	45	78278.464	ppb	78278.464	0.46	7274500	400000	
Al	27	2	45	8977.199	ppb	8977.199	0.32	190706	400000	
K	39	1	45	9071.706	ppb	9071.706	0.47	33859264	400000	
K	39	2	45	9746.932	ppb	9746.932	0.84	436433	400000	
Ca	40	1	45	79270.734	ppb	79270.734	0.28	327569042	400000	
Ca	44	2	45	85621.874	ppb	85621.874	0.21	209659	400000	
Ti	47	2	45	223.641	ppb	223.641	6.81	4408	4000	
V	51	2	72	56.977	ppb	56.977	2.85	50950	2000	
Cr	52	2	72	50.001	ppb	50.001	2.44	54664	5000	
Mn	55	2	72	258.020	ppb	258.020	0.99	111610	10000	
Fe	57	2	72	12685.503	ppb	12685.503	0.86	258889	400000	
Co	59	2	72	40.330	ppb	40.330	1.44	75383	2000	
Ni	60	2	72	43.583	ppb	43.583	4.25	23213	5000	
Cu	63	2	72	47.652	ppb	47.652	0.78	70255	5000	
Zn	66	2	72	62.708	ppb	62.708	4.13	12446	5000	
As	75	2	72	39.422	ppb	39.422	0.51	5642	2000	
Se	78	1	72	39.212	ppb	39.212	1.09	7809	2000	
Sr	88	2	72	3374.819	ppb	3374.819	0.42	1623923	4000	
Zr	90	2	72	6620.503	ppb	6620.503	2.13	43350	1000	>LDR
Nb	93	2	72	0.572	ppb	0.572	12.17	2680	200	
Mo	95	2	115	41.379	ppb	41.379	2.38	32425	2000	
Pd	105	2	115	0.127	ppb	0.127	25.47	180	100	
Ag	107	2	115	36.242	ppb	36.242	0.70	92544	100	
Cd	111	2	115	38.875	ppb	38.875	5.55	12850	2000	
Sn	120	2	115	21.915	ppb	21.915	3.57	20356	2000	
Sb	121	2	115	24.620	ppb	24.620	3.98	20880	1000	
Ba	137	2	115	96.959	ppb	96.959	3.54	28317	5000	
W	182	2	165	9.678	ppb	9.678	4.18	36177	100	
Pt	195	2	165	-0.007	ppb	-0.007	-76.53	13	100	
Tl	205	2	165	38.012	ppb	38.012	0.51	254748	2000	
Pb	208	2	165	45.413	ppb	45.413	0.94	406268	5000	
Th	232	2	165	35.433	ppb	35.433	1.13	491147	2000	
U	238	2	165	43.703	ppb	43.703	1.41	637068	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1002697	0.94	1639580	61.16	60	120	
Sc (IS)	45	1	HMI H2	22827855	0.41	31715490	71.98	60	120	
Sc (IS)	45	2	HMI He	742292	0.88	891522	83.26	60	120	
Sc (IS)	45	3	No Gas	36127878	0.30	54087154	66.80	60	120	
Ge Internal Standard	72	1	HMI H2	9332343	0.94	13102322	71.23	60	120	
Ge Internal Standard	72	2	HMI He	852145	0.45	1026205	83.04	60	120	
In Internal Standard	115	2	HMI He	3520616	0.78	4195206	83.92	60	120	
Ho-165	165	2	HMI He	16937568	0.75	20206547	83.82	60	120	

Sample Report

Sample Table

Sample Name	280-116248-I-7-b PDS
Data File Name	212SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:51:49-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	11.252	ppb	11.252	19.49	120556	500000	
Li	7	2	45	-26.501	ppb	-26.501	-26.08	6648	500000	
Li	7	3	45	-14.917	ppb	-14.917	-8.55	3761978	50000	
Be	9	1	6	217.610	ppb	217.610	1.09	55276	2000	
B	11	1	6	613.959	ppb	613.959	0.64	170605	2000	
Na	23	1	45	536495.709	ppb	536495.709	0.55	1435092405	2000	>LDR
Na	23	2	45	490197.619	ppb	490197.619	0.08	93416249	400000	
Mg	24	2	45	83886.243	ppb	83886.243	1.28	7577755	400000	
Al	27	2	45	11400.192	ppb	11400.192	0.08	235405	400000	
K	39	1	45	9560.769	ppb	9560.769	0.75	34776675	400000	
K	39	2	45	10474.124	ppb	10474.124	0.05	454744	400000	
Ca	40	1	45	82936.838	ppb	82936.838	0.28	338357035	400000	
Ca	44	2	45	90947.445	ppb	90947.445	1.04	216476	400000	
Ti	47	2	45	279.958	ppb	279.958	8.17	5365	4000	
V	51	2	72	220.693	ppb	220.693	1.41	186292	2000	
Cr	52	2	72	205.581	ppb	205.581	0.30	219955	5000	
Mn	55	2	72	434.225	ppb	434.225	1.28	184425	10000	
Fe	57	2	72	15396.979	ppb	15396.979	1.18	308562	400000	
Co	59	2	72	193.330	ppb	193.330	0.52	354860	2000	
Ni	60	2	72	192.171	ppb	192.171	1.20	100084	5000	
Cu	63	2	72	197.604	ppb	197.604	0.44	282807	5000	
Zn	66	2	72	232.696	ppb	232.696	2.64	44714	5000	
As	75	2	72	191.922	ppb	191.922	1.15	26868	2000	
Se	78	1	72	199.670	ppb	199.670	1.41	38782	2000	
Sr	88	2	72	3449.047	ppb	3449.047	1.15	1629974	4000	
Zr	90	2	72	41987.578	ppb	41987.578	0.56	269657	1000	>LDR
Nb	93	2	72	4.453	ppb	4.453	2.08	13711	200	
Mo	95	2	115	200.322	ppb	200.322	1.93	154318	2000	
Pd	105	2	115	0.136	ppb	0.136	27.58	187	100	
Ag	107	2	115	40.335	ppb	40.335	2.68	101317	100	
Cd	111	2	115	196.913	ppb	196.913	1.21	64064	2000	
Sn	120	2	115	206.323	ppb	206.323	0.43	187470	2000	
Sb	121	2	115	207.306	ppb	207.306	0.32	172694	1000	
Ba	137	2	115	269.281	ppb	269.281	3.86	77360	5000	
W	182	2	165	199.365	ppb	199.365	0.29	708621	100	
Pt	195	2	165	0.053	ppb	0.053	44.57	183	100	
Tl	205	2	165	247.905	ppb	247.905	0.79	1636630	2000	
Pb	208	2	165	203.406	ppb	203.406	0.51	1790832	5000	
Th	232	2	165	18.049	ppb	18.049	1.65	246685	2000	
U	238	2	165	215.822	ppb	215.822	0.94	3099902	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	998761	1.45	1639580	60.92	60	120	
Sc (IS)	45	1	HMI H2	22537723	0.26	31715490	71.06	60	120	
Sc (IS)	45	2	HMI He	721552	0.26	891522	80.93	60	120	
Sc (IS)	45	3	No Gas	36119269	0.61	54087154	66.78	60	120	
Ge Internal Standard	72	1	HMI H2	9111817	0.21	13102322	69.54	60	120	
Ge Internal Standard	72	2	HMI He	836886	0.52	1026205	81.55	60	120	
In Internal Standard	115	2	HMI He	3464669	2.17	4195206	82.59	60	120	
Ho-165	165	2	HMI He	16691267	0.63	20206547	82.60	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	213_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:55:39-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	422.150	ppb	1.663	272277	500	84.4	90	110	>+\-10%
Li	7	2	45	346.018	ppb	7.795	13984	500	69.2	90	110	>+\-10%
Li	7	3	45	371.020	ppb	3.780	8189108	500	74.2	90	110	>+\-10%
Be	9	1	6	51.238	ppb	1.866	14574	50	102.5	90	110	
B	11	1	6	62.942	ppb	2.927	20448	50	125.9	90	110	>+\-10%
Na	23	1	45	5728.911	ppb	0.505	17192138	5000	114.6	90	110	>+\-10%
Na	23	2	45	5413.360	ppb	1.589	1119749	5000	108.3	90	110	
Mg	24	2	45	4382.187	ppb	0.825	417192	5000	87.6	90	110	>+\-10%
Al	27	2	45	5255.813	ppb	1.137	114304	5000	105.1	90	110	
K	39	1	45	5575.659	ppb	0.996	25961389	5000	111.5	90	110	>+\-10%
K	39	2	45	5220.110	ppb	0.289	246841	5000	104.4	90	110	
Ca	40	1	45	5372.744	ppb	0.491	23955067	5000	107.5	90	110	
Ca	44	2	45	5109.124	ppb	1.014	12850	5000	102.2	90	110	
Ti	47	2	45	47.924	ppb	13.445	967	50	95.8	90	110	
V	51	2	72	46.951	ppb	2.402	44492	50	93.9	90	110	
Cr	52	2	72	48.275	ppb	1.167	55316	50	96.5	90	110	
Mn	55	2	72	50.096	ppb	1.640	22745	50	100.2	90	110	
Fe	57	2	72	4854.767	ppb	0.541	103916	5000	97.1	90	110	
Co	59	2	72	48.148	ppb	0.445	94316	50	96.3	90	110	
Ni	60	2	72	47.118	ppb	6.126	26298	50	94.2	90	110	
Cu	63	2	72	47.326	ppb	0.684	73132	50	94.7	90	110	
Zn	66	2	72	47.357	ppb	1.278	9911	50	94.7	90	110	
As	75	2	72	47.917	ppb	3.613	7180	50	95.8	90	110	
Se	78	1	72	50.601	ppb	4.347	10942	50	101.2	90	110	
Sr	88	2	72	55.853	ppb	0.278	28206	50	111.7	90	110	>+\-10%
Zr	90	2	72	97.910	ppb	22.043	740	50	195.8	90	110	>+\-10%
Nb	93	2	72	87.501	ppb	1.121	267568	100	87.5	90	110	>+\-10%
Mo	95	2	115	47.762	ppb	1.147	39336	50	95.5	90	110	
Pd	105	2	115	49.063	ppb	1.581	61529	50	98.1	90	110	
Ag	107	2	115	47.470	ppb	0.812	127395	50	94.9	90	110	
Cd	111	2	115	48.389	ppb	3.373	16811	50	96.8	90	110	
Sn	120	2	115	51.400	ppb	1.706	49998	50	102.8	90	110	
Sb	121	2	115	51.579	ppb	0.853	45930	50	103.2	90	110	
Ba	137	2	115	51.817	ppb	2.802	15913	50	103.6	90	110	
W	182	2	165	47.829	ppb	1.832	180172	50	95.7	90	110	
Pt	195	2	165	47.335	ppb	0.583	142373	50	94.7	90	110	
Tl	205	2	165	50.807	ppb	0.141	353544	50	101.6	90	110	
Pb	208	2	165	51.032	ppb	0.769	473992	50	102.1	90	110	
Th	232	2	165	39.333	ppb	0.562	566145	50	78.7	90	110	>+\-10%
U	238	2	165	39.832	ppb	0.775	602964	50	79.7	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1118083	0.60	1639580	68.19	60	120	
Sc (IS)	45	1	HMI H2	24589921	0.39	31715490	77.53	60	120	
Sc (IS)	45	2	HMI He	759861	0.73	891522	85.23	60	120	
Sc (IS)	45	3	No Gas	37781619	0.51	54087154	69.85	60	120	
Ge Internal Standard	72	1	HMI H2	10137616	0.89	13102322	77.37	60	120	
Ge Internal Standard	72	2	HMI He	893058	0.53	1026205	87.03	60	120	
In Internal Standard	115	2	HMI He	3700650	0.74	4195206	88.21	60	120	
Ho-165	165	2	HMI He	17588686	0.90	20206547	87.04	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	214_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:59:26-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-68.588	ppb	-2.3	3699539	10	
Be	9	1	6	0.057	ppb	196.2	23	0.5	
B	11	1	6	11.600	ppb	9.9	4644	0.5	>RL
Na	23	1	45	400.765	ppb	2.5	1639793	25	>RL
Na	23	2	45	313.113	ppb	0.6	97481	25	>RL
Mg	24	2	45	55.647	ppb	3.6	5685	25	>RL
Al	27	2	45	5.430	ppb	26.0	153	15	
K	39	1	45	281.132	ppb	6.2	10001017	50	>RL
K	39	2	45	30.459	ppb	16.1	17798	50	
Ca	40	1	45	12.389	ppb	4.1	97643	50	
Ca	44	2	45	8.231	ppb	110.5	67	25	
Ti	47	2	45	0.163	ppb	173.2	3	0.5	
V	51	2	72	-0.628	ppb	-11.0	2257	1	
Cr	52	2	72	-0.034	ppb	-80.9	227	1	
Mn	55	2	72	0.094	ppb	23.5	90	0.5	
Fe	57	2	72	2.872	ppb	56.2	197	25	
Co	59	2	72	0.027	ppb	63.8	60	0.5	
Ni	60	2	72	0.018	ppb	609.6	153	1	
Cu	63	2	72	0.001	ppb	18402.0	1137	1	
Zn	66	2	72	0.153	ppb	160.7	283	5	
As	75	2	72	0.024	ppb	462.2	34	1	
Se	78	1	72	0.059	ppb	31.1	24	1	
Sr	88	2	72	0.168	ppb	35.8	127	0.5	
Zr	90	2	72	7.193	ppb	0.6	120	1	>RL
Nb	93	2	72	3.185	ppb	9.0	10868	2	>RL
Mo	95	2	115	0.060	ppb	98.0	90	0.5	
Pd	105	2	115	0.031	ppb	90.3	70	1	
Ag	107	2	115	0.000	ppb	-15444.2	63	1	
Cd	111	2	115	0.019	ppb	173.2	7	0.5	
Sn	120	2	115	0.236	ppb	77.5	387	1	
Sb	121	2	115	0.473	ppb	29.2	483	0.6	
Ba	137	2	115	0.064	ppb	123.6	23	0.5	
W	182	2	165	0.159	ppb	31.4	1967	1	
Pt	195	2	165	0.007	ppb	51.9	57	1	
Tl	205	2	165	0.025	ppb	56.8	280	0.1	
Pb	208	2	165	0.004	ppb	204.7	793	0.5	
Th	232	2	165	0.028	ppb	13.3	667	1	
U	238	2	165	0.022	ppb	18.3	440	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1141014	1.69	1639580	69.59	60	120	
Sc (IS)	45	1	HMI H2	24487515	0.99	31715490	77.21	60	120	
Sc (IS)	45	2	HMI He	766589	0.36	891522	85.99	60	120	
Sc (IS)	45	3	No Gas	41807336	2.17	54087154	77.30	60	120	
Ge Internal Standard	72	1	HMI H2	10111835	0.43	13102322	77.18	60	120	
Ge Internal Standard	72	2	HMI He	901352	0.24	1026205	87.83	60	120	
In Internal Standard	115	2	HMI He	3801729	0.43	4195206	90.62	60	120	
Ho-165	165	2	HMI He	17538599	0.48	20206547	86.80	60	120	

Sample Report

Sample Table

Sample Name	280-116248-f-8-b
Data File Name	215SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:03:12-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	69.840	ppb	69.840	11.13	135476	500000	
Li	7	2	45	28.128	ppb	28.128	81.26	7529	500000	
Li	7	3	45	25.609	ppb	25.609	7.60	4264733	50000	
Be	9	1	6	1.373	ppb	1.373	14.58	287	2000	
B	11	1	6	1133.965	ppb	1133.965	12.36	252670	2000	
Na	23	1	45	322034.075	ppb	322034.075	0.42	840117907	2000	>LDR
Na	23	2	45	292731.221	ppb	292731.221	1.31	55147671	400000	
Mg	24	2	45	420255.486	ppb	420255.486	1.16	37518760	400000	
Al	27	2	45	19392.836	ppb	19392.836	1.93	395779	400000	
K	39	1	45	21205.990	ppb	21205.990	1.05	65198152	400000	
K	39	2	45	21461.241	ppb	21461.241	1.04	904882	400000	
Ca	40	1	45	629040.043	ppb	629040.043	1.26	2502039536	400000	
Ca	44	2	45	769779.065	ppb	769779.065	1.08	1810542	400000	
Ti	47	2	45	650.471	ppb	650.471	5.87	12316	4000	
V	51	2	72	33.641	ppb	33.641	2.68	29778	2000	
Cr	52	2	72	23.297	ppb	23.297	1.62	24448	5000	
Mn	55	2	72	1423.639	ppb	1423.639	0.89	588032	10000	
Fe	57	2	72	32475.382	ppb	32475.382	0.51	632768	400000	
Co	59	2	72	19.253	ppb	19.253	0.65	34372	2000	
Ni	60	2	72	21.917	ppb	21.917	5.08	11212	5000	
Cu	63	2	72	23.756	ppb	23.756	2.48	33971	5000	
Zn	66	2	72	69.387	ppb	69.387	1.58	13130	5000	
As	75	2	72	27.060	ppb	27.060	6.66	3711	2000	
Se	78	1	72	1.174	ppb	1.174	8.75	229	2000	
Sr	88	2	72	19368.831	ppb	19368.831	0.78	8902410	4000	
Zr	90	2	72	1163.432	ppb	1163.432	3.77	7329	1000	
Nb	93	2	72	4.603	ppb	4.603	7.37	13761	200	
Mo	95	2	115	0.694	ppb	0.694	18.12	557	2000	
Pd	105	2	115	0.633	ppb	0.633	0.52	753	100	
Ag	107	2	115	0.100	ppb	0.100	39.02	300	100	
Cd	111	2	115	0.264	ppb	0.264	94.98	83	2000	
Sn	120	2	115	1.166	ppb	1.166	3.62	1170	2000	
Sb	121	2	115	0.612	ppb	0.612	22.91	547	1000	
Ba	137	2	115	121.154	ppb	121.154	3.34	34080	5000	
W	182	2	165	1.264	ppb	1.264	4.12	5725	100	
Pt	195	2	165	-0.006	ppb	-0.006	-68.46	17	100	
Tl	205	2	165	0.333	ppb	0.333	11.85	2270	2000	
Pb	208	2	165	26.491	ppb	26.491	0.67	231208	5000	
Th	232	2	165	11.356	ppb	11.356	1.61	153535	2000	
U	238	2	165	12.073	ppb	12.073	0.94	171576	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	811470	13.19	1639580	49.49	60	120	IS Failed
Sc (IS)	45	1	HMI H2	21976116	0.81	31715490	69.29	60	120	
Sc (IS)	45	2	HMI He	713276	3.08	891522	80.01	60	120	
Sc (IS)	45	3	No Gas	36771169	1.25	54087154	67.99	60	120	
Ge Internal Standard	72	1	HMI H2	8776301	0.65	13102322	66.98	60	120	
Ge Internal Standard	72	2	HMI He	813889	2.14	1026205	79.31	60	120	
In Internal Standard	115	2	HMI He	3390888	2.48	4195206	80.83	60	120	
Ho-165	165	2	HMI He	16503664	2.30	20206547	81.67	60	120	

Sample Report

Sample Table

Sample Name	280-116276-d-1-b
Data File Name	216SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:07:04-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	107.110	ppb	107.110	4.78	148153	500000	
Li	7	2	45	67.542	ppb	67.542	43.99	8063	500000	
Li	7	3	45	85.308	ppb	85.308	6.16	4480829	50000	
Be	9	1	6	0.098	ppb	0.098	90.34	23	2000	
B	11	1	6	2581.117	ppb	2581.117	14.52	563324	2000	
Na	23	1	45	1110421.637	ppb	1110421.637	3.39	2919511103	2000	>LDR
Na	23	2	45	1026206.780	ppb	1026206.780	2.25	189362977	400000	
Mg	24	2	45	291999.130	ppb	291999.130	2.30	25545386	400000	
Al	27	2	45	288.507	ppb	288.507	3.81	5801	400000	
K	39	1	45	3952.330	ppb	3952.330	6.66	18993173	400000	
K	39	2	45	4457.560	ppb	4457.560	3.39	196013	400000	
Ca	40	1	45	219167.699	ppb	219167.699	4.00	878836387	400000	
Ca	44	2	45	238895.300	ppb	238895.300	2.21	550618	400000	
Ti	47	2	45	18.292	ppb	18.292	11.89	340	4000	
V	51	2	72	43.977	ppb	43.977	1.65	37426	2000	
Cr	52	2	72	4.217	ppb	4.217	8.16	4534	5000	
Mn	55	2	72	7337.719	ppb	7337.719	1.70	2973428	10000	
Fe	57	2	72	8697.624	ppb	8697.624	2.50	166381	400000	
Co	59	2	72	5.577	ppb	5.577	3.14	9774	2000	
Ni	60	2	72	57.326	ppb	57.326	2.57	28582	5000	
Cu	63	2	72	1.386	ppb	1.386	17.77	2890	5000	
Zn	66	2	72	3344.820	ppb	3344.820	2.36	610369	5000	
As	75	2	72	42.264	ppb	42.264	3.27	5667	2000	
Se	78	1	72	1.271	ppb	1.271	23.37	248	2000	
Sr	88	2	72	7814.079	ppb	7814.079	1.57	3523863	4000	
Zr	90	2	72	5240.854	ppb	5240.854	2.17	32178	1000	>LDR
Nb	93	2	72	3.277	ppb	3.277	8.37	9877	200	
Mo	95	2	115	1.552	ppb	1.552	2.89	1173	2000	
Pd	105	2	115	0.263	ppb	0.263	36.34	320	100	
Ag	107	2	115	0.003	ppb	0.003	378.69	63	100	
Cd	111	2	115	0.022	ppb	0.022	173.21	7	2000	
Sn	120	2	115	0.882	ppb	0.882	9.36	893	2000	
Sb	121	2	115	0.938	ppb	0.938	10.52	790	1000	
Ba	137	2	115	163.280	ppb	163.280	3.54	44711	5000	
W	182	2	165	1.396	ppb	1.396	4.55	5895	100	
Pt	195	2	165	0.008	ppb	0.008	21.26	53	100	
Tl	205	2	165	0.004	ppb	0.004	153.21	117	2000	
Pb	208	2	165	0.455	ppb	0.455	7.99	4437	5000	
Th	232	2	165	0.152	ppb	0.152	3.58	2190	2000	
U	238	2	165	16.943	ppb	16.943	2.31	229103	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	798431	14.42	1639580	48.70	60	120	IS Failed
Sc (IS)	45	1	HMI H2	22167951	2.43	31715490	69.90	60	120	
Sc (IS)	45	2	HMI He	698981	1.82	891522	78.40	60	120	
Sc (IS)	45	3	No Gas	33590300	0.55	54087154	62.10	60	120	
Ge Internal Standard	72	1	HMI H2	8785715	1.24	13102322	67.05	60	120	
Ge Internal Standard	72	2	HMI He	798729	1.22	1026205	77.83	60	120	
In Internal Standard	115	2	HMI He	3302403	2.51	4195206	78.72	60	120	
Ho-165	165	2	HMI He	15712417	2.22	20206547	77.76	60	120	

Sample Report

Sample Table

Sample Name	280-116276-d-2-b
Data File Name	217SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:10:56-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-14.551	ppb	-14.551	-18.21	111773	500000	
Li	7	2	45	-60.019	ppb	-60.019	-16.68	5988	500000	
Li	7	3	45	-36.047	ppb	-36.047	-11.77	3437510	50000	
Be	9	1	6	0.627	ppb	0.627	18.05	147	2000	
B	11	1	6	254.772	ppb	254.772	13.07	63351	2000	
Na	23	1	45	276583.992	ppb	276583.992	0.48	735545429	2000	>LDR
Na	23	2	45	254009.855	ppb	254009.855	0.88	47921711	400000	
Mg	24	2	45	67047.872	ppb	67047.872	1.18	5994093	400000	
Al	27	2	45	6693.930	ppb	6693.930	1.24	136806	400000	
K	39	1	45	5117.572	ppb	5117.572	1.58	22395516	400000	
K	39	2	45	6362.109	ppb	6362.109	0.44	279389	400000	
Ca	40	1	45	111229.462	ppb	111229.462	0.96	450996993	400000	
Ca	44	2	45	113406.462	ppb	113406.462	1.55	267139	400000	
Ti	47	2	45	207.080	ppb	207.080	1.31	3927	4000	
V	51	2	72	9.094	ppb	9.094	1.00	10114	2000	
Cr	52	2	72	7.373	ppb	7.373	2.82	8069	5000	
Mn	55	2	72	118.101	ppb	118.101	1.09	49833	10000	
Fe	57	2	72	7666.320	ppb	7666.320	0.64	152610	400000	
Co	59	2	72	2.743	ppb	2.743	1.81	5004	2000	
Ni	60	2	72	5.626	ppb	5.626	3.25	3037	5000	
Cu	63	2	72	8.433	ppb	8.433	3.63	12983	5000	
Zn	66	2	72	36.050	ppb	36.050	1.49	7075	5000	
As	75	2	72	1.992	ppb	1.992	6.29	305	2000	
Se	78	1	72	0.195	ppb	0.195	18.65	48	2000	
Sr	88	2	72	1976.139	ppb	1976.139	0.46	927212	4000	
Zr	90	2	72	317.152	ppb	317.152	9.43	2087	1000	
Nb	93	2	72	0.623	ppb	0.623	6.53	2757	200	
Mo	95	2	115	11.298	ppb	11.298	2.75	8616	2000	
Pd	105	2	115	0.048	ppb	0.048	54.92	83	100	
Ag	107	2	115	0.059	ppb	0.059	57.48	203	100	
Cd	111	2	115	0.563	ppb	0.563	30.45	180	2000	
Sn	120	2	115	0.356	ppb	0.356	25.76	453	2000	
Sb	121	2	115	0.138	ppb	0.138	56.05	160	1000	
Ba	137	2	115	64.565	ppb	64.565	1.19	18300	5000	
W	182	2	165	0.534	ppb	0.534	3.20	3151	100	
Pt	195	2	165	-0.007	ppb	-0.007	-79.95	13	100	
Tl	205	2	165	0.124	ppb	0.124	7.81	900	2000	
Pb	208	2	165	6.375	ppb	6.375	0.81	55923	5000	
Th	232	2	165	3.053	ppb	3.053	2.70	41270	2000	
U	238	2	165	6.397	ppb	6.397	1.69	90542	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	897031	12.56	1639580	54.71	60	120	IS Failed
Sc (IS)	45	1	HMI H2	22400381	0.30	31715490	70.63	60	120	
Sc (IS)	45	2	HMI He	714146	1.20	891522	80.10	60	120	
Sc (IS)	45	3	No Gas	35081404	0.51	54087154	64.86	60	120	
Ge Internal Standard	72	1	HMI H2	9111128	0.38	13102322	69.54	60	120	
Ge Internal Standard	72	2	HMI He	830933	1.00	1026205	80.97	60	120	
In Internal Standard	115	2	HMI He	3415496	1.49	4195206	81.41	60	120	
Ho-165	165	2	HMI He	16427250	0.14	20206547	81.30	60	120	

Sample Report

Sample Table

Sample Name	280-116276-f-4-b
Data File Name	218SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:14:43-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-33.610	ppb	-33.610	-6.49	104386	500000	
Li	7	2	45	-59.318	ppb	-59.318	-30.95	5908	500000	
Li	7	3	45	-48.297	ppb	-48.297	-9.68	3273176	50000	
Be	9	1	6	0.280	ppb	0.280	41.38	60	2000	
B	11	1	6	261.055	ppb	261.055	14.47	58157	2000	
Na	23	1	45	284819.158	ppb	284819.158	0.77	747093349	2000	>LDR
Na	23	2	45	258276.947	ppb	258276.947	0.49	47982541	400000	
Mg	24	2	45	155624.862	ppb	155624.862	1.07	13700421	400000	
Al	27	2	45	5258.340	ppb	5258.340	2.08	105827	400000	
K	39	1	45	6117.560	ppb	6117.560	1.42	24791708	400000	
K	39	2	45	7181.602	ppb	7181.602	0.46	308609	400000	
Ca	40	1	45	454286.712	ppb	454286.712	0.96	1816724240	400000	
Ca	44	2	45	474045.626	ppb	474045.626	6.70	1099824	400000	
Ti	47	2	45	133.419	ppb	133.419	7.08	2490	4000	
V	51	2	72	13.360	ppb	13.360	3.95	13300	2000	
Cr	52	2	72	9.884	ppb	9.884	2.36	10468	5000	
Mn	55	2	72	579.846	ppb	579.846	1.22	238519	10000	
Fe	57	2	72	10876.931	ppb	10876.931	1.13	211158	400000	
Co	59	2	72	3.585	ppb	3.585	4.62	6378	2000	
Ni	60	2	72	7.752	ppb	7.752	3.25	4034	5000	
Cu	63	2	72	5.114	ppb	5.114	3.53	8083	5000	
Zn	66	2	72	19.481	ppb	19.481	9.40	3834	5000	
As	75	2	72	45.894	ppb	45.894	1.74	6244	2000	
Se	78	1	72	1.219	ppb	1.219	47.99	241	2000	
Sr	88	2	72	2059.780	ppb	2059.780	0.46	942713	4000	
Zr	90	2	72	627.306	ppb	627.306	4.66	3964	1000	
Nb	93	2	72	0.611	ppb	0.611	13.01	2657	200	
Mo	95	2	115	139.832	ppb	139.832	1.49	104154	2000	
Pd	105	2	115	0.029	ppb	0.029	61.52	60	100	
Ag	107	2	115	0.017	ppb	0.017	38.63	97	100	
Cd	111	2	115	0.330	ppb	0.330	40.64	103	2000	
Sn	120	2	115	0.713	ppb	0.713	20.38	760	2000	
Sb	121	2	115	0.921	ppb	0.921	7.94	787	1000	
Ba	137	2	115	129.415	ppb	129.415	0.56	35962	5000	
W	182	2	165	1.571	ppb	1.571	2.59	6712	100	
Pt	195	2	165	-0.002	ppb	-0.002	-402.05	27	100	
Tl	205	2	165	0.365	ppb	0.365	4.98	2444	2000	
Pb	208	2	165	5.062	ppb	5.062	3.06	44144	5000	
Th	232	2	165	2.961	ppb	2.961	1.26	39675	2000	
U	238	2	165	127.905	ppb	127.905	0.83	1792227	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	804953	13.13	1639580	49.10	60	120	IS Failed
Sc (IS)	45	1	HMI H2	22095455	0.80	31715490	69.67	60	120	
Sc (IS)	45	2	HMI He	703189	1.31	891522	78.88	60	120	
Sc (IS)	45	3	No Gas	34671123	1.06	54087154	64.10	60	120	
Ge Internal Standard	72	1	HMI H2	8903657	0.31	13102322	67.95	60	120	
Ge Internal Standard	72	2	HMI He	810462	1.56	1026205	78.98	60	120	
In Internal Standard	115	2	HMI He	3349028	1.78	4195206	79.83	60	120	
Ho-165	165	2	HMI He	16281604	1.97	20206547	80.58	60	120	

Sample Report

Sample Table

Sample Name	280-116276-f-5-b
Data File Name	219SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:18:33-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	68.653	ppb	68.653	14.99	131287	500000	
Li	7	2	45	20.623	ppb	20.623	73.96	6955	500000	
Li	7	3	45	31.635	ppb	31.635	26.97	3990027	50000	
Be	9	1	6	0.138	ppb	0.138	140.96	30	2000	
B	11	1	6	1152.749	ppb	1152.749	0.69	233574	2000	
Na	23	1	45	483364.510	ppb	483364.510	1.25	1224999555	2000	>LDR
Na	23	2	45	443265.298	ppb	443265.298	0.54	78481034	400000	
Mg	24	2	45	147884.746	ppb	147884.746	0.37	12410968	400000	
Al	27	2	45	2322.453	ppb	2322.453	0.28	44578	400000	
K	39	1	45	13220.939	ppb	13220.939	1.28	42503943	400000	
K	39	2	45	13968.518	ppb	13968.518	0.89	558625	400000	
Ca	40	1	45	285892.773	ppb	285892.773	1.43	1104908197	400000	
Ca	44	2	45	315504.363	ppb	315504.363	0.82	697571	400000	
Ti	47	2	45	101.850	ppb	101.850	5.51	1814	4000	
V	51	2	72	2.304	ppb	2.304	19.96	4194	2000	
Cr	52	2	72	2.750	ppb	2.750	4.95	2947	5000	
Mn	55	2	72	94.234	ppb	94.234	1.87	37042	10000	
Fe	57	2	72	3742.160	ppb	3742.160	1.20	69444	400000	
Co	59	2	72	3.215	ppb	3.215	1.73	5461	2000	
Ni	60	2	72	3.744	ppb	3.744	10.96	1924	5000	
Cu	63	2	72	4.596	ppb	4.596	1.52	7035	5000	
Zn	66	2	72	11.950	ppb	11.950	13.48	2330	5000	
As	75	2	72	3.682	ppb	3.682	15.45	503	2000	
Se	78	1	72	1.034	ppb	1.034	22.37	199	2000	
Sr	88	2	72	12801.883	ppb	12801.883	0.68	5594378	4000	
Zr	90	2	72	249.762	ppb	249.762	3.27	1543	1000	
Nb	93	2	72	0.367	ppb	0.367	13.83	1894	200	
Mo	95	2	115	3.184	ppb	3.184	9.16	2304	2000	
Pd	105	2	115	0.376	ppb	0.376	5.25	433	100	
Ag	107	2	115	-0.004	ppb	-0.004	-340.32	43	100	
Cd	111	2	115	0.133	ppb	0.133	24.95	40	2000	
Sn	120	2	115	0.602	ppb	0.602	17.22	633	2000	
Sb	121	2	115	0.467	ppb	0.467	18.15	403	1000	
Ba	137	2	115	23.509	ppb	23.509	10.07	6258	5000	
W	182	2	165	0.130	ppb	0.130	38.31	1640	100	
Pt	195	2	165	-0.009	ppb	-0.009	-23.99	7	100	
Tl	205	2	165	0.055	ppb	0.055	13.34	430	2000	
Pb	208	2	165	3.574	ppb	3.574	1.96	29851	5000	
Th	232	2	165	1.233	ppb	1.233	2.26	15847	2000	
U	238	2	165	3.310	ppb	3.310	2.42	44217	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	729965	0.11	1639580	44.52	60	120	IS Failed
Sc (IS)	45	1	HMI H2	21353243	0.59	31715490	67.33	60	120	
Sc (IS)	45	2	HMI He	670360	0.43	891522	75.19	60	120	
Sc (IS)	45	3	No Gas	33893153	0.94	54087154	62.66	60	120	
Ge Internal Standard	72	1	HMI H2	8580211	0.27	13102322	65.49	60	120	
Ge Internal Standard	72	2	HMI He	773928	0.85	1026205	75.42	60	120	
In Internal Standard	115	2	HMI He	3206795	0.43	4195206	76.44	60	120	
Ho-165	165	2	HMI He	15486519	0.59	20206547	76.64	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	220_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:22:26-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	406.256	ppb	1.640	247410	500	81.3	90	110	>+\-10%
Li	7	2	45	380.311	ppb	7.281	13633	500	76.1	90	110	>+\-10%
Li	7	3	45	359.451	ppb	4.633	7572129	500	71.9	90	110	>+\-10%
Be	9	1	6	49.116	ppb	6.217	13003	50	98.2	90	110	
B	11	1	6	61.989	ppb	1.956	18773	50	124.0	90	110	>+\-10%
Na	23	1	45	5745.404	ppb	0.773	15986414	5000	114.9	90	110	>+\-10%
Na	23	2	45	4902.367	ppb	6.558	948292	5000	98.0	90	110	
Mg	24	2	45	4297.141	ppb	0.584	381276	5000	85.9	90	110	>+\-10%
Al	27	2	45	5194.391	ppb	0.917	105289	5000	103.9	90	110	
K	39	1	45	5580.379	ppb	1.330	24085644	5000	111.6	90	110	>+\-10%
K	39	2	45	5262.032	ppb	0.649	231772	5000	105.2	90	110	
Ca	40	1	45	5448.119	ppb	0.490	22523985	5000	109.0	90	110	
Ca	44	2	45	5249.612	ppb	3.986	12306	5000	105.0	90	110	
Ti	47	2	45	56.393	ppb	9.867	1060	50	112.8	90	110	>+\-10%
V	51	2	72	46.433	ppb	0.556	40778	50	92.9	90	110	
Cr	52	2	72	47.398	ppb	2.418	50295	50	94.8	90	110	
Mn	55	2	72	49.437	ppb	0.553	20789	50	98.9	90	110	
Fe	57	2	72	4785.453	ppb	0.341	94866	5000	95.7	90	110	
Co	59	2	72	48.456	ppb	2.697	87886	50	96.9	90	110	
Ni	60	2	72	47.584	ppb	3.863	24582	50	95.2	90	110	
Cu	63	2	72	46.702	ppb	2.914	66842	50	93.4	90	110	
Zn	66	2	72	48.923	ppb	5.921	9470	50	97.8	90	110	
As	75	2	72	47.884	ppb	3.754	6645	50	95.8	90	110	
Se	78	1	72	49.110	ppb	2.518	9876	50	98.2	90	110	
Sr	88	2	72	56.907	ppb	1.919	26616	50	113.8	90	110	>+\-10%
Zr	90	2	72	84.365	ppb	10.559	600	50	168.7	90	110	>+\-10%
Nb	93	2	72	86.118	ppb	1.151	243889	100	86.1	90	110	>+\-10%
Mo	95	2	115	46.185	ppb	2.097	35579	50	92.4	90	110	
Pd	105	2	115	48.683	ppb	3.096	57077	50	97.4	90	110	
Ag	107	2	115	46.483	ppb	1.487	116650	50	93.0	90	110	
Cd	111	2	115	49.764	ppb	1.877	16170	50	99.5	90	110	
Sn	120	2	115	49.102	ppb	1.046	44670	50	98.2	90	110	
Sb	121	2	115	49.133	ppb	1.889	40925	50	98.3	90	110	
Ba	137	2	115	51.017	ppb	1.677	14649	50	102.0	90	110	
W	182	2	165	47.851	ppb	1.424	168293	50	95.7	90	110	
Pt	195	2	165	46.835	ppb	0.858	131521	50	93.7	90	110	
Tl	205	2	165	50.351	ppb	1.226	327090	50	100.7	90	110	
Pb	208	2	165	50.773	ppb	0.709	440289	50	101.5	90	110	
Th	232	2	165	38.726	ppb	0.663	520397	50	77.5	90	110	>+\-10%
U	238	2	165	39.372	ppb	0.400	556439	50	78.7	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1041388	1.78	1639580	63.52	60	120	
Sc (IS)	45	1	HMI H2	22801135	0.62	31715490	71.89	60	120	
Sc (IS)	45	2	HMI He	708177	0.87	891522	79.43	60	120	
Sc (IS)	45	3	No Gas	35489624	0.77	54087154	65.62	60	120	
Ge Internal Standard	72	1	HMI H2	9425092	0.59	13102322	71.93	60	120	
Ge Internal Standard	72	2	HMI He	827093	1.31	1026205	80.60	60	120	
In Internal Standard	115	2	HMI He	3460750	1.18	4195206	82.49	60	120	
Ho-165	165	2	HMI He	16420192	0.87	20206547	81.26	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	221_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:26:12-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-59.622	ppb	-12.7	3239325	10	
Be	9	1	6	0.127	ppb	59.7	40	0.5	
B	11	1	6	11.923	ppb	10.7	4361	0.5	>RL
Na	23	1	45	428.759	ppb	2.1	1600857	25	>RL
Na	23	2	45	339.884	ppb	0.6	95588	25	>RL
Mg	24	2	45	54.151	ppb	5.6	5148	25	>RL
Al	27	2	45	1.545	ppb	120.6	63	15	
K	39	1	45	235.687	ppb	2.1	9174677	50	>RL
K	39	2	45	31.661	ppb	10.5	16583	50	
Ca	40	1	45	13.658	ppb	2.9	96044	50	
Ca	44	2	45	4.529	ppb	212.0	53	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.617	ppb	-18.9	2107	1	
Cr	52	2	72	-0.022	ppb	-200.0	223	1	
Mn	55	2	72	0.109	ppb	129.7	90	0.5	
Fe	57	2	72	0.408	ppb	496.8	133	25	
Co	59	2	72	0.019	ppb	29.2	40	0.5	
Ni	60	2	72	0.000	ppb	14823.8	133	1	
Cu	63	2	72	-0.067	ppb	-132.5	960	1	
Zn	66	2	72	0.066	ppb	131.8	247	5	
As	75	2	72	0.013	ppb	695.6	30	1	
Se	78	1	72	0.014	ppb	293.5	13	1	
Sr	88	2	72	0.131	ppb	33.0	100	0.5	
Zr	90	2	72	0.203	ppb	1144.3	67	1	
Nb	93	2	72	3.218	ppb	7.1	10198	2	>RL
Mo	95	2	115	0.047	ppb	19.0	73	0.5	
Pd	105	2	115	0.052	ppb	34.1	90	1	
Ag	107	2	115	0.007	ppb	286.5	77	1	
Cd	111	2	115	0.020	ppb	173.2	7	0.5	
Sn	120	2	115	0.147	ppb	27.5	277	1	
Sb	121	2	115	0.312	ppb	11.6	313	0.6	
Ba	137	2	115	0.071	ppb	101.7	23	0.5	
W	182	2	165	0.083	ppb	49.8	1584	1	
Pt	195	2	165	-0.002	ppb	-100.8	27	1	
Tl	205	2	165	0.010	ppb	213.0	160	0.1	
Pb	208	2	165	-0.003	ppb	-150.8	683	0.5	
Th	232	2	165	0.029	ppb	44.8	640	1	
U	238	2	165	0.017	ppb	55.9	350	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1047275	0.31	1639580	63.87	60	120	
Sc (IS)	45	1	HMI H2	22773360	0.35	31715490	71.81	60	120	
Sc (IS)	45	2	HMI He	712130	0.91	891522	79.88	60	120	
Sc (IS)	45	3	No Gas	35557026	0.84	54087154	65.74	60	120	
Ge Internal Standard	72	1	HMI H2	9371234	0.34	13102322	71.52	60	120	
Ge Internal Standard	72	2	HMI He	837731	0.64	1026205	81.63	60	120	
In Internal Standard	115	2	HMI He	3536657	1.67	4195206	84.30	60	120	
Ho-165	165	2	HMI He	16484309	0.77	20206547	81.58	60	120	

Blank Report

Sample Table

Sample Name	mb 280-435001/1-a
Data File Name	222_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:29:58-06:00
Sample Type	Blank
Dilution	1
Comment	435001 6020 Zn
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-43.556	ppb	-28.24139386	102212	0.5
Li	7	2	45	-94.123	ppb	-21.59873112	5371	0.5
Li	7	3	45	-64.887	ppb	-8.506927802	3067837	10
Be	9	1	6	0.015	ppb	261.8436691	10	0.5
B	11	1	6	11.941	ppb	2.150512315	4251	0.5
Na	23	1	45	371.685	ppb	0.267479804	1416147	25
Na	23	2	45	294.568	ppb	3.92919182	87042	25
Mg	24	2	45	40.014	ppb	5.668449988	3887	25
Al	27	2	45	7.277	ppb	20.7959898	180	15
K	39	1	45	-1272.968	ppb	-0.768556837	4869034	50
K	39	2	45	19.431	ppb	52.28379399	16073	50
Ca	40	1	45	19.011	ppb	2.972701591	115625	50
Ca	44	2	45	7.471	ppb	172.130009	60	25
Ti	47	2	45	0.178	ppb	173.2050808	3	0.5
V	51	2	72	-1.475	ppb	-11.8417313	1383	1
Cr	52	2	72	0.123	ppb	12.29258849	377	1
Mn	55	2	72	0.466	ppb	40.50292094	240	0.5
Fe	57	2	72	20.344	ppb	21.6420322	530	25
Co	59	2	72	0.004	ppb	74.71335206	13	0.5
Ni	60	2	72	-0.037	ppb	-182.8376325	113	1
Cu	63	2	72	-0.116	ppb	-118.2999968	883	1
Zn	66	2	72	0.899	ppb	19.48358591	403	5
As	75	2	72	-0.033	ppb	-186.1637088	24	1
Se	78	1	72	-0.004	ppb	-978.11383	9	1
Sr	88	2	72	0.090	ppb	41.79400206	80	0.5
Zr	90	2	72	3.403	ppb	67.3699304	87	1
Nb	93	2	72	2.349	ppb	12.33499801	7662	2
Mo	95	2	115	0.018	ppb	124.7462389	50	0.5
Pd	105	2	115	-0.012	ppb	-104.5846187	13	1
Ag	107	2	115	-0.011	ppb	-93.65130918	30	1
Cd	111	2	115	0.020	ppb	173.2050808	7	0.5
Sn	120	2	115	0.106	ppb	93.96350462	237	1
Sb	121	2	115	0.070	ppb	70.70532264	107	0.6
Ba	137	2	115	0.289	ppb	66.04843522	87	0.5
W	182	2	165	0.098	ppb	40.137531	1624	1
Pt	195	2	165	-0.007	ppb	-79.25944952	13	1
Tl	205	2	165	-0.003	ppb	-201.6936566	80	0.1
Pb	208	2	165	0.011	ppb	55.45024775	800	0.5
Th	232	2	165	0.057	ppb	20.92961758	1007	1
U	238	2	165	0.006	ppb	32.68548664	197	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1019729	0.98	1639580	62.19	60	120	
Sc (IS)	45	1	HMI H2	22294088	0.96	31715490	70.29	60	120	
Sc (IS)	45	2	HMI He	712007	0.86	891522	79.86	60	120	
Sc (IS)	45	3	No Gas	34249807	0.34	54087154	63.32	60	120	
Ge Internal Standard	72	1	HMI H2	9126651	0.93	13102322	69.66	60	120	
Ge Internal Standard	72	2	HMI He	832120	0.86	1026205	81.09	60	120	
In Internal Standard	115	2	HMI He	3508871	0.52	4195206	83.64	60	120	
Ho-165	165	2	HMI He	16379933	0.85	20206547	81.06	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-435001/2-a
Data File Name	223_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:33:45-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	435001 6020 Zn
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	24.648	24.648	ppb	5.724	123927	400	6.2	80	120	>+/-20%
Li	7	2	45	-33.648	-33.648	ppb	-41.818	6522	400	-8.4	80	120	>+/-20%
Li	7	3	45	-4.390	-4.390	ppb	-46.310	3672247	400	-1.1	80	120	>+/-20%
Be	9	1	6	38.723	38.723	ppb	0.851	9970	40	96.8	80	120	
Na	23	2	45	245.559	245.559	ppb	1.578	78893	40	613.9	80	120	>+/-20%
Mg	24	2	45	34.721	34.721	ppb	6.421	3461	40	86.8	80	120	
Al	27	2	45	404.570	404.570	ppb	3.854	8386	40	1011.4	80	120	>+/-20%
K	39	2	45	12.689	12.689	ppb	79.070	16009	40	31.7	80	120	>+/-20%
Ca	44	2	45	201.773	201.773	ppb	17.658	523	40	504.4	80	120	>+/-20%
V	51	2	72	35.645	35.645	ppb	2.915	32240	40	89.1	80	120	
Cr	52	2	72	38.107	38.107	ppb	2.521	40912	40	95.3	80	120	
Mn	55	2	72	40.624	40.624	ppb	0.871	17268	40	101.6	80	120	
Fe	57	2	72	381.452	381.452	ppb	3.352	7756	40	953.6	80	120	>+/-20%
Co	59	2	72	38.090	38.090	ppb	1.509	69813	40	95.2	80	120	
Ni	60	2	72	37.414	37.414	ppb	2.552	19561	40	93.5	80	120	
Cu	63	2	72	36.570	36.570	ppb	0.428	53119	40	91.4	80	120	
Zn	66	2	72	35.426	35.426	ppb	1.638	6995	40	88.6	80	120	
As	75	2	72	35.731	35.731	ppb	4.815	5019	40	89.3	80	120	
Se	78	1	72	36.867	36.867	ppb	1.571	7217	40	92.2	80	120	
Nb	93	2	72	1.232	1.232	ppb	23.694	4511	40	3.1	80	120	>+/-20%
Mo	95	2	115	33.769	33.769	ppb	2.824	26676	40	84.4	80	120	
Pd	105	2	115	-0.023	-0.023	ppb	0.000	0	40	-0.1	80	120	>+/-20%
Ag	107	2	115	37.555	37.555	ppb	1.690	96655	40	93.9	80	120	
Cd	111	2	115	38.824	38.824	ppb	0.869	12933	40	97.1	80	120	
Sn	120	2	115	38.690	38.690	ppb	0.528	36114	40	96.7	80	120	
Sb	121	2	115	37.590	37.590	ppb	0.979	32108	40	94.0	80	120	
Ba	137	2	115	41.083	41.083	ppb	6.740	12089	40	102.7	80	120	
W	182	2	165	11.728	11.728	ppb	1.179	42582	40	29.3	80	120	>+/-20%
Pt	195	2	165	-0.006	-0.006	ppb	-129.903	17	40	0.0	80	120	>+/-20%
Tl	205	2	165	40.017	40.017	ppb	0.639	262212	40	100.0	80	120	
Pb	208	2	165	40.443	40.443	ppb	0.469	353855	40	101.1	80	120	
Th	232	2	165	30.437	30.437	ppb	0.661	412555	40	76.1	80	120	>+/-20%
U	238	2	165	30.989	30.989	ppb	1.426	441737	40	77.5	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1011934	1.23	1639580	61.72	60	120	
Sc (IS)	45	1	HMI H2	22386951	0.43	31715490	70.59	60	120	
Sc (IS)	45	2	HMI He	721625	0.05	891522	80.94	60	120	
Sc (IS)	45	3	No Gas	34246992	0.56	54087154	63.32	60	120	
Ge Internal Standard	72	1	HMI H2	9171862	0.61	13102322	70.00	60	120	
Ge Internal Standard	72	2	HMI He	835646	0.62	1026205	81.43	60	120	
In Internal Standard	115	2	HMI He	3548063	1.18	4195206	84.57	60	120	
Ho-165	165	2	HMI He	16560854	0.40	20206547	81.96	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-1-c
Data File Name	224SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:37:34-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	320.598	ppb	320.598	0.75	198831	500000	
Li	7	2	45	257.499	ppb	257.499	4.45	10774	500000	
Li	7	3	45	260.520	ppb	260.520	1.93	6036009	50000	
Be	9	1	6	0.050	ppb	0.050	254.80	13	2000	
B	11	1	6	2641.510	ppb	2641.510	0.09	517100	2000	
Na	23	1	45	651097.385	ppb	651097.385	0.40	1590833203	2000	>LDR
Na	23	2	45	589675.754	ppb	589675.754	0.47	103436365	400000	
Mg	24	2	45	41325.243	ppb	41325.243	0.35	3436617	400000	
Al	27	2	45	30.190	ppb	30.190	7.69	603	400000	
K	39	1	45	14071.675	ppb	14071.675	0.56	43122009	400000	
K	39	2	45	14568.999	ppb	14568.999	0.93	576707	400000	
Ca	40	1	45	129794.211	ppb	129794.211	1.22	483669699	400000	
Ca	44	2	45	153218.069	ppb	153218.069	0.70	335690	400000	
Ti	47	2	45	0.379	ppb	0.379	173.21	7	4000	
V	51	2	72	21.886	ppb	21.886	7.52	19093	2000	
Cr	52	2	72	2.052	ppb	2.052	8.77	2237	5000	
Mn	55	2	72	1.885	ppb	1.885	6.04	773	10000	
Fe	57	2	72	48.609	ppb	48.609	12.71	1007	400000	
Co	59	2	72	4.275	ppb	4.275	3.62	7195	2000	
Ni	60	2	72	49.302	ppb	49.302	2.69	23620	5000	
Cu	63	2	72	1.531	ppb	1.531	19.62	2967	5000	
Zn	66	2	72	9.699	ppb	9.699	9.91	1914	5000	
As	75	2	72	4.491	ppb	4.491	4.32	601	2000	
Se	78	1	72	7.191	ppb	7.191	3.84	1285	2000	
Sr	88	2	72	8432.690	ppb	8432.690	0.95	3651930	4000	
Zr	90	2	72	234.108	ppb	234.108	12.80	1437	1000	
Nb	93	2	72	0.945	ppb	0.945	9.40	3391	200	
Mo	95	2	115	17.116	ppb	17.116	2.81	12183	2000	
Pd	105	2	115	0.297	ppb	0.297	12.19	347	100	
Ag	107	2	115	0.010	ppb	0.010	49.28	77	100	
Cd	111	2	115	0.056	ppb	0.056	124.50	17	2000	
Sn	120	2	115	1.136	ppb	1.136	9.73	1077	2000	
Sb	121	2	115	1.386	ppb	1.386	4.52	1107	1000	
Ba	137	2	115	134.714	ppb	134.714	0.95	35687	5000	
W	182	2	165	1.233	ppb	1.233	8.04	5265	100	
Pt	195	2	165	-0.003	ppb	-0.003	-286.80	23	100	
Tl	205	2	165	0.011	ppb	0.011	58.48	160	2000	
Pb	208	2	165	0.195	ppb	0.195	12.34	2250	5000	
Th	232	2	165	0.106	ppb	0.106	19.23	1567	2000	
U	238	2	165	7.714	ppb	7.714	0.79	102769	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	706304	0.35	1639580	43.08	60	120	IS Failed
Sc (IS)	45	1	HMI H2	20587338	0.23	31715490	64.91	60	120	
Sc (IS)	45	2	HMI He	664214	0.54	891522	74.50	60	120	
Sc (IS)	45	3	No Gas	32712161	0.23	54087154	60.48	60	120	
Ge Internal Standard	72	1	HMI H2	8327808	0.62	13102322	63.56	60	120	
Ge Internal Standard	72	2	HMI He	766926	0.52	1026205	74.73	60	120	
In Internal Standard	115	2	HMI He	3193123	1.04	4195206	76.11	60	120	
Ho-165	165	2	HMI He	15466813	0.13	20206547	76.54	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-2-c
Data File Name	225SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:41:25-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	60.326	ppb	60.326	5.52	124921	500000	
Li	7	2	45	-2.606	ppb	-2.606	-1321.67	6548	500000	
Li	7	3	45	24.077	ppb	24.077	14.26	3815177	50000	
Be	9	1	6	0.013	ppb	0.013	242.32	7	2000	
B	11	1	6	2161.141	ppb	2161.141	0.54	424336	2000	
Na	23	1	45	622447.882	ppb	622447.882	0.65	1529667977	2000	>LDR
Na	23	2	45	567860.628	ppb	567860.628	0.37	100231229	400000	
Mg	24	2	45	40930.797	ppb	40930.797	0.33	3425038	400000	
Al	27	2	45	18.494	ppb	18.494	10.14	383	400000	
K	39	1	45	2304.331	ppb	2304.331	1.90	13579391	400000	
K	39	2	45	3019.909	ppb	3019.909	1.24	131650	400000	
Ca	40	1	45	141354.140	ppb	141354.140	0.69	529804419	400000	
Ca	44	2	45	143485.049	ppb	143485.049	0.53	316327	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	36.610	ppb	36.610	1.67	30577	2000	
Cr	52	2	72	1.112	ppb	1.112	1.91	1327	5000	
Mn	55	2	72	6.871	ppb	6.871	13.48	2737	10000	
Fe	57	2	72	48.507	ppb	48.507	6.04	1013	400000	
Co	59	2	72	0.097	ppb	0.097	31.27	170	2000	
Ni	60	2	72	0.674	ppb	0.674	28.48	447	5000	
Cu	63	2	72	16.732	ppb	16.732	1.67	23022	5000	
Zn	66	2	72	6.496	ppb	6.496	6.73	1363	5000	
As	75	2	72	5.560	ppb	5.560	14.06	744	2000	
Se	78	1	72	3.160	ppb	3.160	13.01	573	2000	
Sr	88	2	72	3360.086	ppb	3360.086	0.82	1467412	4000	
Zr	90	2	72	70.213	ppb	70.213	16.04	477	1000	
Nb	93	2	72	0.529	ppb	0.529	9.05	2320	200	
Mo	95	2	115	5.662	ppb	5.662	8.27	4104	2000	
Pd	105	2	115	0.070	ppb	0.070	63.84	103	100	
Ag	107	2	115	-0.012	ppb	-0.012	-19.83	27	100	
Cd	111	2	115	0.011	ppb	0.011	173.21	3	2000	
Sn	120	2	115	0.463	ppb	0.463	26.27	520	2000	
Sb	121	2	115	0.639	ppb	0.639	11.07	540	1000	
Ba	137	2	115	41.896	ppb	41.896	2.59	11242	5000	
W	182	2	165	0.173	ppb	0.173	15.41	1800	100	
Pt	195	2	165	0.000	ppb	0.000	-1051.58	30	100	
Tl	205	2	165	-0.001	ppb	-0.001	-591.39	87	2000	
Pb	208	2	165	0.140	ppb	0.140	7.56	1820	5000	
Th	232	2	165	0.045	ppb	0.045	3.85	807	2000	
U	238	2	165	9.541	ppb	9.541	1.63	128381	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	708251	0.45	1639580	43.20	60	120	IS Failed
Sc (IS)	45	1	HMI H2	20707161	0.63	31715490	65.29	60	120	
Sc (IS)	45	2	HMI He	668355	1.00	891522	74.97	60	120	
Sc (IS)	45	3	No Gas	33023811	0.68	54087154	61.06	60	120	
Ge Internal Standard	72	1	HMI H2	8374104	0.22	13102322	63.91	60	120	
Ge Internal Standard	72	2	HMI He	773396	0.49	1026205	75.36	60	120	
In Internal Standard	115	2	HMI He	3233516	1.47	4195206	77.08	60	120	
Ho-165	165	2	HMI He	15623702	0.59	20206547	77.32	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-3-c
Data File Name	226SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:45:17-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	57.021	ppb	57.021	12.42	123856	500000	
Li	7	2	45	18.385	ppb	18.385	75.08	6895	500000	
Li	7	3	45	30.752	ppb	30.752	8.23	3826506	50000	
Be	9	1	6	0.032	ppb	0.032	300.27	10	2000	
B	11	1	6	2215.898	ppb	2215.898	0.68	430847	2000	
Na	23	1	45	631753.550	ppb	631753.550	0.71	1551208724	2000	>LDR
Na	23	2	45	575639.966	ppb	575639.966	1.06	101547355	400000	
Mg	24	2	45	41337.700	ppb	41337.700	0.47	3457217	400000	
Al	27	2	45	18.131	ppb	18.131	12.65	377	400000	
K	39	1	45	2337.252	ppb	2337.252	0.88	13651267	400000	
K	39	2	45	3085.679	ppb	3085.679	1.55	134123	400000	
Ca	40	1	45	142684.531	ppb	142684.531	0.65	534335672	400000	
Ca	44	2	45	145599.228	ppb	145599.228	1.33	320791	400000	
Ti	47	2	45	0.372	ppb	0.372	173.21	7	4000	
V	51	2	72	36.472	ppb	36.472	3.21	30540	2000	
Cr	52	2	72	1.172	ppb	1.172	20.38	1390	5000	
Mn	55	2	72	6.541	ppb	6.541	8.19	2614	10000	
Fe	57	2	72	40.994	ppb	40.994	13.42	877	400000	
Co	59	2	72	0.079	ppb	0.079	15.13	140	2000	
Ni	60	2	72	0.664	ppb	0.664	12.75	443	5000	
Cu	63	2	72	15.999	ppb	15.999	0.95	22108	5000	
Zn	66	2	72	5.139	ppb	5.139	5.86	1127	5000	
As	75	2	72	5.540	ppb	5.540	2.12	744	2000	
Se	78	1	72	3.801	ppb	3.801	13.76	687	2000	
Sr	88	2	72	3372.746	ppb	3372.746	1.07	1476472	4000	
Zr	90	2	72	38.038	ppb	38.038	13.41	287	1000	
Nb	93	2	72	0.314	ppb	0.314	19.96	1757	200	
Mo	95	2	115	5.602	ppb	5.602	4.82	4037	2000	
Pd	105	2	115	0.108	ppb	0.108	13.58	143	100	
Ag	107	2	115	-0.017	ppb	-0.017	-28.51	13	100	
Cd	111	2	115	0.033	ppb	0.033	173.21	10	2000	
Sn	120	2	115	0.438	ppb	0.438	15.30	497	2000	
Sb	121	2	115	0.536	ppb	0.536	15.36	457	1000	
Ba	137	2	115	37.971	ppb	37.971	4.29	10131	5000	
W	182	2	165	0.216	ppb	0.216	40.61	1944	100	
Pt	195	2	165	-0.003	ppb	-0.003	-325.25	23	100	
Tl	205	2	165	0.000	ppb	0.000	-681.10	90	2000	
Pb	208	2	165	0.110	ppb	0.110	6.73	1580	5000	
Th	232	2	165	0.022	ppb	0.022	33.77	510	2000	
U	238	2	165	9.776	ppb	9.776	0.86	131782	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	701362	0.20	1639580	42.78	60	120	IS Failed
Sc (IS)	45	1	HMI H2	20689188	0.24	31715490	65.23	60	120	
Sc (IS)	45	2	HMI He	668010	0.88	891522	74.93	60	120	
Sc (IS)	45	3	No Gas	32571535	0.30	54087154	60.22	60	120	
Ge Internal Standard	72	1	HMI H2	8363697	0.34	13102322	63.83	60	120	
Ge Internal Standard	72	2	HMI He	775218	0.54	1026205	75.54	60	120	
In Internal Standard	115	2	HMI He	3214822	1.39	4195206	76.63	60	120	
Ho-165	165	2	HMI He	15653679	0.46	20206547	77.47	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-4-c
Data File Name	227SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:49:07-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	131.272	ppb	131.272	4.66	140429	500000	
Li	7	2	45	55.368	ppb	55.368	26.15	7219	500000	
Li	7	3	45	83.806	ppb	83.806	5.15	4273414	50000	
Be	9	1	6	0.016	ppb	0.016	215.77	7	2000	
B	11	1	6	4426.968	ppb	4426.968	1.00	812439	2000	
Na	23	1	45	1016931.290	ppb	1016931.290	0.19	2413909457	2000	>LDR
Na	23	2	45	923621.208	ppb	923621.208	0.43	156739878	400000	
Mg	24	2	45	71726.893	ppb	71726.893	0.31	5770888	400000	
Al	27	2	45	17.833	ppb	17.833	1.42	357	400000	
K	39	1	45	30177.777	ppb	30177.777	0.66	81288347	400000	
K	39	2	45	34862.147	ppb	34862.147	1.13	1315994	400000	
Ca	40	1	45	260818.726	ppb	260818.726	0.42	944299426	400000	
Ca	44	2	45	286128.124	ppb	286128.124	0.23	606477	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	26.427	ppb	26.427	4.45	21560	2000	
Cr	52	2	72	1.418	ppb	1.418	7.15	1544	5000	
Mn	55	2	72	7.347	ppb	7.347	6.99	2770	10000	
Fe	57	2	72	58.345	ppb	58.345	6.51	1133	400000	
Co	59	2	72	0.078	ppb	0.078	13.53	130	2000	
Ni	60	2	72	1.303	ppb	1.303	22.00	710	5000	
Cu	63	2	72	2.846	ppb	2.846	6.70	4478	5000	
Zn	66	2	72	14.108	ppb	14.108	7.02	2567	5000	
As	75	2	72	3.308	ppb	3.308	14.22	430	2000	
Se	78	1	72	8.026	ppb	8.026	1.31	1376	2000	
Sr	88	2	72	11739.548	ppb	11739.548	0.57	4859362	4000	
Zr	90	2	72	24.187	ppb	24.187	62.02	193	1000	
Nb	93	2	72	0.199	ppb	0.199	38.62	1373	200	
Mo	95	2	115	5.099	ppb	5.099	9.11	3501	2000	
Pd	105	2	115	0.366	ppb	0.366	13.69	403	100	
Ag	107	2	115	-0.010	ppb	-0.010	-81.97	30	100	
Cd	111	2	115	0.046	ppb	0.046	43.20	13	2000	
Sn	120	2	115	0.647	ppb	0.647	40.18	640	2000	
Sb	121	2	115	0.338	ppb	0.338	18.29	290	1000	
Ba	137	2	115	78.710	ppb	78.710	1.50	19985	5000	
W	182	2	165	0.107	ppb	0.107	54.11	1504	100	
Pt	195	2	165	-0.009	ppb	-0.009	-50.76	7	100	
Tl	205	2	165	0.009	ppb	0.009	68.86	143	2000	
Pb	208	2	165	0.075	ppb	0.075	10.55	1230	5000	
Th	232	2	165	0.022	ppb	0.022	27.47	487	2000	
U	238	2	165	21.233	ppb	21.233	1.03	271983	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	662473	0.62	1639580	40.41	60	120	IS Failed
Sc (IS)	45	1	HMI H2	20002682	0.63	31715490	63.07	60	120	
Sc (IS)	45	2	HMI He	642648	0.73	891522	72.08	60	120	
Sc (IS)	45	3	No Gas	32139878	0.34	54087154	59.42	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7993183	0.52	13102322	61.01	60	120	
Ge Internal Standard	72	2	HMI He	733042	0.32	1026205	71.43	60	120	
In Internal Standard	115	2	HMI He	3060196	0.13	4195206	72.95	60	120	
Ho-165	165	2	HMI He	14880466	0.05	20206547	73.64	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-5-c
Data File Name	228SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:52:59-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	112.982	ppb	112.982	1.82	133893	500000	
Li	7	2	45	37.260	ppb	37.260	57.38	6895	500000	
Li	7	3	45	65.914	ppb	65.914	9.62	4109869	50000	
Be	9	1	6	-0.004	ppb	-0.004	-963.90	3	2000	
B	11	1	6	4586.831	ppb	4586.831	7.89	834332	2000	
Na	23	1	45	972025.549	ppb	972025.549	0.31	2282676233	2000	>LDR
Na	23	2	45	879526.587	ppb	879526.587	0.06	148412781	400000	
Mg	24	2	45	66863.930	ppb	66863.930	0.94	5349652	400000	
Al	27	2	45	17.042	ppb	17.042	41.42	340	400000	
K	39	1	45	26951.015	ppb	26951.015	0.47	72612086	400000	
K	39	2	45	28836.152	ppb	28836.152	7.50	1084937	400000	
Ca	40	1	45	235081.177	ppb	235081.177	0.20	842034334	400000	
Ca	44	2	45	255915.305	ppb	255915.305	0.49	539375	400000	
Ti	47	2	45	0.199	ppb	0.199	173.21	3	4000	
V	51	2	72	40.565	ppb	40.565	3.64	31893	2000	
Cr	52	2	72	0.667	ppb	0.667	11.56	840	5000	
Mn	55	2	72	1.191	ppb	1.191	32.90	480	10000	
Fe	57	2	72	71.063	ppb	71.063	3.86	1357	400000	
Co	59	2	72	0.057	ppb	0.057	55.13	97	2000	
Ni	60	2	72	0.396	ppb	0.396	53.91	297	5000	
Cu	63	2	72	3.197	ppb	3.197	8.95	4918	5000	
Zn	66	2	72	6.159	ppb	6.159	9.64	1237	5000	
As	75	2	72	4.155	ppb	4.155	0.21	534	2000	
Se	78	1	72	7.175	ppb	7.175	1.30	1216	2000	
Sr	88	2	72	9752.308	ppb	9752.308	1.52	4039577	4000	
Zr	90	2	72	33.201	ppb	33.201	33.88	243	1000	
Nb	93	2	72	0.041	ppb	0.041	77.78	980	200	
Mo	95	2	115	3.709	ppb	3.709	13.05	2557	2000	
Pd	105	2	115	0.363	ppb	0.363	9.90	400	100	
Ag	107	2	115	-0.016	ppb	-0.016	-17.10	17	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.444	ppb	0.444	29.24	477	2000	
Sb	121	2	115	0.610	ppb	0.610	8.72	490	1000	
Ba	137	2	115	27.069	ppb	27.069	6.43	6869	5000	
W	182	2	165	0.139	ppb	0.139	43.89	1600	100	
Pt	195	2	165	-0.005	ppb	-0.005	-124.73	17	100	
Tl	205	2	165	0.001	ppb	0.001	837.73	93	2000	
Pb	208	2	165	0.090	ppb	0.090	12.37	1340	5000	
Th	232	2	165	0.006	ppb	0.006	35.78	297	2000	
U	238	2	165	20.511	ppb	20.511	0.32	261912	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	656507	0.70	1639580	40.04	60	120	IS Failed
Sc (IS)	45	1	HMI H2	19789058	0.64	31715490	62.40	60	120	
Sc (IS)	45	2	HMI He	639008	1.32	891522	71.68	60	120	
Sc (IS)	45	3	No Gas	32173750	0.17	54087154	59.49	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7895439	0.38	13102322	60.26	60	120	
Ge Internal Standard	72	2	HMI He	733564	2.01	1026205	71.48	60	120	
In Internal Standard	115	2	HMI He	3060035	1.97	4195206	72.94	60	120	
Ho-165	165	2	HMI He	14833937	2.17	20206547	73.41	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-6-c
Data File Name	229SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:56:52-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	336.693	ppb	336.693	1.25	190143	500000	
Li	7	2	45	306.044	ppb	306.044	6.37	10721	500000	
Li	7	3	45	309.165	ppb	309.165	3.00	6018180	50000	
Be	9	1	6	0.040	ppb	0.040	159.45	10	2000	
B	11	1	6	10323.399	ppb	10323.399	0.86	1761129	2000	>LDR
Na	23	1	45	OR	ppb	OR	#VALUE!	OR	2000	>LDR
Na	23	2	45	1740162.519	ppb	1740162.519	0.65	282857289	400000	
Mg	24	2	45	119420.536	ppb	119420.536	0.98	9203307	400000	
Al	27	2	45	26.772	ppb	26.772	26.24	500	400000	
K	39	1	45	15563.730	ppb	15563.730	0.23	43812514	400000	
K	39	2	45	14517.417	ppb	14517.417	1.14	532703	400000	
Ca	40	1	45	407367.967	ppb	407367.967	0.11	1418704939	400000	
Ca	44	2	45	438986.515	ppb	438986.515	1.10	891319	400000	
Ti	47	2	45	0.203	ppb	0.203	173.21	3	4000	
V	51	2	72	45.186	ppb	45.186	1.97	33359	2000	
Cr	52	2	72	1.842	ppb	1.842	3.87	1837	5000	
Mn	55	2	72	3.422	ppb	3.422	6.58	1240	10000	
Fe	57	2	72	104.425	ppb	104.425	9.69	1840	400000	
Co	59	2	72	0.032	ppb	0.032	61.39	53	2000	
Ni	60	2	72	0.495	ppb	0.495	29.10	323	5000	
Cu	63	2	72	9.477	ppb	9.477	1.49	12079	5000	
Zn	66	2	72	8.852	ppb	8.852	7.84	1597	5000	
As	75	2	72	3.999	ppb	3.999	9.03	488	2000	
Se	78	1	72	15.128	ppb	15.128	7.22	2460	2000	
Sr	88	2	72	15551.997	ppb	15551.997	0.53	6094156	4000	
Zr	90	2	72	19.933	ppb	19.933	50.53	160	1000	
Nb	93	2	72	0.010	ppb	0.010	457.33	853	200	
Mo	95	2	115	3.573	ppb	3.573	5.27	2337	2000	
Pd	105	2	115	0.530	ppb	0.530	21.90	543	100	
Ag	107	2	115	0.009	ppb	0.009	171.44	67	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.478	ppb	0.478	43.99	480	2000	
Sb	121	2	115	0.263	ppb	0.263	20.22	223	1000	
Ba	137	2	115	29.400	ppb	29.400	5.23	7089	5000	
W	182	2	165	0.129	ppb	0.129	39.37	1484	100	
Pt	195	2	165	-0.009	ppb	-0.009	-27.73	7	100	
Tl	205	2	165	-0.005	ppb	-0.005	-108.97	53	2000	
Pb	208	2	165	0.078	ppb	0.078	16.92	1180	5000	
Th	232	2	165	0.007	ppb	0.007	61.35	293	2000	
U	238	2	165	29.760	ppb	29.760	0.15	359253	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	616073	0.56	1639580	37.58	60	120	IS Failed
Sc (IS)	45	1	HMI H2	19240878	0.61	31715490	60.67	60	120	
Sc (IS)	45	2	HMI He	615630	1.58	891522	69.05	60	120	
Sc (IS)	45	3	No Gas	30287547	0.83	54087154	56.00	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7603463	0.66	13102322	58.03	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	693921	1.76	1026205	67.62	60	120	
In Internal Standard	115	2	HMI He	2905153	1.56	4195206	69.25	60	120	
Ho-165	165	2	HMI He	14024715	1.57	20206547	69.41	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-7-e
Data File Name	230SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:00:43-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	93.266	ppb	93.266	5.81	123415	500000	
Li	7	2	45	60.142	ppb	60.142	19.48	6959	500000	
Li	7	3	45	52.479	ppb	52.479	7.08	3803947	50000	
Be	9	1	6	-0.024	ppb	-0.024	0.00	0	2000	
B	11	1	6	1898.138	ppb	1898.138	0.65	340752	2000	
Na	23	1	45	345093.590	ppb	345093.590	0.88	778805108	2000	>LDR
Na	23	2	45	311264.497	ppb	311264.497	4.03	50388884	400000	
Mg	24	2	45	41088.439	ppb	41088.439	4.75	3152066	400000	
Al	27	2	45	29.106	ppb	29.106	15.97	537	400000	
K	39	1	45	15619.793	ppb	15619.793	0.61	43420408	400000	
K	39	2	45	16183.493	ppb	16183.493	2.76	589752	400000	
Ca	40	1	45	224759.755	ppb	224759.755	0.83	773438148	400000	
Ca	44	2	45	221333.563	ppb	221333.563	5.10	447290	400000	
Ti	47	2	45	1.241	ppb	1.241	52.44	20	4000	
V	51	2	72	20.166	ppb	20.166	8.52	16403	2000	
Cr	52	2	72	1.485	ppb	1.485	10.54	1550	5000	
Mn	55	2	72	87.737	ppb	87.737	3.77	31549	10000	
Fe	57	2	72	539.124	ppb	539.124	3.22	9247	400000	
Co	59	2	72	0.336	ppb	0.336	33.92	523	2000	
Ni	60	2	72	3.026	ppb	3.026	8.45	1443	5000	
Cu	63	2	72	3.839	ppb	3.839	6.67	5525	5000	
Zn	66	2	72	31.042	ppb	31.042	8.41	5218	5000	
As	75	2	72	4.405	ppb	4.405	7.16	545	2000	
Se	78	1	72	2.651	ppb	2.651	1.04	441	2000	
Sr	88	2	72	2432.681	ppb	2432.681	3.66	972406	4000	
Zr	90	2	72	14.485	ppb	14.485	56.43	133	1000	
Nb	93	2	72	-0.001	ppb	-0.001	-10663.59	847	200	
Mo	95	2	115	19.195	ppb	19.195	6.01	12519	2000	
Pd	105	2	115	0.081	ppb	0.081	18.93	103	100	
Ag	107	2	115	-0.001	ppb	-0.001	-1992.02	47	100	
Cd	111	2	115	0.048	ppb	0.048	86.68	13	2000	
Sn	120	2	115	0.517	ppb	0.517	29.12	510	2000	
Sb	121	2	115	0.678	ppb	0.678	10.22	517	1000	
Ba	137	2	115	41.947	ppb	41.947	4.63	10188	5000	
W	182	2	165	0.227	ppb	0.227	17.74	1797	100	
Pt	195	2	165	-0.007	ppb	-0.007	-96.90	10	100	
Tl	205	2	165	-0.003	ppb	-0.003	-76.72	70	2000	
Pb	208	2	165	0.132	ppb	0.132	46.20	1590	5000	
Th	232	2	165	0.000	ppb	0.000	3948.02	213	2000	
U	238	2	165	14.732	ppb	14.732	4.98	179805	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	647421	0.50	1639580	39.49	60	120	IS Failed
Sc (IS)	45	1	HMI H2	19011734	0.31	31715490	59.94	60	120	IS Failed
Sc (IS)	45	2	HMI He	613342	3.20	891522	68.80	60	120	
Sc (IS)	45	3	No Gas	30723107	0.83	54087154	56.80	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7659454	0.51	13102322	58.46	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	708246	2.27	1026205	69.02	60	120	
In Internal Standard	115	2	HMI He	2930028	4.07	4195206	69.84	60	120	
Ho-165	165	2	HMI He	14188081	2.70	20206547	70.22	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	231_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:04:30-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	417.527	ppb	1.579	221291	500	83.5	90	110	>+\-10%
Li	7	2	45	341.880	ppb	4.887	11762	500	68.4	90	110	>+\-10%
Li	7	3	45	364.847	ppb	2.944	6905118	500	73.0	90	110	>+\-10%
Be	9	1	6	59.287	ppb	13.594	11769	50	118.6	90	110	>+\-10%
B	11	1	6	117.988	ppb	15.917	26110	50	236.0	90	110	>+\-10%
Na	23	1	45	6319.553	ppb	0.935	15463864	5000	126.4	90	110	>+\-10%
Na	23	2	45	5033.051	ppb	0.599	882530	5000	100.7	90	110	
Mg	24	2	45	4378.126	ppb	0.344	352520	5000	87.6	90	110	>+\-10%
Al	27	2	45	5281.858	ppb	1.334	97154	5000	105.6	90	110	
K	39	1	45	5537.409	ppb	0.734	21130609	5000	110.7	90	110	>+\-10%
K	39	2	45	5338.568	ppb	0.445	213191	5000	106.8	90	110	
Ca	40	1	45	5528.751	ppb	0.838	20151950	5000	110.6	90	110	>+\-10%
Ca	44	2	45	5119.091	ppb	4.237	10888	5000	102.4	90	110	
Ti	47	2	45	46.686	ppb	6.807	797	50	93.4	90	110	
V	51	2	72	46.156	ppb	1.274	37028	50	92.3	90	110	
Cr	52	2	72	46.520	ppb	2.984	45081	50	93.0	90	110	
Mn	55	2	72	50.575	ppb	3.801	19424	50	101.2	90	110	
Fe	57	2	72	4754.146	ppb	2.169	86048	5000	95.1	90	110	
Co	59	2	72	47.774	ppb	1.277	79133	50	95.5	90	110	
Ni	60	2	72	46.251	ppb	2.439	21827	50	92.5	90	110	
Cu	63	2	72	47.927	ppb	1.693	62616	50	95.9	90	110	
Zn	66	2	72	45.934	ppb	5.938	8133	50	91.9	90	110	
As	75	2	72	45.077	ppb	2.427	5715	50	90.2	90	110	
Se	78	1	72	50.324	ppb	2.084	8812	50	100.6	90	110	
Sr	88	2	72	54.328	ppb	3.245	23207	50	108.7	90	110	
Zr	90	2	72	107.423	ppb	37.767	680	50	214.8	90	110	>+\-10%
Nb	93	2	72	84.828	ppb	0.876	219387	100	84.8	90	110	>+\-10%
Mo	95	2	115	46.770	ppb	0.776	33023	50	93.5	90	110	
Pd	105	2	115	49.073	ppb	1.668	52747	50	98.1	90	110	
Ag	107	2	115	46.711	ppb	1.876	107462	50	93.4	90	110	
Cd	111	2	115	47.233	ppb	3.853	14068	50	94.5	90	110	
Sn	120	2	115	49.622	ppb	1.369	41379	50	99.2	90	110	
Sb	121	2	115	49.059	ppb	2.033	37455	50	98.1	90	110	
Ba	137	2	115	52.049	ppb	2.511	13701	50	104.1	90	110	
W	182	2	165	48.440	ppb	0.988	154727	50	96.9	90	110	
Pt	195	2	165	46.693	ppb	1.811	119087	50	93.4	90	110	
Tl	205	2	165	51.829	ppb	0.395	305818	50	103.7	90	110	
Pb	208	2	165	51.897	ppb	0.586	408747	50	103.8	90	110	
Th	232	2	165	39.772	ppb	0.950	485434	50	79.5	90	110	>+\-10%
U	238	2	165	40.752	ppb	0.437	523104	50	81.5	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	789086	12.66	1639580	48.13	60	120	IS Failed
Sc (IS)	45	1	HMI H2	20102918	0.35	31715490	63.39	60	120	
Sc (IS)	45	2	HMI He	642650	0.91	891522	72.08	60	120	
Sc (IS)	45	3	No Gas	32124948	0.93	54087154	59.39	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	8208058	1.06	13102322	62.65	60	120	
Ge Internal Standard	72	2	HMI He	755229	0.82	1026205	73.59	60	120	
In Internal Standard	115	2	HMI He	3172388	1.04	4195206	75.62	60	120	
Ho-165	165	2	HMI He	14914205	0.45	20206547	73.81	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	232_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:08:17-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-67.345	ppb	-8.9	3126259	10	
Be	9	1	6	0.047	ppb	172.0	13	0.5	
B	11	1	6	45.625	ppb	7.5	9987	0.5	>RL
Na	23	1	45	667.105	ppb	0.2	1972356	25	>RL
Na	23	2	45	523.954	ppb	0.9	119027	25	>RL
Mg	24	2	45	44.846	ppb	2.4	3947	25	>RL
Al	27	2	45	2.549	ppb	31.5	77	15	
K	39	1	45	176.686	ppb	10.0	7916648	50	>RL
K	39	2	45	29.138	ppb	19.2	15065	50	
Ca	40	1	45	15.006	ppb	6.9	89254	50	
Ca	44	2	45	16.016	ppb	32.9	73	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.389	ppb	-30.8	2087	1	
Cr	52	2	72	-0.025	ppb	-217.8	200	1	
Mn	55	2	72	0.217	ppb	34.4	123	0.5	
Fe	57	2	72	5.470	ppb	65.7	213	25	
Co	59	2	72	0.031	ppb	29.7	57	0.5	
Ni	60	2	72	-0.045	ppb	-45.4	100	1	
Cu	63	2	72	0.029	ppb	108.4	997	1	
Zn	66	2	72	-0.247	ppb	-161.9	170	5	
As	75	2	72	-0.032	ppb	-211.5	22	1	
Se	78	1	72	0.047	ppb	75.2	17	1	
Sr	88	2	72	0.106	ppb	76.2	80	0.5	
Zr	90	2	72	4.120	ppb	128.2	83	1	>RL
Nb	93	2	72	3.656	ppb	10.8	10404	2	>RL
Mo	95	2	115	0.014	ppb	155.4	43	0.5	
Pd	105	2	115	0.007	ppb	420.3	33	1	
Ag	107	2	115	0.003	ppb	436.5	60	1	
Cd	111	2	115	0.033	ppb	100.4	10	0.5	
Sn	120	2	115	0.124	ppb	137.0	233	1	
Sb	121	2	115	0.266	ppb	50.7	250	0.6	
Ba	137	2	115	0.090	ppb	95.8	27	0.5	
W	182	2	165	0.055	ppb	3.2	1357	1	
Pt	195	2	165	0.011	ppb	95.8	57	1	
Tl	205	2	165	0.005	ppb	170.5	117	0.1	
Pb	208	2	165	-0.010	ppb	-128.2	563	0.5	
Th	232	2	165	0.019	ppb	22.1	457	1	
U	238	2	165	0.014	ppb	22.2	283	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	740265	0.43	1639580	45.15	60	120	IS Failed
Sc (IS)	45	1	HMI H2	20009183	0.45	31715490	63.09	60	120	
Sc (IS)	45	2	HMI He	651038	0.50	891522	73.03	60	120	
Sc (IS)	45	3	No Gas	35181629	2.04	54087154	65.05	60	120	
Ge Internal Standard	72	1	HMI H2	8166235	0.26	13102322	62.33	60	120	
Ge Internal Standard	72	2	HMI He	761367	0.41	1026205	74.19	60	120	
In Internal Standard	115	2	HMI He	3228077	0.75	4195206	76.95	60	120	
Ho-165	165	2	HMI He	15062954	1.48	20206547	74.54	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-8-d
Data File Name	233SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:12:05-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-42.438	ppb	-42.438	-10.44	88808	500000	
Li	7	2	45	-88.021	ppb	-88.021	-16.84	4874	500000	
Li	7	3	45	-65.850	ppb	-65.850	-2.85	2739247	50000	
Be	9	1	6	0.088	ppb	0.088	168.06	20	2000	
B	11	1	6	44.780	ppb	44.780	0.13	9340	2000	
Na	23	1	45	1160.583	ppb	1160.583	0.67	3032593	2000	
Na	23	2	45	949.157	ppb	949.157	2.32	186859	400000	
Mg	24	2	45	42.675	ppb	42.675	2.95	3667	400000	
Al	27	2	45	12.425	ppb	12.425	16.26	253	400000	
K	39	1	45	-1254.615	ppb	-1254.615	-0.48	4258636	400000	
K	39	2	45	49.568	ppb	49.568	17.77	15405	400000	
Ca	40	1	45	148.486	ppb	148.486	0.67	552386	400000	
Ca	44	2	45	154.143	ppb	154.143	15.47	360	400000	
Ti	47	2	45	0.399	ppb	0.399	173.21	7	4000	
V	51	2	72	-1.238	ppb	-1.238	-8.97	1403	2000	
Cr	52	2	72	0.238	ppb	0.238	43.08	443	5000	
Mn	55	2	72	1.061	ppb	1.061	19.69	437	10000	
Fe	57	2	72	23.300	ppb	23.300	43.58	523	400000	
Co	59	2	72	0.015	ppb	0.015	68.45	30	2000	
Ni	60	2	72	0.564	ppb	0.564	49.28	377	5000	
Cu	63	2	72	2.464	ppb	2.464	9.45	4037	5000	
Zn	66	2	72	4.359	ppb	4.359	24.17	943	5000	
As	75	2	72	-0.038	ppb	-0.038	-119.19	20	2000	
Se	78	1	72	-0.005	ppb	-0.005	-1337.69	8	2000	
Sr	88	2	72	0.446	ppb	0.446	57.83	220	4000	
Zr	90	2	72	13.935	ppb	13.935	32.56	137	1000	
Nb	93	2	72	2.500	ppb	2.500	11.46	7189	200	
Mo	95	2	115	0.054	ppb	0.054	27.72	70	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-354.59	20	100	
Ag	107	2	115	-0.016	ppb	-0.016	-43.16	17	100	
Cd	111	2	115	0.023	ppb	0.023	173.21	7	2000	
Sn	120	2	115	0.486	ppb	0.486	17.15	523	2000	
Sb	121	2	115	0.125	ppb	0.125	42.33	137	1000	
Ba	137	2	115	0.747	ppb	0.747	15.14	197	5000	
W	182	2	165	0.120	ppb	0.120	27.58	1537	100	
Pt	195	2	165	0.033	ppb	0.033	77.87	113	100	
Tl	205	2	165	0.005	ppb	0.005	193.80	120	2000	
Pb	208	2	165	0.115	ppb	0.115	27.42	1530	5000	
Th	232	2	165	0.055	ppb	0.055	22.65	893	2000	
U	238	2	165	0.005	ppb	0.005	18.25	163	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	704418	0.62	1639580	42.96	60	120	IS Failed
Sc (IS)	45	1	HMI H2	19300453	0.22	31715490	60.85	60	120	
Sc (IS)	45	2	HMI He	633286	0.67	891522	71.03	60	120	
Sc (IS)	45	3	No Gas	30676660	0.13	54087154	56.72	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7871861	0.55	13102322	60.08	60	120	
Ge Internal Standard	72	2	HMI He	739696	0.46	1026205	72.08	60	120	
In Internal Standard	115	2	HMI He	3132121	0.65	4195206	74.66	60	120	
Ho-165	165	2	HMI He	14787210	0.58	20206547	73.18	60	120	

Sample Report

Sample Table

Sample Name	280-115720-b-1-d
Data File Name	234SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:15:52-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	140.769	ppb	140.769	0.73	125294	500000	
Li	7	2	45	79.605	ppb	79.605	7.24	6959	500000	
Li	7	3	45	89.895	ppb	89.895	3.88	3954292	50000	
Be	9	1	6	0.149	ppb	0.149	25.57	27	2000	
B	11	1	6	6175.042	ppb	6175.042	0.25	1040891	2000	
Na	23	1	45	1047025.016	ppb	1047025.016	1.24	2176194474	2000	>LDR
Na	23	2	45	933779.634	ppb	933779.634	1.08	145024725	400000	
Mg	24	2	45	59526.651	ppb	59526.651	0.86	4383214	400000	
Al	27	2	45	36.503	ppb	36.503	15.79	640	400000	
K	39	1	45	6845.646	ppb	6845.646	0.99	21212290	400000	
K	39	2	45	7053.736	ppb	7053.736	0.64	253751	400000	
Ca	40	1	45	212722.272	ppb	212722.272	0.70	674400950	400000	
Ca	44	2	45	216866.271	ppb	216866.271	0.67	420712	400000	
Ti	47	2	45	1.066	ppb	1.066	125.67	17	4000	
V	51	2	72	109.454	ppb	109.454	1.64	75325	2000	
Cr	52	2	72	2.874	ppb	2.874	5.54	2667	5000	
Mn	55	2	72	72.014	ppb	72.014	1.75	24619	10000	
Fe	57	2	72	85.069	ppb	85.069	2.94	1470	400000	
Co	59	2	72	0.318	ppb	0.318	14.37	473	2000	
Ni	60	2	72	1.436	ppb	1.436	19.56	707	5000	
Cu	63	2	72	1.376	ppb	1.376	10.85	2424	5000	
Zn	66	2	72	2.744	ppb	2.744	15.62	610	5000	
As	75	2	72	11.178	ppb	11.178	6.70	1279	2000	
Se	78	1	72	13.411	ppb	13.411	6.79	1994	2000	
Sr	88	2	72	5829.431	ppb	5829.431	1.57	2214237	4000	
Zr	90	2	72	10.466	ppb	10.466	54.31	107	1000	
Nb	93	2	72	1.843	ppb	1.843	15.63	5038	200	
Mo	95	2	115	5.017	ppb	5.017	7.57	3181	2000	
Pd	105	2	115	0.231	ppb	0.231	25.46	243	100	
Ag	107	2	115	0.060	ppb	0.060	36.50	170	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.105	ppb	0.105	21.93	190	2000	
Sb	121	2	115	0.332	ppb	0.332	9.94	263	1000	
Ba	137	2	115	36.022	ppb	36.022	3.60	8443	5000	
W	182	2	165	0.168	ppb	0.168	32.28	1574	100	
Pt	195	2	165	0.008	ppb	0.008	29.10	47	100	
Tl	205	2	165	0.020	ppb	0.020	19.31	190	2000	
Pb	208	2	165	0.079	ppb	0.079	16.16	1163	5000	
Th	232	2	165	0.041	ppb	0.041	14.42	667	2000	
U	238	2	165	27.361	ppb	27.361	0.85	325051	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	608598	0.74	1639580	37.12	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17515733	0.77	31715490	55.23	60	120	IS Failed
Sc (IS)	45	2	HMI He	588206	1.73	891522	65.98	60	120	
Sc (IS)	45	3	No Gas	29350373	1.45	54087154	54.26	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6948425	0.24	13102322	53.03	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	672742	1.06	1026205	65.56	60	120	
In Internal Standard	115	2	HMI He	2824118	0.68	4195206	67.32	60	120	
Ho-165	165	2	HMI He	13801972	0.49	20206547	68.30	60	120	

Sample Report

Sample Table

Sample Name	280-115720-b-2-f
Data File Name	235SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:19:44-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	160.523	ppb	160.523	2.88	136086	500000	
Li	7	2	45	119.527	ppb	119.527	38.79	7646	500000	
Li	7	3	45	120.539	ppb	120.539	6.74	4192821	50000	
Be	9	1	6	0.059	ppb	0.059	160.88	13	2000	
B	11	1	6	2553.528	ppb	2553.528	0.48	448867	2000	
Na	23	1	45	493009.326	ppb	493009.326	1.03	1072002784	2000	>LDR
Na	23	2	45	445414.908	ppb	445414.908	0.09	70195466	400000	
Mg	24	2	45	31790.240	ppb	31790.240	0.89	2374865	400000	
Al	27	2	45	53.516	ppb	53.516	17.95	940	400000	
K	39	1	45	265.274	ppb	265.274	9.84	7446905	400000	
K	39	2	45	1521.178	ppb	1521.178	2.60	65547	400000	
Ca	40	1	45	78582.164	ppb	78582.164	0.82	260598456	400000	
Ca	44	2	45	89519.938	ppb	89519.938	2.70	176189	400000	
Ti	47	2	45	1.054	ppb	1.054	92.03	17	4000	
V	51	2	72	1.273	ppb	1.273	19.28	3044	2000	
Cr	52	2	72	0.334	ppb	0.334	13.20	500	5000	
Mn	55	2	72	1649.185	ppb	1649.185	1.24	579798	10000	
Fe	57	2	72	1066.479	ppb	1066.479	1.72	17792	400000	
Co	59	2	72	3.275	ppb	3.275	4.48	4981	2000	
Ni	60	2	72	4.086	ppb	4.086	8.55	1870	5000	
Cu	63	2	72	0.116	ppb	0.116	161.20	1010	5000	
Zn	66	2	72	2.673	ppb	2.673	3.06	617	5000	
As	75	2	72	48.577	ppb	48.577	4.30	5648	2000	
Se	78	1	72	0.109	ppb	0.109	93.63	25	2000	
Sr	88	2	72	4098.887	ppb	4098.887	0.84	1603624	4000	
Zr	90	2	72	33.094	ppb	33.094	77.06	230	1000	
Nb	93	2	72	1.247	ppb	1.247	13.73	3777	200	
Mo	95	2	115	14.205	ppb	14.205	3.87	9240	2000	
Pd	105	2	115	0.108	ppb	0.108	51.68	130	100	
Ag	107	2	115	-0.007	ppb	-0.007	-149.87	33	100	
Cd	111	2	115	0.024	ppb	0.024	86.61	7	2000	
Sn	120	2	115	0.201	ppb	0.201	57.20	270	2000	
Sb	121	2	115	0.319	ppb	0.319	33.25	263	1000	
Ba	137	2	115	63.403	ppb	63.403	6.00	15339	5000	
W	182	2	165	0.261	ppb	0.261	11.10	1894	100	
Pt	195	2	165	0.011	ppb	0.011	60.92	53	100	
Tl	205	2	165	-0.008	ppb	-0.008	-23.07	40	2000	
Pb	208	2	165	0.139	ppb	0.139	7.40	1643	5000	
Th	232	2	165	0.042	ppb	0.042	21.18	697	2000	
U	238	2	165	59.185	ppb	59.185	0.58	720113	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	634201	0.39	1639580	38.68	60	120	IS Failed
Sc (IS)	45	1	HMI H2	18320215	0.23	31715490	57.76	60	120	IS Failed
Sc (IS)	45	2	HMI He	596688	0.79	891522	66.93	60	120	
Sc (IS)	45	3	No Gas	29183228	0.44	54087154	53.96	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7341612	0.62	13102322	56.03	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	692838	0.63	1026205	67.51	60	120	
In Internal Standard	115	2	HMI He	2916199	1.63	4195206	69.51	60	120	
Ho-165	165	2	HMI He	14137586	0.49	20206547	69.97	60	120	

Sample Report

Sample Table

Sample Name	280-115720-b-2-fSD@5
Data File Name	236SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:23:34-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	2.671	ppb	2.671	181.57	100793	500000	
Li	7	2	45	-38.715	ppb	-38.715	-45.76	5611	500000	
Li	7	3	45	-19.856	ppb	-19.856	-36.92	3138331	50000	
Be	9	1	6	0.013	ppb	0.013	484.31	7	2000	
B	11	1	6	543.437	ppb	543.437	1.85	106506	2000	
Na	23	1	45	102459.425	ppb	102459.425	0.61	234682143	2000	>LDR
Na	23	2	45	92528.259	ppb	92528.259	0.45	15410705	400000	
Mg	24	2	45	5784.058	ppb	5784.058	0.54	456239	400000	
Al	27	2	45	10.270	ppb	10.270	27.24	213	400000	
K	39	1	45	152.172	ppb	152.172	23.09	7567866	400000	
K	39	2	45	331.759	ppb	331.759	0.87	25647	400000	
Ca	40	1	45	16118.079	ppb	16118.079	0.35	56261362	400000	
Ca	44	2	45	18130.193	ppb	18130.193	1.54	37690	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-0.629	ppb	-0.629	-37.30	1850	2000	
Cr	52	2	72	0.066	ppb	0.066	106.85	280	5000	
Mn	55	2	72	338.112	ppb	338.112	0.43	126872	10000	
Fe	57	2	72	225.836	ppb	225.836	5.94	4107	400000	
Co	59	2	72	0.678	ppb	0.678	6.06	1103	2000	
Ni	60	2	72	0.963	ppb	0.963	5.67	560	5000	
Cu	63	2	72	-0.160	ppb	-0.160	-26.08	730	5000	
Zn	66	2	72	0.079	ppb	0.079	78.32	220	5000	
As	75	2	72	9.738	ppb	9.738	11.02	1228	2000	
Se	78	1	72	0.082	ppb	0.082	72.88	23	2000	
Sr	88	2	72	686.824	ppb	686.824	1.06	286762	4000	
Zr	90	2	72	7.478	ppb	7.478	63.09	100	1000	
Nb	93	2	72	0.186	ppb	0.186	27.00	1353	200	
Mo	95	2	115	2.725	ppb	2.725	10.81	1910	2000	
Pd	105	2	115	0.002	ppb	0.002	1990.27	27	100	
Ag	107	2	115	-0.017	ppb	-0.017	-30.20	13	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.107	ppb	0.107	40.74	210	2000	
Sb	121	2	115	0.024	ppb	0.024	108.70	60	1000	
Ba	137	2	115	13.026	ppb	13.026	5.58	3351	5000	
W	182	2	165	0.083	ppb	0.083	70.65	1420	100	
Pt	195	2	165	0.017	ppb	0.017	79.33	73	100	
Tl	205	2	165	-0.007	ppb	-0.007	-61.28	47	2000	
Pb	208	2	165	0.008	ppb	0.008	158.93	697	5000	
Th	232	2	165	0.003	ppb	0.003	251.56	253	2000	
U	238	2	165	12.089	ppb	12.089	1.61	153853	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	703972	0.69	1639580	42.94	60	120	IS Failed
Sc (IS)	45	1	HMI H2	19274013	0.52	31715490	60.77	60	120	
Sc (IS)	45	2	HMI He	629677	0.40	891522	70.63	60	120	
Sc (IS)	45	3	No Gas	30553649	0.63	54087154	56.49	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7874354	0.31	13102322	60.10	60	120	
Ge Internal Standard	72	2	HMI He	739308	0.27	1026205	72.04	60	120	
In Internal Standard	115	2	HMI He	3099012	0.92	4195206	73.87	60	120	
Ho-165	165	2	HMI He	14780713	0.62	20206547	73.15	60	120	

Sample Report

Sample Table

Sample Name	280-115720-b-2-g ms
Data File Name	237SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:27:21-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	246.667	ppb	246.667	2.75	154712	500000	
Li	7	2	45	164.485	ppb	164.485	24.43	8209	500000	
Li	7	3	45	190.022	ppb	190.022	1.70	4691349	50000	
Be	9	1	6	51.738	ppb	51.738	1.15	8233	2000	
B	11	1	6	2466.915	ppb	2466.915	0.24	427699	2000	
Na	23	1	45	477625.923	ppb	477625.923	0.65	1016458038	2000	>LDR
Na	23	2	45	435318.733	ppb	435318.733	2.22	67797387	400000	
Mg	24	2	45	30995.937	ppb	30995.937	2.13	2288405	400000	
Al	27	2	45	494.317	ppb	494.317	3.87	8366	400000	
K	39	1	45	220.668	ppb	220.668	22.19	7190206	400000	
K	39	2	45	1468.813	ppb	1468.813	4.12	62983	400000	
Ca	40	1	45	76235.106	ppb	76235.106	0.63	247442643	400000	
Ca	44	2	45	87276.265	ppb	87276.265	1.82	169769	400000	
Ti	47	2	45	2.562	ppb	2.562	67.01	40	4000	
V	51	2	72	39.899	ppb	39.899	1.91	29077	2000	
Cr	52	2	72	38.575	ppb	38.575	0.95	33660	5000	
Mn	55	2	72	1665.348	ppb	1665.348	2.32	573940	10000	
Fe	57	2	72	1437.286	ppb	1437.286	0.50	23470	400000	
Co	59	2	72	40.653	ppb	40.653	1.32	60564	2000	
Ni	60	2	72	38.949	ppb	38.949	5.09	16547	5000	
Cu	63	2	72	37.637	ppb	37.637	0.98	44410	5000	
Zn	66	2	72	37.945	ppb	37.945	6.58	6078	5000	
As	75	2	72	84.613	ppb	84.613	1.67	9626	2000	
Se	78	1	72	37.739	ppb	37.739	4.24	5791	2000	
Sr	88	2	72	4113.572	ppb	4113.572	2.85	1577597	4000	
Zr	90	2	72	8076.709	ppb	8076.709	4.22	42137	1000	>LDR
Nb	93	2	72	0.487	ppb	0.487	5.52	1940	200	
Mo	95	2	115	49.122	ppb	49.122	0.81	31256	2000	
Pd	105	2	115	0.100	ppb	0.100	16.92	120	100	
Ag	107	2	115	36.898	ppb	36.898	2.45	76505	100	
Cd	111	2	115	38.441	ppb	38.441	5.46	10318	2000	
Sn	120	2	115	40.945	ppb	40.945	3.42	30785	2000	
Sb	121	2	115	41.779	ppb	41.779	4.83	28747	1000	
Ba	137	2	115	100.749	ppb	100.749	2.89	23895	5000	
W	182	2	165	12.748	ppb	12.748	3.50	38938	100	
Pt	195	2	165	0.040	ppb	0.040	14.42	123	100	
Tl	205	2	165	39.828	ppb	39.828	1.94	220109	2000	
Pb	208	2	165	40.388	ppb	40.388	2.11	298039	5000	
Th	232	2	165	32.509	ppb	32.509	3.78	371566	2000	
U	238	2	165	101.084	ppb	101.084	16.72	1213432	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	625488	0.57	1639580	38.15	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17930730	0.91	31715490	56.54	60	120	IS Failed
Sc (IS)	45	2	HMI He	589735	0.86	891522	66.15	60	120	
Sc (IS)	45	3	No Gas	28614316	0.48	54087154	52.90	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7190609	0.45	13102322	54.88	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	679230	0.48	1026205	66.19	60	120	
In Internal Standard	115	2	HMI He	2859053	0.87	4195206	68.15	60	120	
Ho-165	165	2	HMI He	13969971	1.39	20206547	69.14	60	120	

Sample Report

Sample Table

Sample Name	280-115720-b-2-h msd
Data File Name	238SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:31:11-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	243.549	ppb	243.549	1.68	154172	500000	
Li	7	2	45	162.356	ppb	162.356	5.37	8229	500000	
Li	7	3	45	196.355	ppb	196.355	0.78	4767147	50000	
Be	9	1	6	52.400	ppb	52.400	3.27	8369	2000	
B	11	1	6	2528.856	ppb	2528.856	1.53	440085	2000	
Na	23	1	45	486222.735	ppb	486222.735	0.60	1036399771	2000	>LDR
Na	23	2	45	436773.068	ppb	436773.068	0.59	68424531	400000	
Mg	24	2	45	31415.076	ppb	31415.076	0.36	2333007	400000	
Al	27	2	45	463.090	ppb	463.090	1.50	7886	400000	
K	39	1	45	238.104	ppb	238.104	4.46	7240293	400000	
K	39	2	45	1480.034	ppb	1480.034	0.87	63746	400000	
Ca	40	1	45	77622.369	ppb	77622.369	0.50	252338663	400000	
Ca	44	2	45	87768.227	ppb	87768.227	0.59	171729	400000	
Ti	47	2	45	1.903	ppb	1.903	33.18	30	4000	
V	51	2	72	39.460	ppb	39.460	1.80	29030	2000	
Cr	52	2	72	37.513	ppb	37.513	1.46	33025	5000	
Mn	55	2	72	1664.647	ppb	1664.647	0.20	578757	10000	
Fe	57	2	72	1421.322	ppb	1421.322	4.88	23417	400000	
Co	59	2	72	40.513	ppb	40.513	2.48	60889	2000	
Ni	60	2	72	39.823	ppb	39.823	3.78	17067	5000	
Cu	63	2	72	35.591	ppb	35.591	0.72	42410	5000	
Zn	66	2	72	37.928	ppb	37.928	3.48	6128	5000	
As	75	2	72	84.400	ppb	84.400	0.62	9686	2000	
Se	78	1	72	38.172	ppb	38.172	1.58	5869	2000	
Sr	88	2	72	4088.626	ppb	4088.626	1.63	1581903	4000	
Zr	90	2	72	7916.252	ppb	7916.252	1.16	41669	1000	>LDR
Nb	93	2	72	0.216	ppb	0.216	8.95	1323	200	
Mo	95	2	115	47.586	ppb	47.586	0.27	30715	2000	
Pd	105	2	115	0.106	ppb	0.106	31.57	127	100	
Ag	107	2	115	34.882	ppb	34.882	3.81	73355	100	
Cd	111	2	115	36.880	ppb	36.880	5.19	10044	2000	
Sn	120	2	115	39.358	ppb	39.358	2.06	30024	2000	
Sb	121	2	115	40.416	ppb	40.416	1.86	28210	1000	
Ba	137	2	115	100.892	ppb	100.892	3.56	24276	5000	
W	182	2	165	12.831	ppb	12.831	0.49	39272	100	
Pt	195	2	165	0.022	ppb	0.022	101.47	80	100	
Tl	205	2	165	38.697	ppb	38.697	0.93	214308	2000	
Pb	208	2	165	40.221	ppb	40.221	1.29	297432	5000	
Th	232	2	165	32.353	ppb	32.353	0.32	370638	2000	
U	238	2	165	92.456	ppb	92.456	0.56	1113717	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	627893	0.68	1639580	38.30	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17958517	0.31	31715490	56.62	60	120	IS Failed
Sc (IS)	45	2	HMI He	593142	0.48	891522	66.53	60	120	
Sc (IS)	45	3	No Gas	28752709	0.39	54087154	53.16	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7205721	0.67	13102322	55.00	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	685169	0.46	1026205	66.77	60	120	
In Internal Standard	115	2	HMI He	2900164	1.33	4195206	69.13	60	120	
Ho-165	165	2	HMI He	13997554	0.75	20206547	69.27	60	120	

Sample Report

Sample Table

Sample Name	280-115720-b-2-f PDS
Data File Name	239SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:35:03-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	163.714	ppb	163.714	1.58	133167	500000	
Li	7	2	45	113.133	ppb	113.133	28.19	7519	500000	
Li	7	3	45	125.259	ppb	125.259	1.94	4133852	50000	
Be	9	1	6	256.876	ppb	256.876	1.92	40833	2000	
B	11	1	6	2474.564	ppb	2474.564	0.62	428802	2000	
Na	23	1	45	482675.746	ppb	482675.746	0.66	1020893531	2000	>LDR
Na	23	2	45	429453.739	ppb	429453.739	0.78	67379226	400000	
Mg	24	2	45	30580.146	ppb	30580.146	1.05	2274379	400000	
Al	27	2	45	2153.900	ppb	2153.900	1.64	36636	400000	
K	39	1	45	256.651	ppb	256.651	7.03	7224811	400000	
K	39	2	45	1481.283	ppb	1481.283	0.71	63884	400000	
Ca	40	1	45	77104.556	ppb	77104.556	0.35	248721830	400000	
Ca	44	2	45	84638.083	ppb	84638.083	0.60	165853	400000	
Ti	47	2	45	8.238	ppb	8.238	26.56	130	4000	
V	51	2	72	188.461	ppb	188.461	0.61	129578	2000	
Cr	52	2	72	185.126	ppb	185.126	0.85	160957	5000	
Mn	55	2	72	1797.668	ppb	1797.668	0.95	620334	10000	
Fe	57	2	72	2872.076	ppb	2872.076	1.06	46853	400000	
Co	59	2	72	182.804	ppb	182.804	0.32	272647	2000	
Ni	60	2	72	180.371	ppb	180.371	1.51	76338	5000	
Cu	63	2	72	179.126	ppb	179.126	0.44	208392	5000	
Zn	66	2	72	194.201	ppb	194.201	3.64	30356	5000	
As	75	2	72	223.745	ppb	223.745	1.57	25447	2000	
Se	78	1	72	183.836	ppb	183.836	1.70	27951	2000	
Sr	88	2	72	4029.454	ppb	4029.454	0.98	1547342	4000	
Zr	90	2	72	39847.980	ppb	39847.980	1.17	207964	1000	>LDR
Nb	93	2	72	3.300	ppb	3.300	3.61	8466	200	
Mo	95	2	115	197.543	ppb	197.543	1.48	125736	2000	
Pd	105	2	115	0.159	ppb	0.159	24.65	177	100	
Ag	107	2	115	36.661	ppb	36.661	1.32	76104	100	
Cd	111	2	115	187.025	ppb	187.025	1.23	50258	2000	
Sn	120	2	115	200.350	ppb	200.350	0.58	150392	2000	
Sb	121	2	115	199.479	ppb	199.479	0.30	137284	1000	
Ba	137	2	115	267.945	ppb	267.945	0.70	63624	5000	
W	182	2	165	190.621	ppb	190.621	0.52	569382	100	
Pt	195	2	165	0.098	ppb	0.098	34.04	263	100	
Tl	205	2	165	194.506	ppb	194.506	0.72	1079066	2000	
Pb	208	2	165	193.618	ppb	193.618	0.84	1432442	5000	
Th	232	2	165	13.258	ppb	13.258	15.60	152371	2000	
U	238	2	165	268.867	ppb	268.867	0.38	3245135	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	625144	0.76	1639580	38.13	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17820171	0.33	31715490	56.19	60	120	IS Failed
Sc (IS)	45	2	HMI He	594036	0.37	891522	66.63	60	120	
Sc (IS)	45	3	No Gas	28498022	0.58	54087154	52.69	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7132548	0.15	13102322	54.44	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	680023	0.62	1026205	66.27	60	120	
In Internal Standard	115	2	HMI He	2862221	1.06	4195206	68.23	60	120	
Ho-165	165	2	HMI He	14025645	0.40	20206547	69.41	60	120	

Sample Report

Sample Table

Sample Name	280-115766-d-1-c
Data File Name	240SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:38:52-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	53.369	ppb	53.369	19.67	99142	500000	
Li	7	2	45	-4.727	ppb	-4.727	-308.46	5418	500000	
Li	7	3	45	16.713	ppb	16.713	21.57	3027634	50000	
Be	9	1	6	10.243	ppb	10.243	4.69	1493	2000	
B	11	1	6	302.232	ppb	302.232	1.67	48352	2000	
Na	23	1	45	275823.764	ppb	275823.764	0.66	546951432	2000	>LDR
Na	23	2	45	244988.775	ppb	244988.775	0.17	35955348	400000	
Mg	24	2	45	244316.299	ppb	244316.299	0.70	16990149	400000	
Al	27	2	45	128041.794	ppb	128041.794	0.94	2035232	400000	
K	39	1	45	18674.878	ppb	18674.878	0.66	44386828	400000	
K	39	2	45	18934.481	ppb	18934.481	0.80	623270	400000	
Ca	40	1	45	832927.069	ppb	832927.069	0.37	2518072442	400000	
Ca	44	2	45	893740.512	ppb	893740.512	0.51	1637458	400000	
Ti	47	2	45	359.233	ppb	359.233	5.16	5301	4000	
V	51	2	72	334.405	ppb	334.405	1.57	210517	2000	
Cr	52	2	72	11155.317	ppb	11155.317	0.71	8933390	5000	
Mn	55	2	72	5892.999	ppb	5892.999	1.30	1874975	10000	
Fe	57	2	72	397091.003	ppb	397091.003	0.96	5960770	400000	
Co	59	2	72	121.113	ppb	121.113	0.54	166580	2000	
Ni	60	2	72	1132.339	ppb	1132.339	1.01	441359	5000	
Cu	63	2	72	519.620	ppb	519.620	0.87	555921	5000	
Zn	66	2	72	639.789	ppb	639.789	0.90	91821	5000	
As	75	2	72	66.751	ppb	66.751	1.82	7017	2000	
Se	78	1	72	34.196	ppb	34.196	3.21	4705	2000	
Sr	88	2	72	3414.366	ppb	3414.366	7.56	1209646	4000	
Zr	90	2	72	4430.269	ppb	4430.269	4.83	21357	1000	
Nb	93	2	72	1.202	ppb	1.202	12.27	3317	200	
Mo	95	2	115	174.996	ppb	174.996	1.15	101482	2000	
Pd	105	2	115	0.218	ppb	0.218	18.41	213	100	
Ag	107	2	115	1.526	ppb	1.526	7.17	2927	100	
Cd	111	2	115	3.608	ppb	3.608	19.11	883	2000	
Sn	120	2	115	7.852	ppb	7.852	2.67	5468	2000	
Sb	121	2	115	1.216	ppb	1.216	21.28	797	1000	
Ba	137	2	115	5157.430	ppb	5157.430	0.28	1115601	5000	
W	182	2	165	29.148	ppb	29.148	1.11	81990	100	
Pt	195	2	165	0.033	ppb	0.033	23.13	100	100	
Tl	205	2	165	1.613	ppb	1.613	5.39	8416	2000	
Pb	208	2	165	132.266	ppb	132.266	0.50	911943	5000	
Th	232	2	165	61.823	ppb	61.823	0.96	661073	2000	
U	238	2	165	26.346	ppb	26.346	0.52	296370	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	572035	0.46	1639580	34.89	60	120	IS Failed
Sc (IS)	45	1	HMI H2	16702784	0.13	31715490	52.66	60	120	IS Failed
Sc (IS)	45	2	HMI He	555504	0.87	891522	62.31	60	120	
Sc (IS)	45	3	No Gas	26703409	0.54	54087154	49.37	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6446310	0.65	13102322	49.20	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	627089	1.02	1026205	61.11	60	120	
In Internal Standard	115	2	HMI He	2607359	0.72	4195206	62.15	60	120	
Ho-165	165	2	HMI He	13068613	0.34	20206547	64.68	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	241_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:42:41-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	423.713	ppb	0.534	204087	500	84.7	90	110	>+\-10%
Li	7	2	45	362.899	ppb	8.496	11375	500	72.6	90	110	>+\-10%
Li	7	3	45	353.617	ppb	1.639	6252574	500	70.7	90	110	>+\-10%
Be	9	1	6	64.074	ppb	3.314	10971	50	128.1	90	110	>+\-10%
B	11	1	6	96.447	ppb	0.596	18552	50	192.9	90	110	>+\-10%
Na	23	1	45	5717.178	ppb	0.947	12835574	5000	114.3	90	110	>+\-10%
Na	23	2	45	4612.692	ppb	1.502	762920	5000	92.3	90	110	
Mg	24	2	45	4349.056	ppb	1.020	329328	5000	87.0	90	110	>+\-10%
Al	27	2	45	5381.501	ppb	1.961	93091	5000	107.6	90	110	
K	39	1	45	5666.905	ppb	1.533	19626629	5000	113.3	90	110	>+\-10%
K	39	2	45	5282.905	ppb	0.313	198541	5000	105.7	90	110	
Ca	40	1	45	5667.387	ppb	0.041	18902145	5000	113.3	90	110	>+\-10%
Ca	44	2	45	5389.110	ppb	3.583	10778	5000	107.8	90	110	
Ti	47	2	45	51.513	ppb	20.006	827	50	103.0	90	110	
V	51	2	72	46.135	ppb	1.507	34612	50	92.3	90	110	
Cr	52	2	72	49.089	ppb	0.841	44479	50	98.2	90	110	
Mn	55	2	72	51.035	ppb	1.728	18322	50	102.1	90	110	
Fe	57	2	72	4869.490	ppb	0.656	82417	5000	97.4	90	110	
Co	59	2	72	47.784	ppb	1.877	74013	50	95.6	90	110	
Ni	60	2	72	46.928	ppb	4.072	20702	50	93.9	90	110	
Cu	63	2	72	47.007	ppb	0.474	57445	50	94.0	90	110	
Zn	66	2	72	49.892	ppb	6.826	8249	50	99.8	90	110	
As	75	2	72	46.379	ppb	4.519	5498	50	92.8	90	110	
Se	78	1	72	48.184	ppb	3.939	7670	50	96.4	90	110	
Sr	88	2	72	55.169	ppb	1.867	22028	50	110.3	90	110	>+\-10%
Zr	90	2	72	168.999	ppb	12.395	970	50	338.0	90	110	>+\-10%
Nb	93	2	72	85.406	ppb	1.872	206533	100	85.4	90	110	>+\-10%
Mo	95	2	115	46.004	ppb	1.999	30621	50	92.0	90	110	
Pd	105	2	115	49.447	ppb	0.535	50107	50	98.9	90	110	
Ag	107	2	115	46.221	ppb	0.762	100236	50	92.4	90	110	
Cd	111	2	115	47.943	ppb	1.965	13461	50	95.9	90	110	
Sn	120	2	115	50.633	ppb	2.420	39798	50	101.3	90	110	
Sb	121	2	115	50.395	ppb	0.569	36265	50	100.8	90	110	
Ba	137	2	115	52.498	ppb	0.515	13027	50	105.0	90	110	
W	182	2	165	48.909	ppb	0.852	148794	50	97.8	90	110	
Pt	195	2	165	47.286	ppb	1.274	114870	50	94.6	90	110	
Tl	205	2	165	51.870	ppb	1.189	291524	50	103.7	90	110	
Pb	208	2	165	52.087	ppb	1.275	390741	50	104.2	90	110	
Th	232	2	165	40.283	ppb	0.573	468301	50	80.6	90	110	>+\-10%
U	238	2	165	41.302	ppb	0.108	504975	50	82.6	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	673092	0.42	1639580	41.05	60	120	IS Failed
Sc (IS)	45	1	HMI H2	18395933	0.69	31715490	58.00	60	120	IS Failed
Sc (IS)	45	2	HMI He	604381	0.17	891522	67.79	60	120	
Sc (IS)	45	3	No Gas	29537907	0.46	54087154	54.61	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7461813	0.31	13102322	56.95	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	706177	1.11	1026205	68.81	60	120	
In Internal Standard	115	2	HMI He	2990455	1.10	4195206	71.28	60	120	
Ho-165	165	2	HMI He	14205594	0.33	20206547	70.30	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	242_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:46:29-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-68.056	ppb	-11.6	2642178	10	
Be	9	1	6	0.144	ppb	102.8	30	0.5	
B	11	1	6	33.197	ppb	2.3	7065	0.5	>RL
Na	23	1	45	376.087	ppb	0.3	1209796	25	>RL
Na	23	2	45	267.761	ppb	2.4	72390	25	>RL
Mg	24	2	45	31.158	ppb	6.0	2734	25	>RL
Al	27	2	45	4.366	ppb	38.5	107	15	
K	39	1	45	280.307	ppb	9.9	7713305	50	>RL
K	39	2	45	36.442	ppb	67.0	14808	50	
Ca	40	1	45	30.303	ppb	1.7	136572	50	
Ca	44	2	45	18.860	ppb	38.8	77	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.718	ppb	-14.6	1777	1	
Cr	52	2	72	0.276	ppb	43.6	477	1	
Mn	55	2	72	0.486	ppb	43.6	220	0.5	
Fe	57	2	72	21.592	ppb	23.9	490	25	
Co	59	2	72	0.030	ppb	85.8	53	0.5	
Ni	60	2	72	0.035	ppb	127.5	133	1	
Cu	63	2	72	-0.101	ppb	-152.6	800	1	
Zn	66	2	72	-0.155	ppb	-310.4	180	5	
As	75	2	72	-0.047	ppb	-241.9	19	1	
Se	78	1	72	0.070	ppb	36.4	20	1	
Sr	88	2	72	0.071	ppb	106.2	63	0.5	
Zr	90	2	72	5.809	ppb	134.1	90	1	>RL
Nb	93	2	72	3.534	ppb	1.3	9754	2	>RL
Mo	95	2	115	0.106	ppb	21.0	107	0.5	
Pd	105	2	115	0.030	ppb	129.2	57	1	
Ag	107	2	115	-0.005	ppb	-446.7	40	1	
Cd	111	2	115	0.022	ppb	173.2	7	0.5	
Sn	120	2	115	0.120	ppb	48.5	223	1	
Sb	121	2	115	0.371	ppb	12.1	323	0.6	
Ba	137	2	115	0.144	ppb	27.9	40	0.5	
W	182	2	165	0.111	ppb	27.9	1487	1	
Pt	195	2	165	0.037	ppb	86.8	120	1	
Tl	205	2	165	0.014	ppb	31.5	167	0.1	
Pb	208	2	165	0.003	ppb	352.5	647	0.5	
Th	232	2	165	0.030	ppb	17.4	577	1	
U	238	2	165	0.013	ppb	28.8	253	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	702830	0.21	1639580	42.87	60	120	IS Failed
Sc (IS)	45	1	HMI H2	18890148	0.16	31715490	59.56	60	120	IS Failed
Sc (IS)	45	2	HMI He	628444	0.39	891522	70.49	60	120	
Sc (IS)	45	3	No Gas	29806825	0.45	54087154	55.11	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7650191	1.00	13102322	58.39	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	736202	0.91	1026205	71.74	60	120	
In Internal Standard	115	2	HMI He	3145787	1.30	4195206	74.99	60	120	
Ho-165	165	2	HMI He	14583384	0.34	20206547	72.17	60	120	

Blank Report

Sample Table

Sample Name	mb 280-434982/1-a
Data File Name	243_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:50:19-06:00
Sample Type	Blank
Dilution	1
Comment	434982 6020
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-30.857	ppb	-2.421751528	89466	0.5
Li	7	2	45	-79.613	ppb	-9.859657656	4968	0.5
Li	7	3	45	-62.616	ppb	-6.401266689	2593357	10
Be	9	1	6	0.033	ppb	171.7412796	10	0.5
B	11	1	6	29.303	ppb	7.244645	6208	0.5
Na	23	1	45	431.681	ppb	1.536145672	1327020	25
Na	23	2	45	337.308	ppb	2.185942868	83954	25
Mg	24	2	45	29.961	ppb	4.596902956	2640	25
Al	27	2	45	10.683	ppb	26.89181946	220	15
K	39	1	45	-1236.960	ppb	-1.622661374	4185375	50
K	39	2	45	53.134	ppb	46.86438619	15419	50
Ca	40	1	45	49.724	ppb	2.082751269	201836	50
Ca	44	2	45	68.659	ppb	13.10617917	180	25
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5
V	51	2	72	-1.171	ppb	-16.91467687	1437	1
Cr	52	2	72	0.172	ppb	78.37490135	377	1
Mn	55	2	72	0.966	ppb	12.16160063	397	0.5
Fe	57	2	72	60.191	ppb	2.097177937	1163	25
Co	59	2	72	0.045	ppb	21.4001977	77	0.5
Ni	60	2	72	0.022	ppb	222.5731272	127	1
Cu	63	2	72	0.114	ppb	93.26518787	1063	1
Zn	66	2	72	1.849	ppb	10.90377181	513	5
As	75	2	72	-0.031	ppb	-181.1363106	21	1
Se	78	1	72	0.005	ppb	278.6848491	9	1
Sr	88	2	72	0.194	ppb	28.87875297	113	0.5
Zr	90	2	72	6.506	ppb	236.8698848	93	1
Nb	93	2	72	1.904	ppb	3.912700848	5625	2
Mo	95	2	115	-0.013	ppb	-242.4402745	23	0.5
Pd	105	2	115	-0.023	ppb	0	0	1
Ag	107	2	115	-0.008	ppb	-188.4683091	33	1
Cd	111	2	115	0.023	ppb	173.2050808	7	0.5
Sn	120	2	115	0.337	ppb	37.12563358	397	1
Sb	121	2	115	0.123	ppb	23.44840471	133	0.6
Ba	137	2	115	0.860	ppb	35.03853724	223	0.5
W	182	2	165	0.084	ppb	28.32571615	1383	1
Pt	195	2	165	0.028	ppb	22.18967789	97	1
Tl	205	2	165	-0.001	ppb	-806.4182683	80	0.1
Pb	208	2	165	0.030	ppb	86.96162847	843	0.5
Th	232	2	165	0.026	ppb	32.96131826	517	1
U	238	2	165	0.006	ppb	69.74804015	167	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	691695	0.19	1639580	42.19	60	120	IS Failed
Sc (IS)	45	1	HMI H2	18785217	0.55	31715490	59.23	60	120	IS Failed
Sc (IS)	45	2	HMI He	628590	0.75	891522	70.51	60	120	
Sc (IS)	45	3	No Gas	28739662	0.46	54087154	53.14	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7596453	0.49	13102322	57.98	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	731637	0.38	1026205	71.30	60	120	
In Internal Standard	115	2	HMI He	3101050	0.68	4195206	73.92	60	120	
Ho-165	165	2	HMI He	14381944	0.22	20206547	71.17	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-434982/2-a
Data File Name	244_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:54:07-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	434982 6020
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	43.391	43.391	ppb	12.968	106955	400	10.8	80	120	>+/-20%
Li	7	2	45	-22.548	-22.548	ppb	-74.318	5798	400	-5.6	80	120	>+/-20%
Li	7	3	45	11.602	11.602	ppb	84.083	3173192	400	2.9	80	120	>+/-20%
Be	9	1	6	48.121	48.121	ppb	4.544	8479	40	120.3	80	120	>+/-20%
Na	23	2	45	374.039	374.039	ppb	4.825	89195	40	935.1	80	120	>+/-20%
Mg	24	2	45	32.554	32.554	ppb	14.161	2817	40	81.4	80	120	
Al	27	2	45	452.637	452.637	ppb	1.420	8093	40	1131.6	80	120	>+/-20%
K	39	2	45	53.807	53.807	ppb	26.388	15302	40	134.5	80	120	>+/-20%
Ca	44	2	45	230.241	230.241	ppb	22.309	510	40	575.6	80	120	>+/-20%
V	51	2	72	36.536	36.536	ppb	2.960	28743	40	91.3	80	120	
Cr	52	2	72	36.857	36.857	ppb	0.374	34496	40	92.1	80	120	
Mn	55	2	72	39.813	39.813	ppb	3.673	14752	40	99.5	80	120	
Fe	57	2	72	439.204	439.204	ppb	2.692	7766	40	1098.0	80	120	>+/-20%
Co	59	2	72	37.008	37.008	ppb	1.544	59122	40	92.5	80	120	
Ni	60	2	72	36.338	36.338	ppb	2.234	16564	40	90.8	80	120	
Cu	63	2	72	36.379	36.379	ppb	0.267	46061	40	90.9	80	120	
Zn	66	2	72	36.631	36.631	ppb	6.132	6298	40	91.6	80	120	
As	75	2	72	34.464	34.464	ppb	1.924	4219	40	86.2	80	120	
Se	78	1	72	38.898	38.898	ppb	1.578	6212	40	97.2	80	120	
Nb	93	2	72	0.986	0.986	ppb	14.055	3321	40	2.5	80	120	>+/-20%
Mo	95	2	115	33.398	33.398	ppb	3.898	23033	40	83.5	80	120	
Pd	105	2	115	-0.017	-0.017	ppb	-32.324	7	40	0.0	80	120	>+/-20%
Ag	107	2	115	37.425	37.425	ppb	0.734	84094	40	93.6	80	120	
Cd	111	2	115	37.830	37.830	ppb	5.055	11005	40	94.6	80	120	
Sn	120	2	115	38.919	38.919	ppb	0.662	31720	40	97.3	80	120	
Sb	121	2	115	37.630	37.630	ppb	1.767	28066	40	94.1	80	120	
Ba	137	2	115	40.601	40.601	ppb	3.153	10438	40	101.5	80	120	
W	182	2	165	11.820	11.820	ppb	4.114	37022	40	29.6	80	120	>+/-20%
Pt	195	2	165	0.010	0.010	ppb	100.154	53	40	0.0	80	120	>+/-20%
Tl	205	2	165	41.661	41.661	ppb	0.990	235559	40	104.2	80	120	
Pb	208	2	165	42.704	42.704	ppb	0.678	322384	40	106.8	80	120	
Th	232	2	165	31.920	31.920	ppb	0.449	373340	40	79.8	80	120	>+/-20%
U	238	2	165	32.665	32.665	ppb	0.057	401783	40	81.7	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	692825	0.96	1639580	42.26	60	120	IS Failed
Sc (IS)	45	1	HMI H2	18450362	0.39	31715490	58.17	60	120	IS Failed
Sc (IS)	45	2	HMI He	622674	0.08	891522	69.84	60	120	
Sc (IS)	45	3	No Gas	28358823	0.12	54087154	52.43	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7483544	0.52	13102322	57.12	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	728340	0.23	1026205	70.97	60	120	
In Internal Standard	115	2	HMI He	3098115	0.92	4195206	73.85	60	120	
Ho-165	165	2	HMI He	14290512	0.24	20206547	70.72	60	120	

Sample Report

Sample Table

Sample Name	280-116001-j-1-b
Data File Name	245SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:57:55-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	126.801	ppb	126.801	3.13	120328	500000	
Li	7	2	45	59.640	ppb	59.640	50.15	6552	500000	
Li	7	3	45	89.159	ppb	89.159	8.37	3585404	50000	
Be	9	1	6	0.060	ppb	0.060	159.60	13	2000	
B	11	1	6	1073.208	ppb	1073.208	1.32	187289	2000	
Na	23	1	45	373527.768	ppb	373527.768	0.15	766695669	2000	>LDR
Na	23	2	45	332258.455	ppb	332258.455	0.40	50720789	400000	
Mg	24	2	45	74586.880	ppb	74586.880	0.93	5396343	400000	
Al	27	2	45	13.754	ppb	13.754	12.36	253	400000	
K	39	1	45	45813.643	ppb	45813.643	0.14	103330878	400000	
K	39	2	45	51392.881	ppb	51392.881	1.63	1738522	400000	
Ca	40	1	45	41358.016	ppb	41358.016	0.30	129470571	400000	
Ca	44	2	45	41896.361	ppb	41896.361	0.18	79887	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.167	ppb	-1.167	-26.69	1320	2000	
Cr	52	2	72	0.423	ppb	0.423	10.51	560	5000	
Mn	55	2	72	71.425	ppb	71.425	0.91	24335	10000	
Fe	57	2	72	69.955	ppb	69.955	7.89	1223	400000	
Co	59	2	72	0.380	ppb	0.380	24.89	563	2000	
Ni	60	2	72	15.584	ppb	15.584	3.36	6602	5000	
Cu	63	2	72	0.285	ppb	0.285	36.42	1170	5000	
Zn	66	2	72	54.301	ppb	54.301	3.67	8506	5000	
As	75	2	72	1.937	ppb	1.937	20.43	240	2000	
Se	78	1	72	0.238	ppb	0.238	47.97	43	2000	
Sr	88	2	72	702.686	ppb	702.686	0.44	266083	4000	
Zr	90	2	72	208.159	ppb	208.159	9.85	1123	1000	
Nb	93	2	72	0.655	ppb	0.655	30.13	2300	200	
Mo	95	2	115	0.808	ppb	0.808	17.27	533	2000	
Pd	105	2	115	0.022	ppb	0.022	215.15	43	100	
Ag	107	2	115	-0.003	ppb	-0.003	-591.99	40	100	
Cd	111	2	115	0.013	ppb	0.013	173.21	3	2000	
Sn	120	2	115	0.365	ppb	0.365	7.98	380	2000	
Sb	121	2	115	0.566	ppb	0.566	26.81	420	1000	
Ba	137	2	115	40.732	ppb	40.732	1.43	9490	5000	
W	182	2	165	0.328	ppb	0.328	17.80	2010	100	
Pt	195	2	165	0.043	ppb	0.043	109.94	127	100	
Tl	205	2	165	0.008	ppb	0.008	27.95	123	2000	
Pb	208	2	165	0.087	ppb	0.087	11.98	1207	5000	
Th	232	2	165	0.121	ppb	0.121	9.30	1544	2000	
U	238	2	165	0.441	ppb	0.441	7.34	5238	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	628600	0.74	1639580	38.34	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17291789	0.21	31715490	54.52	60	120	IS Failed
Sc (IS)	45	2	HMI He	577908	0.74	891522	64.82	60	120	
Sc (IS)	45	3	No Gas	26652825	0.07	54087154	49.28	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6904354	0.33	13102322	52.70	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	670521	1.00	1026205	65.34	60	120	
In Internal Standard	115	2	HMI He	2808104	1.29	4195206	66.94	60	120	
Ho-165	165	2	HMI He	13572951	0.40	20206547	67.17	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-1-d
Data File Name	246SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:01:40-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	4.701	ppb	4.701	71.46	91534	500000	
Li	7	2	45	-43.814	ppb	-43.814	-59.62	5184	500000	
Li	7	3	45	-33.068	ppb	-33.068	-19.08	2685792	50000	
Be	9	1	6	0.037	ppb	0.037	164.65	10	2000	
B	11	1	6	191.782	ppb	191.782	2.09	35066	2000	
Na	23	1	45	23817.316	ppb	23817.316	0.74	49532778	2000	>LDR
Na	23	2	45	21258.213	ppb	21258.213	0.50	3337356	400000	
Mg	24	2	45	23719.026	ppb	23719.026	1.22	1752031	400000	
Al	27	2	45	6.530	ppb	6.530	53.11	137	400000	
K	39	1	45	1464.274	ppb	1464.274	2.79	9628345	400000	
K	39	2	45	2610.095	ppb	2610.095	0.70	102153	400000	
Ca	40	1	45	129846.593	ppb	129846.593	0.96	409151114	400000	
Ca	44	2	45	126041.086	ppb	126041.086	0.73	245279	400000	
Ti	47	2	45	0.213	ppb	0.213	173.21	3	4000	
V	51	2	72	2.237	ppb	2.237	12.25	3687	2000	
Cr	52	2	72	0.337	ppb	0.337	50.94	500	5000	
Mn	55	2	72	770.712	ppb	770.712	0.44	269444	10000	
Fe	57	2	72	824.340	ppb	824.340	2.85	13697	400000	
Co	59	2	72	0.535	ppb	0.535	5.83	813	2000	
Ni	60	2	72	1.402	ppb	1.402	7.62	710	5000	
Cu	63	2	72	-0.092	ppb	-0.092	-67.32	760	5000	
Zn	66	2	72	1.657	ppb	1.657	23.04	453	5000	
As	75	2	72	4.379	ppb	4.379	7.41	527	2000	
Se	78	1	72	0.107	ppb	0.107	124.17	24	2000	
Sr	88	2	72	1222.897	ppb	1222.897	0.58	475745	4000	
Zr	90	2	72	78.824	ppb	78.824	29.97	470	1000	
Nb	93	2	72	0.343	ppb	0.343	26.21	1630	200	
Mo	95	2	115	4.759	ppb	4.759	4.88	3164	2000	
Pd	105	2	115	0.019	ppb	0.019	176.33	43	100	
Ag	107	2	115	-0.001	ppb	-0.001	-1082.27	47	100	
Cd	111	2	115	0.024	ppb	0.024	173.21	7	2000	
Sn	120	2	115	0.146	ppb	0.146	56.11	230	2000	
Sb	121	2	115	0.202	ppb	0.202	16.05	183	1000	
Ba	137	2	115	1200.191	ppb	1200.191	1.79	294691	5000	
W	182	2	165	0.084	ppb	0.084	131.32	1337	100	
Pt	195	2	165	0.046	ppb	0.046	46.82	137	100	
Tl	205	2	165	0.004	ppb	0.004	146.20	103	2000	
Pb	208	2	165	0.040	ppb	0.040	18.16	887	5000	
Th	232	2	165	0.040	ppb	0.040	12.76	667	2000	
U	238	2	165	1.185	ppb	1.185	3.16	14255	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	649903	0.32	1639580	39.64	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17408680	0.53	31715490	54.89	60	120	IS Failed
Sc (IS)	45	2	HMI He	589954	0.46	891522	66.17	60	120	
Sc (IS)	45	3	No Gas	27171469	1.08	54087154	50.24	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7049662	0.13	13102322	53.80	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	688923	0.37	1026205	67.13	60	120	
In Internal Standard	115	2	HMI He	2960081	1.36	4195206	70.56	60	120	
Ho-165	165	2	HMI He	13889471	0.27	20206547	68.74	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-2-b
Data File Name	247SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:05:26-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	14.771	ppb	14.771	21.96	93312	500000	
Li	7	2	45	-46.484	ppb	-46.484	-46.30	5094	500000	
Li	7	3	45	-17.809	ppb	-17.809	-27.71	2752139	50000	
Be	9	1	6	-0.003	ppb	-0.003	-1243.41	3	2000	
B	11	1	6	321.688	ppb	321.688	1.27	56628	2000	
Na	23	1	45	87207.710	ppb	87207.710	0.43	179199304	2000	>LDR
Na	23	2	45	77602.288	ppb	77602.288	0.65	11996387	400000	
Mg	24	2	45	58556.455	ppb	58556.455	0.72	4283181	400000	
Al	27	2	45	34.133	ppb	34.133	8.48	597	400000	
K	39	1	45	2989.623	ppb	2989.623	0.81	12784555	400000	
K	39	2	45	4056.833	ppb	4056.833	0.84	150303	400000	
Ca	40	1	45	181064.062	ppb	181064.062	0.10	566528725	400000	
Ca	44	2	45	178857.434	ppb	178857.434	0.70	344675	400000	
Ti	47	2	45	0.859	ppb	0.859	43.33	13	4000	
V	51	2	72	-1.431	ppb	-1.431	-7.37	1150	2000	
Cr	52	2	72	0.338	ppb	0.338	31.17	490	5000	
Mn	55	2	72	1946.499	ppb	1946.499	0.55	666095	10000	
Fe	57	2	72	2910.638	ppb	2910.638	1.60	47084	400000	
Co	59	2	72	0.495	ppb	0.495	5.75	737	2000	
Ni	60	2	72	3.611	ppb	3.611	14.78	1620	5000	
Cu	63	2	72	0.023	ppb	0.023	69.03	877	5000	
Zn	66	2	72	2.932	ppb	2.932	15.04	640	5000	
As	75	2	72	0.152	ppb	0.152	16.46	40	2000	
Se	78	1	72	0.046	ppb	0.046	33.21	15	2000	
Sr	88	2	72	2236.644	ppb	2236.644	0.31	851779	4000	
Zr	90	2	72	75.458	ppb	75.458	18.09	443	1000	
Nb	93	2	72	0.236	ppb	0.236	14.01	1350	200	
Mo	95	2	115	1.845	ppb	1.845	21.99	1217	2000	
Pd	105	2	115	0.035	ppb	0.035	140.74	57	100	
Ag	107	2	115	-0.012	ppb	-0.012	-45.81	23	100	
Cd	111	2	115	0.012	ppb	0.012	173.21	3	2000	
Sn	120	2	115	0.173	ppb	0.173	56.30	247	2000	
Sb	121	2	115	0.016	ppb	0.016	184.91	50	1000	
Ba	137	2	115	1852.114	ppb	1852.114	1.63	444432	5000	
W	182	2	165	0.107	ppb	0.107	11.93	1397	100	
Pt	195	2	165	0.012	ppb	0.012	86.10	57	100	
Tl	205	2	165	0.010	ppb	0.010	56.63	137	2000	
Pb	208	2	165	0.067	ppb	0.067	44.25	1080	5000	
Th	232	2	165	0.040	ppb	0.040	18.91	660	2000	
U	238	2	165	0.727	ppb	0.727	3.82	8730	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	629778	0.42	1639580	38.41	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17286174	0.69	31715490	54.50	60	120	IS Failed
Sc (IS)	45	2	HMI He	584268	0.74	891522	65.54	60	120	
Sc (IS)	45	3	No Gas	26639635	0.26	54087154	49.25	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6977153	0.44	13102322	53.25	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	674404	0.76	1026205	65.72	60	120	
In Internal Standard	115	2	HMI He	2892788	1.41	4195206	68.95	60	120	
Ho-165	165	2	HMI He	13810396	0.40	20206547	68.35	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-2-bSD@5
Data File Name	248SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:09:12-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-9.963	ppb	-9.963	-10.33	90627	500000	
Li	7	2	45	-79.442	ppb	-79.442	-24.87	4801	500000	
Li	7	3	45	-50.896	ppb	-50.896	-14.14	2634964	50000	
Be	9	1	6	-0.024	ppb	-0.024	0.00	0	2000	
B	11	1	6	82.093	ppb	82.093	2.17	15999	2000	
Na	23	1	45	18410.248	ppb	18410.248	0.04	39521203	2000	>LDR
Na	23	2	45	16472.722	ppb	16472.722	1.41	2668177	400000	
Mg	24	2	45	10877.194	ppb	10877.194	1.24	827227	400000	
Al	27	2	45	10.746	ppb	10.746	38.97	213	400000	
K	39	1	45	829.027	ppb	829.027	3.97	8525746	400000	
K	39	2	45	872.734	ppb	872.734	3.19	43826	400000	
Ca	40	1	45	36825.029	ppb	36825.029	0.59	119559015	400000	
Ca	44	2	45	36200.242	ppb	36200.242	1.39	72540	400000	
Ti	47	2	45	0.826	ppb	0.826	43.18	13	4000	
V	51	2	72	-0.848	ppb	-0.848	-9.05	1617	2000	
Cr	52	2	72	0.271	ppb	0.271	21.24	453	5000	
Mn	55	2	72	395.350	ppb	395.350	0.77	141990	10000	
Fe	57	2	72	581.736	ppb	581.736	6.38	9957	400000	
Co	59	2	72	0.068	ppb	0.068	25.79	110	2000	
Ni	60	2	72	0.706	ppb	0.706	37.01	423	5000	
Cu	63	2	72	-0.156	ppb	-0.156	-29.69	703	5000	
Zn	66	2	72	1.973	ppb	1.973	12.94	517	5000	
As	75	2	72	0.014	ppb	0.014	322.01	25	2000	
Se	78	1	72	0.007	ppb	0.007	536.24	9	2000	
Sr	88	2	72	446.114	ppb	446.114	0.60	178292	4000	
Zr	90	2	72	27.867	ppb	27.867	36.74	207	1000	
Nb	93	2	72	-0.074	ppb	-0.074	-48.95	667	200	
Mo	95	2	115	0.274	ppb	0.274	16.22	213	2000	
Pd	105	2	115	0.016	ppb	0.016	104.68	40	100	
Ag	107	2	115	-0.020	ppb	-0.020	-13.38	7	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	-0.003	ppb	-0.003	-2276.45	117	2000	
Sb	121	2	115	0.027	ppb	0.027	152.31	60	1000	
Ba	137	2	115	370.408	ppb	370.408	1.07	92251	5000	
W	182	2	165	0.068	ppb	0.068	136.78	1317	100	
Pt	195	2	165	0.024	ppb	0.024	63.18	87	100	
Tl	205	2	165	-0.001	ppb	-0.001	-451.39	77	2000	
Pb	208	2	165	-0.006	ppb	-0.006	-97.94	567	5000	
Th	232	2	165	0.006	ppb	0.006	190.79	280	2000	
U	238	2	165	0.133	ppb	0.133	10.00	1710	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	678278	0.21	1639580	41.37	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17933112	0.08	31715490	56.54	60	120	IS Failed
Sc (IS)	45	2	HMI He	607351	1.21	891522	68.13	60	120	
Sc (IS)	45	3	No Gas	28136129	0.48	54087154	52.02	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7306577	0.70	13102322	55.77	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	707652	0.62	1026205	68.96	60	120	
In Internal Standard	115	2	HMI He	3002345	2.07	4195206	71.57	60	120	
Ho-165	165	2	HMI He	14166821	0.89	20206547	70.11	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-2-c ms
Data File Name	249SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:12:57-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	87.774	ppb	87.774	6.56	109862	500000	
Li	7	2	45	24.293	ppb	24.293	43.17	6065	500000	
Li	7	3	45	44.832	ppb	44.832	30.53	3209763	50000	
Be	9	1	6	50.669	ppb	50.669	0.85	7992	2000	
B	11	1	6	349.313	ppb	349.313	2.38	60493	2000	
Na	23	1	45	85629.959	ppb	85629.959	0.30	174325377	2000	>LDR
Na	23	2	45	75618.871	ppb	75618.871	0.73	11593933	400000	
Mg	24	2	45	57750.131	ppb	57750.131	0.97	4189380	400000	
Al	27	2	45	463.168	ppb	463.168	9.92	7706	400000	
K	39	1	45	2965.761	ppb	2965.761	1.46	12615586	400000	
K	39	2	45	3977.669	ppb	3977.669	2.37	146384	400000	
Ca	40	1	45	176329.827	ppb	176329.827	0.65	546578632	400000	
Ca	44	2	45	174801.556	ppb	174801.556	0.48	334079	400000	
Ti	47	2	45	2.597	ppb	2.597	49.83	40	4000	
V	51	2	72	37.022	ppb	37.022	1.12	26842	2000	
Cr	52	2	72	37.870	ppb	37.870	2.20	32695	5000	
Mn	55	2	72	1937.709	ppb	1937.709	0.23	660722	10000	
Fe	57	2	72	3139.382	ppb	3139.382	1.47	50599	400000	
Co	59	2	72	36.191	ppb	36.191	1.04	53342	2000	
Ni	60	2	72	38.059	ppb	38.059	4.79	16003	5000	
Cu	63	2	72	35.573	ppb	35.573	3.01	41577	5000	
Zn	66	2	72	37.961	ppb	37.961	3.89	6015	5000	
As	75	2	72	36.214	ppb	36.214	3.21	4089	2000	
Se	78	1	72	36.731	ppb	36.731	2.96	5409	2000	
Sr	88	2	72	2223.963	ppb	2223.963	0.80	843901	4000	
Zr	90	2	72	7753.743	ppb	7753.743	1.38	40028	1000	>LDR
Nb	93	2	72	0.085	ppb	0.085	61.37	997	200	
Mo	95	2	115	35.677	ppb	35.677	2.30	22542	2000	
Pd	105	2	115	0.046	ppb	0.046	83.93	67	100	
Ag	107	2	115	23.093	ppb	23.093	1.88	47535	100	
Cd	111	2	115	38.308	ppb	38.308	1.98	10204	2000	
Sn	120	2	115	41.341	ppb	41.341	3.39	30849	2000	
Sb	121	2	115	40.863	ppb	40.863	3.07	27903	1000	
Ba	137	2	115	1867.317	ppb	1867.317	1.64	439488	5000	
W	182	2	165	12.726	ppb	12.726	1.97	38302	100	
Pt	195	2	165	0.017	ppb	0.017	78.58	67	100	
Tl	205	2	165	40.410	ppb	40.410	1.28	220035	2000	
Pb	208	2	165	40.788	ppb	40.788	0.27	296563	5000	
Th	232	2	165	32.225	ppb	32.225	1.36	362971	2000	
U	238	2	165	34.030	ppb	34.030	1.51	403086	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	620048	0.61	1639580	37.82	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17125289	0.38	31715490	54.00	60	120	IS Failed
Sc (IS)	45	2	HMI He	579433	0.23	891522	64.99	60	120	
Sc (IS)	45	3	No Gas	26400955	0.48	54087154	48.81	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6900827	0.33	13102322	52.67	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	671982	0.43	1026205	65.48	60	120	
In Internal Standard	115	2	HMI He	2837481	1.81	4195206	67.64	60	120	
Ho-165	165	2	HMI He	13762648	0.72	20206547	68.11	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-2-d msd
Data File Name	250SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:16:44-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	85.797	ppb	85.797	8.29	109335	500000	
Li	7	2	45	12.194	ppb	12.194	217.64	5891	500000	
Li	7	3	45	33.966	ppb	33.966	4.98	3137078	50000	
Be	9	1	6	51.768	ppb	51.768	3.74	8159	2000	
B	11	1	6	349.546	ppb	349.546	0.73	60490	2000	
Na	23	1	45	83712.939	ppb	83712.939	0.95	170357077	2000	>LDR
Na	23	2	45	74029.823	ppb	74029.823	0.86	11353534	400000	
Mg	24	2	45	56338.220	ppb	56338.220	1.08	4088031	400000	
Al	27	2	45	506.453	ppb	506.453	5.32	8423	400000	
K	39	1	45	2900.746	ppb	2900.746	2.38	12474113	400000	
K	39	2	45	3833.917	ppb	3833.917	0.49	141587	400000	
Ca	40	1	45	174664.536	ppb	174664.536	1.35	541170605	400000	
Ca	44	2	45	171646.459	ppb	171646.459	1.17	328121	400000	
Ti	47	2	45	3.025	ppb	3.025	49.10	47	4000	
V	51	2	72	36.113	ppb	36.113	1.24	26248	2000	
Cr	52	2	72	37.478	ppb	37.478	2.05	32374	5000	
Mn	55	2	72	1912.286	ppb	1912.286	0.52	652416	10000	
Fe	57	2	72	3076.634	ppb	3076.634	1.00	49613	400000	
Co	59	2	72	36.059	ppb	36.059	0.86	53175	2000	
Ni	60	2	72	38.197	ppb	38.197	2.13	16066	5000	
Cu	63	2	72	35.314	ppb	35.314	1.50	41297	5000	
Zn	66	2	72	38.824	ppb	38.824	7.73	6152	5000	
As	75	2	72	35.915	ppb	35.915	1.41	4057	2000	
Se	78	1	72	37.780	ppb	37.780	3.36	5615	2000	
Sr	88	2	72	2190.175	ppb	2190.175	0.23	831515	4000	
Zr	90	2	72	7939.318	ppb	7939.318	0.83	41007	1000	>LDR
Nb	93	2	72	0.001	ppb	0.001	6343.28	807	200	
Mo	95	2	115	35.671	ppb	35.671	3.53	22723	2000	
Pd	105	2	115	0.039	ppb	0.039	71.52	60	100	
Ag	107	2	115	34.909	ppb	34.909	1.29	72454	100	
Cd	111	2	115	35.748	ppb	35.748	2.35	9604	2000	
Sn	120	2	115	39.946	ppb	39.946	1.84	30070	2000	
Sb	121	2	115	40.930	ppb	40.930	2.14	28189	1000	
Ba	137	2	115	1822.423	ppb	1822.423	0.47	432650	5000	
W	182	2	165	12.266	ppb	12.266	0.77	36688	100	
Pt	195	2	165	0.016	ppb	0.016	15.96	63	100	
Tl	205	2	165	40.708	ppb	40.708	0.50	220032	2000	
Pb	208	2	165	40.811	ppb	40.811	1.18	294540	5000	
Th	232	2	165	32.554	ppb	32.554	0.64	363979	2000	
U	238	2	165	33.869	ppb	33.869	0.24	398243	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	619601	0.39	1639580	37.79	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17118876	0.99	31715490	53.98	60	120	IS Failed
Sc (IS)	45	2	HMI He	579594	0.91	891522	65.01	60	120	
Sc (IS)	45	3	No Gas	26491699	0.20	54087154	48.98	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6964488	0.37	13102322	53.15	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	672338	0.71	1026205	65.52	60	120	
In Internal Standard	115	2	HMI He	2861623	0.82	4195206	68.21	60	120	
Ho-165	165	2	HMI He	13660928	0.33	20206547	67.61	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-2-b PDS
Data File Name	251SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:20:32-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	10.916	ppb	10.916	28.43	91296	500000	
Li	7	2	45	-48.342	ppb	-48.342	-15.04	5038	500000	
Li	7	3	45	-25.593	ppb	-25.593	-4.31	2671736	50000	
Be	9	1	6	255.288	ppb	255.288	0.33	39908	2000	
B	11	1	6	307.220	ppb	307.220	2.82	52807	2000	
Na	23	1	45	85037.751	ppb	85037.751	0.10	172688131	2000	>LDR
Na	23	2	45	74532.373	ppb	74532.373	0.39	11453624	400000	
Mg	24	2	45	56313.786	ppb	56313.786	0.22	4094349	400000	
Al	27	2	45	2135.802	ppb	2135.802	0.48	35517	400000	
K	39	1	45	2905.641	ppb	2905.641	1.06	12458662	400000	
K	39	2	45	3974.277	ppb	3974.277	1.56	146597	400000	
Ca	40	1	45	175275.145	ppb	175275.145	0.38	541950565	400000	
Ca	44	2	45	172549.575	ppb	172549.575	0.66	330520	400000	
Ti	47	2	45	7.563	ppb	7.563	65.61	117	4000	
V	51	2	72	188.547	ppb	188.547	0.81	128252	2000	
Cr	52	2	72	186.269	ppb	186.269	1.49	160200	5000	
Mn	55	2	72	2061.229	ppb	2061.229	0.44	703603	10000	
Fe	57	2	72	4730.827	ppb	4730.827	1.36	76278	400000	
Co	59	2	72	178.834	ppb	178.834	1.73	263836	2000	
Ni	60	2	72	178.066	ppb	178.066	2.27	74539	5000	
Cu	63	2	72	176.419	ppb	176.419	1.62	203031	5000	
Zn	66	2	72	192.219	ppb	192.219	1.93	29728	5000	
As	75	2	72	176.922	ppb	176.922	2.18	19914	2000	
Se	78	1	72	188.756	ppb	188.756	0.57	27636	2000	
Sr	88	2	72	2147.645	ppb	2147.645	0.98	815812	4000	
Zr	90	2	72	39886.589	ppb	39886.589	0.89	205931	1000	>LDR
Nb	93	2	72	2.957	ppb	2.957	2.43	7589	200	
Mo	95	2	115	183.171	ppb	183.171	1.44	115364	2000	
Pd	105	2	115	0.043	ppb	0.043	70.88	63	100	
Ag	107	2	115	37.100	ppb	37.100	1.15	76204	100	
Cd	111	2	115	189.952	ppb	189.952	3.55	50509	2000	
Sn	120	2	115	204.126	ppb	204.126	1.28	151600	2000	
Sb	121	2	115	193.122	ppb	193.122	1.55	131503	1000	
Ba	137	2	115	2016.969	ppb	2016.969	0.71	473866	5000	
W	182	2	165	193.477	ppb	193.477	1.24	564865	100	
Pt	195	2	165	0.081	ppb	0.081	10.82	217	100	
Tl	205	2	165	203.709	ppb	203.709	0.65	1104636	2000	
Pb	208	2	165	200.883	ppb	200.883	1.14	1452638	5000	
Th	232	2	165	12.563	ppb	12.563	1.00	141086	2000	
U	238	2	165	206.996	ppb	206.996	0.94	2442044	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	614719	0.43	1639580	37.49	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17082267	0.25	31715490	53.86	60	120	IS Failed
Sc (IS)	45	2	HMI He	580734	0.63	891522	65.14	60	120	
Sc (IS)	45	3	No Gas	26442340	0.78	54087154	48.89	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6868512	0.30	13102322	52.42	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	672733	1.24	1026205	65.56	60	120	
In Internal Standard	115	2	HMI He	2831883	0.20	4195206	67.50	60	120	
Ho-165	165	2	HMI He	13709333	0.24	20206547	67.85	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	252_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:24:18-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	435.898	ppb	4.403	201510	500	87.2	90	110	>+\-10%
Li	7	2	45	329.944	ppb	13.467	10771	500	66.0	90	110	>+\-10%
Li	7	3	45	358.954	ppb	3.319	5948468	500	71.8	90	110	>+\-10%
Be	9	1	6	63.253	ppb	5.503	10691	50	126.5	90	110	>+\-10%
B	11	1	6	77.056	ppb	5.464	14745	50	154.1	90	110	>+\-10%
Na	23	1	45	5814.941	ppb	0.652	12691155	5000	116.3	90	110	>+\-10%
Na	23	2	45	4660.137	ppb	0.254	762541	5000	93.2	90	110	
Mg	24	2	45	4384.340	ppb	0.477	328570	5000	87.7	90	110	>+\-10%
Al	27	2	45	5399.614	ppb	2.270	92447	5000	108.0	90	110	
K	39	1	45	5861.562	ppb	1.213	19514278	5000	117.2	90	110	>+\-10%
K	39	2	45	5417.633	ppb	0.449	201173	5000	108.4	90	110	
Ca	40	1	45	5540.015	ppb	0.988	17970487	5000	110.8	90	110	>+\-10%
Ca	44	2	45	5394.202	ppb	3.816	10678	5000	107.9	90	110	
Ti	47	2	45	55.190	ppb	16.196	877	50	110.4	90	110	>+\-10%
V	51	2	72	45.919	ppb	2.653	34345	50	91.8	90	110	
Cr	52	2	72	46.790	ppb	0.834	42262	50	93.6	90	110	
Mn	55	2	72	52.334	ppb	0.918	18726	50	104.7	90	110	
Fe	57	2	72	4898.725	ppb	1.393	82639	5000	98.0	90	110	
Co	59	2	72	46.703	ppb	1.105	72099	50	93.4	90	110	
Ni	60	2	72	45.054	ppb	3.034	19818	50	90.1	90	110	
Cu	63	2	72	46.792	ppb	3.565	56997	50	93.6	90	110	
Zn	66	2	72	48.203	ppb	6.938	7946	50	96.4	90	110	
As	75	2	72	47.255	ppb	2.288	5582	50	94.5	90	110	
Se	78	1	72	50.887	ppb	0.655	7936	50	101.8	90	110	
Sr	88	2	72	55.809	ppb	2.436	22211	50	111.6	90	110	>+\-10%
Zr	90	2	72	89.818	ppb	14.036	540	50	179.6	90	110	>+\-10%
Nb	93	2	72	83.535	ppb	1.181	201365	100	83.5	90	110	>+\-10%
Mo	95	2	115	44.972	ppb	2.482	30103	50	89.9	90	110	>+\-10%
Pd	105	2	115	47.252	ppb	2.152	48147	50	94.5	90	110	
Ag	107	2	115	45.805	ppb	1.061	99894	50	91.6	90	110	
Cd	111	2	115	49.495	ppb	7.128	13971	50	99.0	90	110	
Sn	120	2	115	49.873	ppb	1.540	39424	50	99.7	90	110	
Sb	121	2	115	50.537	ppb	2.420	36569	50	101.1	90	110	
Ba	137	2	115	51.698	ppb	6.015	12897	50	103.4	90	110	
W	182	2	165	47.766	ppb	1.199	144847	50	95.5	90	110	
Pt	195	2	165	46.959	ppb	2.281	113694	50	93.9	90	110	
Tl	205	2	165	52.174	ppb	0.475	292235	50	104.3	90	110	
Pb	208	2	165	52.329	ppb	1.038	391231	50	104.7	90	110	
Th	232	2	165	40.189	ppb	0.491	465626	50	80.4	90	110	>+\-10%
U	238	2	165	41.288	ppb	0.438	503100	50	82.6	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	664402	0.38	1639580	40.52	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17891103	0.53	31715490	56.41	60	120	IS Failed
Sc (IS)	45	2	HMI He	598142	0.38	891522	67.09	60	120	
Sc (IS)	45	3	No Gas	27895838	0.70	54087154	51.58	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7310262	0.06	13102322	55.79	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	703825	0.37	1026205	68.59	60	120	
In Internal Standard	115	2	HMI He	3007115	0.61	4195206	71.68	60	120	
Ho-165	165	2	HMI He	14157822	0.66	20206547	70.07	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	253_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:28:05-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-52.602	ppb	-8.2	2634385	10	
Be	9	1	6	0.131	ppb	92.3	27	0.5	
B	11	1	6	17.756	ppb	4.5	3924	0.5	>RL
Na	23	1	45	439.175	ppb	0.9	1281738	25	>RL
Na	23	2	45	321.726	ppb	2.5	78645	25	>RL
Mg	24	2	45	62.045	ppb	7.7	4994	25	>RL
Al	27	2	45	3.228	ppb	36.8	83	15	
K	39	1	45	317.831	ppb	8.6	7398950	50	>RL
K	39	2	45	33.094	ppb	59.5	14198	50	
Ca	40	1	45	21.545	ppb	6.0	101140	50	
Ca	44	2	45	10.151	ppb	173.5	57	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.255	ppb	-39.3	2020	1	
Cr	52	2	72	0.010	ppb	492.0	217	1	
Mn	55	2	72	0.655	ppb	19.0	270	0.5	>RL
Fe	57	2	72	14.958	ppb	7.4	357	25	
Co	59	2	72	0.034	ppb	10.8	57	0.5	
Ni	60	2	72	-0.035	ppb	-193.5	97	1	
Cu	63	2	72	0.007	ppb	1462.6	893	1	
Zn	66	2	72	-0.184	ppb	-143.6	167	5	
As	75	2	72	-0.040	ppb	-49.3	19	1	
Se	78	1	72	0.058	ppb	140.5	17	1	
Sr	88	2	72	0.289	ppb	42.6	147	0.5	
Zr	90	2	72	1.569	ppb	445.3	63	1	>RL
Nb	93	2	72	3.540	ppb	7.8	9327	2	>RL
Mo	95	2	115	0.057	ppb	78.8	70	0.5	
Pd	105	2	115	0.006	ppb	172.3	30	1	
Ag	107	2	115	0.009	ppb	137.3	70	1	
Cd	111	2	115	0.012	ppb	173.2	3	0.5	
Sn	120	2	115	0.237	ppb	25.0	310	1	
Sb	121	2	115	0.568	ppb	16.2	457	0.6	
Ba	137	2	115	0.162	ppb	62.1	43	0.5	
W	182	2	165	0.152	ppb	28.1	1580	1	
Pt	195	2	165	0.050	ppb	8.3	150	1	
Tl	205	2	165	0.027	ppb	12.7	240	0.1	
Pb	208	2	165	0.019	ppb	73.3	757	0.5	
Th	232	2	165	0.031	ppb	19.2	580	1	
U	238	2	165	0.030	ppb	5.6	467	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	679056	0.57	1639580	41.42	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17919186	0.46	31715490	56.50	60	120	IS Failed
Sc (IS)	45	2	HMI He	607610	0.92	891522	68.15	60	120	
Sc (IS)	45	3	No Gas	28276684	0.62	54087154	52.28	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7340259	1.03	13102322	56.02	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	702751	0.60	1026205	68.48	60	120	
In Internal Standard	115	2	HMI He	3047842	0.62	4195206	72.65	60	120	
Ho-165	165	2	HMI He	14276996	0.37	20206547	70.66	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-3-b
Data File Name	254SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:31:53-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-31.413	ppb	-31.413	-5.35	84075	500000	
Li	7	2	45	-85.662	ppb	-85.662	-10.20	4651	500000	
Li	7	3	45	-61.765	ppb	-61.765	-8.50	2474271	50000	
Be	9	1	6	0.075	ppb	0.075	164.21	17	2000	
B	11	1	6	16.172	ppb	16.172	12.66	3541	2000	
Na	23	1	45	795.588	ppb	795.588	2.29	2012500	2000	
Na	23	2	45	625.074	ppb	625.074	2.26	125667	400000	
Mg	24	2	45	61.425	ppb	61.425	6.86	4881	400000	
Al	27	2	45	3.289	ppb	3.289	44.15	83	400000	
K	39	1	45	-1205.461	ppb	-1205.461	-0.88	4007792	400000	
K	39	2	45	36.715	ppb	36.715	78.20	14144	400000	
Ca	40	1	45	106.163	ppb	106.163	0.56	370617	400000	
Ca	44	2	45	81.347	ppb	81.347	16.34	197	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-0.890	ppb	-0.890	-31.56	1567	2000	
Cr	52	2	72	0.199	ppb	0.199	25.69	383	5000	
Mn	55	2	72	0.669	ppb	0.669	26.95	273	10000	
Fe	57	2	72	10.903	ppb	10.903	32.17	287	400000	
Co	59	2	72	0.027	ppb	0.027	36.11	47	2000	
Ni	60	2	72	-0.033	ppb	-0.033	-288.91	97	5000	
Cu	63	2	72	0.325	ppb	0.325	48.21	1267	5000	
Zn	66	2	72	0.802	ppb	0.802	125.92	323	5000	
As	75	2	72	-0.017	ppb	-0.017	-98.77	22	2000	
Se	78	1	72	0.034	ppb	0.034	116.95	13	2000	
Sr	88	2	72	0.410	ppb	0.410	45.61	193	4000	
Zr	90	2	72	0.422	ppb	0.422	2229.76	57	1000	
Nb	93	2	72	2.106	ppb	2.106	6.51	5852	200	
Mo	95	2	115	0.038	ppb	0.038	91.19	57	2000	
Pd	105	2	115	-0.014	ppb	-0.014	-72.59	10	100	
Ag	107	2	115	0.000	ppb	0.000	-5409.86	50	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.100	ppb	0.100	176.42	200	2000	
Sb	121	2	115	0.256	ppb	0.256	7.10	227	1000	
Ba	137	2	115	0.244	ppb	0.244	67.66	63	5000	
W	182	2	165	0.050	ppb	0.050	112.16	1260	100	
Pt	195	2	165	0.053	ppb	0.053	12.16	157	100	
Tl	205	2	165	0.000	ppb	0.000	2227.66	87	2000	
Pb	208	2	165	0.000	ppb	0.000	-2680.36	607	5000	
Th	232	2	165	0.024	ppb	0.024	32.59	493	2000	
U	238	2	165	0.011	ppb	0.011	15.89	220	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	663078	0.28	1639580	40.44	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17681941	0.13	31715490	55.75	60	120	IS Failed
Sc (IS)	45	2	HMI He	599803	0.60	891522	67.28	60	120	
Sc (IS)	45	3	No Gas	27343960	0.14	54087154	50.56	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7227324	0.45	13102322	55.16	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	698572	0.20	1026205	68.07	60	120	
In Internal Standard	115	2	HMI He	3024099	1.23	4195206	72.08	60	120	
Ho-165	165	2	HMI He	14162226	0.31	20206547	70.09	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-4-b
Data File Name	255SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:35:41-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	3.418	ppb	3.418	188.82	89205	500000	
Li	7	2	45	-46.125	ppb	-46.125	-59.52	5011	500000	
Li	7	3	45	-33.877	ppb	-33.877	-21.31	2603692	50000	
Be	9	1	6	0.104	ppb	0.104	123.36	20	2000	
B	11	1	6	235.265	ppb	235.265	2.02	40740	2000	
Na	23	1	45	44956.034	ppb	44956.034	1.02	91126099	2000	>LDR
Na	23	2	45	40198.374	ppb	40198.374	0.86	6116431	400000	
Mg	24	2	45	51915.203	ppb	51915.203	0.24	3730223	400000	
Al	27	2	45	601.690	ppb	601.690	1.49	9907	400000	
K	39	1	45	1992.271	ppb	1992.271	2.24	10513579	400000	
K	39	2	45	3068.605	ppb	3068.605	1.92	114661	400000	
Ca	40	1	45	214425.010	ppb	214425.010	1.59	660640190	400000	
Ca	44	2	45	209179.912	ppb	209179.912	0.50	395959	400000	
Ti	47	2	45	11.396	ppb	11.396	53.89	173	4000	
V	51	2	72	-0.538	ppb	-0.538	-67.47	1727	2000	
Cr	52	2	72	0.514	ppb	0.514	22.60	633	5000	
Mn	55	2	72	2146.811	ppb	2146.811	0.31	725597	10000	
Fe	57	2	72	6272.632	ppb	6272.632	1.29	100110	400000	
Co	59	2	72	0.816	ppb	0.816	9.02	1197	2000	
Ni	60	2	72	1.387	ppb	1.387	15.45	680	5000	
Cu	63	2	72	0.203	ppb	0.203	60.04	1070	5000	
Zn	66	2	72	1.341	ppb	1.341	35.87	390	5000	
As	75	2	72	1.295	ppb	1.295	10.78	167	2000	
Se	78	1	72	0.103	ppb	0.103	81.45	23	2000	
Sr	88	2	72	1864.014	ppb	1864.014	0.27	701116	4000	
Zr	90	2	72	151.571	ppb	151.571	14.65	827	1000	
Nb	93	2	72	1.240	ppb	1.240	17.10	3614	200	
Mo	95	2	115	2.148	ppb	2.148	9.43	1380	2000	
Pd	105	2	115	0.025	ppb	0.025	22.53	47	100	
Ag	107	2	115	-0.012	ppb	-0.012	-25.12	23	100	
Cd	111	2	115	0.013	ppb	0.013	173.21	3	2000	
Sn	120	2	115	0.167	ppb	0.167	34.58	237	2000	
Sb	121	2	115	0.233	ppb	0.233	17.68	197	1000	
Ba	137	2	115	281.577	ppb	281.577	0.69	66120	5000	
W	182	2	165	0.146	ppb	0.146	14.56	1497	100	
Pt	195	2	165	0.067	ppb	0.067	25.82	183	100	
Tl	205	2	165	0.009	ppb	0.009	124.72	130	2000	
Pb	208	2	165	1.359	ppb	1.359	3.48	10396	5000	
Th	232	2	165	0.128	ppb	0.128	5.65	1640	2000	
U	238	2	165	0.061	ppb	0.061	32.11	803	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	617292	0.63	1639580	37.65	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17022571	0.67	31715490	53.67	60	120	IS Failed
Sc (IS)	45	2	HMI He	573909	0.62	891522	64.37	60	120	
Sc (IS)	45	3	No Gas	26401198	0.34	54087154	48.81	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6861049	0.91	13102322	52.37	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	666086	0.32	1026205	64.91	60	120	
In Internal Standard	115	2	HMI He	2830369	1.26	4195206	67.47	60	120	
Ho-165	165	2	HMI He	13687849	0.34	20206547	67.74	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-5-b
Data File Name	256SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:39:28-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-11.485	ppb	-11.485	-30.46	86880	500000	
Li	7	2	45	-62.943	ppb	-62.943	-23.62	4851	500000	
Li	7	3	45	-41.791	ppb	-41.791	-4.82	2576966	50000	
Be	9	1	6	0.144	ppb	0.144	91.78	27	2000	
B	11	1	6	86.281	ppb	86.281	0.86	15505	2000	
Na	23	1	45	17059.739	ppb	17059.739	1.18	35279044	2000	>LDR
Na	23	2	45	15584.017	ppb	15584.017	1.19	2426690	400000	
Mg	24	2	45	18609.134	ppb	18609.134	1.25	1359626	400000	
Al	27	2	45	527.059	ppb	527.059	1.72	8826	400000	
K	39	1	45	621.886	ppb	621.886	4.33	7770245	400000	
K	39	2	45	1818.920	ppb	1818.920	1.20	74201	400000	
Ca	40	1	45	98533.382	ppb	98533.382	0.52	307919415	400000	
Ca	44	2	45	95747.488	ppb	95747.488	1.26	184290	400000	
Ti	47	2	45	8.377	ppb	8.377	34.94	130	4000	
V	51	2	72	2.170	ppb	2.170	21.70	3584	2000	
Cr	52	2	72	0.697	ppb	0.697	5.97	803	5000	
Mn	55	2	72	677.955	ppb	677.955	0.33	233298	10000	
Fe	57	2	72	1222.549	ppb	1222.549	1.71	19945	400000	
Co	59	2	72	0.264	ppb	0.264	13.41	397	2000	
Ni	60	2	72	0.551	ppb	0.551	7.53	340	5000	
Cu	63	2	72	0.279	ppb	0.279	61.64	1177	5000	
Zn	66	2	72	2.392	ppb	2.392	25.90	560	5000	
As	75	2	72	4.621	ppb	4.621	14.28	546	2000	
Se	78	1	72	0.126	ppb	0.126	43.61	27	2000	
Sr	88	2	72	780.496	ppb	780.496	0.38	298883	4000	
Zr	90	2	72	103.883	ppb	103.883	5.63	593	1000	
Nb	93	2	72	0.799	ppb	0.799	16.44	2657	200	
Mo	95	2	115	4.129	ppb	4.129	9.90	2714	2000	
Pd	105	2	115	0.000	ppb	0.000	8797.68	23	100	
Ag	107	2	115	-0.007	ppb	-0.007	-74.30	33	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.192	ppb	0.192	37.76	263	2000	
Sb	121	2	115	0.144	ppb	0.144	35.92	140	1000	
Ba	137	2	115	600.893	ppb	600.893	0.32	145632	5000	
W	182	2	165	0.154	ppb	0.154	54.92	1530	100	
Pt	195	2	165	0.048	ppb	0.048	69.21	140	100	
Tl	205	2	165	0.006	ppb	0.006	109.17	117	2000	
Pb	208	2	165	0.325	ppb	0.325	1.98	2950	5000	
Th	232	2	165	0.116	ppb	0.116	8.31	1517	2000	
U	238	2	165	0.488	ppb	0.488	4.84	5875	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	626557	0.93	1639580	38.21	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17264616	1.07	31715490	54.44	60	120	IS Failed
Sc (IS)	45	2	HMI He	583537	1.28	891522	65.45	60	120	
Sc (IS)	45	3	No Gas	26755545	0.38	54087154	49.47	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6985933	0.56	13102322	53.32	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	678105	0.34	1026205	66.08	60	120	
In Internal Standard	115	2	HMI He	2921366	1.32	4195206	69.64	60	120	
Ho-165	165	2	HMI He	13775272	0.24	20206547	68.17	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-6-b
Data File Name	257SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:43:15-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	33.043	ppb	33.043	5.27	96378	500000	
Li	7	2	45	-54.414	ppb	-54.414	-21.94	4934	500000	
Li	7	3	45	-9.030	ppb	-9.030	-55.33	2803134	50000	
Be	9	1	6	0.061	ppb	0.061	241.16	13	2000	
B	11	1	6	247.005	ppb	247.005	1.48	43023	2000	
Na	23	1	45	27111.698	ppb	27111.698	0.69	55177053	2000	>LDR
Na	23	2	45	24185.138	ppb	24185.138	1.07	3721427	400000	
Mg	24	2	45	44158.822	ppb	44158.822	0.66	3199881	400000	
Al	27	2	45	15.948	ppb	15.948	19.66	290	400000	
K	39	1	45	1831.575	ppb	1831.575	1.92	10195718	400000	
K	39	2	45	2953.077	ppb	2953.077	2.36	111755	400000	
Ca	40	1	45	121642.663	ppb	121642.663	0.41	375413208	400000	
Ca	44	2	45	117873.575	ppb	117873.575	1.20	225036	400000	
Ti	47	2	45	0.434	ppb	0.434	173.21	7	4000	
V	51	2	72	-1.609	ppb	-1.609	-11.58	1023	2000	
Cr	52	2	72	0.209	ppb	0.209	24.96	377	5000	
Mn	55	2	72	1087.224	ppb	1087.224	0.65	369534	10000	
Fe	57	2	72	1704.600	ppb	1704.600	2.76	27434	400000	
Co	59	2	72	0.049	ppb	0.049	28.01	77	2000	
Ni	60	2	72	-0.024	ppb	-0.024	-246.91	97	5000	
Cu	63	2	72	-0.243	ppb	-0.243	-15.82	567	5000	
Zn	66	2	72	1.062	ppb	1.062	35.48	350	5000	
As	75	2	72	1.802	ppb	1.802	7.47	224	2000	
Se	78	1	72	0.038	ppb	0.038	110.00	13	2000	
Sr	88	2	72	1240.409	ppb	1240.409	0.32	469183	4000	
Zr	90	2	72	12.560	ppb	12.560	59.33	117	1000	
Nb	93	2	72	0.405	ppb	0.405	17.90	1727	200	
Mo	95	2	115	4.945	ppb	4.945	9.28	3147	2000	
Pd	105	2	115	0.032	ppb	0.032	68.80	53	100	
Ag	107	2	115	-0.016	ppb	-0.016	-45.45	13	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.118	ppb	0.118	64.90	200	2000	
Sb	121	2	115	0.085	ppb	0.085	70.58	97	1000	
Ba	137	2	115	260.058	ppb	260.058	1.98	61167	5000	
W	182	2	165	0.076	ppb	0.076	56.14	1280	100	
Pt	195	2	165	0.072	ppb	0.072	17.99	193	100	
Tl	205	2	165	0.001	ppb	0.001	417.81	87	2000	
Pb	208	2	165	0.001	ppb	0.001	1105.90	590	5000	
Th	232	2	165	0.017	ppb	0.017	33.98	397	2000	
U	238	2	165	2.368	ppb	2.368	2.56	27727	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	621342	0.19	1639580	37.90	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17049942	0.39	31715490	53.76	60	120	IS Failed
Sc (IS)	45	2	HMI He	578783	0.18	891522	64.92	60	120	
Sc (IS)	45	3	No Gas	26476136	0.17	54087154	48.95	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6922957	0.29	13102322	52.84	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	669816	0.70	1026205	65.27	60	120	
In Internal Standard	115	2	HMI He	2835265	1.05	4195206	67.58	60	120	
Ho-165	165	2	HMI He	13567431	1.07	20206547	67.14	60	120	

Sample Report

Sample Table

Sample Name	280-116039-c-2-b
Data File Name	258SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:47:02-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-19.358	ppb	-19.358	-32.73	84863	500000	
Li	7	2	45	-80.626	ppb	-80.626	-20.96	4574	500000	
Li	7	3	45	-41.727	ppb	-41.727	-33.75	2556917	50000	
Be	9	1	6	0.019	ppb	0.019	388.00	7	2000	
B	11	1	6	165.481	ppb	165.481	3.74	28518	2000	
Na	23	1	45	140468.249	ppb	140468.249	0.59	287634802	2000	>LDR
Na	23	2	45	124757.754	ppb	124757.754	0.44	19148263	400000	
Mg	24	2	45	28540.226	ppb	28540.226	1.50	2074373	400000	
Al	27	2	45	4.250	ppb	4.250	28.35	97	400000	
K	39	1	45	2627.351	ppb	2627.351	0.31	11985759	400000	
K	39	2	45	3543.323	ppb	3543.323	1.34	132007	400000	
Ca	40	1	45	78092.918	ppb	78092.918	0.50	243680843	400000	
Ca	44	2	45	77104.205	ppb	77104.205	1.00	147658	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.415	ppb	-1.415	-29.28	1153	2000	
Cr	52	2	72	0.232	ppb	0.232	78.61	397	5000	
Mn	55	2	72	951.586	ppb	951.586	1.00	323799	10000	
Fe	57	2	72	1208.669	ppb	1208.669	2.83	19501	400000	
Co	59	2	72	0.221	ppb	0.221	14.42	330	2000	
Ni	60	2	72	0.520	ppb	0.520	36.36	323	5000	
Cu	63	2	72	-0.063	ppb	-0.063	-59.74	773	5000	
Zn	66	2	72	0.824	ppb	0.824	113.25	313	5000	
As	75	2	72	1.082	ppb	1.082	15.29	144	2000	
Se	78	1	72	0.038	ppb	0.038	148.85	13	2000	
Sr	88	2	72	923.142	ppb	923.142	0.85	349568	4000	
Zr	90	2	72	6.026	ppb	6.026	112.74	83	1000	
Nb	93	2	72	0.117	ppb	0.117	31.42	1070	200	
Mo	95	2	115	1.633	ppb	1.633	9.92	1080	2000	
Pd	105	2	115	0.024	ppb	0.024	85.93	47	100	
Ag	107	2	115	-0.018	ppb	-0.018	-25.76	10	100	
Cd	111	2	115	0.049	ppb	0.049	44.26	13	2000	
Sn	120	2	115	0.118	ppb	0.118	84.53	203	2000	
Sb	121	2	115	0.073	ppb	0.073	34.52	90	1000	
Ba	137	2	115	385.211	ppb	385.211	2.19	92393	5000	
W	182	2	165	0.162	ppb	0.162	30.70	1540	100	
Pt	195	2	165	0.101	ppb	0.101	50.25	263	100	
Tl	205	2	165	-0.006	ppb	-0.006	-84.63	50	2000	
Pb	208	2	165	0.033	ppb	0.033	36.55	827	5000	
Th	232	2	165	0.004	ppb	0.004	159.77	247	2000	
U	238	2	165	0.234	ppb	0.234	1.85	2837	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	610943	0.65	1639580	37.26	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17238207	0.32	31715490	54.35	60	120	IS Failed
Sc (IS)	45	2	HMI He	580553	0.82	891522	65.12	60	120	
Sc (IS)	45	3	No Gas	26551707	1.20	54087154	49.09	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6902639	0.13	13102322	52.68	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	670559	0.34	1026205	65.34	60	120	
In Internal Standard	115	2	HMI He	2891333	1.15	4195206	68.92	60	120	
Ho-165	165	2	HMI He	13656136	0.21	20206547	67.58	60	120	

Sample Report

Sample Table

Sample Name	280-116039-c-3-b
Data File Name	259SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:50:49-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-6.831	ppb	-6.831	-154.98	87032	500000	
Li	7	2	45	-78.446	ppb	-78.446	-24.53	4561	500000	
Li	7	3	45	-47.163	ppb	-47.163	-5.17	2496123	50000	
Be	9	1	6	-0.003	ppb	-0.003	-1462.29	3	2000	
B	11	1	6	204.981	ppb	204.981	0.86	35300	2000	
Na	23	1	45	69448.665	ppb	69448.665	0.61	141039381	2000	>LDR
Na	23	2	45	61977.065	ppb	61977.065	0.85	9436205	400000	
Mg	24	2	45	35030.366	ppb	35030.366	0.50	2522535	400000	
Al	27	2	45	6.539	ppb	6.539	32.49	133	400000	
K	39	1	45	2717.737	ppb	2717.737	2.39	12061372	400000	
K	39	2	45	3773.784	ppb	3773.784	1.73	138480	400000	
Ca	40	1	45	139695.385	ppb	139695.385	0.29	431790394	400000	
Ca	44	2	45	136052.814	ppb	136052.814	0.77	258095	400000	
Ti	47	2	45	0.220	ppb	0.220	173.21	3	4000	
V	51	2	72	-1.510	ppb	-1.510	-7.50	1080	2000	
Cr	52	2	72	0.221	ppb	0.221	25.63	383	5000	
Mn	55	2	72	886.891	ppb	886.891	1.01	298893	10000	
Fe	57	2	72	1688.679	ppb	1688.679	2.06	26943	400000	
Co	59	2	72	0.279	ppb	0.279	18.05	410	2000	
Ni	60	2	72	3.620	ppb	3.620	12.25	1600	5000	
Cu	63	2	72	-0.151	ppb	-0.151	-81.99	667	5000	
Zn	66	2	72	1.106	ppb	1.106	83.73	353	5000	
As	75	2	72	15.553	ppb	15.553	3.25	1748	2000	
Se	78	1	72	0.057	ppb	0.057	0.23	16	2000	
Sr	88	2	72	1282.219	ppb	1282.219	0.60	480862	4000	
Zr	90	2	72	23.861	ppb	23.861	4.95	173	1000	
Nb	93	2	72	0.082	ppb	0.082	38.68	980	200	
Mo	95	2	115	2.763	ppb	2.763	7.65	1770	2000	
Pd	105	2	115	0.008	ppb	0.008	232.32	30	100	
Ag	107	2	115	-0.018	ppb	-0.018	-26.69	10	100	
Cd	111	2	115	0.025	ppb	0.025	173.21	7	2000	
Sn	120	2	115	0.302	ppb	0.302	44.62	337	2000	
Sb	121	2	115	0.017	ppb	0.017	225.08	50	1000	
Ba	137	2	115	457.058	ppb	457.058	1.85	107451	5000	
W	182	2	165	0.105	ppb	0.105	43.34	1363	100	
Pt	195	2	165	0.190	ppb	0.190	12.09	467	100	
Tl	205	2	165	0.002	ppb	0.002	5.26	90	2000	
Pb	208	2	165	0.005	ppb	0.005	437.09	617	5000	
Th	232	2	165	0.004	ppb	0.004	13.68	243	2000	
U	238	2	165	1.988	ppb	1.988	3.38	23282	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	612779	0.75	1639580	37.37	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17076301	0.64	31715490	53.84	60	120	IS Failed
Sc (IS)	45	2	HMI He	575135	0.71	891522	64.51	60	120	
Sc (IS)	45	3	No Gas	26345328	0.52	54087154	48.71	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6867227	0.12	13102322	52.41	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	664111	0.34	1026205	64.72	60	120	
In Internal Standard	115	2	HMI He	2833701	0.38	4195206	67.55	60	120	
Ho-165	165	2	HMI He	13557043	0.55	20206547	67.09	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	260_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:54:37-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	437.863	ppb	0.903	198742	500	87.6	90	110	>+\-10%
Li	7	2	45	330.913	ppb	4.634	10588	500	66.2	90	110	>+\-10%
Li	7	3	45	355.461	ppb	1.462	5849813	500	71.1	90	110	>+\-10%
Be	9	1	6	63.133	ppb	8.526	10387	50	126.3	90	110	>+\-10%
B	11	1	6	70.268	ppb	3.428	13143	50	140.5	90	110	>+\-10%
Na	23	1	45	5573.036	ppb	0.442	11980698	5000	111.5	90	110	>+\-10%
Na	23	2	45	4485.308	ppb	0.384	721423	5000	89.7	90	110	>+\-10%
Mg	24	2	45	4389.982	ppb	0.289	322947	5000	87.8	90	110	>+\-10%
Al	27	2	45	5389.973	ppb	2.113	90580	5000	107.8	90	110	
K	39	1	45	5830.628	ppb	0.222	19132073	5000	116.6	90	110	>+\-10%
K	39	2	45	5412.602	ppb	0.509	197304	5000	108.3	90	110	
Ca	40	1	45	5512.408	ppb	0.289	17591951	5000	110.2	90	110	>+\-10%
Ca	44	2	45	5244.374	ppb	0.510	10191	5000	104.9	90	110	
Ti	47	2	45	55.161	ppb	13.606	860	50	110.3	90	110	>+\-10%
V	51	2	72	47.226	ppb	2.243	34138	50	94.5	90	110	
Cr	52	2	72	48.180	ppb	2.684	42129	50	96.4	90	110	
Mn	55	2	72	53.623	ppb	3.432	18576	50	107.2	90	110	
Fe	57	2	72	4848.190	ppb	1.648	79190	5000	97.0	90	110	
Co	59	2	72	47.085	ppb	1.531	70381	50	94.2	90	110	
Ni	60	2	72	47.767	ppb	1.882	20338	50	95.5	90	110	
Cu	63	2	72	46.615	ppb	1.699	54983	50	93.2	90	110	
Zn	66	2	72	46.796	ppb	2.912	7476	50	93.6	90	110	
As	75	2	72	45.475	ppb	1.068	5202	50	91.0	90	110	
Se	78	1	72	49.148	ppb	3.104	7487	50	98.3	90	110	
Sr	88	2	72	56.508	ppb	4.099	21778	50	113.0	90	110	>+\-10%
Zr	90	2	72	80.983	ppb	26.340	477	50	162.0	90	110	>+\-10%
Nb	93	2	72	85.571	ppb	0.232	199701	100	85.6	90	110	>+\-10%
Mo	95	2	115	45.456	ppb	1.156	29502	50	90.9	90	110	
Pd	105	2	115	48.054	ppb	1.333	47481	50	96.1	90	110	
Ag	107	2	115	45.399	ppb	1.874	96001	50	90.8	90	110	
Cd	111	2	115	47.865	ppb	5.025	13103	50	95.7	90	110	
Sn	120	2	115	49.887	ppb	3.068	38244	50	99.8	90	110	
Sb	121	2	115	50.346	ppb	3.965	35326	50	100.7	90	110	
Ba	137	2	115	51.359	ppb	3.726	12426	50	102.7	90	110	
W	182	2	165	48.487	ppb	0.390	144194	50	97.0	90	110	
Pt	195	2	165	46.722	ppb	1.497	110941	50	93.4	90	110	
Tl	205	2	165	52.550	ppb	0.846	288688	50	105.1	90	110	
Pb	208	2	165	52.638	ppb	0.779	385967	50	105.3	90	110	
Th	232	2	165	40.882	ppb	0.560	464542	50	81.8	90	110	>+\-10%
U	238	2	165	41.506	ppb	0.841	496022	50	83.0	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	646847	0.82	1639580	39.45	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17601375	0.27	31715490	55.50	60	120	IS Failed
Sc (IS)	45	2	HMI He	587147	0.25	891522	65.86	60	120	
Sc (IS)	45	3	No Gas	27565041	0.50	54087154	50.96	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7140380	0.49	13102322	54.50	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	681486	0.35	1026205	66.41	60	120	
In Internal Standard	115	2	HMI He	2916066	0.68	4195206	69.51	60	120	
Ho-165	165	2	HMI He	13885429	0.62	20206547	68.72	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	261_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:58:23-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-54.898	ppb	-4.2	2556486	10	
Be	9	1	6	0.036	ppb	166.2	10	0.5	
B	11	1	6	13.211	ppb	5.5	2984	0.5	>RL
Na	23	1	45	209.172	ppb	1.5	782624	25	>RL
Na	23	2	45	177.983	ppb	4.0	53865	25	>RL
Mg	24	2	45	82.679	ppb	4.8	6358	25	>RL
Al	27	2	45	3.780	ppb	16.1	90	15	
K	39	1	45	262.157	ppb	10.6	7184506	50	>RL
K	39	2	45	51.849	ppb	42.6	14404	50	>RL
Ca	40	1	45	30.804	ppb	1.6	129503	50	
Ca	44	2	45	24.779	ppb	86.3	83	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.259	ppb	-122.1	1980	1	
Cr	52	2	72	0.072	ppb	106.8	267	1	
Mn	55	2	72	0.574	ppb	3.5	237	0.5	>RL
Fe	57	2	72	10.318	ppb	14.6	273	25	
Co	59	2	72	0.048	ppb	32.0	77	0.5	
Ni	60	2	72	-0.078	ppb	-149.9	77	1	
Cu	63	2	72	-0.081	ppb	-102.4	773	1	
Zn	66	2	72	-0.145	ppb	-226.3	170	5	
As	75	2	72	-0.054	ppb	-46.4	17	1	
Se	78	1	72	0.079	ppb	0.5	20	1	
Sr	88	2	72	0.381	ppb	34.9	180	0.5	
Zr	90	2	72	-0.080	ppb	-2721.4	53	1	
Nb	93	2	72	3.775	ppb	9.3	9704	2	>RL
Mo	95	2	115	0.024	ppb	193.3	47	0.5	
Pd	105	2	115	0.043	ppb	109.8	67	1	
Ag	107	2	115	0.005	ppb	197.2	60	1	
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5	
Sn	120	2	115	0.143	ppb	24.0	230	1	
Sb	121	2	115	0.396	ppb	10.5	323	0.6	
Ba	137	2	115	0.017	ppb	268.0	7	0.5	
W	182	2	165	0.141	ppb	53.8	1503	1	
Pt	195	2	165	0.147	ppb	26.1	377	1	
Tl	205	2	165	0.014	ppb	48.5	157	0.1	
Pb	208	2	165	-0.002	ppb	-585.6	580	0.5	
Th	232	2	165	0.025	ppb	43.7	490	1	
U	238	2	165	0.031	ppb	5.7	457	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	660141	0.23	1639580	40.26	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17691453	0.72	31715490	55.78	60	120	IS Failed
Sc (IS)	45	2	HMI He	588810	0.34	891522	66.05	60	120	
Sc (IS)	45	3	No Gas	27641952	1.36	54087154	51.11	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7149095	0.28	13102322	54.56	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	689501	0.59	1026205	67.19	60	120	
In Internal Standard	115	2	HMI He	2972486	1.38	4195206	70.85	60	120	
Ho-165	165	2	HMI He	13878006	0.60	20206547	68.68	60	120	

Sample Report

Sample Table

Sample Name	280-116039-c-4-b
Data File Name	262SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:02:11-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-18.456	ppb	-18.456	-15.91	84195	500000	
Li	7	2	45	-95.584	ppb	-95.584	-12.58	4338	500000	
Li	7	3	45	-45.702	ppb	-45.702	-10.30	2527201	50000	
Be	9	1	6	0.040	ppb	0.040	158.74	10	2000	
B	11	1	6	267.839	ppb	267.839	3.36	45868	2000	
Na	23	1	45	51631.843	ppb	51631.843	0.57	104840805	2000	>LDR
Na	23	2	45	45873.907	ppb	45873.907	0.77	7022720	400000	
Mg	24	2	45	25008.280	ppb	25008.280	1.28	1808885	400000	
Al	27	2	45	8.534	ppb	8.534	29.85	167	400000	
K	39	1	45	2750.994	ppb	2750.994	0.72	12119570	400000	
K	39	2	45	3828.253	ppb	3828.253	1.72	140927	400000	
Ca	40	1	45	159255.893	ppb	159255.893	0.11	491769166	400000	
Ca	44	2	45	152806.233	ppb	152806.233	1.02	291182	400000	
Ti	47	2	45	1.091	ppb	1.091	70.36	17	4000	
V	51	2	72	6.936	ppb	6.936	1.96	6692	2000	
Cr	52	2	72	0.257	ppb	0.257	34.49	417	5000	
Mn	55	2	72	146.491	ppb	146.491	3.69	49640	10000	
Fe	57	2	72	41.353	ppb	41.353	8.79	760	400000	
Co	59	2	72	0.370	ppb	0.370	23.21	547	2000	
Ni	60	2	72	2.894	ppb	2.894	10.60	1307	5000	
Cu	63	2	72	1.265	ppb	1.265	8.42	2280	5000	
Zn	66	2	72	1.032	ppb	1.032	66.26	343	5000	
As	75	2	72	3.504	ppb	3.504	9.45	413	2000	
Se	78	1	72	1.328	ppb	1.328	16.69	203	2000	
Sr	88	2	72	958.474	ppb	958.474	0.84	361221	4000	
Zr	90	2	72	25.708	ppb	25.708	42.86	183	1000	
Nb	93	2	72	2.473	ppb	2.473	7.29	6428	200	
Mo	95	2	115	3.673	ppb	3.673	8.45	2370	2000	
Pd	105	2	115	0.042	ppb	0.042	13.80	63	100	
Ag	107	2	115	-0.010	ppb	-0.010	-26.23	27	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.114	ppb	0.114	103.68	200	2000	
Sb	121	2	115	0.378	ppb	0.378	29.53	300	1000	
Ba	137	2	115	639.165	ppb	639.165	1.11	152032	5000	
W	182	2	165	0.057	ppb	0.057	80.86	1237	100	
Pt	195	2	165	0.105	ppb	0.105	29.53	273	100	
Tl	205	2	165	0.015	ppb	0.015	77.99	160	2000	
Pb	208	2	165	0.026	ppb	0.026	34.71	777	5000	
Th	232	2	165	0.035	ppb	0.035	34.21	593	2000	
U	238	2	165	4.521	ppb	4.521	1.60	53291	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	611468	0.33	1639580	37.29	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17059677	0.33	31715490	53.79	60	120	IS Failed
Sc (IS)	45	2	HMI He	577737	1.00	891522	64.80	60	120	
Sc (IS)	45	3	No Gas	26553352	0.58	54087154	49.09	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6890274	0.28	13102322	52.59	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	667398	0.92	1026205	65.04	60	120	
In Internal Standard	115	2	HMI He	2866907	0.90	4195206	68.34	60	120	
Ho-165	165	2	HMI He	13677374	0.74	20206547	67.69	60	120	

Sample Report

Sample Table

Sample Name	280-116039-c-5-b
Data File Name	263SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:05:58-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-5.445	ppb	-5.445	-100.64	87116	500000	
Li	7	2	45	-54.184	ppb	-54.184	-74.47	4878	500000	
Li	7	3	45	-39.262	ppb	-39.262	-18.89	2539733	50000	
Be	9	1	6	0.063	ppb	0.063	157.55	13	2000	
B	11	1	6	209.743	ppb	209.743	1.56	35727	2000	
Na	23	1	45	63049.951	ppb	63049.951	0.93	127703005	2000	>LDR
Na	23	2	45	56240.275	ppb	56240.275	0.51	8515359	400000	
Mg	24	2	45	41957.490	ppb	41957.490	0.33	3003563	400000	
Al	27	2	45	22.895	ppb	22.895	22.18	400	400000	
K	39	1	45	1710.039	ppb	1710.039	3.52	9928483	400000	
K	39	2	45	2829.160	ppb	2829.160	1.39	106281	400000	
Ca	40	1	45	133571.047	ppb	133571.047	0.45	411670781	400000	
Ca	44	2	45	131577.342	ppb	131577.342	0.20	248155	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.584	ppb	-1.584	-21.38	1027	2000	
Cr	52	2	72	0.279	ppb	0.279	15.46	430	5000	
Mn	55	2	72	1199.490	ppb	1199.490	0.87	401868	10000	
Fe	57	2	72	2128.716	ppb	2128.716	1.40	33744	400000	
Co	59	2	72	0.250	ppb	0.250	19.40	367	2000	
Ni	60	2	72	3.400	ppb	3.400	10.29	1500	5000	
Cu	63	2	72	-0.152	ppb	-0.152	-67.33	660	5000	
Zn	66	2	72	1.274	ppb	1.274	51.75	377	5000	
As	75	2	72	4.190	ppb	4.190	15.56	485	2000	
Se	78	1	72	0.039	ppb	0.039	82.04	13	2000	
Sr	88	2	72	1491.873	ppb	1491.873	0.78	556208	4000	
Zr	90	2	72	16.854	ppb	16.854	35.35	137	1000	
Nb	93	2	72	1.409	ppb	1.409	7.55	3964	200	
Mo	95	2	115	5.111	ppb	5.111	2.96	3234	2000	
Pd	105	2	115	0.050	ppb	0.050	75.63	70	100	
Ag	107	2	115	0.001	ppb	0.001	1353.32	50	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.137	ppb	0.137	22.75	213	2000	
Sb	121	2	115	0.018	ppb	0.018	291.15	50	1000	
Ba	137	2	115	675.503	ppb	675.503	0.30	158058	5000	
W	182	2	165	0.141	ppb	0.141	31.96	1460	100	
Pt	195	2	165	0.054	ppb	0.054	7.85	150	100	
Tl	205	2	165	-0.004	ppb	-0.004	-212.79	57	2000	
Pb	208	2	165	0.011	ppb	0.011	202.73	657	5000	
Th	232	2	165	0.029	ppb	0.029	13.98	527	2000	
U	238	2	165	0.353	ppb	0.353	6.69	4178	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	606325	0.49	1639580	36.98	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17027442	1.12	31715490	53.69	60	120	IS Failed
Sc (IS)	45	2	HMI He	571776	0.50	891522	64.13	60	120	
Sc (IS)	45	3	No Gas	26168506	0.43	54087154	48.38	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6828734	0.53	13102322	52.12	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	660249	0.87	1026205	64.34	60	120	
In Internal Standard	115	2	HMI He	2820366	0.15	4195206	67.23	60	120	
Ho-165	165	2	HMI He	13471090	0.46	20206547	66.67	60	120	

Sample Report

Sample Table

Sample Name	280-116039-c-6-b
Data File Name	264SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:09:44-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-10.069	ppb	-10.069	-72.08	85932	500000	
Li	7	2	45	-52.745	ppb	-52.745	-61.42	4951	500000	
Li	7	3	45	-44.023	ppb	-44.023	-14.00	2529937	50000	
Be	9	1	6	-0.024	ppb	-0.024	0.00	0	2000	
B	11	1	6	267.115	ppb	267.115	3.34	45323	2000	
Na	23	1	45	56390.901	ppb	56390.901	0.35	114136578	2000	>LDR
Na	23	2	45	49675.409	ppb	49675.409	0.37	7609294	400000	
Mg	24	2	45	34900.394	ppb	34900.394	1.01	2526539	400000	
Al	27	2	45	7.109	ppb	7.109	44.10	143	400000	
K	39	1	45	2821.929	ppb	2821.929	0.77	12231325	400000	
K	39	2	45	3907.025	ppb	3907.025	1.80	143708	400000	
Ca	40	1	45	94629.113	ppb	94629.113	0.30	291359189	400000	
Ca	44	2	45	93022.245	ppb	93022.245	1.35	177427	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.522	ppb	-1.522	-24.46	1080	2000	
Cr	52	2	72	0.331	ppb	0.331	18.65	480	5000	
Mn	55	2	72	1113.067	ppb	1113.067	0.30	377568	10000	
Fe	57	2	72	2235.619	ppb	2235.619	1.11	35872	400000	
Co	59	2	72	0.443	ppb	0.443	17.47	653	2000	
Ni	60	2	72	1.003	ppb	1.003	26.23	523	5000	
Cu	63	2	72	-0.137	ppb	-0.137	-11.50	687	5000	
Zn	66	2	72	0.829	ppb	0.829	83.05	313	5000	
As	75	2	72	12.074	ppb	12.074	2.20	1371	2000	
Se	78	1	72	0.002	ppb	0.002	3095.47	8	2000	
Sr	88	2	72	997.938	ppb	997.938	0.25	376717	4000	
Zr	90	2	72	15.841	ppb	15.841	31.03	133	1000	
Nb	93	2	72	0.782	ppb	0.782	27.93	2584	200	
Mo	95	2	115	4.354	ppb	4.354	7.29	2784	2000	
Pd	105	2	115	0.015	ppb	0.015	80.50	37	100	
Ag	107	2	115	-0.021	ppb	-0.021	-12.96	3	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.175	ppb	0.175	42.93	243	2000	
Sb	121	2	115	-0.008	ppb	-0.008	-222.11	33	1000	
Ba	137	2	115	1001.893	ppb	1001.893	1.18	236531	5000	
W	182	2	165	0.097	ppb	0.097	78.60	1347	100	
Pt	195	2	165	0.089	ppb	0.089	14.64	233	100	
Tl	205	2	165	-0.001	ppb	-0.001	-507.02	77	2000	
Pb	208	2	165	0.000	ppb	0.000	-6437.07	583	5000	
Th	232	2	165	0.017	ppb	0.017	24.97	390	2000	
U	238	2	165	0.054	ppb	0.054	12.22	723	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	605921	0.68	1639580	36.96	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17009434	0.36	31715490	53.63	60	120	IS Failed
Sc (IS)	45	2	HMI He	578236	0.77	891522	64.86	60	120	
Sc (IS)	45	3	No Gas	26447773	0.53	54087154	48.90	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6885878	1.29	13102322	52.55	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	668471	0.50	1026205	65.14	60	120	
In Internal Standard	115	2	HMI He	2845811	0.68	4195206	67.83	60	120	
Ho-165	165	2	HMI He	13613556	0.79	20206547	67.37	60	120	

Sample Report

Sample Table

Sample Name	280-116039-c-7-b
Data File Name	265SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:13:31-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-18.853	ppb	-18.853	-22.09	82680	500000	
Li	7	2	45	-90.932	ppb	-90.932	-15.03	4348	500000	
Li	7	3	45	-47.506	ppb	-47.506	-16.14	2458765	50000	
Be	9	1	6	-0.002	ppb	-0.002	-2033.87	3	2000	
B	11	1	6	241.192	ppb	241.192	0.81	40793	2000	
Na	23	1	45	52470.253	ppb	52470.253	0.43	104737895	2000	>LDR
Na	23	2	45	46605.453	ppb	46605.453	0.84	7042676	400000	
Mg	24	2	45	32669.509	ppb	32669.509	0.60	2332709	400000	
Al	27	2	45	15.579	ppb	15.579	26.88	280	400000	
K	39	1	45	1402.659	ppb	1402.659	1.69	9149648	400000	
K	39	2	45	2524.572	ppb	2524.572	0.94	95908	400000	
Ca	40	1	45	188848.271	ppb	188848.271	0.53	573280058	400000	
Ca	44	2	45	182653.685	ppb	182653.685	0.94	343564	400000	
Ti	47	2	45	0.220	ppb	0.220	173.21	3	4000	
V	51	2	72	-1.559	ppb	-1.559	-20.32	1040	2000	
Cr	52	2	72	0.319	ppb	0.319	19.95	463	5000	
Mn	55	2	72	2876.064	ppb	2876.064	0.40	963205	10000	
Fe	57	2	72	3447.613	ppb	3447.613	0.95	54567	400000	
Co	59	2	72	1.788	ppb	1.788	4.11	2594	2000	
Ni	60	2	72	2.624	ppb	2.624	25.30	1180	5000	
Cu	63	2	72	-0.093	ppb	-0.093	-138.61	727	5000	
Zn	66	2	72	1.429	ppb	1.429	34.73	400	5000	
As	75	2	72	29.964	ppb	29.964	3.08	3327	2000	
Se	78	1	72	0.086	ppb	0.086	85.92	20	2000	
Sr	88	2	72	1547.866	ppb	1547.866	1.27	576881	4000	
Zr	90	2	72	37.834	ppb	37.834	43.56	243	1000	
Nb	93	2	72	0.364	ppb	0.364	23.34	1607	200	
Mo	95	2	115	2.894	ppb	2.894	4.27	1860	2000	
Pd	105	2	115	0.042	ppb	0.042	50.13	63	100	
Ag	107	2	115	-0.015	ppb	-0.015	-18.57	17	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.103	ppb	0.103	57.88	190	2000	
Sb	121	2	115	0.027	ppb	0.027	115.03	57	1000	
Ba	137	2	115	1031.570	ppb	1031.570	1.57	243556	5000	
W	182	2	165	0.140	ppb	0.140	31.75	1460	100	
Pt	195	2	165	0.072	ppb	0.072	34.00	193	100	
Tl	205	2	165	0.004	ppb	0.004	49.41	103	2000	
Pb	208	2	165	-0.006	ppb	-0.006	-298.95	540	5000	
Th	232	2	165	0.007	ppb	0.007	169.16	283	2000	
U	238	2	165	1.370	ppb	1.370	2.95	16001	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	603180	0.86	1639580	36.79	60	120	IS Failed
Sc (IS)	45	1	HMI H2	16771422	0.45	31715490	52.88	60	120	IS Failed
Sc (IS)	45	2	HMI He	570285	0.63	891522	63.97	60	120	
Sc (IS)	45	3	No Gas	25981632	0.79	54087154	48.04	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6802071	0.58	13102322	51.91	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	660028	0.75	1026205	64.32	60	120	
In Internal Standard	115	2	HMI He	2846187	1.47	4195206	67.84	60	120	
Ho-165	165	2	HMI He	13499300	0.20	20206547	66.81	60	120	

Sample Report

Sample Table

Sample Name	280-116039-c-8-b
Data File Name	266SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:17:21-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-41.686	ppb	-41.686	-18.67	79722	500000	
Li	7	2	45	-100.349	ppb	-100.349	-17.23	4308	500000	
Li	7	3	45	-69.746	ppb	-69.746	-3.87	2346262	50000	
Be	9	1	6	0.018	ppb	0.018	202.09	7	2000	
B	11	1	6	15.146	ppb	15.146	3.40	3197	2000	
Na	23	1	45	587.400	ppb	587.400	3.15	1540525	2000	
Na	23	2	45	419.141	ppb	419.141	2.03	90404	400000	
Mg	24	2	45	131.817	ppb	131.817	6.67	9877	400000	
Al	27	2	45	20.846	ppb	20.846	14.36	373	400000	
K	39	1	45	-1289.939	ppb	-1289.939	-2.48	3739182	400000	
K	39	2	45	47.866	ppb	47.866	34.73	14114	400000	
Ca	40	1	45	252.090	ppb	252.090	4.63	818969	400000	
Ca	44	2	45	212.753	ppb	212.753	22.78	443	400000	
Ti	47	2	45	0.217	ppb	0.217	173.21	3	4000	
V	51	2	72	-1.369	ppb	-1.369	-6.85	1200	2000	
Cr	52	2	72	0.326	ppb	0.326	10.48	483	5000	
Mn	55	2	72	1.541	ppb	1.541	21.13	567	10000	
Fe	57	2	72	11.153	ppb	11.153	72.45	283	400000	
Co	59	2	72	0.031	ppb	0.031	79.17	50	2000	
Ni	60	2	72	0.138	ppb	0.138	41.28	167	5000	
Cu	63	2	72	0.093	ppb	0.093	56.54	963	5000	
Zn	66	2	72	0.515	ppb	0.515	31.14	270	5000	
As	75	2	72	-0.080	ppb	-0.080	-99.39	14	2000	
Se	78	1	72	0.001	ppb	0.001	8348.86	8	2000	
Sr	88	2	72	0.554	ppb	0.554	38.52	243	4000	
Zr	90	2	72	4.561	ppb	4.561	148.42	77	1000	
Nb	93	2	72	0.176	ppb	0.176	16.21	1220	200	
Mo	95	2	115	0.165	ppb	0.165	67.78	137	2000	
Pd	105	2	115	-0.003	ppb	-0.003	-650.95	20	100	
Ag	107	2	115	-0.020	ppb	-0.020	-27.32	7	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.068	ppb	0.068	214.15	167	2000	
Sb	121	2	115	0.058	ppb	0.058	84.02	80	1000	
Ba	137	2	115	1.385	ppb	1.385	25.91	337	5000	
W	182	2	165	0.106	ppb	0.106	30.02	1380	100	
Pt	195	2	165	0.109	ppb	0.109	9.18	283	100	
Tl	205	2	165	-0.004	ppb	-0.004	-215.68	60	2000	
Pb	208	2	165	-0.002	ppb	-0.002	-535.04	570	5000	
Th	232	2	165	0.006	ppb	0.006	32.13	270	2000	
U	238	2	165	-0.001	ppb	-0.001	-426.25	77	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	632493	0.52	1639580	38.58	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17285369	0.57	31715490	54.50	60	120	IS Failed
Sc (IS)	45	2	HMI He	582630	0.77	891522	65.35	60	120	
Sc (IS)	45	3	No Gas	26613746	0.75	54087154	49.21	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7015330	1.00	13102322	53.54	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	679576	0.64	1026205	66.22	60	120	
In Internal Standard	115	2	HMI He	2911399	0.72	4195206	69.40	60	120	
Ho-165	165	2	HMI He	13694587	0.37	20206547	67.77	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	267_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:21:08-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	416.039	ppb	1.840	193364	500	83.2	90	110	>+\-10%
Li	7	2	45	337.580	ppb	13.276	10728	500	67.5	90	110	>+\-10%
Li	7	3	45	347.438	ppb	1.939	5753901	500	69.5	90	110	>+\-10%
Be	9	1	6	63.464	ppb	4.412	10417	50	126.9	90	110	>+\-10%
B	11	1	6	56.125	ppb	6.778	10581	50	112.3	90	110	>+\-10%
Na	23	1	45	5270.096	ppb	0.580	11345828	5000	105.4	90	110	
Na	23	2	45	4275.499	ppb	1.135	691866	5000	85.5	90	110	>+\-10%
Mg	24	2	45	4280.704	ppb	0.365	316285	5000	85.6	90	110	>+\-10%
Al	27	2	45	5190.096	ppb	0.419	87601	5000	103.8	90	110	
K	39	1	45	5594.417	ppb	1.490	18620504	5000	111.9	90	110	>+\-10%
K	39	2	45	5263.592	ppb	0.662	193059	5000	105.3	90	110	
Ca	40	1	45	5286.827	ppb	0.825	16870251	5000	105.7	90	110	
Ca	44	2	45	5177.510	ppb	3.472	10104	5000	103.6	90	110	
Ti	47	2	45	44.876	ppb	14.772	703	50	89.8	90	110	>+\-10%
V	51	2	72	44.790	ppb	2.515	32928	50	89.6	90	110	>+\-10%
Cr	52	2	72	46.758	ppb	1.942	41450	50	93.5	90	110	
Mn	55	2	72	48.843	ppb	2.263	17154	50	97.7	90	110	
Fe	57	2	72	4641.776	ppb	1.591	76856	5000	92.8	90	110	
Co	59	2	72	45.656	ppb	0.287	69176	50	91.3	90	110	
Ni	60	2	72	45.002	ppb	3.319	19431	50	90.0	90	110	
Cu	63	2	72	44.738	ppb	2.262	53527	50	89.5	90	110	>+\-10%
Zn	66	2	72	47.146	ppb	1.860	7632	50	94.3	90	110	
As	75	2	72	43.617	ppb	2.611	5058	50	87.2	90	110	>+\-10%
Se	78	1	72	48.653	ppb	2.806	7445	50	97.3	90	110	
Sr	88	2	72	55.570	ppb	2.593	21707	50	111.1	90	110	>+\-10%
Zr	90	2	72	27.567	ppb	47.728	200	50	55.1	90	110	>+\-10%
Nb	93	2	72	84.096	ppb	0.692	198951	100	84.1	90	110	>+\-10%
Mo	95	2	115	44.716	ppb	2.544	29224	50	89.4	90	110	>+\-10%
Pd	105	2	115	46.825	ppb	2.065	46591	50	93.6	90	110	
Ag	107	2	115	44.673	ppb	0.491	95144	50	89.3	90	110	>+\-10%
Cd	111	2	115	46.755	ppb	3.324	12893	50	93.5	90	110	
Sn	120	2	115	49.195	ppb	2.435	37980	50	98.4	90	110	
Sb	121	2	115	48.990	ppb	2.063	34618	50	98.0	90	110	
Ba	137	2	115	50.612	ppb	1.322	12333	50	101.2	90	110	
W	182	2	165	47.323	ppb	1.170	140505	50	94.6	90	110	
Pt	195	2	165	46.349	ppb	1.962	109859	50	92.7	90	110	
Tl	205	2	165	51.323	ppb	0.268	281445	50	102.6	90	110	
Pb	208	2	165	51.778	ppb	1.645	378983	50	103.6	90	110	
Th	232	2	165	39.908	ppb	0.539	452683	50	79.8	90	110	>+\-10%
U	238	2	165	40.643	ppb	0.468	484851	50	81.3	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	645223	0.82	1639580	39.35	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17598309	0.45	31715490	55.49	60	120	IS Failed
Sc (IS)	45	2	HMI He	589702	0.80	891522	66.15	60	120	
Sc (IS)	45	3	No Gas	27416010	0.69	54087154	50.69	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7172352	0.28	13102322	54.74	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	690780	0.43	1026205	67.31	60	120	
In Internal Standard	115	2	HMI He	2936609	0.74	4195206	70.00	60	120	
Ho-165	165	2	HMI He	13860821	0.54	20206547	68.60	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	268_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:24:55-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-61.996	ppb	-6.6	2512435	10	
Be	9	1	6	0.175	ppb	20.0	33	0.5	
B	11	1	6	10.308	ppb	13.3	2450	0.5	>RL
Na	23	1	45	142.779	ppb	2.1	641659	25	>RL
Na	23	2	45	120.168	ppb	5.7	45043	25	>RL
Mg	24	2	45	114.871	ppb	2.9	8763	25	>RL
Al	27	2	45	5.926	ppb	24.9	127	15	
K	39	1	45	282.624	ppb	9.7	7210808	50	>RL
K	39	2	45	40.389	ppb	28.6	14061	50	
Ca	40	1	45	21.262	ppb	2.9	98703	50	
Ca	44	2	45	12.673	ppb	214.3	60	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.092	ppb	-53.9	2104	1	
Cr	52	2	72	0.021	ppb	150.8	223	1	
Mn	55	2	72	0.695	ppb	39.9	280	0.5	>RL
Fe	57	2	72	16.466	ppb	18.3	377	25	
Co	59	2	72	0.034	ppb	44.6	57	0.5	
Ni	60	2	72	0.000	ppb	-19332.9	110	1	
Cu	63	2	72	-0.132	ppb	-31.1	717	1	
Zn	66	2	72	0.041	ppb	628.4	200	5	
As	75	2	72	-0.044	ppb	-23.5	18	1	
Se	78	1	72	0.017	ppb	175.2	11	1	
Sr	88	2	72	0.141	ppb	57.9	87	0.5	
Zr	90	2	72	1.745	ppb	161.1	63	1	>RL
Nb	93	2	72	3.623	ppb	10.8	9390	2	>RL
Mo	95	2	115	0.049	ppb	72.0	63	0.5	
Pd	105	2	115	0.016	ppb	281.7	40	1	
Ag	107	2	115	0.006	ppb	155.0	63	1	
Cd	111	2	115	0.072	ppb	87.1	20	0.5	
Sn	120	2	115	0.177	ppb	41.4	257	1	
Sb	121	2	115	0.312	ppb	37.9	263	0.6	
Ba	137	2	115	0.031	ppb	130.4	10	0.5	
W	182	2	165	0.095	ppb	85.8	1370	1	
Pt	195	2	165	0.100	ppb	31.0	267	1	
Tl	205	2	165	0.016	ppb	41.2	170	0.1	
Pb	208	2	165	0.000	ppb	-14363.1	597	0.5	
Th	232	2	165	0.036	ppb	23.5	613	1	
U	238	2	165	0.026	ppb	40.6	397	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	659289	0.28	1639580	40.21	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17647723	0.92	31715490	55.64	60	120	IS Failed
Sc (IS)	45	2	HMI He	590934	0.22	891522	66.28	60	120	
Sc (IS)	45	3	No Gas	27786853	0.54	54087154	51.37	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7177044	0.33	13102322	54.78	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	692792	0.49	1026205	67.51	60	120	
In Internal Standard	115	2	HMI He	2981659	0.78	4195206	71.07	60	120	
Ho-165	165	2	HMI He	13917292	1.07	20206547	68.88	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	269LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:28:43-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	-47.425	ppb	-21.695	2625076	50	-94.8	70	130	>+/-30%
Be	9	1	6	1.321	ppb	49.570	227	1	132.1	70	130	>+/-30%
Na	23	2	45	170.422	ppb	5.045	53120	50	340.8	70	130	>+/-30%
Mg	24	2	45	152.116	ppb	4.241	11572	50	304.2	70	130	>+/-30%
Al	27	2	45	33.771	ppb	15.113	600	30	112.6	70	130	
K	39	2	45	160.566	ppb	9.952	18272	100	160.6	70	130	>+/-30%
Ca	44	2	45	84.098	ppb	34.124	200	50	168.2	70	130	>+/-30%
V	51	2	72	4.411	ppb	14.295	5211	5	88.2	70	130	
Cr	52	2	72	1.979	ppb	15.404	1957	2	98.9	70	130	
Mn	55	2	72	1.366	ppb	20.528	517	1	136.6	70	130	>+/-30%
Fe	57	2	72	63.652	ppb	14.732	1160	50	127.3	70	130	
Co	59	2	72	0.904	ppb	7.563	1380	1	90.4	70	130	
Ni	60	2	72	2.049	ppb	9.500	993	2	102.5	70	130	
Cu	63	2	72	1.622	ppb	18.490	2790	2	81.1	70	130	
Zn	66	2	72	11.384	ppb	6.883	1997	10	113.8	70	130	
As	75	2	72	4.215	ppb	14.439	512	5	84.3	70	130	
Se	78	1	72	5.003	ppb	7.267	779	5	100.1	70	130	
Sr	88	2	72	1.214	ppb	33.717	507	1	121.4	70	130	
Zr	90	2	72	21.168	ppb	87.618	167	0.5	4233.6	70	130	>+/-30%
Nb	93	2	72	6.500	ppb	2.108	16200	2	325.0	70	130	>+/-30%
Mo	95	2	115	1.658	ppb	15.339	1137	2	82.9	70	130	
Pd	105	2	115	0.013	ppb	43.498	37	1	1.3	70	130	>+/-30%
Ag	107	2	115	4.484	ppb	4.159	9794	5	89.7	70	130	
Cd	111	2	115	0.818	ppb	9.024	230	1	81.8	70	130	
Sn	120	2	115	9.914	ppb	2.689	7903	10	99.1	70	130	
Sb	121	2	115	2.187	ppb	16.825	1614	2	109.3	70	130	
Ba	137	2	115	0.944	ppb	50.724	237	1	94.4	70	130	
W	182	2	165	4.762	ppb	2.784	15233	1	476.2	70	130	>+/-30%
Pt	195	2	165	0.166	ppb	38.662	423	1	16.6	70	130	>+/-30%
Tl	205	2	165	1.051	ppb	4.798	5892	1	105.1	70	130	
Pb	208	2	165	1.071	ppb	2.980	8488	1	107.1	70	130	
Th	232	2	165	1.703	ppb	1.933	19662	2	85.1	70	130	
U	238	2	165	0.844	ppb	3.028	10231	1	84.4	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	663397	0.13	1639580	40.46	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17797663	0.41	31715490	56.12	60	120	IS Failed
Sc (IS)	45	2	HMI He	593621	0.45	891522	66.59	60	120	
Sc (IS)	45	3	No Gas	27731151	0.44	54087154	51.27	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7227521	0.04	13102322	55.16	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	693423	0.03	1026205	67.57	60	120	
In Internal Standard	115	2	HMI He	2996786	1.59	4195206	71.43	60	120	
Ho-165	165	2	HMI He	13966877	0.97	20206547	69.12	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	270WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:32:31-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.004	ppb	-824.6162479	3	0.5
Na	23	2	45	119.870	ppb	4.186917009	45367	25
Mg	24	2	45	107.563	ppb	3.797642894	8289	25
Al	27	2	45	0.786	ppb	77.69737935	40	15
K	39	2	45	44.664	ppb	10.74684921	14328	50
Ca	44	2	45	19.315	ppb	87.43551334	73	25
V	51	2	72	-0.231	ppb	-192.9512688	2010	1
Cr	52	2	72	0.021	ppb	306.1163835	223	1
Mn	55	2	72	0.399	ppb	43.18759234	177	0.5
Fe	57	2	72	9.824	ppb	34.09279995	267	25
Co	59	2	72	0.023	ppb	28.45224543	40	0.5
Ni	60	2	72	-0.008	ppb	-640.5252386	107	1
Cu	63	2	72	-0.190	ppb	-36.004431	650	1
Zn	66	2	72	0.186	ppb	102.0871661	223	5
As	75	2	72	-0.055	ppb	-64.36456614	17	1
Se	78	1	72	0.008	ppb	189.5725417	9	1
Nb	93	2	72	0.326	ppb	20.66279389	1600	2
Mo	95	2	115	-0.011	ppb	-272.0959688	23	0.5
Pd	105	2	115	-0.010	ppb	-147.1485449	13	1
Ag	107	2	115	-0.017	ppb	-63.34926793	13	1
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5
Sn	120	2	115	0.086	ppb	74.26572978	187	1
Sb	121	2	115	0.041	ppb	102.5831806	70	0.6
Ba	137	2	115	0.112	ppb	96.20677607	30	0.5
W	182	2	165	0.034	ppb	95.79890522	1197	1
Pt	195	2	165	0.143	ppb	20.06817328	370	1
Tl	205	2	165	0.000	ppb	5970.976027	83	0.1
Pb	208	2	165	-0.015	ppb	-118.0545079	490	0.5
Th	232	2	165	0.004	ppb	82.03260935	253	1
U	238	2	165	0.001	ppb	355.0880591	100	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	668210	0.52	1639580	40.75	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17739862	0.59	31715490	55.93	60	120	IS Failed
Sc (IS)	45	2	HMI He	595897	1.17	891522	66.84	60	120	
Sc (IS)	45	3	No Gas	27833784	0.59	54087154	51.46	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7242749	0.20	13102322	55.28	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	693602	0.27	1026205	67.59	60	120	
In Internal Standard	115	2	HMI He	2996189	0.94	4195206	71.42	60	120	
Ho-165	165	2	HMI He	13991029	0.61	20206547	69.24	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	271WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:36:20-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	0.036	ppb	167.0745428	10	0.5
Na	23	2	45	128.920	ppb	2.196861769	46474	25
Mg	24	2	45	113.940	ppb	8.168851248	8706	25
Al	27	2	45	1.585	ppb	119.6253445	53	15
K	39	2	45	45.130	ppb	35.37906637	14244	50
Ca	44	2	45	2.431	ppb	1119.847841	40	25
V	51	2	72	-0.214	ppb	-255.8566606	2017	1
Cr	52	2	72	0.037	ppb	236.2834325	237	1
Mn	55	2	72	0.657	ppb	7.276365864	267	0.5
Fe	57	2	72	7.213	ppb	77.60346034	223	25
Co	59	2	72	0.010	ppb	129.6079272	20	0.5
Ni	60	2	72	-0.179	ppb	-19.70546737	33	1
Cu	63	2	72	-0.157	ppb	-60.88759988	687	1
Zn	66	2	72	-0.021	ppb	-836.6911115	190	5
As	75	2	72	-0.066	ppb	-74.75941607	16	1
Se	78	1	72	-0.001	ppb	-2649.406626	8	1
Nb	93	2	72	0.078	ppb	90.37254146	1013	2
Mo	95	2	115	0.004	ppb	888.2215814	33	0.5
Pd	105	2	115	0.006	ppb	589.3758373	30	1
Ag	107	2	115	-0.012	ppb	-77.73526054	23	1
Cd	111	2	115	0.023	ppb	173.2050808	7	0.5
Sn	120	2	115	0.067	ppb	155.4429107	170	1
Sb	121	2	115	0.014	ppb	103.1024594	50	0.6
Ba	137	2	115	0.045	ppb	209.9186397	13	0.5
W	182	2	165	0.028	ppb	80.41448234	1177	1
Pt	195	2	165	0.107	ppb	14.98600797	283	1
Tl	205	2	165	-0.002	ppb	-555.5551546	73	0.1
Pb	208	2	165	-0.014	ppb	-53.10871731	497	0.5
Th	232	2	165	0.002	ppb	127.4694282	237	1
U	238	2	165	0.000	ppb	1286.398652	93	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	667368	0.93	1639580	40.70	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17776574	0.43	31715490	56.05	60	120	IS Failed
Sc (IS)	45	2	HMI He	591780	0.34	891522	66.38	60	120	
Sc (IS)	45	3	No Gas	27805139	0.40	54087154	51.41	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7256524	0.62	13102322	55.38	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	692358	0.96	1026205	67.47	60	120	
In Internal Standard	115	2	HMI He	2971355	1.75	4195206	70.83	60	120	
Ho-165	165	2	HMI He	13958496	0.97	20206547	69.08	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	272WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:40:08-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.024	ppb	0	0	0.5
Na	23	2	45	124.413	ppb	3.628730424	45661	25
Mg	24	2	45	117.776	ppb	5.596552955	8973	25
Al	27	2	45	0.613	ppb	281.5656594	37	15
K	39	2	45	52.930	ppb	30.0445675	14481	50
Ca	44	2	45	9.193	ppb	223.7729795	53	25
V	51	2	72	-0.261	ppb	-82.38019303	1980	1
Cr	52	2	72	0.026	ppb	369.7310926	227	1
Mn	55	2	72	0.221	ppb	64.54522634	113	0.5
Fe	57	2	72	9.299	ppb	26.93774577	257	25
Co	59	2	72	0.017	ppb	38.65522775	30	0.5
Ni	60	2	72	-0.070	ppb	-114.438496	80	1
Cu	63	2	72	-0.176	ppb	-12.45286672	663	1
Zn	66	2	72	0.002	ppb	9965.38328	193	5
As	75	2	72	-0.066	ppb	-90.14303734	16	1
Se	78	1	72	-0.035	ppb	-42.18967337	3	1
Nb	93	2	72	-0.018	ppb	-223.2350654	783	2
Mo	95	2	115	-0.036	ppb	-23.99386782	7	0.5
Pd	105	2	115	-0.010	ppb	-57.65877933	13	1
Ag	107	2	115	-0.008	ppb	-92.68409547	33	1
Cd	111	2	115	0.012	ppb	173.2050808	3	0.5
Sn	120	2	115	0.105	ppb	78.38416427	200	1
Sb	121	2	115	0.023	ppb	38.09885244	57	0.6
Ba	137	2	115	0.031	ppb	131.4650683	10	0.5
W	182	2	165	0.051	ppb	98.33496292	1247	1
Pt	195	2	165	0.107	ppb	23.31488468	283	1
Tl	205	2	165	-0.005	ppb	-71.30245887	53	0.1
Pb	208	2	165	-0.013	ppb	-51.56101446	503	0.5
Th	232	2	165	0.002	ppb	538.4676182	227	1
U	238	2	165	0.004	ppb	109.6066149	133	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	671738	0.25	1639580	40.97	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17731461	0.47	31715490	55.91	60	120	IS Failed
Sc (IS)	45	2	HMI He	590429	0.84	891522	66.23	60	120	
Sc (IS)	45	3	No Gas	28082506	0.04	54087154	51.92	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7254827	0.19	13102322	55.37	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	690283	0.62	1026205	67.27	60	120	
In Internal Standard	115	2	HMI He	2976717	1.11	4195206	70.96	60	120	
Ho-165	165	2	HMI He	13962273	0.56	20206547	69.10	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	273WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:43:55-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.004	ppb	-764.0839353	3	0.5
Na	23	2	45	109.325	ppb	4.048200003	43625	25
Mg	24	2	45	101.438	ppb	3.443000407	7819	25
Al	27	2	45	1.377	ppb	154.0761672	50	15
K	39	2	45	48.599	ppb	16.19372592	14434	50
Ca	44	2	45	-11.330	ppb	-51.94963394	13	25
V	51	2	72	-0.642	ppb	-2.598032874	1734	1
Cr	52	2	72	0.024	ppb	341.1273656	227	1
Mn	55	2	72	0.285	ppb	11.54004293	137	0.5
Fe	57	2	72	6.758	ppb	62.76390092	217	25
Co	59	2	72	0.014	ppb	51.95652778	27	0.5
Ni	60	2	72	-0.117	ppb	-19.95064759	60	1
Cu	63	2	72	-0.200	ppb	-48.50907483	640	1
Zn	66	2	72	-0.217	ppb	-58.8789483	160	5
As	75	2	72	-0.044	ppb	-79.88244119	18	1
Se	78	1	72	-0.001	ppb	-2157.556377	8	1
Nb	93	2	72	-0.074	ppb	-79.65470588	657	2
Mo	95	2	115	0.004	ppb	552.5790774	33	0.5
Pd	105	2	115	-0.014	ppb	-127.2374666	10	1
Ag	107	2	115	-0.017	ppb	-42.16183434	13	1
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5
Sn	120	2	115	0.068	ppb	32.16352406	170	1
Sb	121	2	115	0.000	ppb	56002.50872	40	0.6
Ba	137	2	115	0.018	ppb	133.6798071	7	0.5
W	182	2	165	0.066	ppb	106.0123757	1293	1
Pt	195	2	165	0.117	ppb	19.81150795	307	1
Tl	205	2	165	-0.003	ppb	-34.80119727	67	0.1
Pb	208	2	165	-0.021	ppb	-98.77328584	447	0.5
Th	232	2	165	0.000	ppb	-96896.32489	210	1
U	238	2	165	-0.001	ppb	-154.8073231	77	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	674026	0.44	1639580	41.11	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17843820	0.41	31715490	56.26	60	120	IS Failed
Sc (IS)	45	2	HMI He	594697	0.16	891522	66.71	60	120	
Sc (IS)	45	3	No Gas	28018034	0.62	54087154	51.80	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7321338	0.72	13102322	55.88	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	696158	0.22	1026205	67.84	60	120	
In Internal Standard	115	2	HMI He	2960541	0.26	4195206	70.57	60	120	
Ho-165	165	2	HMI He	14001047	0.25	20206547	69.29	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	274WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:47:42-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.005	ppb	-736.4943824	3	0.5
Na	23	2	45	100.282	ppb	1.486788303	42161	25
Mg	24	2	45	113.577	ppb	2.089042669	8713	25
Al	27	2	45	1.970	ppb	52.79590399	60	15
K	39	2	45	45.681	ppb	24.82418287	14318	50
Ca	44	2	45	22.819	ppb	137.373956	80	25
V	51	2	72	-0.112	ppb	-140.551948	2087	1
Cr	52	2	72	0.041	ppb	158.3113019	240	1
Mn	55	2	72	0.429	ppb	40.09756739	187	0.5
Fe	57	2	72	5.036	ppb	31.26790719	187	25
Co	59	2	72	0.021	ppb	78.15985005	37	0.5
Ni	60	2	72	0.023	ppb	437.7557425	120	1
Cu	63	2	72	-0.115	ppb	-66.04241008	737	1
Zn	66	2	72	-0.064	ppb	-391.3921571	183	5
As	75	2	72	-0.055	ppb	-153.9484687	17	1
Se	78	1	72	0.042	ppb	94.00589079	15	1
Nb	93	2	72	-0.123	ppb	-25.67187817	537	2
Mo	95	2	115	-0.026	ppb	-67.04820898	13	0.5
Pd	105	2	115	-0.007	ppb	-167.3907165	17	1
Ag	107	2	115	-0.018	ppb	-25.33193769	10	1
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5
Sn	120	2	115	0.042	ppb	164.087152	150	1
Sb	121	2	115	0.023	ppb	174.5159311	57	0.6
Ba	137	2	115	0.018	ppb	133.7271624	7	0.5
W	182	2	165	0.032	ppb	130.372711	1187	1
Pt	195	2	165	0.131	ppb	28.70568857	340	1
Tl	205	2	165	0.004	ppb	253.9646015	107	0.1
Pb	208	2	165	-0.008	ppb	-189.9007035	540	0.5
Th	232	2	165	-0.005	ppb	-64.29733222	153	1
U	238	2	165	0.001	ppb	282.454059	103	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	680827	0.50	1639580	41.52	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17821234	0.21	31715490	56.19	60	120	IS Failed
Sc (IS)	45	2	HMI He	594062	0.62	891522	66.63	60	120	
Sc (IS)	45	3	No Gas	28172027	0.86	54087154	52.09	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7288028	0.20	13102322	55.62	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	691765	0.54	1026205	67.41	60	120	
In Internal Standard	115	2	HMI He	2964640	0.40	4195206	70.67	60	120	
Ho-165	165	2	HMI He	13947979	0.47	20206547	69.03	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	275WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:51:30-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	0.015	ppb	455.293294	7	0.5
Na	23	2	45	103.337	ppb	6.060510856	42833	25
Mg	24	2	45	122.834	ppb	6.482156168	9440	25
Al	27	2	45	-0.204	ppb	-429.5333282	23	15
K	39	2	45	33.984	ppb	77.36691322	13977	50
Ca	44	2	45	7.313	ppb	72.58538368	50	25
V	51	2	72	-0.204	ppb	-52.68276547	2027	1
Cr	52	2	72	0.006	ppb	1171.411731	210	1
Mn	55	2	72	0.391	ppb	14.9168965	173	0.5
Fe	57	2	72	7.623	ppb	7.17528964	230	25
Co	59	2	72	0.008	ppb	125.8386764	17	0.5
Ni	60	2	72	-0.086	ppb	-40.60223608	73	1
Cu	63	2	72	-0.248	ppb	-35.06056862	580	1
Zn	66	2	72	-0.192	ppb	-106.2939696	163	5
As	75	2	72	-0.038	ppb	-247.4836691	19	1
Se	78	1	72	0.024	ppb	210.9482201	12	1
Nb	93	2	72	-0.128	ppb	-38.26499234	527	2
Mo	95	2	115	-0.011	ppb	-353.1935364	23	0.5
Pd	105	2	115	-0.007	ppb	-78.64052365	17	1
Ag	107	2	115	-0.020	ppb	-13.44573289	7	1
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5
Sn	120	2	115	0.007	ppb	975.4780755	123	1
Sb	121	2	115	-0.029	ppb	-97.13590698	20	0.6
Ba	137	2	115	0.004	ppb	572.6837244	3	0.5
W	182	2	165	0.036	ppb	63.18442019	1207	1
Pt	195	2	165	0.108	ppb	39.28330172	287	1
Tl	205	2	165	-0.002	ppb	-264.5053436	70	0.1
Pb	208	2	165	-0.021	ppb	-11.42630854	450	0.5
Th	232	2	165	-0.009	ppb	-39.70321058	107	1
U	238	2	165	-0.001	ppb	-538.7704327	77	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	683501	0.17	1639580	41.69	60	120	IS Failed
Sc (IS)	45	1	HMI H2	18041015	0.52	31715490	56.88	60	120	IS Failed
Sc (IS)	45	2	HMI He	596774	1.22	891522	66.94	60	120	
Sc (IS)	45	3	No Gas	28203952	0.81	54087154	52.15	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7337597	0.99	13102322	56.00	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	692943	0.41	1026205	67.52	60	120	
In Internal Standard	115	2	HMI He	2982857	1.39	4195206	71.10	60	120	
Ho-165	165	2	HMI He	14028516	0.65	20206547	69.43	60	120	

Calibration Blank Report

Sample Table

Sample Name	ICIS-5408711
Data File Name	276CALB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:55:15-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	86421	0.00
Li	7	2	HMI He	4836	0.09
Li	7	3	No Gas	2597268	0.00
Be	9	1	HMI H2	0	#VALUE!
B	11	1	HMI H2	1864	0.31
Na	23	1	HMI H2	607121	0.00
Na	23	2	HMI He	41790	0.01
Mg	24	2	HMI He	9887	0.02
Al	27	2	HMI He	33	289.31
K	39	2	HMI He	13921	0.01
Ca	44	2	HMI He	60	48.11
Ti	47	2	HMI He	7	2598.08
V	51	2	HMI He	2000	0.43
Cr	52	2	HMI He	220	10.74
Mn	55	2	HMI He	137	34.83
Fe	57	2	HMI He	240	13.78
Co	59	2	HMI He	17	549.91
Ni	60	2	HMI He	97	77.42
Cu	63	2	HMI He	567	2.12
Zn	66	2	HMI He	160	7.81
As	75	2	HMI He	20	385.05
Se	78	1	HMI H2	7	1374.77
Sr	88	2	HMI He	83	22.00
Zr	90	2	HMI He	57	95.14
Nb	93	2	HMI He	553	0.50
Mo	95	2	HMI He	3	5196.15
Pd	105	2	HMI He	10	1000.00
Ag	107	2	HMI He	20	500.00
Cd	111	2	HMI He	7	2598.08
Sn	120	2	HMI He	183	24.95
Sb	121	2	HMI He	43	81.35
Ba	137	2	HMI He	7	2598.08
W	182	2	HMI He	1080	1.42
Pt	195	2	HMI He	257	3.82
Tl	205	2	HMI He	60	27.78
Pb	208	2	HMI He	470	4.59
Th	232	2	HMI He	143	29.74
U	238	2	HMI He	137	21.63

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li-6 Internal Standard	6	1	HMI H2	678837	0.28
Sc (IS)	45	1	HMI H2	17918823	0.42
Sc (IS)	45	2	HMI He	594643	0.97
Sc (IS)	45	3	No Gas	28108541	0.22
Ge Internal Standard	72	1	HMI H2	7308569	0.44
Ge Internal Standard	72	2	HMI He	693703	0.48
In Internal Standard	115	2	HMI He	2985402	0.73
Ho-165	165	2	HMI He	14001897	1.12

Calibration Standard Report

Sample Table

Sample Name	IC-5408712
Data File Name	277CALS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:59:04-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	276CALB_li110218.D
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	312043	0.00
Li	7	2	HMI He	17294	0.02
Li	7	3	No Gas	9502162	0.00
Be	9	1	HMI H2	21079	0.02
B	11	1	HMI H2	23863	0.01
Na	23	1	HMI H2	22305156	0.00
Na	23	2	HMI He	1518834	0.00
Mg	24	2	HMI He	636925	0.00
Al	27	2	HMI He	175805	0.00
K	39	1	HMI H2	30678977	0.00
K	39	2	HMI He	368846	0.00
Ca	40	1	HMI H2	33982771	0.00
Ca	44	2	HMI He	19354	0.01
Ti	47	2	HMI He	1837	0.45
V	51	2	HMI He	66563	0.00
Cr	52	2	HMI He	82168	0.00
Mn	55	2	HMI He	34956	0.00
Fe	57	2	HMI He	156022	0.00
Co	59	2	HMI He	138105	0.00
Ni	60	2	HMI He	39412	0.01
Cu	63	2	HMI He	108385	0.00
Zn	66	2	HMI He	15038	0.01
As	75	2	HMI He	10717	0.00
Se	78	1	HMI H2	15147	0.01
Sr	88	2	HMI He	42622	0.01
Zr	90	2	HMI He	750	0.62
Nb	93	2	HMI He	441369	0.00
Mo	95	2	HMI He	58505	0.00
Pd	105	2	HMI He	88998	0.00
Ag	107	2	HMI He	194153	0.00
Cd	111	2	HMI He	26216	0.00
Sn	120	2	HMI He	76242	0.00
Sb	121	2	HMI He	69206	0.00
Ba	137	2	HMI He	24854	0.02
Nd	146	2	HMI He	85751	0.00
Sm	147	2	HMI He	75254	0.00
Sm	150	2	HMI He	72148	0.00
Gd	156	1	HMI H2	330572	0.00
Gd	157	1	HMI H2	253181	0.00
W	182	2	HMI He	287172	0.00
Pt	195	2	HMI He	227418	0.00
Tl	205	2	HMI He	569117	0.00
Pb	208	2	HMI He	760766	0.00
Th	232	2	HMI He	923628	0.00
U	238	2	HMI He	985768	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	659957	0.43	678837	97.22	60	120	
Sc (IS)	45	1	HMI H2	17737900	0.29	17918823	98.99	60	120	
Sc (IS)	45	2	HMI He	592781	1.03	594643	99.69	60	120	
Sc (IS)	45	3	No Gas	27999588	0.35	28108541	99.61	60	120	
Ge Internal Standard	72	1	HMI H2	7248439	0.93	7308569	99.18	60	120	
Ge Internal Standard	72	2	HMI He	689006	0.45	693703	99.32	60	120	
In Internal Standard	115	2	HMI He	2907767	0.33	2985402	97.40	60	120	
Ho-165	165	2	HMI He	13926167	0.04	14001897	99.46	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	278_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T10:02:50-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	276CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	502.672	ppb	1.913	201479	500	100.5	90	110	
Li	7	2	45	525.567	ppb	9.824	11365	500	105.1	90	110	
Li	7	3	45	489.183	ppb	2.070	6008081	500	97.8	90	110	
Be	9	1	6	49.085	ppb	3.635	10534	50	98.2	90	110	
B	11	1	6	37.082	ppb	2.615	10171	50	74.2	90	110	>+\-10%
Na	23	1	45	4958.943	ppb	0.372	11482439	5000	99.2	90	110	
Na	23	2	45	4436.715	ppb	0.127	696460	5000	88.7	90	110	>+\-10%
Mg	24	2	45	4937.581	ppb	0.783	319183	5000	98.8	90	110	
Al	27	2	45	4879.320	ppb	1.012	85724	5000	97.6	90	110	
K	39	1	45	4906.528	ppb	1.018	18962986	5000	98.1	90	110	
K	39	2	45	4978.295	ppb	0.922	190414	5000	99.6	90	110	
Ca	40	1	45	4947.987	ppb	0.624	17030713	5000	99.0	90	110	
Ca	44	2	45	5051.837	ppb	1.592	9800	5000	101.0	90	110	
Ti	47	2	45	39.386	ppb	9.380	727	50	78.8	90	110	>+\-10%
V	51	2	72	47.750	ppb	2.615	32995	50	95.5	90	110	
Cr	52	2	72	48.626	ppb	3.235	40280	50	97.3	90	110	
Mn	55	2	72	49.306	ppb	5.116	17394	50	98.6	90	110	
Fe	57	2	72	4967.087	ppb	0.828	78033	5000	99.3	90	110	
Co	59	2	72	51.283	ppb	2.062	71222	50	102.6	90	110	
Ni	60	2	72	49.148	ppb	0.490	19524	50	98.3	90	110	
Cu	63	2	72	49.865	ppb	0.827	54621	50	99.7	90	110	
Zn	66	2	72	51.058	ppb	8.767	7799	50	102.1	90	110	
As	75	2	72	47.087	ppb	4.099	5083	50	94.2	90	110	
Se	78	1	72	49.018	ppb	3.055	7489	50	98.0	90	110	
Sr	88	2	72	50.193	ppb	1.750	21554	50	100.4	90	110	
Zr	90	2	72	7.169	ppb	80.604	107	50	14.3	90	110	>+\-10%
Nb	93	2	72	100.583	ppb	1.900	223440	100	100.6	90	110	
Mo	95	2	115	50.129	ppb	1.756	29505	50	100.3	90	110	
Pd	105	2	115	53.140	ppb	0.514	47588	50	106.3	90	110	
Ag	107	2	115	49.537	ppb	1.018	96771	50	99.1	90	110	
Cd	111	2	115	48.829	ppb	1.842	12883	50	97.7	90	110	
Sn	120	2	115	49.566	ppb	2.758	38110	50	99.1	90	110	
Sb	121	2	115	50.696	ppb	0.568	35323	50	101.4	90	110	
Ba	137	2	115	49.486	ppb	3.448	12379	50	99.0	90	110	
W	182	2	165	49.878	ppb	0.992	144565	50	99.8	90	110	
Pt	195	2	165	49.492	ppb	0.530	113300	50	99.0	90	110	
Tl	205	2	165	49.631	ppb	1.425	284037	50	99.3	90	110	
Pb	208	2	165	49.981	ppb	0.344	382565	50	100.0	90	110	
Th	232	2	165	49.500	ppb	0.714	459779	50	99.0	90	110	
U	238	2	165	49.416	ppb	0.165	489876	50	98.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	671934	0.30	678837	98.98	60	120	
Sc (IS)	45	1	HMI H2	17923193	0.77	17918823	100.02	60	120	
Sc (IS)	45	2	HMI He	592225	0.85	594643	99.59	60	120	
Sc (IS)	45	3	No Gas	28178620	0.15	28108541	100.25	60	120	
Ge Internal Standard	72	1	HMI H2	7306967	0.40	7308569	99.98	60	120	
Ge Internal Standard	72	2	HMI He	692734	0.68	693703	99.86	60	120	
In Internal Standard	115	2	HMI He	2925542	0.95	2985402	97.99	60	120	
Ho-165	165	2	HMI He	14002665	0.15	14001897	100.01	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	279_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T10:06:36-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	276CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	7.671	ppb	68.7	2681818	10	
Be	9	1	6	0.167	ppb	16.4	37	0.5	
B	11	1	6	-0.200	ppb	-373.3	1840	0.5	
Na	23	1	45	-8.445	ppb	-21.2	588940	25	
Na	23	2	45	-2.971	ppb	-155.4	41616	25	
Mg	24	2	45	-19.198	ppb	-31.0	8733	25	
Al	27	2	45	5.639	ppb	101.1	133	15	
K	39	1	45	13.274	ppb	288.6	7402901	50	
K	39	2	45	15.229	ppb	7.2	14555	50	
Ca	40	1	45	1.532	ppb	16.1	85952	50	
Ca	44	2	45	-20.786	ppb	-24.3	20	25	
Ti	47	2	45	-0.365	ppb	0.0	0	0.5	
V	51	2	72	0.139	ppb	82.7	2097	1	
Cr	52	2	72	0.016	ppb	384.7	233	1	
Mn	55	2	72	0.113	ppb	143.3	177	0.5	
Fe	57	2	72	1.871	ppb	237.2	270	25	
Co	59	2	72	0.029	ppb	38.2	57	0.5	
Ni	60	2	72	-0.034	ppb	-185.8	83	1	
Cu	63	2	72	0.112	ppb	77.9	690	1	
Zn	66	2	72	0.086	ppb	247.2	173	5	
As	75	2	72	-0.073	ppb	-66.0	12	1	
Se	78	1	72	0.043	ppb	91.7	13	1	
Sr	88	2	72	0.054	ppb	89.4	107	0.5	
Zr	90	2	72	-1.942	ppb	-112.1	43	1	
Nb	93	2	72	5.156	ppb	9.7	12029	2	>RL
Mo	95	2	115	0.089	ppb	10.3	57	0.5	
Pd	105	2	115	0.088	ppb	62.4	90	1	
Ag	107	2	115	0.005	ppb	101.3	30	1	
Cd	111	2	115	0.012	ppb	525.0	10	0.5	
Sn	120	2	115	0.074	ppb	153.0	240	1	
Sb	121	2	115	0.457	ppb	9.9	367	0.6	
Ba	137	2	115	-0.026	ppb	0.0	0	0.5	
W	182	2	165	0.160	ppb	34.6	1534	1	
Pt	195	2	165	-0.032	ppb	-28.3	183	1	
Tl	205	2	165	0.019	ppb	27.5	167	0.1	
Pb	208	2	165	0.019	ppb	42.7	610	0.5	
Th	232	2	165	0.057	ppb	30.0	667	1	
U	238	2	165	0.018	ppb	31.1	317	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	686782	0.78	678837	101.17	60	120	
Sc (IS)	45	1	HMI H2	17928799	0.08	17918823	100.06	60	120	
Sc (IS)	45	2	HMI He	598376	0.75	594643	100.63	60	120	
Sc (IS)	45	3	No Gas	28440503	0.41	28108541	101.18	60	120	
Ge Internal Standard	72	1	HMI H2	7350246	0.49	7308569	100.57	60	120	
Ge Internal Standard	72	2	HMI He	695628	0.16	693703	100.28	60	120	
In Internal Standard	115	2	HMI He	2975554	0.58	2985402	99.67	60	120	
Ho-165	165	2	HMI He	13951751	0.41	14001897	99.64	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	280LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T10:10:24-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	276CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	9.380	ppb	96.675	2696219	50	18.8	70	130	>+/-30%
Be	9	1	6	1.039	ppb	22.376	230	1	103.9	70	130	
Na	23	2	45	42.073	ppb	8.646	48293	50	84.1	70	130	
Mg	24	2	45	30.604	ppb	31.814	11875	50	61.2	70	130	>+/-30%
Al	27	2	45	32.359	ppb	15.551	607	30	107.9	70	130	
K	39	2	45	97.051	ppb	13.663	17471	100	97.1	70	130	
Ca	44	2	45	63.216	ppb	45.044	183	50	126.4	70	130	
V	51	2	72	5.237	ppb	9.545	5428	5	104.7	70	130	
Cr	52	2	72	1.881	ppb	8.687	1780	2	94.0	70	130	
Mn	55	2	72	0.965	ppb	8.562	477	1	96.5	70	130	
Fe	57	2	72	50.037	ppb	20.551	1030	50	100.1	70	130	
Co	59	2	72	1.139	ppb	12.586	1607	1	113.9	70	130	
Ni	60	2	72	1.968	ppb	18.423	880	2	98.4	70	130	
Cu	63	2	72	2.092	ppb	7.397	2850	2	104.6	70	130	
Zn	66	2	72	11.230	ppb	4.137	1850	10	112.3	70	130	
As	75	2	72	4.762	ppb	9.924	535	5	95.2	70	130	
Se	78	1	72	5.003	ppb	3.938	772	5	100.1	70	130	
Sr	88	2	72	0.983	ppb	9.909	507	1	98.3	70	130	
Zr	90	2	72	6.614	ppb	26.580	103	0.5	1322.7	70	130	>+/-30%
Nb	93	2	72	9.520	ppb	4.537	21771	2	476.0	70	130	>+/-30%
Mo	95	2	115	2.248	ppb	5.256	1350	2	112.4	70	130	
Pd	105	2	115	0.037	ppb	96.134	43	1	3.7	70	130	>+/-30%
Ag	107	2	115	5.281	ppb	2.676	10518	5	105.6	70	130	
Cd	111	2	115	0.956	ppb	19.122	263	1	95.6	70	130	
Sn	120	2	115	10.485	ppb	9.347	8343	10	104.8	70	130	
Sb	121	2	115	2.313	ppb	7.777	1680	2	115.6	70	130	
Ba	137	2	115	0.906	ppb	29.227	237	1	90.6	70	130	
W	182	2	165	5.086	ppb	2.915	15777	1	508.6	70	130	>+/-30%
Pt	195	2	165	-0.006	ppb	-625.410	243	1	-0.6	70	130	>+/-30%
Tl	205	2	165	1.022	ppb	3.557	5932	1	102.2	70	130	
Pb	208	2	165	1.037	ppb	5.300	8432	1	103.7	70	130	
Th	232	2	165	2.129	ppb	3.237	19996	2	106.5	70	130	
U	238	2	165	1.055	ppb	2.118	10642	1	105.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	692798	0.20	678837	102.06	60	120	
Sc (IS)	45	1	HMI H2	18047083	0.70	17918823	100.72	60	120	
Sc (IS)	45	2	HMI He	597874	0.50	594643	100.54	60	120	
Sc (IS)	45	3	No Gas	28467851	0.56	28108541	101.28	60	120	
Ge Internal Standard	72	1	HMI H2	7325138	0.74	7308569	100.23	60	120	
Ge Internal Standard	72	2	HMI He	696759	0.84	693703	100.44	60	120	
In Internal Standard	115	2	HMI He	2977387	1.26	2985402	99.73	60	120	
Ho-165	165	2	HMI He	14061719	0.38	14001897	100.43	60	120	

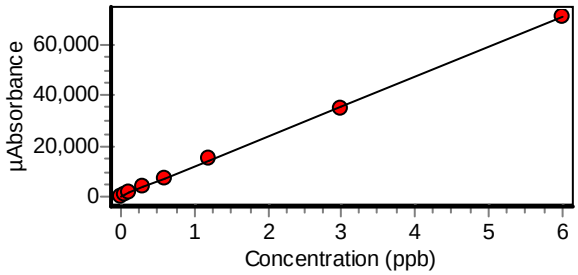
Report Generated By CETAC QuickTrace
Analyst: bacat
Worksheet file: C:\Program Files\QuickTrace\Worksheets\2018\11-Nov\181106ba.wsz
Date Started: 11/6/2018 2:36:32 PM
Comment:

Results

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
IC 280-436472/1-A	STD	11/06/18 04:33:42 pm	0.000	97	2.94		1.00	1.00	1.00
IC 280-436472/2-A	STD	11/06/18 04:35:56 pm	0.060	815	1.95		1.00	1.00	1.00
IC 280-436472/3-A	STD	11/06/18 04:38:09 pm	0.120	1560	2.38		1.00	1.00	1.00
IC 280-436472/4-A	STD	11/06/18 04:40:24 pm	0.300	3884	2.02		1.00	1.00	1.00
IC 280-436472/5-A	STD	11/06/18 04:42:39 pm	0.600	7455	2.04		1.00	1.00	1.00
IC 280-436472/6-A	STD	11/06/18 04:44:55 pm	1.200	15039	2.09		1.00	1.00	1.00
IC 280-436472/7-A	STD	11/06/18 04:47:11 pm	3.000	35236	2.04		1.00	1.00	1.00
IC 280-436472/8-A	STD	11/06/18 04:49:28 pm	6.000	71197	2.33		1.00	1.00	1.00

Calibration

Equation: A = 262.061 + 11807.250C
R2: 0.99985
SEE: 332.2442
Flags:



ICV 280-436472/9-A	ICV	11/06/18 04:52:01 pm	2.426	28904	2.15		1.00	1.00	1.00
% Recovery 101.08									
ICB 280-436472/10-A	ICB	11/06/18 04:54:14 pm	-0.018	46	15.84		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.
							ODF	
CRA 280-436472/11-A	CRDL	11/06/18 04:56:28 pm	0.107	1531	2.03		1.00	1.00
% Recovery 89.58							1.00	
CCV 280-436472/12-A	CCV	11/06/18 04:58:44 pm	2.967	35300	2.06		1.00	1.00
% Recovery 98.92							1.00	
CCB 280-436472/13-A	CCB	11/06/18 05:00:57 pm	-0.013	104	7.49	s	1.00	1.00
							1.00	
MB 280-436225/1-D	UNK	11/06/18 05:03:09 pm	-0.014	100	3.95		1.00	1.00
							1.00	
LCS 280-436225/2-D	UNK	11/06/18 05:05:22 pm	3.036	36107	2.60		1.00	1.00
							1.00	
550-112642-B-2-B	UNK	11/06/18 05:07:34 pm	0.000	267	2.15		1.00	1.00
							1.00	
550-112642-B-2-C MS	UNK	11/06/18 05:09:47 pm	2.983	35478	2.51		1.00	1.00
							1.00	
550-112642-B-2-D MSD	UNK	11/06/18 05:12:00 pm	3.076	36587	2.35		1.00	1.00
							1.00	
550-112642-B-4-B	UNK	11/06/18 05:14:14 pm	-0.012	119	19.97	s	1.00	1.00
							1.00	
MB 280-436453/1-A	UNK	11/06/18 05:16:28 pm	-0.012	118	11.09	s	1.00	1.00
							1.00	
LCS 280-436453/2-A	UNK	11/06/18 05:18:42 pm	2.962	35236	2.47		1.00	1.00
							1.00	
280-115619-C-11-C	UNK	11/06/18 05:20:56 pm	-0.018	53	38.40		1.00	1.00
							1.00	
280-115713-B-1-G	UNK	11/06/18 05:23:11 pm	-0.010	138	8.53	s	1.00	1.00
							1.00	
CCV 280-436472/12-A	CCV	11/06/18 05:25:27 pm	2.964	35254	2.52		1.00	1.00
% Recovery 98.79							1.00	
CCB 280-436472/13-A	CCB	11/06/18 05:27:40 pm	-0.016	71	34.60		1.00	1.00
							1.00	
280-115713-B-2-K	UNK	11/06/18 05:29:55 pm	-0.010	149	9.91	s	1.00	1.00
							1.00	
280-115713-B-3-K	UNK	11/06/18 05:32:10 pm	-0.013	110	8.74	s	1.00	1.00
							1.00	

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-115713-B-4-G	UNK	11/06/18 05:34:22 pm	-0.012	119	4.83		1.00	1.00	1.00
280-115713-B-5-G	UNK	11/06/18 05:36:34 pm	-0.010	148	7.24	s	1.00	1.00	1.00
280-115713-B-6-G	UNK	11/06/18 05:38:46 pm	-0.014	94	9.57		1.00	1.00	1.00
280-115713-B-7-G	UNK	11/06/18 05:40:59 pm	-0.011	128	5.59	s	1.00	1.00	1.00
280-115713-C-8-C	UNK	11/06/18 05:43:12 pm	-0.011	135	4.07		1.00	1.00	1.00
280-115713-C-8-D MS	UNK	11/06/18 05:45:25 pm	2.945	35038	2.86		1.00	1.00	1.00
280-115713-C-8-E MSD	UNK	11/06/18 05:47:38 pm	2.978	35427	2.99		1.00	1.00	1.00
MB 280-436450/1-A	UNK	11/06/18 05:49:52 pm	-0.018	54	54.91		1.00	1.00	1.00
CCV 280-436472/12-A % Recovery 101.16	CCV	11/06/18 05:52:09 pm	3.035	36096	3.04		1.00	1.00	1.00
CCB 280-436472/13-A	CCB	11/06/18 05:54:22 pm	-0.018	48	70.88		1.00	1.00	1.00
LCS 280-436450/2-A	UNK	11/06/18 05:56:36 pm	3.002	35709	3.05		1.00	1.00	1.00
280-115619-C-1-C	UNK	11/06/18 05:58:50 pm	-0.017	62	65.39		1.00	1.00	1.00
280-115619-C-2-C	UNK	11/06/18 06:01:05 pm	-0.011	133	18.15	s	1.00	1.00	1.00
280-115619-B-3-K	UNK	11/06/18 06:03:20 pm	-0.013	110	20.42	s	1.00	1.00	1.00
280-115619-B-4-I	UNK	11/06/18 06:05:32 pm	-0.012	118	10.38	s	1.00	1.00	1.00
280-115619-C-5-C	UNK	11/06/18 06:07:44 pm	-0.014	93	13.83		1.00	1.00	1.00
280-115619-B-6-K	UNK	11/06/18 06:09:57 pm	-0.011	132	11.45	s	1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-115619-C-7-E	UNK	11/06/18 06:12:09 pm	-0.013	107	11.85	s	1.00	1.00	1.00
280-115619-C-8-C	UNK	11/06/18 06:14:22 pm	-0.015	83	13.02		1.00	1.00	1.00
280-115619-C-9-C	UNK	11/06/18 06:16:35 pm	-0.014	91	6.26		1.00	1.00	1.00
CCV 280-436472/12-A	CCV	11/06/18 06:18:53 pm	3.049	36258	3.07		1.00	1.00	1.00
% Recovery 101.62									
CCB 280-436472/13-A	CCB	11/06/18 06:21:06 pm	-0.016	76	41.96		1.00	1.00	1.00
280-115619-C-10-C	UNK	11/06/18 06:23:19 pm	-0.013	108	18.97	s	1.00	1.00	1.00
280-115619-C-10-D MS	UNK	11/06/18 06:25:33 pm	3.090	36744	3.17		1.00	1.00	1.00
280-115619-C-10-E MSD	UNK	11/06/18 06:27:47 pm	3.003	35725	3.61		1.00	1.00	1.00
MB 280-436455/1-A	UNK	11/06/18 06:30:01 pm	-0.023	-6	813.79		1.00	1.00	1.00
LCS 280-436455/2-A	UNK	11/06/18 06:32:16 pm	3.038	36136	3.19		1.00	1.00	1.00
550-112642-E-1-A	UNK	11/06/18 06:34:31 pm	-0.017	62	95.56		1.00	1.00	1.00
550-112642-E-3-A	UNK	11/06/18 06:36:43 pm	-0.015	88	33.57		1.00	1.00	1.00
280-116075-J-1-B	UNK	11/06/18 06:38:55 pm	0.012	402	12.46	s	1.00	1.00	1.00
280-116094-H-1-B	UNK	11/06/18 06:41:07 pm	-0.017	58	33.13		1.00	1.00	1.00
280-116094-H-1-C MS	UNK	11/06/18 06:43:20 pm	2.536	30206	2.85		1.00	1.00	1.00
CCV 280-436472/12-A	CCV	11/06/18 06:45:37 pm	3.039	36144	2.99		1.00	1.00	1.00
% Recovery 101.30									
CCB 280-436472/13-A	CCB	11/06/18 06:47:50 pm	-0.018	48	112.92		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-116094-H-1-D MSD	UNK	11/06/18 06:50:03 pm	2.458	29288	3.08		1.00	1.00	1.00
280-116188-H-1-E	UNK	11/06/18 06:52:16 pm	-0.057	-407	0.58		1.00	1.00	1.00
280-116188-H-2-C	UNK	11/06/18 06:54:29 pm	-0.023	-5	192.82		1.00	1.00	1.00
280-116188-H-3-C	UNK	11/06/18 06:56:43 pm	-0.014	91	5.24		1.00	1.00	1.00
280-116188-H-4-C	UNK	11/06/18 06:58:57 pm	0.002	285	26.00	s	1.00	1.00	1.00
280-116188-H-5-C	UNK	11/06/18 07:01:11 pm	-0.031	-99	43.61		1.00	1.00	1.00
MB 280-436464/1-A	UNK	11/06/18 07:03:26 pm	-0.017	62	40.98		1.00	1.00	1.00
LCS 280-436464/2-A	UNK	11/06/18 07:05:41 pm	3.047	36244	2.89		1.00	1.00	1.00
LCSD 280-436464/3-A	UNK	11/06/18 07:07:53 pm	3.074	36558	3.22		1.00	1.00	1.00
280-116004-E-5-B	UNK	11/06/18 07:10:06 pm	-0.019	42	72.13		1.00	1.00	1.00
CCV 280-436472/12-A % Recovery 101.69	CCV	11/06/18 07:12:22 pm	3.051	36283	3.08		1.00	1.00	1.00
CCB 280-436472/13-A	CCB	11/06/18 07:14:35 pm	-0.011	131	26.20	s	1.00	1.00	1.00
280-116004-E-5-B SD@5	UNK	11/06/18 07:16:48 pm	-0.002	235	7.62	s	1.00	1.00	1.00
280-116004-E-5-C MS	UNK	11/06/18 07:19:00 pm	3.013	35842	3.00		1.00	1.00	1.00
280-116004-E-5-D MSD	UNK	11/06/18 07:21:13 pm	3.087	36712	2.96		1.00	1.00	1.00
280-116004-E-5-B PDS	UNK	11/06/18 07:23:26 pm	3.003	35718	3.14		1.00	1.00	1.00
280-116053-E-1-C	UNK	11/06/18 07:25:39 pm	-0.019	42	165.19		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-116053-E-3-C	UNK	11/06/18 07:27:53 pm	-0.011	134	33.47	s	1.00	1.00	1.00
280-116053-E-4-C	UNK	11/06/18 07:30:07 pm	-0.017	59	64.37		1.00	1.00	1.00
280-116053-E-5-C	UNK	11/06/18 07:32:22 pm	-0.012	123	21.32	s	1.00	1.00	1.00
280-116053-E-6-C	UNK	11/06/18 07:34:36 pm	-0.013	106	26.06	s	1.00	1.00	1.00
280-116053-E-7-C	UNK	11/06/18 07:36:51 pm	-0.013	112	25.22	s	1.00	1.00	1.00
CCV 280-436472/12-A % Recovery 102.15	CCV	11/06/18 07:39:08 pm	3.065	36447	3.04		1.00	1.00	1.00
CCB 280-436472/13-A	CCB	11/06/18 07:41:22 pm	-0.013	103	41.47	s	1.00	1.00	1.00
280-116053-E-8-C	UNK	11/06/18 07:43:35 pm	-0.012	115	26.86	s	1.00	1.00	1.00
280-116053-E-9-C	UNK	11/06/18 07:45:48 pm	-0.013	109	20.93	s	1.00	1.00	1.00
280-116516-F-1-B	UNK	11/06/18 07:48:01 pm	-0.002	235	0.96		1.00	1.00	1.00
280-116516-E-2-B	UNK	11/06/18 07:50:14 pm	-0.011	133	12.73	s	1.00	1.00	1.00
280-116076-P-1-G	UNK	11/06/18 07:52:27 pm	-0.003	226	2.35		1.00	1.00	1.00
280-116091-E-4-C	UNK	11/06/18 07:54:40 pm	-0.007	182	5.03	s	1.00	1.00	1.00
280-116091-E-6-C	UNK	11/06/18 07:56:54 pm	0.096	1395	4.06		1.00	1.00	1.00
280-116103-F-1-C	UNK	11/06/18 07:59:08 pm	-0.009	156	30.22	s	1.00	1.00	1.00
280-116111-D-1-C	UNK	11/06/18 08:01:22 pm	-0.021	11	384.12		1.00	1.00	1.00
280-116111-D-2-E	UNK	11/06/18 08:03:36 pm	0.032	642	0.45		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
CCV 280-436472/12-A	CCV	11/06/18 08:05:51 pm	3.028	36010	3.83		1.00	1.00	1.00
% Recovery 100.92									
CCB 280-436472/13-A	CCB	11/06/18 08:08:04 pm	-0.013	109	16.85	s	1.00	1.00	1.00
280-116142-D-1-C	UNK	11/06/18 08:10:18 pm	0.000	262	4.13		1.00	1.00	1.00
280-116142-D-2-C	UNK	11/06/18 08:12:33 pm	-0.002	238	3.61		1.00	1.00	1.00
280-116142-D-3-C	UNK	11/06/18 08:14:47 pm	-0.013	109	11.27	s	1.00	1.00	1.00
MB 280-436463/1-A	UNK	11/06/18 08:17:00 pm	-0.003	226	4.13		1.00	1.00	1.00
LCS 280-436463/2-A	UNK	11/06/18 08:19:13 pm	2.971	35345	2.98		1.00	1.00	1.00
LCSD 280-436463/3-A	UNK	11/06/18 08:21:26 pm	3.100	36865	3.14		1.00	1.00	1.00
280-115787-G-1-C	UNK	11/06/18 08:23:40 pm	-0.004	210	22.26	s	1.00	1.00	1.00
280-115787-A-2-C	UNK	11/06/18 08:25:53 pm	0.005	324	3.51		1.00	1.00	1.00
280-115787-E-3-C	UNK	11/06/18 08:28:07 pm	-0.005	209	9.30	s	1.00	1.00	1.00
280-115787-E-4-C	UNK	11/06/18 08:30:20 pm	0.000	267	4.37		1.00	1.00	1.00
CCV 280-436472/12-A	CCV	11/06/18 08:32:36 pm	3.055	36335	3.09		1.00	1.00	1.00
% Recovery 101.84									
CCB 280-436472/13-A	CCB	11/06/18 08:34:48 pm	-0.013	106	35.73	s	1.00	1.00	1.00
280-115787-E-5-D	UNK	11/06/18 08:37:02 pm	0.011	393	5.04	s	1.00	1.00	1.00
280-115787-G-6-C	UNK	11/06/18 08:39:16 pm	-0.006	196	8.33	s	1.00	1.00	1.00
280-115787-G-7-C	UNK	11/06/18 08:41:31 pm	0.005	325	2.32		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-115818-S-1-D	UNK	11/06/18 08:43:46 pm	0.010	376	1.52		1.00	1.00	1.00
280-115818-S-2-B	UNK	11/06/18 08:46:00 pm	-0.004	215	7.11	s	1.00	1.00	1.00
280-115818-S-3-B	UNK	11/06/18 08:48:13 pm	0.010	375	1.92		1.00	1.00	1.00
280-115890-N-2-D	UNK	11/06/18 08:50:27 pm	0.010	382	1.49		1.00	1.00	1.00
280-116020-G-1-C	UNK	11/06/18 08:52:40 pm	-0.007	176	5.06	s	1.00	1.00	1.00
280-116020-E-4-C	UNK	11/06/18 08:54:54 pm	-0.008	173	5.95	s	1.00	1.00	1.00
280-116020-G-6-C	UNK	11/06/18 08:57:07 pm	-0.004	216	2.40		1.00	1.00	1.00
CCV 280-436472/12-A % Recovery 101.45	CCV	11/06/18 08:59:23 pm	3.043	36196	3.42		1.00	1.00	1.00
CCB 280-436472/13-A	CCB	11/06/18 09:01:36 pm	-0.013	108	28.31	s	1.00	1.00	1.00
280-116020-E-8-C	UNK	11/06/18 09:03:49 pm	-0.007	176	12.48	s	1.00	1.00	1.00
280-116020-E-8-C SD@5	UNK	11/06/18 09:06:03 pm	0.000	258	5.64	s	1.00	1.00	1.00
280-116020-E-8-D MS	UNK	11/06/18 09:08:17 pm	2.877	34231	2.81		1.00	1.00	1.00
280-116020-E-8-E MSD	UNK	11/06/18 09:10:32 pm	3.086	36698	2.99		1.00	1.00	1.00
280-116020-E-8-C PDS	UNK	11/06/18 09:12:46 pm	3.014	35852	2.75		1.00	1.00	1.00
280-116020-C-9-C	UNK	11/06/18 09:15:01 pm	-0.006	190	36.92	s	1.00	1.00	1.00
280-116020-G-12-C	UNK	11/06/18 09:17:15 pm	-0.003	232	17.66	s	1.00	1.00	1.00
280-116046-D-1-C	UNK	11/06/18 09:19:29 pm	0.013	420	4.23		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
MB 280-436470/1-A	UNK	11/06/18 09:21:43 pm	-0.007	182	17.04	s	1.00	1.00	1.00
LCS 280-436470/2-A	UNK	11/06/18 09:23:57 pm	3.063	36423	2.98		1.00	1.00	1.00
CCV 280-436472/12-A	CCV	11/06/18 09:26:12 pm	3.055	36333	3.21		1.00	1.00	1.00
% Recovery 101.83									
CCB 280-436472/13-A	CCB	11/06/18 09:28:24 pm	-0.012	116	58.64	s	1.00	1.00	1.00
280-116054-D-1-C	UNK	11/06/18 09:30:38 pm	-0.007	179	23.36	s	1.00	1.00	1.00
280-116054-D-3-C	UNK	11/06/18 09:32:52 pm	-0.003	226	11.71	s	1.00	1.00	1.00
280-116054-D-5-C	UNK	11/06/18 09:35:06 pm	-0.002	238	10.29	s	1.00	1.00	1.00
280-116054-D-7-C	UNK	11/06/18 09:37:30 pm	-0.006	186	12.29	s	1.00	1.00	1.00
280-116054-D-9-G	UNK	11/06/18 09:39:45 pm	-0.002	242	5.56	s	1.00	1.00	1.00
280-116054-D-9-G SD@5	UNK	11/06/18 09:41:59 pm	-0.002	236	8.27	s	1.00	1.00	1.00
280-116054-D-9-H MS	UNK	11/06/18 09:44:14 pm	3.066	36461	3.21		1.00	1.00	1.00
280-116054-D-9-I MSD	UNK	11/06/18 09:46:29 pm	3.021	35931	2.99		1.00	1.00	1.00
280-116054-D-9-G PDS	UNK	11/06/18 09:48:43 pm	3.052	36296	3.11		1.00	1.00	1.00
280-116054-D-11-C	UNK	11/06/18 09:50:57 pm	-0.013	107	73.60	s	1.00	1.00	1.00
CCV 280-436472/12-A	CCV	11/06/18 09:53:12 pm	3.071	36528	3.32		1.00	1.00	1.00
% Recovery 102.38									
CCB 280-436472/13-A	CCB	11/06/18 09:55:25 pm	-0.012	117	56.48	s	1.00	1.00	1.00
280-116054-D-13-C	UNK	11/06/18 09:57:39 pm	-0.007	185	22.17	s	1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-116054-D-15-G	UNK	11/06/18 09:59:53 pm	-0.008	167	18.26	s	1.00	1.00	1.00
280-116054-D-15-H MS	UNK	11/06/18 10:02:07 pm	3.082	36656	3.14		1.00	1.00	1.00
280-116054-D-15-I MSD	UNK	11/06/18 10:04:21 pm	3.105	36924	2.93		1.00	1.00	1.00
280-116054-D-17-C	UNK	11/06/18 10:06:35 pm	-0.016	78	100.32		1.00	1.00	1.00
280-116054-D-19-C	UNK	11/06/18 10:08:49 pm	-0.004	210	20.95	s	1.00	1.00	1.00
280-116054-D-21-C	UNK	11/06/18 10:11:04 pm	-0.005	203	18.27	s	1.00	1.00	1.00
280-116054-D-24-C	UNK	11/06/18 10:13:18 pm	-0.009	157	20.04	s	1.00	1.00	1.00
CCV 280-436472/12-A	CCV	11/06/18 10:15:34 pm	3.059	36380	3.16		1.00	1.00	1.00
% Recovery 101.97									
CCB 280-436472/13-A	CCB	11/06/18 10:17:46 pm	-0.010	140	39.48	s	1.00	1.00	1.00

Analysis Parameters

Instrument M-7500 Mercury Analyzer

Conditions

Gas flow (mL/min)	Sample Uptake (s)	Rinse (s)	Read delay (s)	Replicates (#)	Replicate time (s)	Pump speed (%)	Wavelength (nm)
100	35.00	90.00	55.00	4	1.50	50	253.65

ASX Pump Rate (%)
100

Instrumental Zero

Zero before first sample: No

Zero periodically: Yes

Before each calibration.

Baseline Correction

#1 Start time (s)	#1 End time (s)	#2 Start time (s)	#2 End time (s)
20.00	24.00		

Standby Mode

Enabled: Yes

Standby Options: pump off, gas off, lamp off

Autodilution

Enabled: No

Condition:

Tube # range:

If no autodilution tubes remaining

Calibration

Settings

Algorithm	Through blank	Weighted fit	Cal. Type	Racalibration rate	Reslope rate	Reslope standard
Linear	No	No	Normal	0	0	N/A

Limits

Calibration slope		Reslope		Coeff. of Determination
Lower (%)	Upper (%)	Lower (%)	Upper (%)	
20	150	75	125	0.99500

Error action: Flag and continue

QC

GLP Override: Yes

QC Tests

CCB

Concentration (ppb)
0.0600

Failure flag: Q

Error action for manually inserted QC: Stop analysis

ICB

Concentration (ppb)
0.0600

Failure flag: Z

Error action for manually inserted QC: Stop analysis

CCV

Concentration (ppb)	Low Limit %	High Limit %
3.0000	80.0000	120.0000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

ICV

Concentration (ppb)	Low Limit %	High Limit %
2.4000	94.6000	105.4000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

CRDL

Concentration (ppb)	Low Limit %	High Limit %
0.1200	50.0000	150.0000

Failure flag: Y

Error action for manually inserted QC: Stop analysis

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG No.:

Project: Leidos RFP# 001088 - Ravenna AAP-66

Client Sample ID	Lab Sample ID
DET-003-181001-GW	280-116020-1
LL1mw-083-181001-GW	280-116020-5
LL1mw-084-181001-GW	280-116020-6
FWGmw-013-181001-GW	280-116020-7
DA2mw-115-181001-GW	280-116020-8
DA2mw-115-181002-GW	280-116020-9
DET-004-181001-GW	280-116020-12

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: DET-003-181001-GW
Lab Sample ID: 280-116020-1
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG ID.:
Matrix: Water
Date Sampled: 10/24/2018 10:05
Reporting Basis: WET
Date Received: 10/24/2018 17:47

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Cyanide, Total	0.0050	0.010	0.0050	0.0020	mg/L	U		1	9012B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: LL1mw-083-181001-GW
Lab Sample ID: 280-116020-5
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG ID.:
Matrix: Water
Date Sampled: 10/24/2018 13:25
Reporting Basis: WET
Date Received: 10/24/2018 17:47

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Sulfide	1.9	4.0	1.9	0.79	mg/L	U		1	9034
Nitrate as N	0.29	0.50	0.10	0.042	mg/L	J	J1	1	9056
Nitrite as N	0.10	0.50	0.10	0.049	mg/L	U		1	9056
Sulfate	160	5.0	0.50	0.23	mg/L		J1	1	9056A
Alkalinity	5.0	5.0	5.0	1.1	mg/L	U		1	SM 2320B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: LL1mw-084-181001-GW
Lab Sample ID: 280-116020-6
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG ID.:
Matrix: Water
Date Sampled: 10/24/2018 09:30
Reporting Basis: WET
Date Received: 10/24/2018 17:47

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Cyanide, Total	0.0050	0.010	0.0050	0.0020	mg/L	U		1	9012B
Sulfide	1.9	4.0	1.9	0.79	mg/L	U		1	9034
Nitrate as N	0.31	0.50	0.10	0.042	mg/L	J		1	9056
Nitrite as N	0.10	0.50	0.10	0.049	mg/L	U		1	9056
Sulfate	130	5.0	0.50	0.23	mg/L			1	9056A
Alkalinity	17	5.0	5.0	1.1	mg/L			1	SM 2320B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: FWGmw-013-181001-GW
Lab Sample ID: 280-116020-7
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG ID.:
Matrix: Water
Date Sampled: 10/24/2018 13:55
Reporting Basis: WET
Date Received: 10/24/2018 17:47

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Cyanide, Total	0.0050	0.010	0.0050	0.0020	mg/L	U		1	9012B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: DA2mw-115-181001-GW
Lab Sample ID: 280-116020-8
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG ID.:
Matrix: Water
Date Sampled: 10/24/2018 12:45
Reporting Basis: WET
Date Received: 10/24/2018 17:47

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Cyanide, Total	0.0050	0.010	0.0050	0.0020	mg/L	U		1	9012B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: DA2mw-115-181002-GW
Lab Sample ID: 280-116020-9
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG ID.:
Matrix: Water
Date Sampled: 10/24/2018 12:45
Reporting Basis: WET
Date Received: 10/24/2018 17:47

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Cyanide, Total	0.0050	0.010	0.0050	0.0020	mg/L	U		1	9012B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: DET-004-181001-GW
Lab Sample ID: 280-116020-12
Lab Name: TestAmerica Denver
Job No.: 280-116020-1
SDG ID.:
Matrix: Water
Date Sampled: 10/24/2018 11:20
Reporting Basis: WET
Date Received: 10/24/2018 17:47

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Cyanide, Total	0.0050	0.010	0.0050	0.0020	mg/L	U		1	9012B

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Analyst: RK Batch Start Date: 11/06/2018

Reporting Units: mg/L Analytical Batch No.: 436588

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
14	ICV	15:58	Cyanide, Total	0.107	0.100	107	90-110		CN ICV Daily_01219
15	ICB	16:00	Cyanide, Total	0.0050				U	
89	CCV	17:55	Cyanide, Total	0.216	0.200	108	90-110		CN CAL 1 ppm_01452
90	CCB	17:56	Cyanide, Total	0.0050				U	
104	CCV	18:17	Cyanide, Total	0.218	0.200	109	90-110		CN CAL 1 ppm_01452
105	CCB	18:19	Cyanide, Total	0.0050				U	
119	CCV	18:40	Cyanide, Total	0.220	0.200	110	90-110		CN CAL 1 ppm_01452
120	CCB	18:42	Cyanide, Total	0.0050				U	
132	CCV	19:03	Cyanide, Total	0.216	0.200	108	90-110		CN CAL 1 ppm_01452
133	CCB	19:05	Cyanide, Total	0.0050				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Analyst: RK Batch Start Date: 11/06/2018

Reporting Units: mg/L Analytical Batch No.: 436598

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
14	ICV	20:28	Cyanide, Total	0.105	0.100	105	90-110		CN ICV Daily_01219
15	ICB	20:29	Cyanide, Total	0.0050				U	
29	CCV	20:51	Cyanide, Total	0.202	0.200	101	90-110		CN CAL 1 ppm_01452
30	CCB	20:52	Cyanide, Total	0.0050				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Analyst: TLP Batch Start Date: 10/14/2018

Reporting Units: mg/L Analytical Batch No.: 433354

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	14:26	Nitrate as N	3.76	4.00	94	90-110		IC ICV 5_00212
			Nitrite as N	3.75	4.00	94	90-110		IC ICV 5_00212
9	ICB	14:42	Nitrate as N	0.10				U	
			Nitrite as N	0.10				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Analyst: A1D Batch Start Date: 10/25/2018

Reporting Units: mg/L Analytical Batch No.: 434904

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	12:13	Nitrate as N	5.30	5.00	106	90-110		IC LCS_01382
			Nitrite as N	5.19	5.00	104	90-110		IC LCS_01382
2	CCB	12:50	Nitrate as N	0.10				U	
			Nitrite as N	0.10				U	
12	CCV	19:39	Nitrate as N	4.80	5.00	96	90-110		IC LCS_01382
			Nitrite as N	4.68	5.00	94	90-110		IC LCS_01382
13	CCB	20:31	Nitrate as N	0.10				U	
			Nitrite as N	0.10				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Analyst: TLP Batch Start Date: 10/14/2018

Reporting Units: mg/L Analytical Batch No.: 433355

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	14:26	Sulfate	76.7	80.0	96	90-110		IC SO4 ICV_00017
9	ICB	14:42	Sulfate	0.50				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Analyst: A1D Batch Start Date: 10/25/2018

Reporting Units: mg/L Analytical Batch No.: 434905

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	12:13	Sulfate	108	100	108	90-110		IC LCS_01382
2	CCB	12:50	Sulfate	0.50				U	
12	CCV	19:39	Sulfate	96.4	100	96	90-110		IC LCS_01382
13	CCB	20:31	Sulfate	0.50				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Analyst: SGB Batch Start Date: 11/01/2018

Reporting Units: mg/L Analytical Batch No.: 436100

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
15	CCV	22:45	Alkalinity	192	200	96	90-110		Alk daily lcs 00782
16	CCB	22:52	Alkalinity	5.0				U	
27	CCV	00:49	Alkalinity	193	200	96	90-110		Alk daily lcs 00782
28	CCB	00:56	Alkalinity	5.0				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	LOQ	Dil
Batch ID: 436588	Date: 11/06/2018 18:04	Prep Batch: 436497	Date: 11/06/2018 11:20				
9012B	MB 280-436497/4-A	Cyanide, Total	0.0050	U	mg/L	0.010	1
Batch ID: 436598	Date: 11/06/2018 20:37	Prep Batch: 436497	Date: 11/06/2018 11:20				
9012B	MB 280-436497/4-A	Cyanide, Total	0.0050	U	mg/L	0.010	1
Batch ID: 435236	Date: 10/27/2018 19:16	Prep Batch: 435234	Date: 10/27/2018 16:19				
9034	MB 280-435234/1-A	Sulfide	1.9	U	mg/L	4.0	1
Batch ID: 434904	Date: 10/25/2018 17:50						
9056	MB 280-434904/6	Nitrate as N	0.10	U	mg/L	0.50	1
9056	MB 280-434904/6	Nitrite as N	0.10	U	mg/L	0.50	1
Batch ID: 434905	Date: 10/25/2018 17:50						
9056A	MB 280-434905/6	Sulfate	0.50	U	mg/L	5.0	1
Batch ID: 436100	Date: 11/01/2018 21:09						
SM 2320B	MB 280-436100/4	Alkalinity	5.0	U	mg/L	5.0	1

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 436588 Date: 11/06/2018 18:34			Prep Batch: 436497		Date: 11/06/2018 11:20						
9012B	280-116020-8	Cyanide, Total	0.0050	U	mg/L						
9012B	280-116020-8 MS	Cyanide, Total	0.103		mg/L	0.100	103	83-116			
Batch ID: 434904 Date: 10/25/2018 18:41											
9056	280-116020-5	Nitrate as N	0.29	J	mg/L						J1
9056	280-116020-5 MS	Nitrate as N	5.94		mg/L	5.00	113	88-111			J1
9056	280-116020-5	Nitrite as N	0.10	U	mg/L						
9056	280-116020-5 MS	Nitrite as N	4.91		mg/L	5.00	98	87-111			
Batch ID: 434905 Date: 10/25/2018 18:41											
9056A	280-116020-5	Sulfate	160		mg/L						J1
9056A	280-116020-5 MS	Sulfate	185		mg/L	25.0	105	87-112			4

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 436588 Date: 11/06/2018 18:36 Prep Batch: 436497 Date: 11/06/2018 11:20											
9012B	280-116020-8 MSD	Cyanide, Total	0.103		mg/L	0.100	103	83-116	1	20	
Batch ID: 434904 Date: 10/25/2018 19:01											
9056	280-116020-5 MSD	Nitrate as N	5.58		mg/L	5.00	106	88-111	6	10	
9056	280-116020-5 MSD	Nitrite as N	4.62		mg/L	5.00	92	87-111	6	10	
Batch ID: 434905 Date: 10/25/2018 19:01											
9056A	280-116020-5 MSD	Sulfate	171		mg/L	25.0	51	87-112	8	10	4

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 434904 Date: 10/25/2018 18:23								
9056	LL1mw-083-181001-GW	280-116020-5	Nitrate as N	0.29	mg/L			J
9056	LL1mw-083-181001-GW	280-116020-5 DU	Nitrate as N	0.254	mg/L	15	10	J
9056	LL1mw-083-181001-GW	280-116020-5	Nitrite as N	0.10	mg/L			U
9056	LL1mw-083-181001-GW	280-116020-5 DU	Nitrite as N	0.10	mg/L	NC	10	U
Batch ID: 434905 Date: 10/25/2018 18:23								
9056A	LL1mw-083-181001-GW	280-116020-5	Sulfate	160	mg/L			
9056A	LL1mw-083-181001-GW	280-116020-5 DU	Sulfate	146	mg/L	8	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 436588	Date: 11/06/2018 18:53		Prep Batch: 436497			Date: 11/06/2018 11:20					
						LCS Source: CN ICV Int_00510					
9012B	LCS 280-436497/3-A	Cyanide, Total	0.104		mg/L	0.100	104	83-116			
Batch ID: 436598	Date: 11/06/2018 20:36		Prep Batch: 436497			Date: 11/06/2018 11:20					
						LCS Source: CN ICV Int_00510					
9012B	LCS 280-436497/3-A	Cyanide, Total	0.0988		mg/L	0.100	99	83-116			
Batch ID: 435236	Date: 10/27/2018 19:16		Prep Batch: 435234			Date: 10/27/2018 16:19					
						LCS Source: SFD CAL INT_01577					
9034	LCS 280-435234/2-A	Sulfide	12.0		mg/L	20.8	58	50-106			
Batch ID: 434904	Date: 10/25/2018 16:18										
						LCS Source: IC LCS_01382					
9056	LCS 280-434904/4	Nitrate as N	5.41		mg/L	5.00	108	88-111	1	10	
9056	LCS 280-434904/4	Nitrite as N	5.27		mg/L	5.00	105	87-111	0	10	
Batch ID: 434905	Date: 10/25/2018 16:18										
						LCS Source: IC LCS_01382					
9056A	LCS 280-434905/4	Sulfate	109		mg/L	100	109	87-112	0	10	
Batch ID: 436100	Date: 11/01/2018 21:02										
						LCS Source: Alk daily lcs_00782					
SM 2320B	LCS 280-436100/3	Alkalinity	196		mg/L	200	98	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LAB CONTROL SAMPLE DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 434904	Date: 10/25/2018 16:33										
						LCSD Source: IC LCS_01382					
9056	LCSD 280-434904/5	Nitrate as N	5.38		mg/L	5.00	108	88-111	1	10	
9056	LCSD 280-434904/5	Nitrite as N	5.26		mg/L	5.00	105	87-111	0	10	
Batch ID: 434905	Date: 10/25/2018 16:33										
						LCSD Source: IC LCS_01382					
9056A	LCSD 280-434905/5	Sulfate	109		mg/L	100	109	87-112	0	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LOW LEVEL CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 436588	Date: 11/06/2018 18:51		Prep Batch: 436497			Date: 11/06/2018 11:20					
						LCS Source: CN 10ppm_00320					
9012B	LLCS 280-436497/2-A	Cyanide, Total	0.102		mg/L	0.100	102	44-167			
Batch ID: 436598	Date: 11/06/2018 20:34		Prep Batch: 436497			Date: 11/06/2018 11:20					
						LCS Source: CN 10ppm_00320					
9012B	LLCS 280-436497/2-A	Cyanide, Total	0.0940		mg/L	0.100	94	44-167			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
HIGH LEVEL CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 436588	Date: 11/06/2018 18:50		Prep Batch: 436497			Date: 11/06/2018 11:20					
						LCS Source: CN 10ppm_00320					
9012B	HLCS 280-436497/1-A	Cyanide, Total	0.361		mg/L	0.350	103	90-110			
Batch ID: 436598	Date: 11/06/2018 20:32		Prep Batch: 436497			Date: 11/06/2018 11:20					
						LCS Source: CN 10ppm_00320					
9012B	HLCS 280-436497/1-A	Cyanide, Total	0.345		mg/L	0.350	98	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
METHOD REPORTING LIMIT CHECK
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 434904	Date: 10/25/2018 13:06										
						LCS Source: IC Cal low_00408					
9056	MRL 280-434904/3	Nitrate as N	0.226	J	mg/L	0.200	113	50-150			
9056	MRL 280-434904/3	Nitrite as N	0.234	J	mg/L	0.200	117	50-150			
Batch ID: 434905	Date: 10/25/2018 13:06										
						LCS Source: IC CAL cl/so4_00226					
9056A	MRL 280-434905/3	Sulfate	2.64	J	mg/L	2.50	106	50-150			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: WC_Alp 1

Method: 9012B DL Date: 08/01/2018 00:00

Prep Method: 9012B

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Cyanide, Total		0.01	0.002

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: WC_Alp 1

Method: 9012B XMDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Cyanide, Total		0.01	0.002

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 9034 DL Date: 03/28/2011 13:37

Prep Method: 9030B

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Sulfide		4	0.793

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 9034 XMDL Date: 03/28/2011 13:37

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfide		4	0.793

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: WC_IonChrom11

Method: 9056 DL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Nitrate as N		0.5	0.042
Nitrite as N		0.5	0.049

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: WC_IonChrom11

Method: 9056 XMDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate as N		0.5	0.042
Nitrite as N		0.5	0.049

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: WC_IonChrom11

Method: 9056A DL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Sulfate		5	0.232

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: WC_IonChrom11

Method: 9056A XMDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfate		5	0.232

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: WC_AT2

Method: SM 2320B DL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Alkalinity		5	1.07

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-116020-1

SDG Number:

Matrix: Water Instrument ID: WC_AT2

Method: SM 2320B XMDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Alkalinity		5	1.07

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Prep Method: 9012B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
HLCS 280-436497/1-A	11/06/2018 11:20	436497		50	50
LLCS 280-436497/2-A	11/06/2018 11:20	436497		50	50
LCS 280-436497/3-A	11/06/2018 11:20	436497		50	50
MB 280-436497/4-A	11/06/2018 11:20	436497		50	50
280-116020-1	11/06/2018 11:20	436497		50	50
280-116020-6	11/06/2018 11:20	436497		50	50
280-116020-7	11/06/2018 11:20	436497		50	50
280-116020-8	11/06/2018 11:20	436497		50	50
280-116020-8 MS	11/06/2018 11:20	436497		50	50
280-116020-8 MSD	11/06/2018 11:20	436497		50	50
280-116020-9	11/06/2018 11:20	436497		50	50
280-116020-12	11/06/2018 11:20	436497		50	50

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Prep Method: 9030B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 280-435234/1-A	10/27/2018 16:19	435234		50	50
LCS 280-435234/2-A	10/27/2018 16:19	435234		50	50
280-116020-6	10/27/2018 16:19	435234		50	50
280-116020-5	10/27/2018 16:19	435234		50	50

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: WC_Alp 1 Analysis Method: 9012B

Start Date: 11/06/2018 15:39 End Date: 11/06/2018 19:06

Lab Sample Id	D/F	Type	Time	Analytes																								
				CN																								
ZZZZZZ			15:39																									
ZZZZZZ			15:40																									
ZZZZZZ			15:42																									
ZZZZZZ			15:43																									
IC 280-436588/5			15:45	X																								
IC 280-436588/6			15:46	X																								
IC 280-436588/7			15:48	X																								
IC 280-436588/8			15:49	X																								
IC 280-436588/9			15:51	X																								
IC 280-436588/10			15:52	X																								
IC 280-436588/11			15:54	X																								
ZZZZZZ			15:55																									
ZZZZZZ			15:57																									
ICV 280-436588/14	1		15:58	X																								
ICB 280-436588/15	1		16:00	X																								
ZZZZZZ			16:01																									
ZZZZZZ			16:03																									
ZZZZZZ			16:04																									
ZZZZZZ			16:06																									
ZZZZZZ			16:07																									
ZZZZZZ			16:09																									
ZZZZZZ			16:10																									
ZZZZZZ			16:12																									
ZZZZZZ			16:13																									
ZZZZZZ			16:15																									
ZZZZZZ			16:16																									
ZZZZZZ			16:18																									
ZZZZZZ			16:19																									
CCV 280-436588/29			16:21																									
CCB 280-436588/30			16:22																									
ZZZZZZ			16:24																									
ZZZZZZ			16:25																									
ZZZZZZ			16:27																									
ZZZZZZ			16:28																									
ZZZZZZ			16:30																									
ZZZZZZ			16:31																									
ZZZZZZ			16:33																									
ZZZZZZ			16:34																									
ZZZZZZ			16:36																									
ZZZZZZ			16:37																									
ZZZZZZ			16:39																									
ZZZZZZ			16:40																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: WC_Alp 1 Analysis Method: 9012B

Start Date: 11/06/2018 15:39 End Date: 11/06/2018 19:06

Lab Sample Id	D/F	Type	Time	Analytes
				CN
ZZZZZZ			16:42	
CCV 280-436588/44			16:43	
CCB 280-436588/45			16:45	
ZZZZZZ			16:46	
ZZZZZZ			16:48	
ZZZZZZ			16:49	
ZZZZZZ			16:51	
ZZZZZZ			16:52	
ZZZZZZ			16:54	
ZZZZZZ			16:55	
ZZZZZZ			16:57	
ZZZZZZ			16:58	
ZZZZZZ			17:04	
ZZZZZZ			17:05	
ZZZZZZ			17:07	
ZZZZZZ			17:08	
CCV 280-436588/59			17:10	
CCB 280-436588/60			17:11	
ZZZZZZ			17:13	
ZZZZZZ			17:14	
ZZZZZZ			17:16	
ZZZZZZ			17:17	
ZZZZZZ			17:19	
ZZZZZZ			17:20	
ZZZZZZ			17:22	
ZZZZZZ			17:23	
ZZZZZZ			17:25	
ZZZZZZ			17:26	
ZZZZZZ			17:28	
ZZZZZZ			17:29	
ZZZZZZ			17:31	
CCV 280-436588/74			17:32	
CCB 280-436588/75			17:34	
ZZZZZZ			17:35	
ZZZZZZ			17:37	
ZZZZZZ			17:38	
ZZZZZZ			17:40	
ZZZZZZ			17:41	
ZZZZZZ			17:43	
ZZZZZZ			17:44	
ZZZZZZ			17:46	
ZZZZZZ			17:47	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: WC_Alp 1 Analysis Method: 9012B

Start Date: 11/06/2018 15:39 End Date: 11/06/2018 19:06

Lab Sample Id	D/F	Type	Time	Analytes																								
				CN																								
ZZZZZZ			17:49																									
ZZZZZZ			17:50																									
ZZZZZZ			17:52																									
ZZZZZZ			17:53																									
CCV 280-436588/89	1		17:55	X																								
CCB 280-436588/90	1		17:56	X																								
ZZZZZZ			17:58																									
ZZZZZZ			17:59																									
ZZZZZZ			18:01																									
ZZZZZZ			18:02																									
MB 280-436497/4-A	1	T	18:04	X																								
ZZZZZZ			18:05																									
ZZZZZZ			18:07																									
ZZZZZZ			18:08																									
ZZZZZZ			18:10																									
ZZZZZZ			18:11																									
ZZZZZZ			18:13																									
ZZZZZZ			18:14																									
ZZZZZZ			18:16																									
CCV 280-436588/104	1		18:17	X																								
CCB 280-436588/105	1		18:19	X																								
ZZZZZZ			18:20																									
ZZZZZZ			18:22																									
ZZZZZZ			18:23																									
ZZZZZZ			18:25																									
ZZZZZZ			18:26																									
280-116020-1	1	T	18:28	X																								
280-116020-6	1	T	18:30	X																								
280-116020-7	1	T	18:31	X																								
280-116020-8	1	T	18:33	X																								
280-116020-8 MS	1	T	18:34	X																								
280-116020-8 MSD	1	T	18:36	X																								
ZZZZZZ			18:37																									
ZZZZZZ			18:39																									
CCV 280-436588/119	1		18:40	X																								
CCB 280-436588/120	1		18:42	X																								
ZZZZZZ			18:43																									
ZZZZZZ			18:48																									
HLCS 280-436497/1-A	1	T	18:50	X																								
LLCS 280-436497/2-A	1	T	18:51	X																								
LCS 280-436497/3-A	1	T	18:53	X																								
ZZZZZZ			18:54																									

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13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: WC_Alp 1 Analysis Method: 9012B

Start Date: 11/06/2018 15:39 End Date: 11/06/2018 19:06

Lab Sample Id	D/F	Type	Time	Analytes																								
				CN																								
ZZZZZZ			18:56																									
ZZZZZZ			18:57																									
ZZZZZZ			18:59																									
ZZZZZZ			19:00																									
ZZZZZZ			19:02																									
CCV 280-436588/132	1		19:03	X																								
CCB 280-436588/133	1		19:05	X																								
ZZZZZZ			19:06																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: WC_Alp 1 Analysis Method: 9012B

Start Date: 11/06/2018 20:08 End Date: 11/06/2018 21:04

Lab Sample Id	D/F	Type	Time	Analytes
				CN
ZZZZZZ			20:08	
ZZZZZZ			20:10	
ZZZZZZ			20:11	
ZZZZZZ			20:13	
IC 280-436598/5			20:14	X
IC 280-436598/6			20:16	X
IC 280-436598/7			20:17	X
IC 280-436598/8			20:19	X
IC 280-436598/9			20:20	X
IC 280-436598/10			20:22	X
IC 280-436598/11			20:23	X
ZZZZZZ			20:25	
ZZZZZZ			20:26	
ICV 280-436598/14	1		20:28	X
ICB 280-436598/15	1		20:29	X
ZZZZZZ			20:31	
HLCS 280-436497/1-A	1	T	20:32	X
LLCS 280-436497/2-A	1	T	20:34	X
LCS 280-436497/3-A	1	T	20:36	X
MB 280-436497/4-A	1	T	20:37	X
280-116020-9	1	T	20:39	X
280-116020-12	1	T	20:40	X
ZZZZZZ			20:42	
ZZZZZZ			20:43	
ZZZZZZ			20:45	
ZZZZZZ			20:46	
ZZZZZZ			20:48	
ZZZZZZ			20:49	
CCV 280-436598/29	1		20:51	X
CCB 280-436598/30	1		20:52	X
ZZZZZZ			20:54	
ZZZZZZ			20:55	
ZZZZZZ			20:57	
ZZZZZZ			20:58	
ZZZZZZ			21:00	
CCV 280-436598/36			21:01	
CCB 280-436598/37			21:03	
ZZZZZZ			21:04	

Prep Types:
T = Total/NA

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 9034

Start Date: 10/27/2018 19:16 End Date: 10/27/2018 19:16

Lab Sample Id	D/F	Type	Time	Analytes																								
				S2																								
MB 280-435234/1-A	1	T	19:16	X																								
LCS 280-435234/2-A	1	T	19:16	X																								
ZZZZZZ			19:16																									
ZZZZZZ			19:16																									
ZZZZZZ			19:16																									
ZZZZZZ			19:16																									
ZZZZZZ			19:16																									
ZZZZZZ			19:16																									
ZZZZZZ			19:16																									
280-116020-6	1	T	19:16	X																								
280-116020-5	1	T	19:16	X																								
ZZZZZZ			19:16																									
ZZZZZZ			19:16																									
ZZZZZZ			19:16																									
ZZZZZZ			19:16																									
ZZZZZZ			19:16																									
ZZZZZZ			19:16																									

Prep Types:
T = Total/NA

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: WC_IonChrom11 Analysis Method: 9056

Start Date: 10/14/2018 11:50 End Date: 10/14/2018 23:58

Lab Sample Id	D/F	Type	Time	Analytes																										
				NO2-N	NO3																									
RTC 280-433354/1			11:50																											
STD 280-433354/2 IC	1		12:06	X	X																									
STD 280-433354/3 IC	1		12:23	X	X																									
STD 280-433354/4 IC	1		12:39	X	X																									
STD 280-433354/5 IC	1		12:55	X	X																									
STD 280-433354/6 IC	1		13:12	X	X																									
STD 280-433354/7 IC	1		13:28	X	X																									
ICV 280-433354/8	1		14:26	X	X																									
ICB 280-433354/9	1		14:42	X	X																									
ZZZZZZ			14:59																											
ZZZZZZ			15:15																											
ZZZZZZ			15:32																											
ZZZZZZ			15:48																											
ZZZZZZ			16:53																											
ZZZZZZ			17:10																											
ZZZZZZ			17:26																											
ZZZZZZ			17:42																											
ZZZZZZ			17:59																											
ZZZZZZ			18:15																											
ZZZZZZ			18:31																											
CCV 280-433354/24			18:48																											
CCB 280-433354/25			19:04																											
ZZZZZZ			19:21																											
ZZZZZZ			20:10																											
ZZZZZZ			20:26																											
ZZZZZZ			20:42																											
ZZZZZZ			20:59																											
CCV 280-433354/36			22:04																											
CCB 280-433354/37			22:20																											
CCV 280-433354/42			23:42																											
CCB 280-433354/43			23:58																											

Prep Types:
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FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: WC_IonChrom11 Analysis Method: 9056

Start Date: 10/25/2018 12:13 End Date: 10/26/2018 04:39

Lab Sample Id	D/F	Type	Time	Analytes																									
				NO2-N	NO3																								
CCV 280-434904/1	1		12:13	X	X																								
CCB 280-434904/2	1		12:50	X	X																								
MRL 280-434904/3	1	T	13:06	X	X																								
LCS 280-434904/4	1	T	16:18	X	X																								
LCSD 280-434904/5	1	T	16:33	X	X																								
MB 280-434904/6	1	T	17:50	X	X																								
280-116020-5	1	T	18:06	X	X																								
280-116020-5 DU	1	T	18:23	X	X																								
280-116020-5 MS	1	T	18:41	X	X																								
280-116020-5 MSD	1	T	19:01	X	X																								
280-116020-6	1	T	19:20	X	X																								
CCV 280-434904/12	1		19:39	X	X																								
CCB 280-434904/13	1		20:31	X	X																								
ZZZZZZ			21:53																										
ZZZZZZ			22:10																										
ZZZZZZ			22:30																										
ZZZZZZ			22:49																										
ZZZZZZ			23:38																										
ZZZZZZ			00:00																										
ZZZZZZ			00:16																										
CCV 280-434904/24			01:22																										
CCB 280-434904/25			01:39																										
ZZZZZZ			03:01																										
ZZZZZZ			03:17																										
ZZZZZZ			03:33																										
ZZZZZZ			03:50																										
ZZZZZZ			04:06																										
CCV 280-434904/35			04:23																										
CCB 280-434904/36			04:39																										

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: WC_IonChrom11 Analysis Method: 9056A

Start Date: 10/14/2018 11:50 End Date: 10/14/2018 23:58

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
RTC 280-433355/1			11:50																									
STD 280-433355/2 IC	1		12:06	X																								
STD 280-433355/3 IC	1		12:23	X																								
STD 280-433355/4 IC	1		12:39	X																								
STD 280-433355/5 IC	1		12:55	X																								
STD 280-433355/6 IC	1		13:12	X																								
STD 280-433355/7 IC	1		13:28	X																								
ICV 280-433355/8	1		14:26	X																								
ICB 280-433355/9	1		14:42	X																								
ZZZZZZ			14:59																									
ZZZZZZ			15:15																									
ZZZZZZ			15:32																									
ZZZZZZ			15:48																									
ZZZZZZ			16:04																									
ZZZZZZ			16:21																									
ZZZZZZ			16:37																									
ZZZZZZ			16:53																									
ZZZZZZ			17:10																									
ZZZZZZ			17:26																									
ZZZZZZ			17:42																									
ZZZZZZ			17:59																									
ZZZZZZ			18:15																									
ZZZZZZ			18:31																									
CCV 280-433355/24			18:48																									
CCB 280-433355/25			19:04																									
ZZZZZZ			19:21																									
ZZZZZZ			19:37																									
ZZZZZZ			19:53																									
ZZZZZZ			20:10																									
ZZZZZZ			20:26																									
ZZZZZZ			20:42																									
ZZZZZZ			20:59																									
ZZZZZZ			21:15																									
ZZZZZZ			21:31																									
ZZZZZZ			21:48																									
CCV 280-433355/36			22:04																									
CCB 280-433355/37			22:20																									
ZZZZZZ			22:37																									
ZZZZZZ			22:53																									
ZZZZZZ			23:09																									
ZZZZZZ			23:26																									

FORM XIII-IN

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: WC_IonChrom11 Analysis Method: 9056A

Start Date: 10/14/2018 11:50 End Date: 10/14/2018 23:58

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
CCV 280-433355/42			23:42																									
CCB 280-433355/43			23:58																									

Prep Types:
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FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: WC_IonChrom11 Analysis Method: 9056A

Start Date: 10/25/2018 12:13 End Date: 10/26/2018 04:39

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
CCV 280-434905/1	1		12:13	X																								
CCB 280-434905/2	1		12:50	X																								
MRL 280-434905/3	1	T	13:06	X																								
LCS 280-434905/4	1	T	16:18	X																								
LCSD 280-434905/5	1	T	16:33	X																								
MB 280-434905/6	1	T	17:50	X																								
280-116020-5	1	T	18:06	X																								
280-116020-5 DU	1	T	18:23	X																								
280-116020-5 MS	1	T	18:41	X																								
280-116020-5 MSD	1	T	19:01	X																								
280-116020-6	1	T	19:20	X																								
CCV 280-434905/12	1		19:39	X																								
CCB 280-434905/13	1		20:31	X																								
ZZZZZZ			22:30																									
ZZZZZZ			22:49																									
ZZZZZZ			23:38																									
ZZZZZZ			00:00																									
ZZZZZZ			00:16																									
ZZZZZZ			00:33																									
ZZZZZZ			00:49																									
ZZZZZZ			01:06																									
CCV 280-434905/24			01:22																									
CCB 280-434905/25			01:39																									
ZZZZZZ			01:55																									
ZZZZZZ			02:11																									
ZZZZZZ			02:28																									
ZZZZZZ			02:44																									
ZZZZZZ			03:01																									
ZZZZZZ			03:17																									
ZZZZZZ			03:33																									
ZZZZZZ			03:50																									
ZZZZZZ			04:06																									
CCV 280-434905/35			04:23																									
CCB 280-434905/36			04:39																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: WC_AT2 Analysis Method: SM 2320B

Start Date: 11/01/2018 20:42 End Date: 11/02/2018 13:53

Lab Sample Id	D/F	Type	Time	Analytes																								
				Alk																								
ZZZZZZ			20:42																									
ZZZZZZ			20:52																									
LCS 280-436100/3	1	T	21:02	X																								
MB 280-436100/4	1	T	21:09	X																								
ZZZZZZ			21:16																									
ZZZZZZ			21:23																									
ZZZZZZ			21:32																									
ZZZZZZ			21:43																									
ZZZZZZ			21:53																									
ZZZZZZ			22:01																									
ZZZZZZ			22:06																									
ZZZZZZ			22:15																									
ZZZZZZ			22:24																									
ZZZZZZ			22:35																									
CCV 280-436100/15	1		22:45	X																								
CCB 280-436100/16	1		22:52	X																								
ZZZZZZ			23:01																									
ZZZZZZ			23:12																									
ZZZZZZ			23:20																									
ZZZZZZ			23:32																									
280-116020-6	1	T	23:38	X																								
280-116020-5	1	T	23:43	X																								
ZZZZZZ			00:00																									
ZZZZZZ			00:16																									
ZZZZZZ			00:28																									
ZZZZZZ			00:40																									
CCV 280-436100/27	1		00:49	X																								
CCB 280-436100/28	1		00:56	X																								
ZZZZZZ			01:06																									
ZZZZZZ			01:13																									
ZZZZZZ			01:24																									
ZZZZZZ			01:35																									
ZZZZZZ			01:44																									
ZZZZZZ			01:53																									
ZZZZZZ			02:03																									
ZZZZZZ			02:09																									
ZZZZZZ			02:15																									
ZZZZZZ			02:23																									
ZZZZZZ			02:30																									
ZZZZZZ			02:39																									
CCV 280-436100/41			02:43																									

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Instrument ID: WC_AT2 Analysis Method: SM 2320B

Start Date: 11/01/2018 20:42 End Date: 11/02/2018 13:53

Lab Sample Id	D/F	Type	Time	Analytes
				Alk
CCB 280-436100/42			02:48	
ZZZZZZ			02:55	
ZZZZZZ			03:03	
ZZZZZZ			03:08	
ZZZZZZ			03:14	
ZZZZZZ			03:21	
ZZZZZZ			03:25	
ZZZZZZ			03:31	
ZZZZZZ			03:39	
ZZZZZZ			03:47	
ZZZZZZ			03:52	
CCV 280-436100/53			03:56	
CCB 280-436100/54			04:01	
CCV 280-436100/55			10:16	
CCB 280-436100/56			10:23	
ICV 280-436100/57			10:45	
ZZZZZZ			10:50	
ICB 280-436100/59			10:57	
ZZZZZZ			11:33	
ZZZZZZ			11:39	
ZZZZZZ			11:46	
CCV 280-436100/63			11:56	
CCB 280-436100/64			12:03	
ZZZZZZ			12:15	
ZZZZZZ			12:22	
ZZZZZZ			12:31	
ZZZZZZ			12:38	
ZZZZZZ			12:45	
ZZZZZZ			12:53	
ZZZZZZ			13:10	
ZZZZZZ			13:20	
ZZZZZZ			13:31	
ZZZZZZ			13:38	
CCV 280-436100/75			13:46	
CCB 280-436100/76			13:53	

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 436497 Batch Start Date: 11/06/18 12:12 Batch Analyst: Kurniadi, Richard

Batch Method: 9012B Batch End Date: 11/06/18 19:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	SulfideCheck	ChlorineCheck	DistillpHCheck	CN 10ppm 00320
HLCS 280-436497/1		9012B, 9012B		50 mL	50 mL				1.75 mL
LLCS 280-436497/2		9012B, 9012B		50 mL	50 mL				0.5 mL
LCS 280-436497/3		9012B, 9012B		50 mL	50 mL				
MB 280-436497/4		9012B, 9012B		50 mL	50 mL				
280-116020-J-1	DET-003-181001-GW	9012B, 9012B	T	50 mL	50 mL	N	N	>12	
280-116020-J-6	LL1mw-084-181001-GW	9012B, 9012B	T	50 mL	50 mL	N	N	>12	
280-116020-A-7	FWGmw-013-181001-GW	9012B, 9012B	T	50 mL	50 mL	N	N	>12	
280-116020-F-8	DA2mw-115-181001-GW	9012B, 9012B	T	50 mL	50 mL	N	N	>12	
280-116020-F-8 MS	DA2mw-115-181001-GW	9012B, 9012B	T	50 mL	50 mL	N	N	>12	
280-116020-F-8 MSD	DA2mw-115-181001-GW	9012B, 9012B	T	50 mL	50 mL	N	N	>12	
280-116020-D-9	DA2mw-115-181002-GW	9012B, 9012B	T	50 mL	50 mL	N	N	>12	
280-116020-I-12	DET-004-181001-GW	9012B, 9012B	T	50 mL	50 mL	N	N	>12	

Lab Sample ID	Client Sample ID	Method Chain	Basis	CN ICV Int 00510					
HLCS 280-436497/1		9012B, 9012B							
LLCS 280-436497/2		9012B, 9012B							
LCS 280-436497/3		9012B, 9012B		0.5 mL					
MB 280-436497/4		9012B, 9012B							
280-116020-J-1	DET-003-181001-GW	9012B, 9012B	T						
280-116020-J-6	LL1mw-084-181001-GW	9012B, 9012B	T						
280-116020-A-7	FWGmw-013-181001-GW	9012B, 9012B	T						
280-116020-F-8	DA2mw-115-181001-GW	9012B, 9012B	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 436497 Batch Start Date: 11/06/18 12:12 Batch Analyst: Kurniadi, Richard

Batch Method: 9012B Batch End Date: 11/06/18 19:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	CN ICV Int 00510					
280-116020-F-8 MS	DA2mw-115-181001 -GW	9012B, 9012B	T	0.5 mL					
280-116020-F-8 MSD	DA2mw-115-181001 -GW	9012B, 9012B	T	0.5 mL					
280-116020-D-9	DA2mw-115-181002 -GW	9012B, 9012B	T						
280-116020-I-12	DET-004-181001-G W	9012B, 9012B	T						

Batch Notes	
Acetate Buffer ID	Acetate Buffer_00005
Balance ID	M19170
Batch Comment	DA training RK
Cadmium Carbonate ID	CAD CHL CN_00004
Distillation End Time	11/06/2018 19:45
Distillation Start Time	11/06/2018 12:12
Indicator Reagent ID	METHYL RED_00016
Magnesium Chloride Reagent ID Number	CN Mag Chl_00084
Sodium Hydroxide ID	2% NaOH_00352
Pipette/Syringe/Dispenser ID	1000nxn, 5000elj
Sulfamic Acid ID	CN SULFAMIC_00093
Sulfuric Acid Reagent ID Number	SulfuricAcid_00223
WAD Releasing Agent ID	10% Acetic_00019

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 436588 Batch Start Date: 11/06/18 15:39 Batch Analyst: Kurniadi, Richard

Batch Method: 9012B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CN CAL 1 ppm 01452	CN ICV Daily 01219		
ICV 280-436588/14		9012B		50 mL	50 mL		50 mL		
ICB 280-436588/15		9012B		50 mL	50 mL				
CCV 280-436588/89		9012B		50 mL	50 mL	10 mL			
CCB 280-436588/90		9012B		50 mL	50 mL				
MB 280-436497/4-A		9012B		50 mL	50 mL				
CCV 280-436588/104		9012B		50 mL	50 mL	10 mL			
CCB 280-436588/105		9012B		50 mL	50 mL				
280-116020-J-1-A	DET-003-181001-GW	9012B	T	50 mL	50 mL				
280-116020-J-6-B	LL1mw-084-181001-GW	9012B	T	50 mL	50 mL				
280-116020-A-7-A	FWGmw-013-181001-GW	9012B	T	50 mL	50 mL				
280-116020-F-8-A	DA2mw-115-181001-GW	9012B	T	50 mL	50 mL				
280-116020-F-8-B MS	DA2mw-115-181001-GW	9012B	T	50 mL	50 mL				
280-116020-F-8-C MSD	DA2mw-115-181001-GW	9012B	T	50 mL	50 mL				
CCV 280-436588/119		9012B		50 mL	50 mL	10 mL			
CCB 280-436588/120		9012B		50 mL	50 mL				
HLCS 280-436497/1-A		9012B		50 mL	50 mL				
LLCS 280-436497/2-A		9012B		50 mL	50 mL				
LCS 280-436497/3-A		9012B		50 mL	50 mL				
CCV 280-436588/132		9012B		50 mL	50 mL	10 mL			
CCB 280-436588/133		9012B		50 mL	50 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 436588 Batch Start Date: 11/06/18 15:39 Batch Analyst: Kurniadi, Richard

Batch Method: 9012B Batch End Date:

Batch Notes	
Batch Comment	DA trained RK
Buffer Reagent ID	CN Buffer_00118
Chloramine-T ID	CN Chlor-T_01006
Sodium Hydroxide ID	1% NaOH_00361
Pipette/Syringe/Dispenser ID	1000nxn, 5000elj
Pyridine-Barbituric Acid ID	CN Pyr/Barb_00203

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 436598 Batch Start Date: 11/06/18 20:08 Batch Analyst: Kurniadi, Richard

Batch Method: 9012B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CN CAL 1 ppm 01452	CN ICV Daily 01219		
ICV 280-436598/14		9012B		50 mL	50 mL		50 mL		
ICB 280-436598/15		9012B		50 mL	50 mL				
HLCS 280-436497/1-A		9012B		50 mL	50 mL				
LLCS 280-436497/2-A		9012B		50 mL	50 mL				
LCS 280-436497/3-A		9012B		50 mL	50 mL				
MB 280-436497/4-A		9012B		50 mL	50 mL				
280-116020-D-9-A	DA2mw-115-181002-GW	9012B	T	50 mL	50 mL				
280-116020-I-12-A	DET-004-181001-GW	9012B	T	50 mL	50 mL				
CCV 280-436598/29		9012B		50 mL	50 mL	10 mL			
CCB 280-436598/30		9012B		50 mL	50 mL				

Batch Notes	
Batch Comment	DA trained RK
Buffer Reagent ID	CN Buffer_00118
Chloramine-T ID	CN Chlor-T_01006
Sodium Hydroxide ID	1% NaOH_00361
Pipette/Syringe/Dispenser ID	1000nxn, 5000elj
Pyridine-Barbituric Acid ID	CN Pyr/Barb_00203

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435234 Batch Start Date: 10/27/18 18:00 Batch Analyst: Citrone, Elias

Batch Method: 9030B Batch End Date: 10/27/18 19:05

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	DistillUnitPort	Initial pH	Final pH	AcidVolAdded
MB 280-435234/1		9030B, 9034		50 mL	50 mL	1		<2 SU	5 mL
LCS 280-435234/2		9030B, 9034		50 mL	50 mL	4		<2 SU	5 mL
280-116020-J-6	LL1mw-084-181001-GW	9030B, 9034	T	50 mL	50 mL	13	>12 SU	<2 SU	5 mL
280-116020-I-5	LL1mw-083-181001-GW	9030B, 9034	T	50 mL	50 mL	14	>12 SU	<2 SU	5 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	SFD CAL INT 01577					
MB 280-435234/1		9030B, 9034							
LCS 280-435234/2		9030B, 9034		1 mL					
280-116020-J-6	LL1mw-084-181001-GW	9030B, 9034	T						
280-116020-I-5	LL1mw-083-181001-GW	9030B, 9034	T						

Batch Notes	
Distillation End Time	10/27/2018 19:05
Distillation Start Time	10/27/2018 18:00
pH Indicator ID	HC697954
Pipette/Syringe/Dispenser ID	AZ1000, AZ5000
Sulfuric Acid Reagent ID Number	H2SO4_00189
Zinc Acetate Buffer ID	znac_00102

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 435236 Batch Start Date: 10/27/18 19:16 Batch Analyst: Citrone, Elias

Batch Method: 9034 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	BuretStart1	BuretStop1	IodineAmount	TitrantVolume1	FinalAmount	
MB 280-435234/1-A		9034		0.00 mL	1.10 mL	1 mL	1.1 mL	50 mL	
LCS 280-435234/2-A		9034		1.10 mL	4.60 mL	5 mL	3.5 mL	50 mL	
280-116020-J-6-A	LL1mw-084-181001-GW	9034	T	16.43 mL	17.60 mL	1 mL	1.17 mL	50 mL	
280-116020-I-5-A	LL1mw-083-181001-GW	9034	T	17.60 mL	18.68 mL	1 mL	1.08 mL	50 mL	

Batch Notes	
Hydrochloric Acid ID	HCL Sol_00160
Iodine ID	Iod_00208
Normality of Iodine Solution	0.0250 N
Sodium Thiosulfate ID	Na Thio_00137
Pipette/Syringe/Dispenser ID	AZ1000, AZ5000
Starch Reagent ID	Starch Ind_ 00050
Normality of First Titrant	0.0250 N
Zinc Acetate Buffer ID	znac_00100

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 433354 Batch Start Date: 10/14/18 11:50 Batch Analyst: Phan, Thu L

Batch Method: 9056 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00225	IC Cal low 00406	IC CL ICV 00014	IC ICV 5 00212
STD 280-433354/2 IC		9056		5 mL	5 mL	0.02 mL	0.02 mL		
STD 280-433354/3 IC		9056		5 mL	5 mL	0.05 mL	0.05 mL		
STD 280-433354/4 IC		9056		5 mL	5 mL	0.1 mL	0.1 mL		
STD 280-433354/5 IC		9056		5 mL	5 mL	1.2 mL	0.4 mL		
STD 280-433354/6 IC		9056		5 mL	5 mL	2.4 mL	0.8 mL		
STD 280-433354/7 IC		9056		5 mL	5 mL	4 mL	1 mL		
ICV 280-433354/8		9056		5 mL	5 mL			0.4 mL	0.4 mL
ICB 280-433354/9		9056		5 mL	5 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC SO4 ICV 00017					
STD 280-433354/2 IC		9056							
STD 280-433354/3 IC		9056							
STD 280-433354/4 IC		9056							
STD 280-433354/5 IC		9056							
STD 280-433354/6 IC		9056							
STD 280-433354/7 IC		9056							
ICV 280-433354/8		9056		0.4 mL					
ICB 280-433354/9		9056							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 433354 Batch Start Date: 10/14/18 11:50 Batch Analyst: Phan, Thu L

Batch Method: 9056 Batch End Date:

Batch Notes	
Eluent 1 ID	ic11 eluent_00525
Filter ID	r7ma61819
Pipette/Syringe/Dispenser ID	5000ics, 1000d, ic100
Sufficient Volume for Batch QC	yes

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 434904 Batch Start Date: 10/25/18 12:13 Batch Analyst: Duplin, Alysha 1

Batch Method: 9056 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00226	IC Cal low 00408	IC LCS 01382	ICMS/MSD WEEK 00560
CCV 280-434904/1		9056		5 mL	5 mL			5 mL	
CCB 280-434904/2		9056		5 mL	5 mL				
MRL 280-434904/3		9056		5 mL	5 mL	0.05 mL	0.02 mL		
LCS 280-434904/4		9056		5 mL	5 mL			5 mL	
LCSD 280-434904/5		9056		5 mL	5 mL			5 mL	
MB 280-434904/6		9056		5 mL	5 mL				
280-116020-G-5	LL1mw-083-181001-GW	9056	T	5 mL	5 mL				
280-116020-G-5 DU	LL1mw-083-181001-GW	9056	T	5 mL	5 mL				
280-116020-G-5 MS	LL1mw-083-181001-GW	9056	T	5 mL	5 mL				0.05 mL
280-116020-G-5 MSD	LL1mw-083-181001-GW	9056	T	5 mL	5 mL				0.05 mL
280-116020-H-6	LL1mw-084-181001-GW	9056	T	5 mL	5 mL				
CCV 280-434904/12		9056		5 mL	5 mL			5 mL	
CCB 280-434904/13		9056		5 mL	5 mL				

Batch Notes	
Batch Comment	AD training with AA
Eluent 1 ID	ic11eluent_00528
Filter ID	r7ma61819
Pipette/Syringe/Dispenser ID	5000ics wc1000-d ic100
Sufficient Volume for Batch QC	Yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 433355 Batch Start Date: 10/14/18 11:50 Batch Analyst: Phan, Thu L

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00225	IC Cal low 00406	IC CL ICV 00014	IC ICV 5 00212
STD 280-433355/2 IC		9056A		5 mL	5 mL	0.02 mL	0.02 mL		
STD 280-433355/3 IC		9056A		5 mL	5 mL	0.05 mL	0.05 mL		
STD 280-433355/4 IC		9056A		5 mL	5 mL	0.1 mL	0.1 mL		
STD 280-433355/5 IC		9056A		5 mL	5 mL	1.2 mL	0.4 mL		
STD 280-433355/6 IC		9056A		5 mL	5 mL	2.4 mL	0.8 mL		
STD 280-433355/7 IC		9056A		5 mL	5 mL	4 mL	1 mL		
ICV 280-433355/8		9056A		5 mL	5 mL			0.4 mL	0.4 mL
ICB 280-433355/9		9056A		5 mL	5 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC SO4 ICV 00017					
STD 280-433355/2 IC		9056A							
STD 280-433355/3 IC		9056A							
STD 280-433355/4 IC		9056A							
STD 280-433355/5 IC		9056A							
STD 280-433355/6 IC		9056A							
STD 280-433355/7 IC		9056A							
ICV 280-433355/8		9056A		0.4 mL					
ICB 280-433355/9		9056A							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 433355 Batch Start Date: 10/14/18 11:50 Batch Analyst: Phan, Thu L

Batch Method: 9056A Batch End Date:

Batch Notes	
Eluent 1 ID	ic11 eluent_00525
Filter ID	r7ma61819
Pipette/Syringe/Dispenser ID	5000ics, 1000d, ic100
Sufficient Volume for Batch QC	yes

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 434905 Batch Start Date: 10/25/18 12:13 Batch Analyst: Duplin, Alysha 1

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00226	IC Cal low 00408	IC LCS 01382	ICMS/MSD WEEK 00560
CCV 280-434905/1		9056A		5 mL	5 mL			5 mL	
CCB 280-434905/2		9056A		5 mL	5 mL				
MRL 280-434905/3		9056A		5 mL	5 mL	0.05 mL	0.02 mL		
LCS 280-434905/4		9056A		5 mL	5 mL			5 mL	
LCSD 280-434905/5		9056A		5 mL	5 mL			5 mL	
MB 280-434905/6		9056A		5 mL	5 mL				
280-116020-G-5	LL1mw-083-181001 -GW	9056A	T	5 mL	5 mL				
280-116020-G-5 DU	LL1mw-083-181001 -GW	9056A	T	5 mL	5 mL				
280-116020-G-5 MS	LL1mw-083-181001 -GW	9056A	T	5 mL	5 mL				0.05 mL
280-116020-G-5 MSD	LL1mw-083-181001 -GW	9056A	T	5 mL	5 mL				0.05 mL
280-116020-H-6	LL1mw-084-181001 -GW	9056A	T	5 mL	5 mL				
CCV 280-434905/12		9056A		5 mL	5 mL			5 mL	
CCB 280-434905/13		9056A		5 mL	5 mL				

Batch Notes	
Batch Comment	AD training with AA
Eluent 1 ID	IC11eluent_00528
Filter ID	r7ma61819
Pipette/Syringe/Dispenser ID	5000ics wc1000-d ic100
Sufficient Volume for Batch QC	Yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-116020-1

SDG No.:

Batch Number: 436100 Batch Start Date: 11/01/18 20:42 Batch Analyst: Barker, Scott G

Batch Method: SM 2320B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	Alk daily lcs 00782				
LCS 280-436100/3		SM 2320B		InitialAmount is blank	25 mL				
MB 280-436100/4		SM 2320B		InitialAmount is blank					
CCV 280-436100/15		SM 2320B		InitialAmount is blank	25 mL				
CCB 280-436100/16		SM 2320B		InitialAmount is blank					
280-116020-H-6	LL1mw-084-181001-GW	SM 2320B	T	InitialAmount is blank					
280-116020-G-5	LL1mw-083-181001-GW	SM 2320B	T	InitialAmount is blank					
CCV 280-436100/27		SM 2320B		InitialAmount is blank	25 mL				
CCB 280-436100/28		SM 2320B		InitialAmount is blank					

Batch Notes	
Acid ID	0.02 H2SO4_00252
Batch Comment	SGB trained by LL
pH Buffer 1 ID	pH 2 buffer_00073
pH Buffer 2 ID	ph 4 buffer_00171
pH Buffer 3 ID	pH 7 buffer_00248
pH Buffer 4 ID	pH 10 buffer_00139
pH Buffer 5 ID	pH 12 buffer_00143
pH Buffer 6 ID	pH 7 buffer_00247
Sodium Carbonate ID	Sodium Carbon_00015
Nominal Amount Used	25 mL
Pipette/Syringe/Dispenser ID	5000 ELJ
Probe ID	PCE 86 pH 1105 5241
Normality of First Titrant	0.02 N

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Run Results Report

Facility Name
Facility Location
Department
Operator Name RK
Operator ID RK
Platform FS III/IV/3100
Software Rev Code 222
Data system ID 57

Result path C:\FLOW_4\C110618.RST
Sample table path C:\FLOW_4\c110618.tbl
Method path C:\FLOW_4\cyanide.mth
Date acquired 06-Nov-18
Time acquired 19:11

				Cyanide, Total		
Date	Time	Cup	Name	Response	Calc [ppb]	Flags
06-Nov-18	15:39	107	Sync	330995	389.503	
06-Nov-18	15:40	0	Carryover	368	-0.734	LO
06-Nov-18	15:42	0	Carryover	65	-1.091	LO
06-Nov-18	15:43	0	Baseline	0	-1.168	BL
06-Nov-18	15:45	101	CAL 0.00 ppb	179	-0.957	LO
06-Nov-18	15:46	102	CAL 10.0 ppb	8888	9.322	
06-Nov-18	15:48	103	CAL 20.0 ppb	17341	19.299	
06-Nov-18	15:49	104	CAL 50.0 ppb	43313	49.954	
06-Nov-18	15:51	105	CAL 100 ppb	86440	100.856	
06-Nov-18	15:52	106	Cal 200 ppb	173289	203.364	
06-Nov-18	15:54	107	Cal 400 ppb	338331	398.162	
06-Nov-18	15:55	0	BLK	-13	-1.183	LO
06-Nov-18	15:57	0	Baseline	0	-1.168	BL
06-Nov-18	15:58	108	ICV 100 ppb	91246	106.529	
06-Nov-18	16:00	0	ICB	-55	-1.233	LO
06-Nov-18	16:01	0	Baseline	0	-1.168	BL
06-Nov-18	16:03	113	HLCS 280-436337/1-A	291416	342.788	
06-Nov-18	16:04	114	LLCS 280-436337/2-A	83085	96.896	
06-Nov-18	16:06	115	LCS 280-436337/3-A	85616	99.884	
06-Nov-18	16:07	116	LCSD 280-436337/4-A	85112	99.289	
06-Nov-18	16:09	117	MB 280-436337/5-A	1335	0.407	
06-Nov-18	16:10	118	280-115987-E-3-A	15114	16.671	
06-Nov-18	16:12	119	280-115987-E-3-B MS	5592	5.433	
06-Nov-18	16:13	120	280-115987-E-3-C MSD	5589	5.429	
06-Nov-18	16:15	121	280-115987-H-4-A	1757	0.906	
06-Nov-18	16:16	122	280-115987-H-5-A	1646	0.774	
06-Nov-18	16:18	0	BLK	27	-1.137	LO
06-Nov-18	16:19	0	baseline	0	-1.168	BL
06-Nov-18	16:21	109	CCV 200PPB	178133	209.081	
06-Nov-18	16:22	0	CCB	-41	-1.216	LO
06-Nov-18	16:24	0	Baseline	0	-1.168	BL
06-Nov-18	16:25	123	280-115987-F-7-A	1272	0.333	
06-Nov-18	16:27	124	280-115987-F-6-A	1620	0.744	
06-Nov-18	16:28	125	280-115958-E-6-A	897	-0.110	LO
06-Nov-18	16:30	126	280-115958-E-7-A	954	-0.043	LO
06-Nov-18	16:31	127	280-116007-E-1-A	1470	0.567	
06-Nov-18	16:33	128	280-116007-E-2-A	3253	2.671	
06-Nov-18	16:34	129	280-116007-E-3-A	1716	0.858	
06-Nov-18	16:36	130	280-116007-E-4-A	2548	1.839	
06-Nov-18	16:37	131	280-116007-E-5-A	3979	3.528	
06-Nov-18	16:39	132	280-116007-E-6-A	16194	17.945	
06-Nov-18	16:40	0	BLK	-33	-1.208	LO
06-Nov-18	16:42	0	baseline	0	-1.168	BL
06-Nov-18	16:43	109	CCV 200PPB	180754	212.174	
06-Nov-18	16:45	0	CCB	-78	-1.261	LO
06-Nov-18	16:46	0	Baseline	0	-1.168	BL

Result path C:\FLOW_4\C110618.RST
Sample table path C:\FLOW_4\c110618.tbl
Method path C:\FLOW_4\cyanide.mth
Date acquired 06-Nov-18
Time acquired 19:11

				Cyanide, Total	
Date	Time	Cup	Name	Response	Calc [ppb]	Flags
06-Nov-18	16:48	133	280-116007-E-7-A	6489	6.490	
06-Nov-18	16:49	134	280-116007-E-8-A	2689	2.005	
06-Nov-18	16:51	135	280-116007-E-9-A	4284	3.888	
06-Nov-18	16:52	136	280-116007-E-10-A	2240	1.476	
06-Nov-18	16:54	137	280-116007-E-11-A	3070	2.455	
06-Nov-18	16:55	138	280-116007-E-12-A	3807	3.326	
06-Nov-18	16:57	139	280-116007-E-12-B MS	78375	91.337	
06-Nov-18	16:58	140	280-116007-E-12-C MS	75372	87.793	
06-Nov-18	17:04	141	HLCS 280-436336/1-A	315729	371.484	
06-Nov-18	17:05	142	LLCS 280-436336/2-A	87689	102.331	
06-Nov-18	17:07	0	BLK	-6	-1.175	LO
06-Nov-18	17:08	0	baseline	0	-1.168	BL
06-Nov-18	17:10	109	CCV 200PPB	185733	218.052	
06-Nov-18	17:11	0	CCB	-52	-1.229	LO
06-Nov-18	17:13	0	Baseline	0	-1.168	BL
06-Nov-18	17:14	143	xLCS 280-436336/3-A	150350	176.289	
06-Nov-18	17:16	144	MB 280-436336/4-A	603	-0.456	LO
06-Nov-18	17:17	145	280-116000-A-1-C	732	-0.609	LO
06-Nov-18	17:19	146	280-116000-A-1-D MS	16227	35.969	
06-Nov-18	17:20	147	280-116000-A-1-E MSD	16856	37.454	
06-Nov-18	17:22	148	HLCS 280-436403/1-A	295697	347.841	
06-Nov-18	17:23	149	LLCS 280-436403/2-A	88444	103.222	
06-Nov-18	17:25	150	LCS 280-436403/3-A	86081	100.433	
06-Nov-18	17:26	151	MB 280-436403/4-A	2422	1.690	
06-Nov-18	17:28	152	280-116007-E-13-A	2657	1.968	
06-Nov-18	17:29	0	BLK	78	-1.076	LO
06-Nov-18	17:31	0	baseline	0	-1.168	BL
06-Nov-18	17:32	109	CCV 200PPB	182712	214.486	
06-Nov-18	17:34	0	CCB	-10	-1.180	LO
06-Nov-18	17:35	0	Baseline	0	-1.168	BL
06-Nov-18	17:37	153	280-116007-E-14-A	2670	1.983	
06-Nov-18	17:38	154	280-116007-E-15-A	3844	3.368	
06-Nov-18	17:40	155	280-116007-E-16-A	6555	6.569	
06-Nov-18	17:41	156	280-116007-E-17-A	3942	3.484	
06-Nov-18	17:43	157	280-116015-C-4-A	13655	14.948	
06-Nov-18	17:44	158	280-116015-C-4-B MS	102560	119.882	
06-Nov-18	17:46	159	280-116015-C-4-C MSD	98309	114.865	
06-Nov-18	17:47	160	280-116015-C-5-A	9565	10.121	
06-Nov-18	17:49	201	280-116015-C-6-A	10324	11.017	
06-Nov-18	17:50	202	280-116015-A-7-A	9409	9.937	
06-Nov-18	17:52	0	BLK	-72	-1.253	LO
06-Nov-18	17:53	0	baseline	0	-1.168	BL
06-Nov-18	17:55	109	CCV 200PPB	184286	216.343	
06-Nov-18	17:56	0	CCB	-63	-1.242	LO
06-Nov-18	17:58	0	Baseline	0	-1.168	BL
06-Nov-18	17:59	203	xHLCS 280-436497/1-A	1077	0.103	
06-Nov-18	18:01	204	xLLCS 280-436497/2-A	1969	1.156	
06-Nov-18	18:02	205	xLCS 280-436497/3-A	2538	1.827	
06-Nov-18	18:04	206	MB 280-436497/4-A	1918	1.096	
06-Nov-18	18:05	207	280-116015-A-8-A	2521	1.807	
06-Nov-18	18:07	208	280-116015-A-8-B MS	1676	0.810	
06-Nov-18	18:08	209	280-116015-A-8-B MS	1627	0.752	
06-Nov-18	18:10	210	280-116015-A-9-A	1435	0.525	
06-Nov-18	18:11	211	x280-116015-A-17-A	1232	0.286	
06-Nov-18	18:13	212	x280-116015-A-18-A	1292	0.356	
06-Nov-18	18:14	0	BLK	39	-1.122	LO
06-Nov-18	18:16	0	baseline	0	-1.168	BL

Result path C:\FLOW_4\C110618.RST
Sample table path C:\FLOW_4\c110618.tbl
Method path C:\FLOW_4\cyanide.mth
Date acquired 06-Nov-18
Time acquired 19:11

				Cyanide, Total		
Date	Time	Cup	Name	Response	Calc [ppb]	Flags
06-Nov-18	18:17	109	CCV 200PPB	185653	217.957	
06-Nov-18	18:19	0	CCB	-42	-1.218	LO
06-Nov-18	18:20	0	Baseline	0	-1.168	BL
06-Nov-18	18:22	213	280-116015-A-19-A	1640	0.767	
06-Nov-18	18:23	214	280-116015-A-20-A	19441	21.777	
06-Nov-18	18:25	215	280-116015-A-21-A	2079	1.286	
06-Nov-18	18:26	216	280-116015-A-22-A	1132	0.168	
06-Nov-18	18:28	217	280-116020-J-1-A	912	-0.091	LO
06-Nov-18	18:30	218	280-116020-J-6-B	1283	0.346	
06-Nov-18	18:31	219	280-116020-A-7-A	1217	0.269	
06-Nov-18	18:33	220	280-116020-F-8-A	1570	0.684	
06-Nov-18	18:34	221	280-116020-F-8-B MS	88567	103.366	
06-Nov-18	18:36	222	280-116020-F-8-C MSD	88125	102.845	
06-Nov-18	18:37	0	BLK	-167	-1.365	LO
06-Nov-18	18:39	0	baseline	0	-1.168	BL UM
06-Nov-18	18:40	109	CCV 200PPB	187228	219.816	UM
06-Nov-18	18:42	0	CCB	-84	-1.267	LO
06-Nov-18	18:43	0	Baseline	0	-1.168	BL UM
06-Nov-18	18:48	223	LCS 280-436336/3-A	88165	102.892	
06-Nov-18	18:50	224	HLCS 280-436497/1-A	306635	360.751	
06-Nov-18	18:51	225	LLCS 280-436497/2-A	87503	102.111	
06-Nov-18	18:53	226	LCS 280-436497/3-A	89432	104.388	
06-Nov-18	18:54	227	280-116015-A-8-B MS	89024	103.906	
06-Nov-18	18:56	228	280-116015-A-8-B MS	88958	103.828	
06-Nov-18	18:57	229	280-115987-E-3-B MS	138252	162.010	
06-Nov-18	18:59	230	280-115987-E-3-C MSD	146085	171.255	
06-Nov-18	19:00	0	BLK	0	-1.168	BL UM
06-Nov-18	19:02	0	baseline	-713	-2.010	LO UM
06-Nov-18	19:03	109	CCV 200PPB	184097	216.121	UM
06-Nov-18	19:05	0	CCB	-406	-1.647	LO
06-Nov-18	19:06	0	Baseline	0	-1.168	BL UM

Peak Table:Cyanide, Total

File name: C:\FLOW_4\C110618.RST
Date: 06-Nov-18
Operator: RK

Peak	Cup	Name	R	Type	Dil	Wt	Height	Calc. (ppb)	Flags
1	107	Sync	1	SYNC	1	1	330995	389.502625	
2	0	Carryover	1	CO	1	1	368	-0.733621	LO
3	0	Carryover	2	CO	1	1	65	-1.090934	LO
B	0	Baseline	1	RB	1	1	0	-1.168165	BL
5	101	CAL 0.00 ppb	1	C	1	1	179	-0.956602	LO
6	102	CAL 10.0 ppb	1	C	1	1	8888	9.322119	
7	103	CAL 20.0 ppb	1	C	1	1	17341	19.298883	
8	104	CAL 50.0 ppb	1	C	1	1	43313	49.953918	
9	105	CAL 100 ppb	1	C	1	1	86440	100.856056	
10	106	Cal 200 ppb	1	C	1	1	173289	203.363785	
11	107	Cal 400 ppb	1	C	1	1	338331	398.161835	
12	0	BLK	1	BLNK	1	1	-13	-1.183101	LO
B	0	Baseline	1	RB	1	1	0	-1.168165	BL
14	108	ICV 100 ppb	1	CCV	1	1	91246	106.528854	
15	0	ICB	1	U	1	1	-55	-1.232692	LO
B	0	Baseline	1	RB	1	1	0	-1.168165	BL
17	113	HLCS 280-436337/1-A 1	U		1	1	291416	342.787811	
18	114	LLCS 280-436337/2-A 1	U		1	1	83085	96.896088	
19	115	LCS 280-436337/3-A 1	U		1	1	85616	99.884308	
20	116	LCSD 280-436337/4-A 1	U		1	1	85112	99.288879	
21	117	MB 280-436337/5-A 1	U		1	1	1335	0.407099	
22	118	280-115987-E-3-A 1	U		1	1	15114	16.671347	
23	119	280-115987-E-3-B MS 1	U		1	1	5592	5.432534	
24	120	280-115987-E-3-C MSD 1	U		1	1	5589	5.428911	
25	121	280-115987-H-4-A 1	U		1	1	1757	0.905660	
26	122	280-115987-H-5-A 1	U		1	1	1646	0.774110	
27	0	BLK	1	BLNK	1	1	27	-1.136606	LO
B	0	baseline	1	RB	1	1	0	-1.168165	BL
29	109	CCV 200PPB	1	CCV	1	1	178133	209.081421	
30	0	CCB	1	U	1	1	-41	-1.216271	LO
B	0	Baseline	1	RB	1	1	0	-1.168165	BL
32	123	280-115987-F-7-A 1	U		1	1	1272	0.332777	
33	124	280-115987-F-6-A 1	U		1	1	1620	0.744269	
34	125	280-115958-E-6-A 1	U		1	1	897	-0.110007	LO
35	126	280-115958-E-7-A 1	U		1	1	954	-0.042582	LO
36	127	280-116007-E-1-A 1	U		1	1	1470	0.566807	
37	128	280-116007-E-2-A 1	U		1	1	3253	2.671089	
38	129	280-116007-E-3-A 1	U		1	1	1716	0.857700	
39	130	280-116007-E-4-A 1	U		1	1	2548	1.839283	
40	131	280-116007-E-5-A 1	U		1	1	3979	3.527723	
41	132	280-116007-E-6-A 1	U		1	1	16194	17.945225	
42	0	BLK	1	BLNK	1	1	-33	-1.207572	LO
B	0	baseline	1	RB	1	1	0	-1.168165	BL
44	109	CCV 200PPB	1	CCV	1	1	180754	212.174347	
45	0	CCB	1	U	1	1	-78	-1.260551	LO
B	0	Baseline	1	RB	1	1	0	-1.168165	BL
47	133	280-116007-E-7-A 1	U		1	1	6489	6.490292	
48	134	280-116007-E-8-A 1	U		1	1	2689	2.005396	
49	135	280-116007-E-9-A 1	U		1	1	4284	3.887665	
50	136	280-116007-E-10-A 1	U		1	1	2240	1.476183	
51	137	280-116007-E-11-A 1	U		1	1	3070	2.454905	
52	138	280-116007-E-12-A 1	U		1	1	3807	3.325777	
53	139	280-116007-E-12-B MS 1	U		1	1	78375	91.336784	
54	140	280-116007-E-12-C MS 1	U		1	1	75372	87.792511	
55	141	HLCS 280-436336/1-A 1	U		1	1	315729	371.484314	
56	142	LLCS 280-436336/2-A 1	U		1	1	87689	102.331009	
57	0	BLK	1	BLNK	1	1	-6	-1.174850	LO
B	0	baseline	1	RB	1	1	0	-1.168165	BL
59	109	CCV 200PPB	1	CCV	1	1	185733	218.051636	
60	0	CCB	1	U	1	1	-52	-1.229416	LO
B	0	Baseline	1	RB	1	1	0	-1.168165	BL
62	143	xLCS 280-436336/3-A 1	U		1	1	150350	176.289474	
63	144	MB 280-436336/4-A 1	U		1	1	603	-0.456024	LO
64	145	280-116000-A-1-C 1	U		2	1	732	-0.609392	LO
65	146	280-116000-A-1-D MS 1	U		2	1	16227	35.969311	
66	147	280-116000-A-1-E MSD 1	U		2	1	16856	37.453724	
67	148	HLCS 280-436403/1-A 1	U		1	1	295697	347.840576	
68	149	LLCS 280-436403/2-A 1	U		1	1	88444	103.222008	
69	150	LCS 280-436403/3-A 1	U		1	1	86081	100.432953	
70	151	MB 280-436403/4-A 1	U		1	1	2422	1.690180	

Peak	Cup	Name	R	Type	Dil	Wt	Height	Calc. (ppb)	Flags
71	152	280-116007-E-13-A 1	U		1	1	2657	1.968067	
72	0	BLK	1	BLNK	1	1	78	-1.076002	LO
B	0	baseline	1	RB	1	1	0	-1.168165	BL
74	109	CCV 200PPB	1	CCV	1	1	182712	214.485901	
75	0	CCB	1	U	1	1	-10	-1.180274	LO
B	0	Baseline	1	RB	1	1	0	-1.168165	BL
77	153	280-116007-E-14-A 1	U		1	1	2670	1.983281	
78	154	280-116007-E-15-A 1	U		1	1	3844	3.368391	
79	155	280-116007-E-16-A 1	U		1	1	6555	6.568659	
80	156	280-116007-E-17-A 1	U		1	1	3942	3.484252	
81	157	280-116015-C-4-A 1	U		1	1	13655	14.948277	
82	158	280-116015-C-4-B MS 1	U		1	1	102560	119.882500	
83	159	280-116015-C-4-C MSD 1	U		1	1	98309	114.865273	
84	160	280-116015-C-5-A 1	U		1	1	9565	10.121104	
85	201	280-116015-C-6-A 1	U		1	1	10324	11.017355	
86	202	280-116015-A-7-A 1	U		1	1	9409	9.937299	
87	0	BLK	1	BLNK	1	1	-72	-1.253453	LO
B	0	baseline	1	RB	1	1	0	-1.168165	BL
89	109	CCV 200PPB	1	CCV	1	1	184286	216.342743	
90	0	CCB	1	U	1	1	-63	-1.242363	LO
B	0	Baseline	1	RB	1	1	0	-1.168165	BL
92	203	xHLCS 280-436497/1-A 1	U		1	1	1077	0.102800	
93	204	xLLCS 280-436497/2-A 1	U		1	1	1969	1.155535	
94	205	xLCS 280-436497/3-A 1	U		1	1	2538	1.826997	
95	206	MB 280-436497/4-A 1	U		1	1	1918	1.095582	
96	207	280-116015-A-8-A 1	U		1	1	2521	1.807035	
97	208	280-116015-A-8-B MS 1	U		1	1	1676	0.809983	
98	209	280-116015-A-8-B MS 1	U		1	1	1627	0.752207	
99	210	280-116015-A-9-A 1	U		1	1	1435	0.525226	
100	211	x280-116015-A-17-A 1	U		1	1	1232	0.285890	
101	212	x280-116015-A-18-A 1	U		1	1	1292	0.356414	
102	0	BLK	1	BLNK	1	1	39	-1.122207	LO
B	0	baseline	1	RB	1	1	0	-1.168165	BL
104	109	CCV 200PPB	1	CCV	1	1	185653	217.956696	
105	0	CCB	1	U	1	1	-42	-1.218012	LO
B	0	Baseline	1	RB	1	1	0	-1.168165	BL
107	213	280-116015-A-19-A 1	U		1	1	1640	0.767374	
108	214	280-116015-A-20-A 1	U		1	1	19441	21.777481	
109	215	280-116015-A-21-A 1	U		1	1	2079	1.286227	
110	216	280-116015-A-22-A 1	U		1	1	1132	0.167942	
111	217	280-116020-J-1-A 1	U		1	1	912	-0.091272	LO
112	218	280-116020-J-6-B 1	U		1	1	1283	0.346320	
113	219	280-116020-A-7-A 1	U		1	1	1217	0.268642	
114	220	280-116020-F-8-A 1	U		1	1	1570	0.684453	
115	221	280-116020-F-8-B MS 1	U		1	1	88567	103.366425	
116	222	280-116020-F-8-C MSD 1	U		1	1	88125	102.844795	
117	0	BLK	1	BLNK	1	1	-167	-1.364914	LO
B	0	baseline	1	RB	1	1	0	-1.168165	BL UM
119	109	CCV 200PPB	1	CCV	1	1	187228	219.815918	UM
120	0	CCB	1	U	1	1	-84	-1.266777	LO
B	0	Baseline	1	RB	1	1	0	-1.168165	BL UM
122	223	LCS 280-436336/3-A 1	U		1	1	88165	102.892189	
123	224	HLCS 280-436497/1-A 1	U		1	1	306635	360.750793	
124	225	LLCS 280-436497/2-A 1	U		1	1	87503	102.110840	
125	226	LCS 280-436497/3-A 1	U		1	1	89432	104.387611	
126	227	280-116015-A-8-B MS 1	U		1	1	89024	103.906250	
127	228	280-116015-A-8-B MS 1	U		1	1	88958	103.828087	
128	229	280-115987-E-3-B MS 1	U		1	1	138252	162.010239	
129	230	280-115987-E-3-C MSD 1	U		1	1	146085	171.255066	
B	0	BLK	1	RB	1	1	0	-1.168165	BL UM
131	0	baseline	1	U	1	1	-713	-2.010243	LO UM
132	109	CCV 200PPB	1	CCV	1	1	184097	216.120773	UM
133	0	CCB	1	U	1	1	-406	-1.647362	LO
B	0	Baseline	1	RB	1	1	0	-1.168165	BL UM

Cyanide, Total:Calibration 1: Peak 5-134

File name: C:\FLOW_4\C110618.RST
Date: 06-Nov-18
Operator: RK

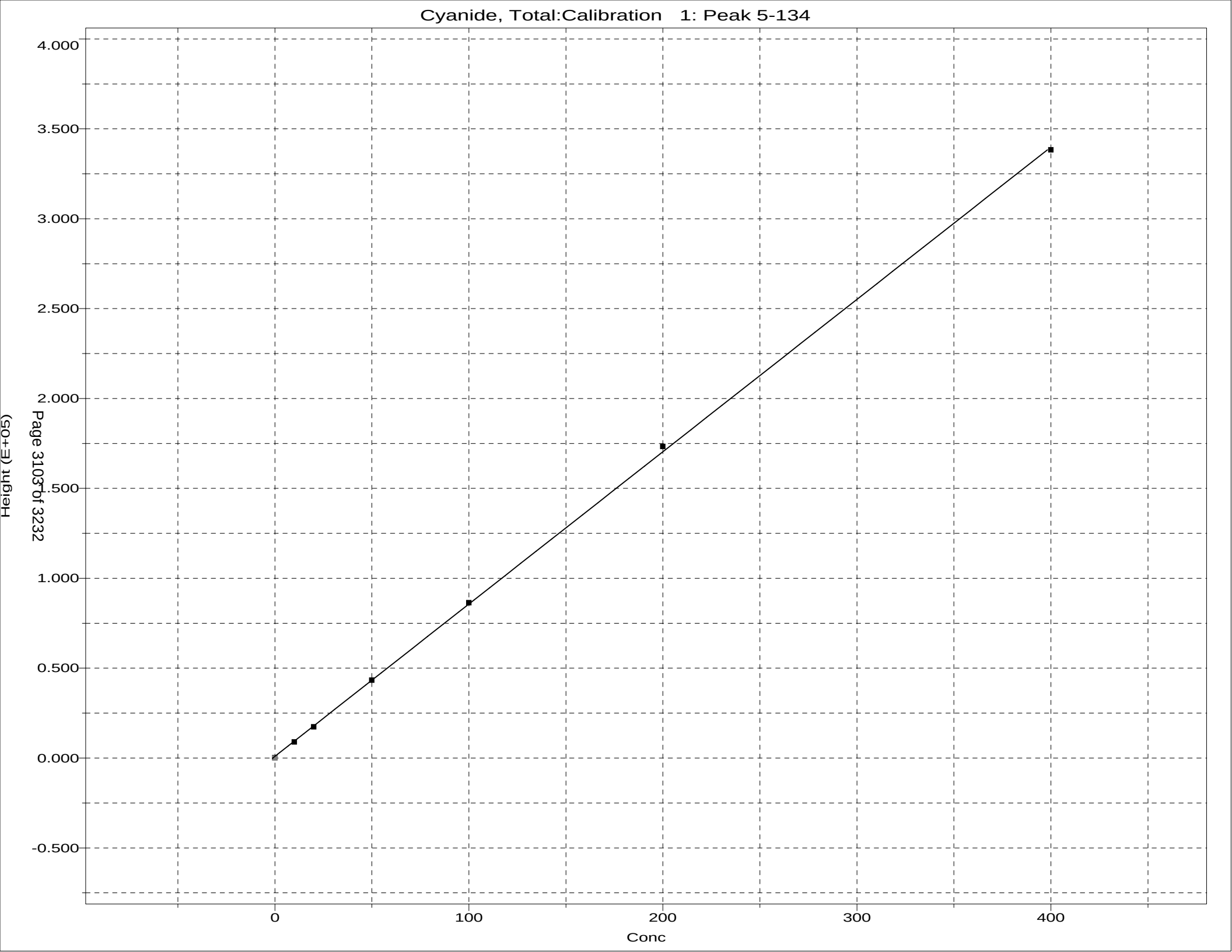
*	Name	Conc	Height
*	CAL 0.00 ppb	0.000000	179.246109
*	CAL 10.0 ppb	10.000000	8887.863281
*	CAL 20.0 ppb	20.000000	17340.648438
*	CAL 50.0 ppb	50.000000	43313.042969
*	CAL 100 ppb	100.000000	86439.734375
*	Cal 200 ppb	200.000000	173289.125000
*	Cal 400 ppb	400.000000	338331.218750

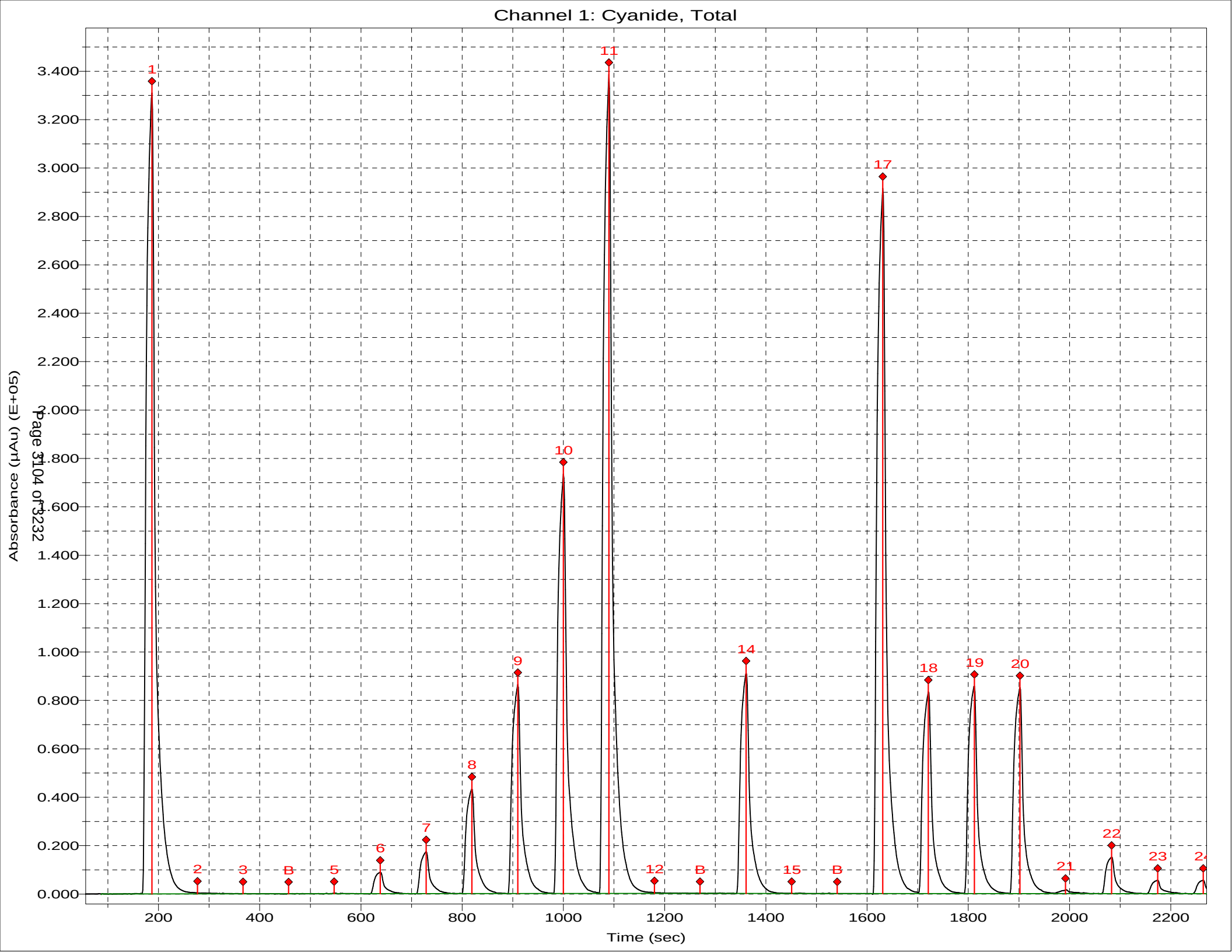
Calib Coef:
y=bx+a
a: (intercept) 9.8972e+02
b: 8.4725e+02

Corr Coef: 0.999931

Carryover: 0.111%

No Drift Peaks


Cyanide, Total:Calibration 1: Peak 5-134
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
-0.500
Height (E+05)
0
100
200
300
400
Conc


Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec)
Page 3104 of 3232
1
2
3
B
5
6
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8
9
10
11
12
B
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B
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17
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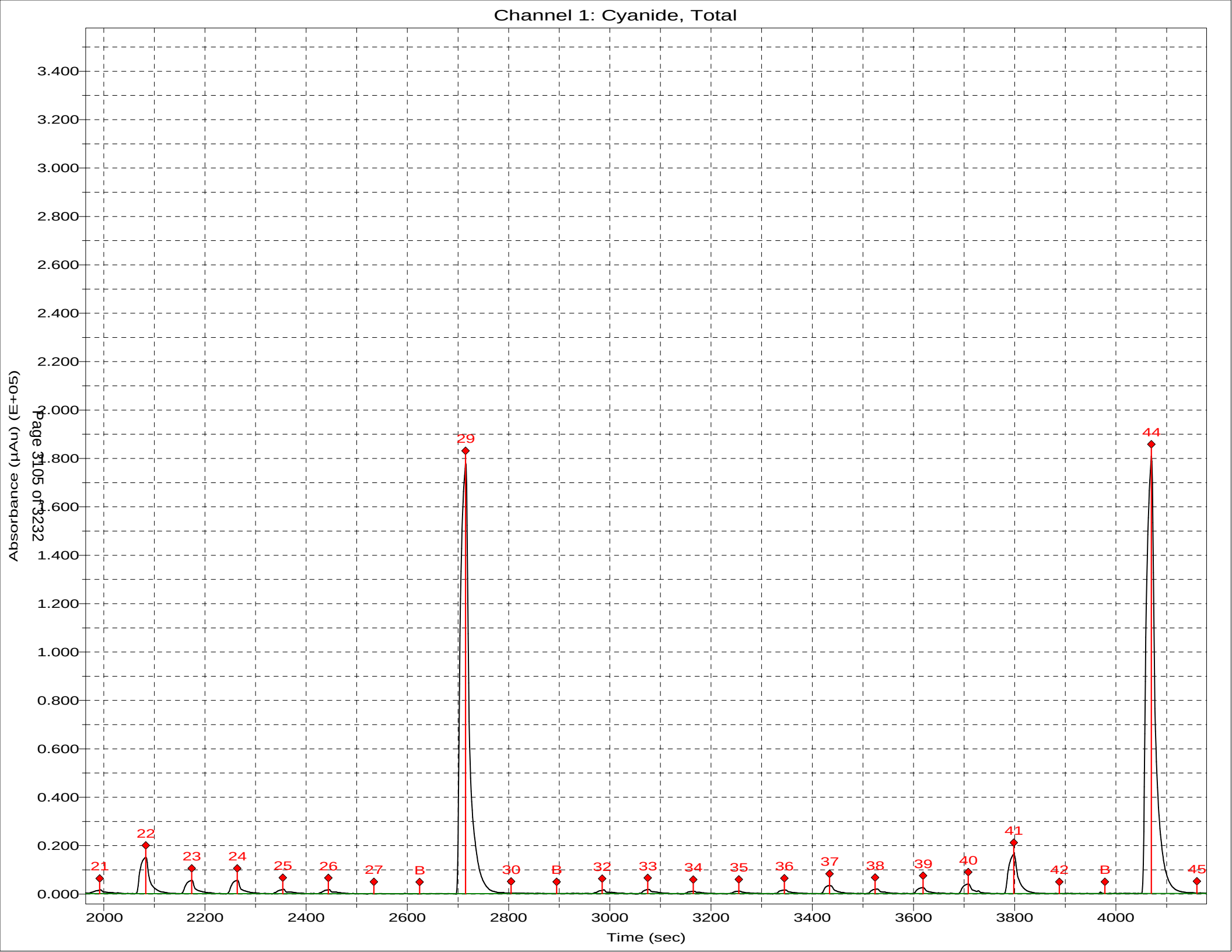
19
20
21
22
23
24


Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec)
Page 3105 of 3232
3.400
3.200
3.000
2.800
2.600
2.400
2.200
2.000
1.800
1.600
1.400
1.200
1.000
0.800
0.600
0.400
0.200
0.000
2000
2200
2400
2600
2800
3000
3200
3400
3600
3800
4000
21
22
23
24
25
26
27
B
29
30
B
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44
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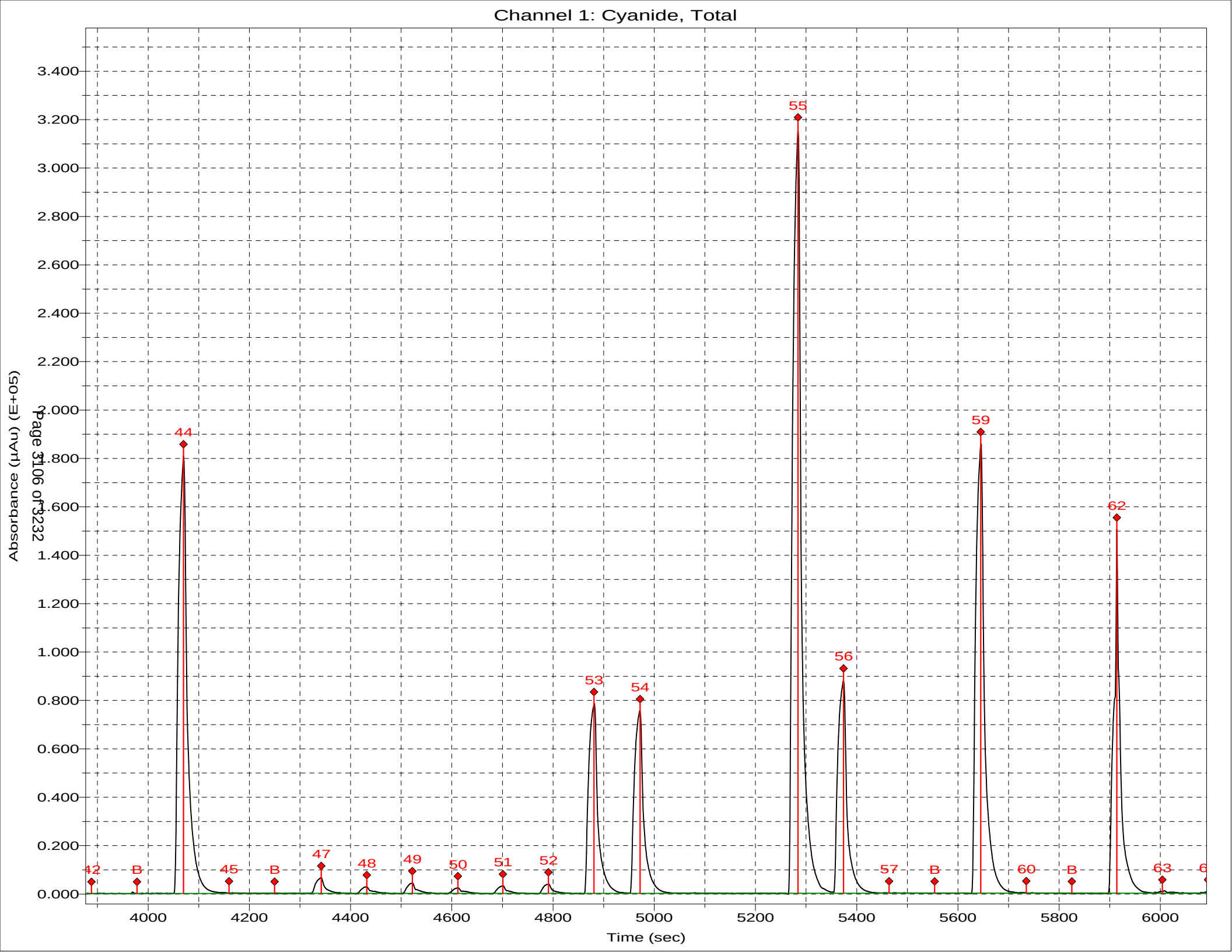
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Absorbance (µAu) (E+05)
Time (sec)
Page 3106 of 3232
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3.200
3.000
2.800
2.600
2.400
2.200
2.000
1.800
1.600
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1.200
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0.600
0.400
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0.000
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4200
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4600
4800
5000
5200
5400
5600
5800
6000
42
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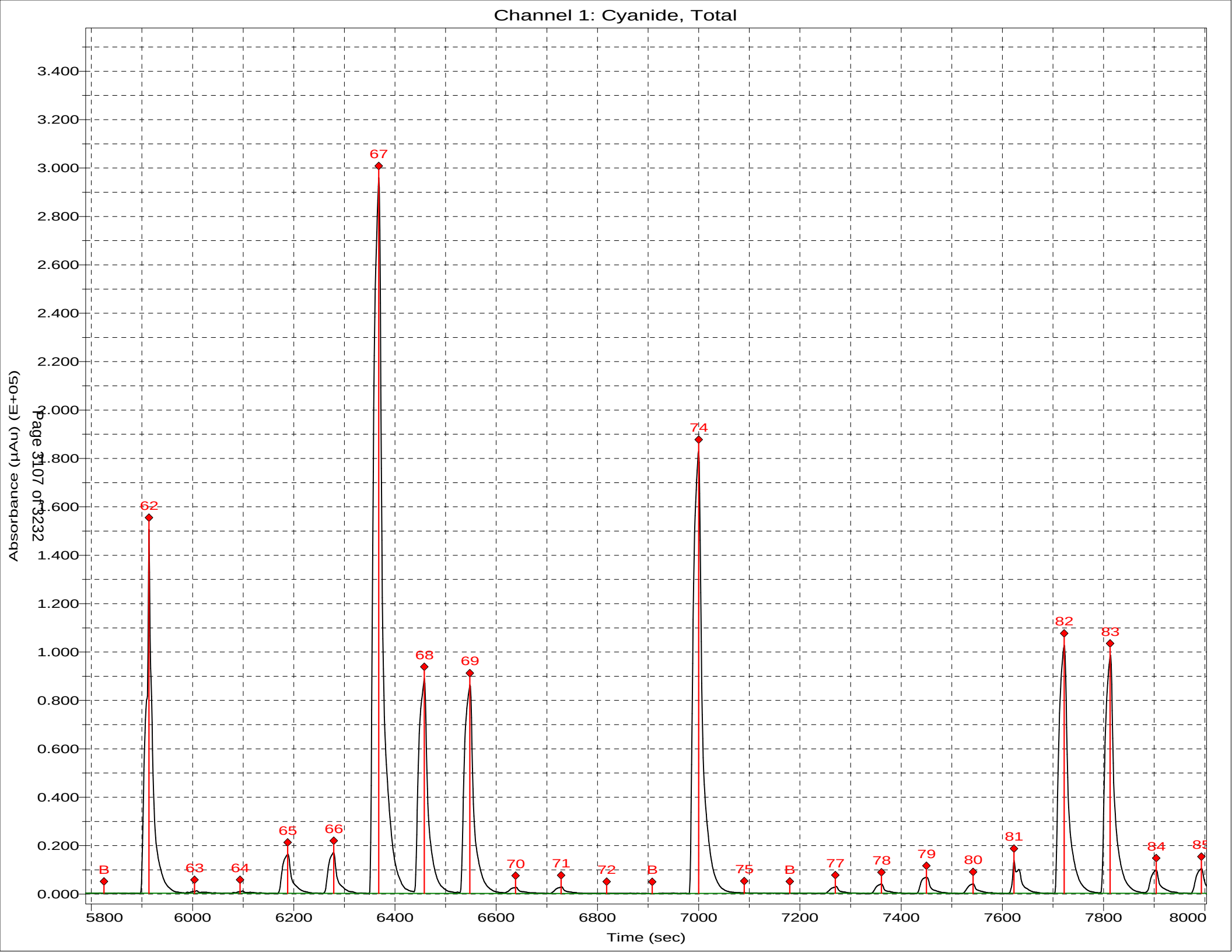
B
62
63


Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec)
Page 3107 of 3232
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3.200
3.000
2.800
2.600
2.400
2.200
2.000
1.800
1.600
1.400
1.200
1.000
0.800
0.600
0.400
0.200
0.000
5800
6000
6200
6400
6600
6800
7000
7200
7400
7600
7800
8000
B
62
63
64
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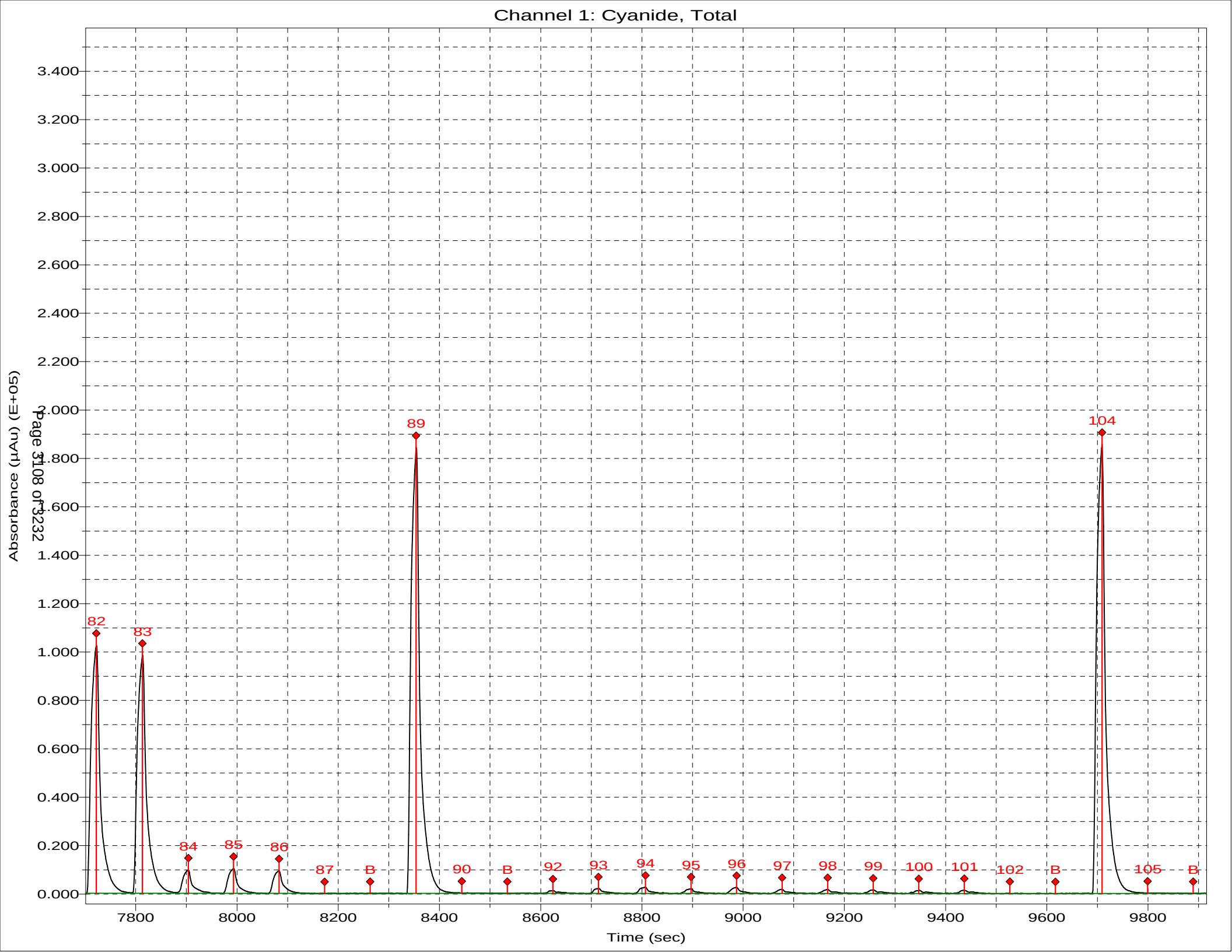
Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec)
Page 3108 of 3232
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3.200
3.000
2.800
2.600
2.400
2.200
2.000
1.800
1.600
1.400
1.200
1.000
0.800
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0.400
0.200
0.000
7800
8000
8200
8400
8600
8800
9000
9200
9400
9600
9800
82
83
84
85
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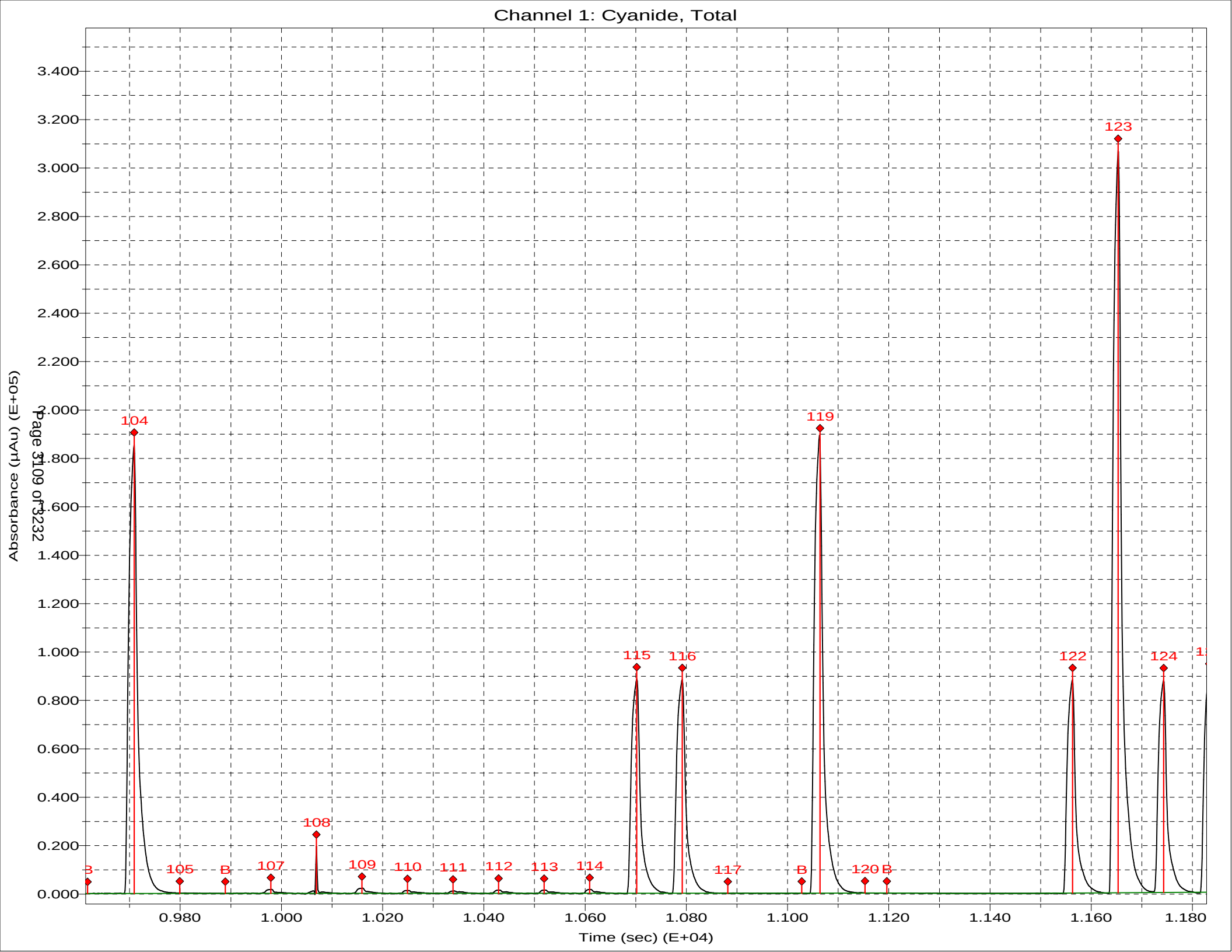
104
105
B


Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec) (E+04)
Page 3109 of 3232
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3.200
3.000
2.800
2.600
2.400
2.200
2.000
1.800
1.600
1.400
1.200
1.000
0.800
0.600
0.400
0.200
0.000
0.980
1.000
1.020
1.040
1.060
1.080
1.100
1.120
1.140
1.160
1.180
3
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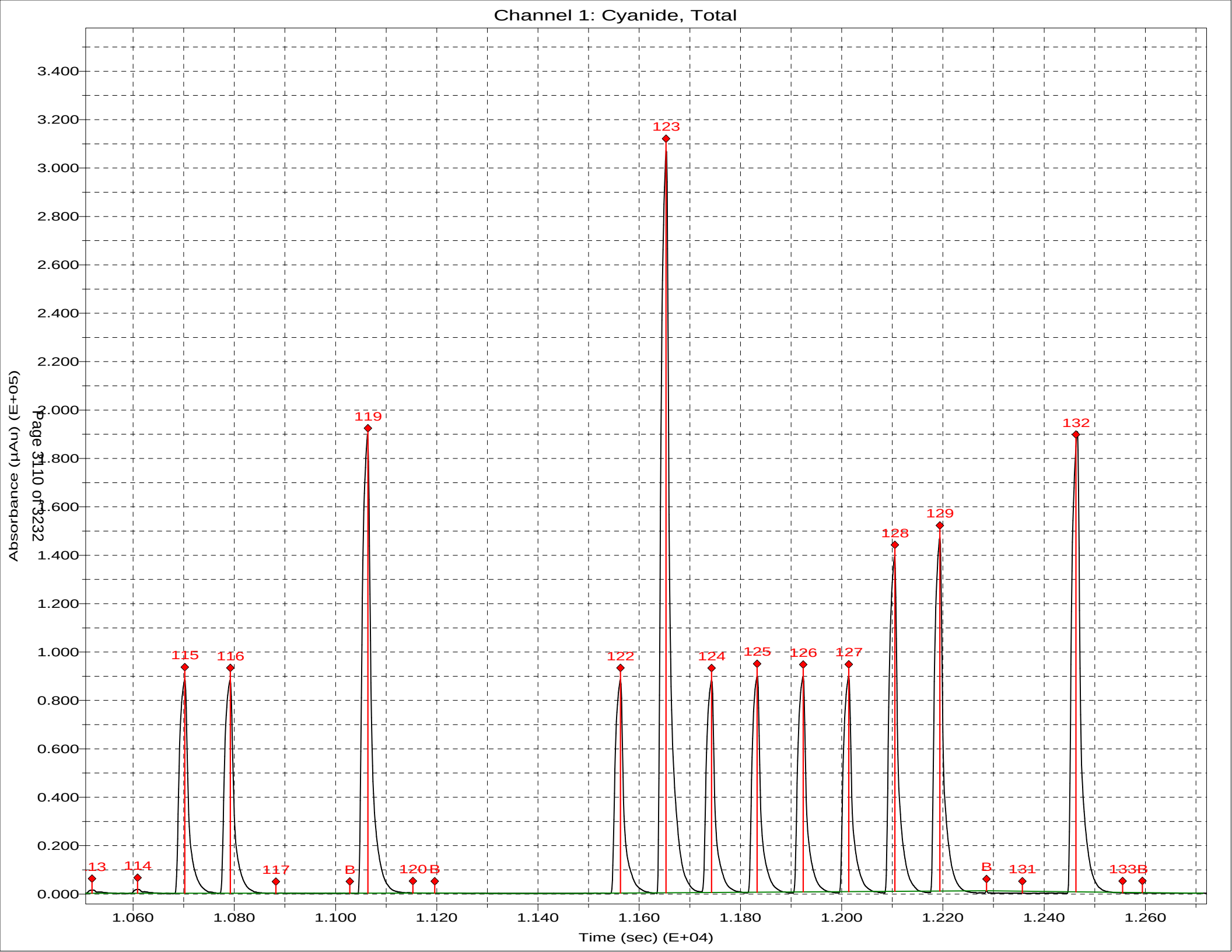
Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec) (E+04)
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3.000
2.800
2.600
2.400
2.200
2.000
1.800
1.600
1.400
1.200
1.000
0.800
0.600
0.400
0.200
0.000
1.060
1.080
1.100
1.120
1.140
1.160
1.180
1.200
1.220
1.240
1.260
13
114
115
116
117
B
119
120B
122
123
124
125
126
127
128
129
B
131
132
133B

Run Results Report

Facility Name
Facility Location
Department
Operator Name RK
Operator ID RK
Platform FS III/IV/3100
Software Rev Code 222
Data system ID 57

Result path C:\FLOW_4\C110618A.RST
Sample table path C:\FLOW_4\c110618a.tbl
Method path C:\FLOW_4\cyanide.mth
Date acquired 06-Nov-18
Time acquired 21:09

				Cyanide, Total		
Date	Time	Cup	Name	Response	Calc [ppb]	Flags
06-Nov-18	20:08	107	Sync	372770	390.997	
06-Nov-18	20:10	0	Carryover	586	-0.245	LO
06-Nov-18	20:11	0	Carryover	60	-0.798	LO
06-Nov-18	20:13	0	Baseline	0	-0.861	BL
06-Nov-18	20:14	101	CAL 0.00 ppb	159	-0.694	LO
06-Nov-18	20:16	102	CAL 10.0 ppb	9823	9.465	
06-Nov-18	20:17	103	CAL 20.0 ppb	19547	19.686	
06-Nov-18	20:19	104	CAL 50.0 ppb	48471	50.092	
06-Nov-18	20:20	105	CAL 100 ppb	97477	101.608	
06-Nov-18	20:22	106	Cal 200 ppb	191510	200.456	
06-Nov-18	20:23	107	Cal 400 ppb	380752	399.388	
06-Nov-18	20:25	0	BLK	-367	-1.247	LO
06-Nov-18	20:26	0	Baseline	0	-0.861	BL
06-Nov-18	20:28	108	ICV 100 ppb	100745	105.043	
06-Nov-18	20:29	0	ICB	-128	-0.996	LO
06-Nov-18	20:31	0	Baseline	0	-0.861	BL
06-Nov-18	20:32	113	HLCS 280-436497/1-A	328590	344.556	
06-Nov-18	20:34	114	LLCS 280-436497/2-A	90204	93.962	
06-Nov-18	20:36	115	LCS 280-436497/3-A	94805	98.798	
06-Nov-18	20:37	116	MB 280-436497/4-A	771	-0.051	LO
06-Nov-18	20:39	117	280-116020-D-9-A	1045	0.237	
06-Nov-18	20:40	118	280-116020-I-12-A	1940	1.178	
06-Nov-18	20:42	119	280-116075-M-1-A	20111	20.279	
06-Nov-18	20:43	120	280-116075-M-1-B	18283	18.358	
06-Nov-18	20:45	121	280-116076-Q-1-A	38586	39.700	
06-Nov-18	20:46	122	280-116087-A-1-A	2420	1.682	
06-Nov-18	20:48	0	BLK	63	-0.795	LO
06-Nov-18	20:49	0	baseline	0	-0.861	BL
06-Nov-18	20:51	109	CCV 200PPB	192619	201.621	
06-Nov-18	20:52	0	CCB	-58	-0.923	LO
06-Nov-18	20:54	0	Baseline	0	-0.861	BL
06-Nov-18	20:55	123	280-116087-A-3-A	2560	1.829	
06-Nov-18	20:57	124	280-116087-B-5-A	2650	1.925	
06-Nov-18	20:58	0	BLK	11	-0.849	LO
06-Nov-18	21:00	0	baseline	0	-0.861	BL
06-Nov-18	21:01	109	CCV 200PPB	191743	200.701	
06-Nov-18	21:03	0	CCB	-70	-0.935	LO
06-Nov-18	21:04	0	Baseline	0	-0.861	BL

Peak Table:Cyanide, Total

File name: C:\FLOW_4\C110618A.RST
Date: 06-Nov-18
Operator: RK

Peak	Cup	Name	R	Type	Dil	Wt	Height	Calc. (ppb)	Flags
1	107	Sync	1	SYNC	1	1	372770	390.997162	
2	0	Carryover	1	CO	1	1	586	-0.245291	LO
3	0	Carryover	2	CO	1	1	60	-0.798259	LO
B	0	Baseline	1	RB	1	1	0	-0.861352	BL
5	101	CAL 0.00 ppb	1	C	1	1	159	-0.693730	LO
6	102	CAL 10.0 ppb	1	C	1	1	9823	9.464595	
7	103	CAL 20.0 ppb	1	C	1	1	19547	19.686390	
8	104	CAL 50.0 ppb	1	C	1	1	48471	50.091511	
9	105	CAL 100 ppb	1	C	1	1	97477	101.607689	
10	106	Cal 200 ppb	1	C	1	1	191510	200.455719	
11	107	Cal 400 ppb	1	C	1	1	380752	399.387848	
12	0	BLK	1	BLNK	1	1	-367	-1.246706	LO
B	0	Baseline	1	RB	1	1	0	-0.861352	BL
14	108	ICV 100 ppb	1	CCV	1	1	100745	105.043037	
15	0	ICB	1	U	1	1	-128	-0.996409	LO
B	0	Baseline	1	RB	1	1	0	-0.861352	BL
17	113	HLCS 280-436497/1-A 1	U		1	1	328590	344.555573	
18	114	LLCS 280-436497/2-A 1	U		1	1	90204	93.961876	
19	115	LCS 280-436497/3-A 1	U		1	1	94805	98.798164	
20	116	MB 280-436497/4-A 1	U		1	1	771	-0.050986	LO
21	117	280-116020-D-9-A 1	U		1	1	1045	0.236711	
22	118	280-116020-I-12-A 1	U		1	1	1940	1.177850	
23	119	280-116075-M-1-A 1	U		1	1	20111	20.279320	
24	120	280-116075-M-1-B 1	U		1	1	18283	18.357635	
25	121	280-116076-Q-1-A 1	U		1	1	38586	39.700314	
26	122	280-116087-A-1-A 1	U		1	1	2420	1.682388	
27	0	BLK	1	BLNK	1	1	63	-0.795088	LO
B	0	baseline	1	RB	1	1	0	-0.861352	BL
29	109	CCV 200PPB	1	CCV	1	1	192619	201.621246	
30	0	CCB	1	U	1	1	-58	-0.922568	LO
B	0	Baseline	1	RB	1	1	0	-0.861352	BL
32	123	280-116087-A-3-A 1	U		1	1	2560	1.829459	
33	124	280-116087-B-5-A 1	U		1	1	2650	1.924503	
34	0	BLK	1	BLNK	1	1	11	-0.849430	LO
B	0	baseline	1	RB	1	1	0	-0.861352	BL
36	109	CCV 200PPB	1	CCV	1	1	191743	200.700851	
37	0	CCB	1	U	1	1	-70	-0.935026	LO
B	0	Baseline	1	RB	1	1	0	-0.861352	BL

Cyanide, Total:Calibration 1: Peak 5-38

File name: C:\FLOW_4\C110618A.RST
Date: 06-Nov-18
Operator: RK

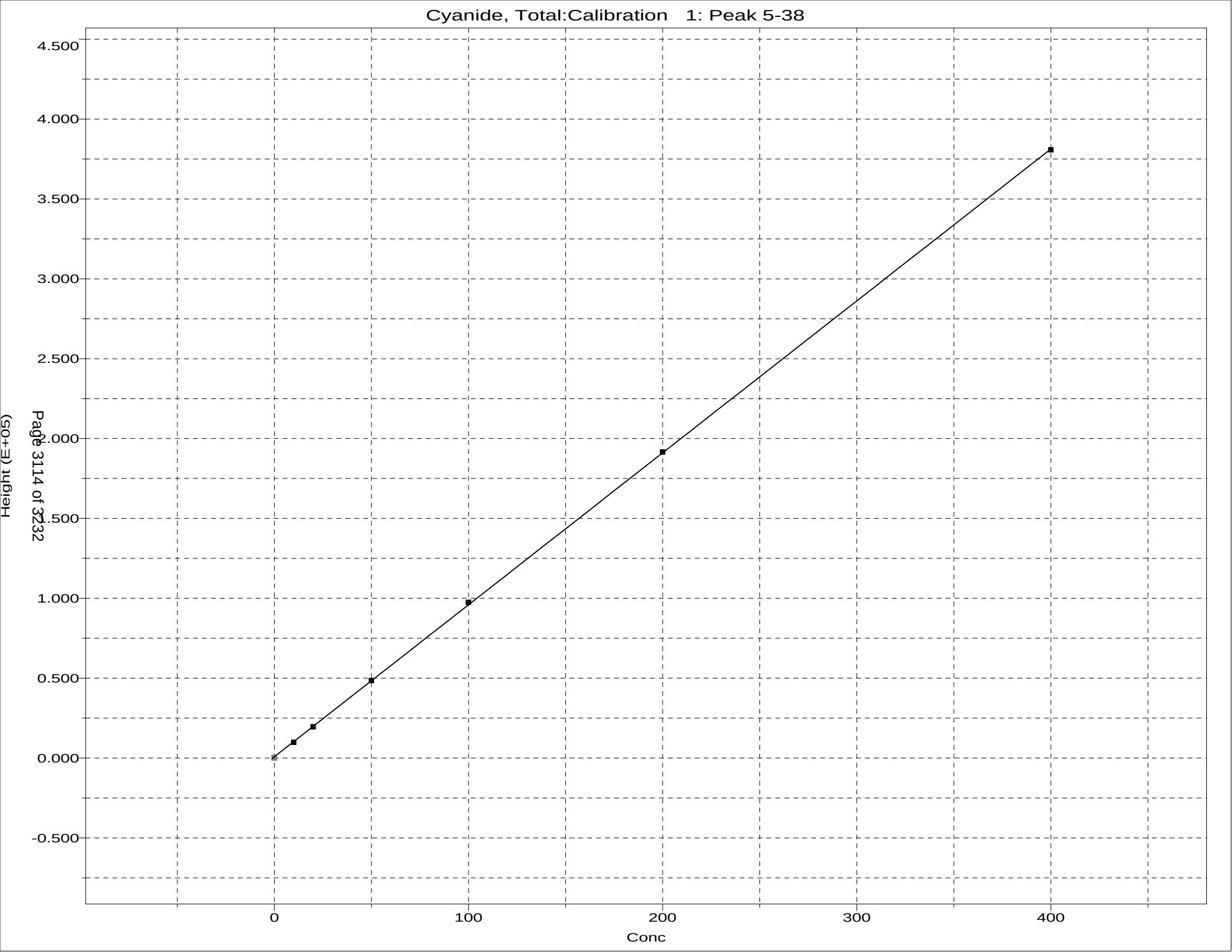
*	Name	Conc	Height
*	CAL 0.00 ppb	0.000000	159.456329
*	CAL 10.0 ppb	10.000000	9822.930664
*	CAL 20.0 ppb	20.000000	19546.783203
*	CAL 50.0 ppb	50.000000	48470.753906
*	CAL 100 ppb	100.000000	97477.382812
*	Cal 200 ppb	200.000000	191510.140625
*	Cal 400 ppb	400.000000	380751.531250

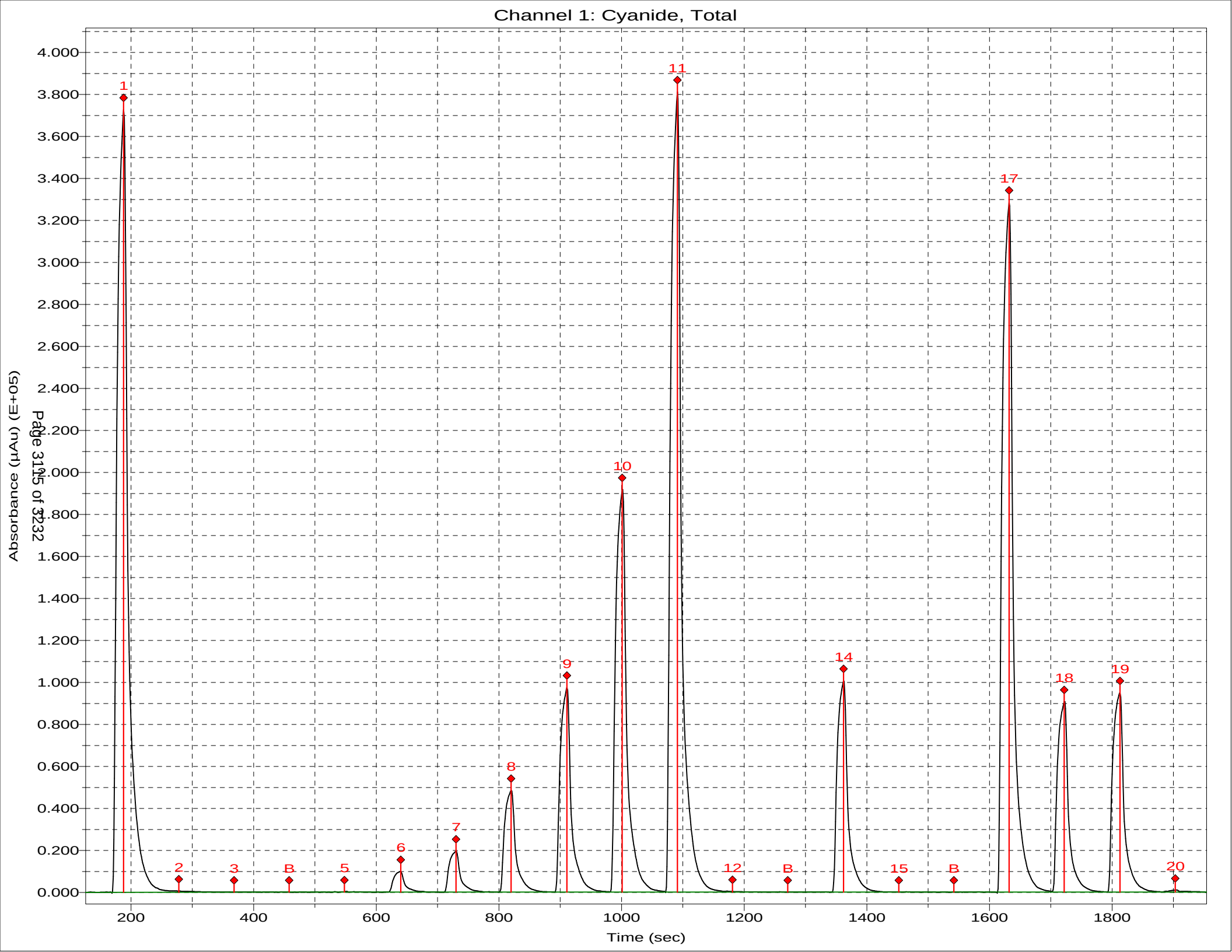
Calib Coef:
y=bx+a
a: (intercept) 8.1939e+02
b: 9.5129e+02

Corr Coef: 0.999984

Carryover: 0.157%

No Drift Peaks


Cyanide, Total:Calibration 1: Peak 5-38
4.500
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
-0.500
Height (E+05)
0
100
200
300
400
Conc


Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec)
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3.400
3.200
3.000
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2.600
2.400
2.200
2.000
1.800
1.600
1.400
1.200
1.000
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0.600
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200
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600
800
1000
1200
1400
1600
1800
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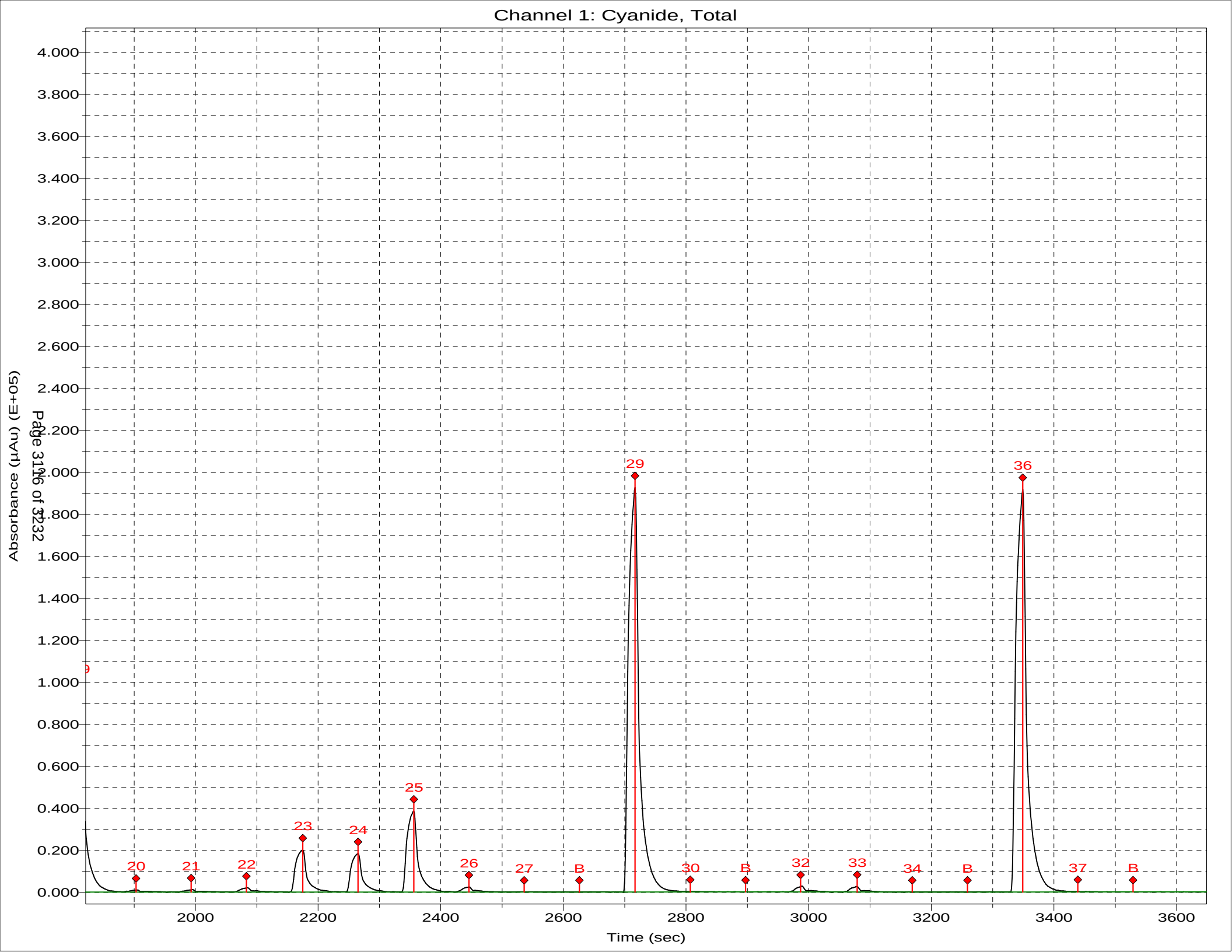
19
20


Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec)
Page 3116 of 3232
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3.000
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2.400
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2.000
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1.200
1.000
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0.000
2000
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2400
2600
2800
3000
3200
3400
3600
20
21
22
23
24
25
26
27
B
29
30
B
32
33
34
B
36
37
B

Sulfide by Titration

Analyst:	EC	SOP Information:	
Date:	10/27/2018	Number:	91
Titration Solutions		**Calibration Information**	
Solution 1:	Iodine	Source/Ver-Lot#:	INT_01577
TALS ID	Iod_00209	Prep Date:	9/18/2018
Normality:	0.025	Made By:	AW
Solution 2:	sodium thiosulfate	Concentration:	1040
TALS ID	Na Thio_00138	Expiration Date:	10/31/2018
Normality:	0.025		
	Starch Indicator		
TALS ID	Starch Ind_00051		

	CAL Volume	Buret Start	Buret End	mL Iodine	Final mL	Conc mg/L
CAL	5	0.00	7.10	20	7.10	1032.000
CAL	5	7.10	14.00	20	6.90	1048.000

For SM4500 S2 D colorimetric

ICV Information	
Source/Ver-Lot#:	INT_01508
Prep Date:	9/18/2018
Made By:	AW
Concentration:	940
Expiration Date:	10/31/2018

	CAL Volume	Buret Start	Buret End	mL Iodine	Final mL	Conc mg/L
ICV	5	14.00	22.50	20	8.50	920.000
ICV	5	14.10	22.10	20	8.00	960.000

TALS Raw Data Report

Job Number: 280-116020-1
LIMS Batch: 435236
Equipment: NOEQUIP

Laboratory: TestAmerica Denver

RS# 1 Lab ID: **MB 280-435234/1-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.8 mg/L	1.9 U mg/L				
Sulfide as H2S		-0.85 mg/L	2.0 U mg/L				

RS# 2 Lab ID: **LCS 280-435234/2-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		12 mg/L	mg/L	58	50 106		
Sulfide as H2S		12.75 mg/L	mg/L				

RS# 3 Lab ID: **280-116054-E-15-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.24 mg/L	1.9 U mg/L				
Sulfide as H2S		-0.255 mg/L	2.0 U mg/L				

RS# 4 Lab ID: **280-116054-E-15-B MS** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		13.92 mg/L	mg/L	67	50 106		
Sulfide as H2S		14.79 mg/L	mg/L				

RS# 5 Lab ID: **280-116054-E-15-C MSD** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		14.32 mg/L	mg/L	69	50 106	3	20
Sulfide as H2S		15.215 mg/L	mg/L				

RS# 10 Lab ID: **280-116020-J-6-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-1.36 mg/L	1.9 U mg/L				
Sulfide as H2S		-1.445 mg/L	2.0 U mg/L				

RS# 11 Lab ID: **280-116020-I-5-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.64 mg/L	1.9 U mg/L				
Sulfide as H2S		-0.68 mg/L	2.0 U mg/L				

TALS Raw Data Report

Job Number: 280-116054-1
LIMS Batch: 435236
Equipment: NOEQUIP

Laboratory: TestAmerica Denver

RS# 1 Lab ID: **MB 280-435234/1-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.8 mg/L	0.79 U mg/L				
Sulfide as H2S		-0.85 mg/L	0.84 U mg/L				

RS# 2 Lab ID: **LCS 280-435234/2-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		12 mg/L	mg/L	58	50 106		
Sulfide as H2S		12.75 mg/L	mg/L				

RS# 3 Lab ID: **280-116054-E-15-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.24 mg/L	0.79 U mg/L				
Sulfide as H2S		-0.255 mg/L	0.84 U mg/L				

RS# 4 Lab ID: **280-116054-E-15-B MS** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		13.92 mg/L	mg/L	67	50 106		
Sulfide as H2S		14.79 mg/L	mg/L				

RS# 5 Lab ID: **280-116054-E-15-C MSD** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		14.32 mg/L	mg/L	69	50 106	3	20
Sulfide as H2S		15.215 mg/L	mg/L				

RS# 6 Lab ID: **280-116054-E-17-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.64 mg/L	0.79 U mg/L				
Sulfide as H2S		-0.68 mg/L	0.84 U mg/L				

RS# 7 Lab ID: **280-116054-E-19-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		999999999 mg/L	0.79 U mg/L				
Sulfide as H2S		999999999 mg/L	0.84 U mg/L				

RS# 8 Lab ID: **280-116054-E-21-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.88 mg/L	0.79 U mg/L				
Sulfide as H2S		-0.935 mg/L	0.84 U mg/L				

RS# 9 Lab ID: **280-116054-E-24-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.96 mg/L	0.79 U mg/L				
Sulfide as H2S		-1.02 mg/L	0.84 U mg/L				

TALS Raw Data Report

Job Number: 280-116063-1
LIMS Batch: 435236
Equipment: NOEQUIP

Laboratory: TestAmerica Denver

RS# 1 Lab ID: **MB 280-435234/1-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.8 mg/L	0.79 U mg/L				
Sulfide as H2S		-0.85 mg/L	0.84 U mg/L				

RS# 2 Lab ID: **LCS 280-435234/2-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		12 mg/L	mg/L	58	50 106		
Sulfide as H2S		12.75 mg/L	mg/L				

RS# 3 Lab ID: **280-116054-E-15-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.24 mg/L	0.79 U mg/L				
Sulfide as H2S		-0.255 mg/L	0.84 U mg/L				

RS# 4 Lab ID: **280-116054-E-15-B MS** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		13.92 mg/L	mg/L	67	50 106		
Sulfide as H2S		14.79 mg/L	mg/L				

RS# 5 Lab ID: **280-116054-E-15-C MSD** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		14.32 mg/L	mg/L	69	50 106	3	20
Sulfide as H2S		15.215 mg/L	mg/L				

RS# 17 Lab ID: **280-116063-J-1-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.8 mg/L	0.79 U mg/L				
Sulfide as H2S		-0.85 mg/L	0.84 U mg/L				

TALS Raw Data Report

Job Number: 280-116135-1
LIMS Batch: 435236
Equipment: NOEQUIP

Laboratory: TestAmerica Denver

RS# 1 Lab ID: **MB 280-435234/1-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.8 mg/L	0.79 U mg/L				
Sulfide as H2S		-0.85 mg/L	0.84 U mg/L				

RS# 2 Lab ID: **LCS 280-435234/2-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		12 mg/L	mg/L	58	50 106		
Sulfide as H2S		12.75 mg/L	mg/L				

RS# 3 Lab ID: **280-116054-E-15-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.24 mg/L	0.79 U mg/L				
Sulfide as H2S		-0.255 mg/L	0.84 U mg/L				

RS# 4 Lab ID: **280-116054-E-15-B MS** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		13.92 mg/L	mg/L	67	50 106		
Sulfide as H2S		14.79 mg/L	mg/L				

RS# 5 Lab ID: **280-116054-E-15-C MSD** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		14.32 mg/L	mg/L	69	50 106	3	20
Sulfide as H2S		15.215 mg/L	mg/L				

RS# 12 Lab ID: **280-116135-E-1-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.4 mg/L	0.79 U mg/L				
Sulfide as H2S		-0.425 mg/L	0.84 U mg/L				

RS# 13 Lab ID: **280-116135-E-3-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.56 mg/L	0.79 U mg/L				
Sulfide as H2S		-0.595 mg/L	0.84 U mg/L				

RS# 14 Lab ID: **280-116135-E-5-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0 mg/L	0.79 U mg/L				
Sulfide as H2S		0 mg/L	0.84 U mg/L				

RS# 15 Lab ID: **280-116135-E-7-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		-0.8 mg/L	0.79 U mg/L				
Sulfide as H2S		-0.85 mg/L	0.84 U mg/L				

RS# 16 Lab ID: **280-116135-E-9-A** Inj Date: 10/27/2018 7:16:51PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		999999996 mg/L	mg/L				
Sulfide as H2S		999999996 mg/L	2.5 J mg/L				

TestAmerica *Denver*

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THE LEADER IN ENVIRONMENTAL TESTING

Titration Data Review Checklist

LIMS Batch Number: 435236	Method (circle one):	QC Type (circle):
Analyst/1st Reviewer: EC	2310B 2320B 2340C	Standard DoD QAPP Other
Date: 10/27/18	4500 S2 F 4500 SO3 B 9030B/9034	
Matrix (circle): Water Solid	Automated or Manual (circle one)	Instrument ID (circle one if applicable): AT2 AT3

Review Items	Yes	No	2nd Rev	If No, why is data reportable?
A. Sample Storage and Pretreatment				
1. Is sample pH verified and documented prior to analysis? (if required)	✓		✓	
2. For samples requiring pH adjustment is the amount of acid/base used documented?		N/A	✓	If no, list details:
3. Are samples analyzed within the required hold time?	✓		✓	NCM:
4. Pre-treatment reagents used to remove interferences are documented.		N/A	✓	
B. Calibration / Instrument				
5. Was the normality of the titrant verified and found acceptable?	✓		✓	Comments:
6. For potentiometric titration, the pH meter is calibrated with 5 buffers bracketing range of samples and QC.		N/A	✓	Comments:
7. Calibration standards are analyzed at the beginning and end of the analytical sequence and after every 10 sample analyses. (samples/dilutions/reanalyses).		N/A	✓	Comments:
8. Calibrations standards (ICV/CCV) are within 90-110% recovery.		N/A	✓	
C. Sample and Batch QC				
9. Blanks are analyzed at the beginning, end and after every 10 sample analyses in the sequence.	✓		✓	
10. Results of blank analyses (MB, ICB, CCB) are < ½ RL (<RL for alkalinity unless DoD)	✓		✓	□ No analyte > ½ RL in associated samples □ Sample results >10x blank
11. A standard from a second source (SRM, CRM, LCS) is included in the analytical sequence.	✓		✓	
12. The recovery of the 2nd source material falls within 90-110% or manufacturer's limits.	✓		✓	
13. Samples analyses are bracketing by acceptable CCV/CCBs.		N/A	✓	□ No analyte > RL in associated samples □ Sample results >10x blank □ Sample results qualified
14. MS/MSD analyzed at required frequency and recoveries within limits. (If recoveries out of limits, verify not due to lab error) (Required for 2340C, 4500 S2 F, 9030B/9034)	✓		✓	□ Non-conformance (NCM) added □ Sample results >4X spike conc.
15. Duplicate analyzed at required frequency and RPD within limits. (Required for 2310B, 2320B, 4500 SO3 B)		N/A	✓	□ Non-conformance (NCM) added □ Sample results ND or <2X RL

Review Items	Yes	No	2nd Rev	If No, why is data reportable?
16. Are all MS/MSD RPDs <50%? Note: Excessive RPDs (>50%) require evaluation, correction or explanation.	✓		✓	□ Non-conformance (NCM) added
D. Raw Data & TALS Data Entry				
17. Raw Data				
a. Unused data is clearly identified with reason	✓		✓	
b. All crossed out data is initialed and dated	✓		✓	
c. Out of control QC is clearly identified	✓		✓	
d. Any data that has a qualifier is commented on with appropriate action taken	✓		✓	
e. The first page of the run includes the filename, instrument, and analyst initials/signature	✓		✓	
f. 100% of manual calculations are verified.	✓		✓	
18. TALS Samples Tab	✓		✓	
a. LIMS Sample IDs / Containers are correct	✓			
b. Method and matrix are correct	✓		✓	
c. Date and time match raw data	✓		✓	
d. Dilutions are correct	✓		✓	
e. Correct suffix designated (where applicable)	✓		✓	
19. TALS Worksheet Tab is complete and correct	✓		✓	
20. TALS Reagent Tab is complete and correct	✓		✓	
21. TALS QC Links Tab is correct	✓		✓	
22. TALS Sample Results Tab				
a. All unused data are marked Rejected or Accepted	✓		✓	
b. All reported analytes are marked Primary or Secondary	✓		✓	
c. Data manually transcribed from benchsheet into TALS verified 100% including significant figures SM 4500 SO3 B).	✓		✓	
d. TALS Batch Information Screen documentation is complete	✓		✓	
e. TALS Status set to appropriate review level	✓		✓	
E. Final Report and NCMs (2nd level review only)				
f. Were all job/project requirements met?			✓	
g. Results for samples and QC correct on final report?			✓	
h. Are all necessary scanned documents in TALS?			✓	
i. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?			✓	

Comments: _____

_____

_____

2nd Reviewer: _____ **Review Date:** 10/29/18

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0002.d
Lims ID: std L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Oct-2018 12:06:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-002
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 16-Oct-2018 20:06:52 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	1240658	0.2000	0.2163	
2 Chloride	3.567	3.609	-0.042	4533296	1.00	1.30	
3 Nitrite as N	4.317	4.326	-0.009	2236057	0.2000	0.2190	
4 Bromide	5.201	5.201	0.000	402829	0.2000	0.2075	
5 Nitrate as N	5.884	5.876	0.008	2467199	0.2000	0.2279	
7 Orthophosphate as P	8.917	8.892	0.025	1041930	0.2000	0.2250	
6 Sulfate	9.701	9.751	-0.050	3543575	1.00	1.22	

Reagents:

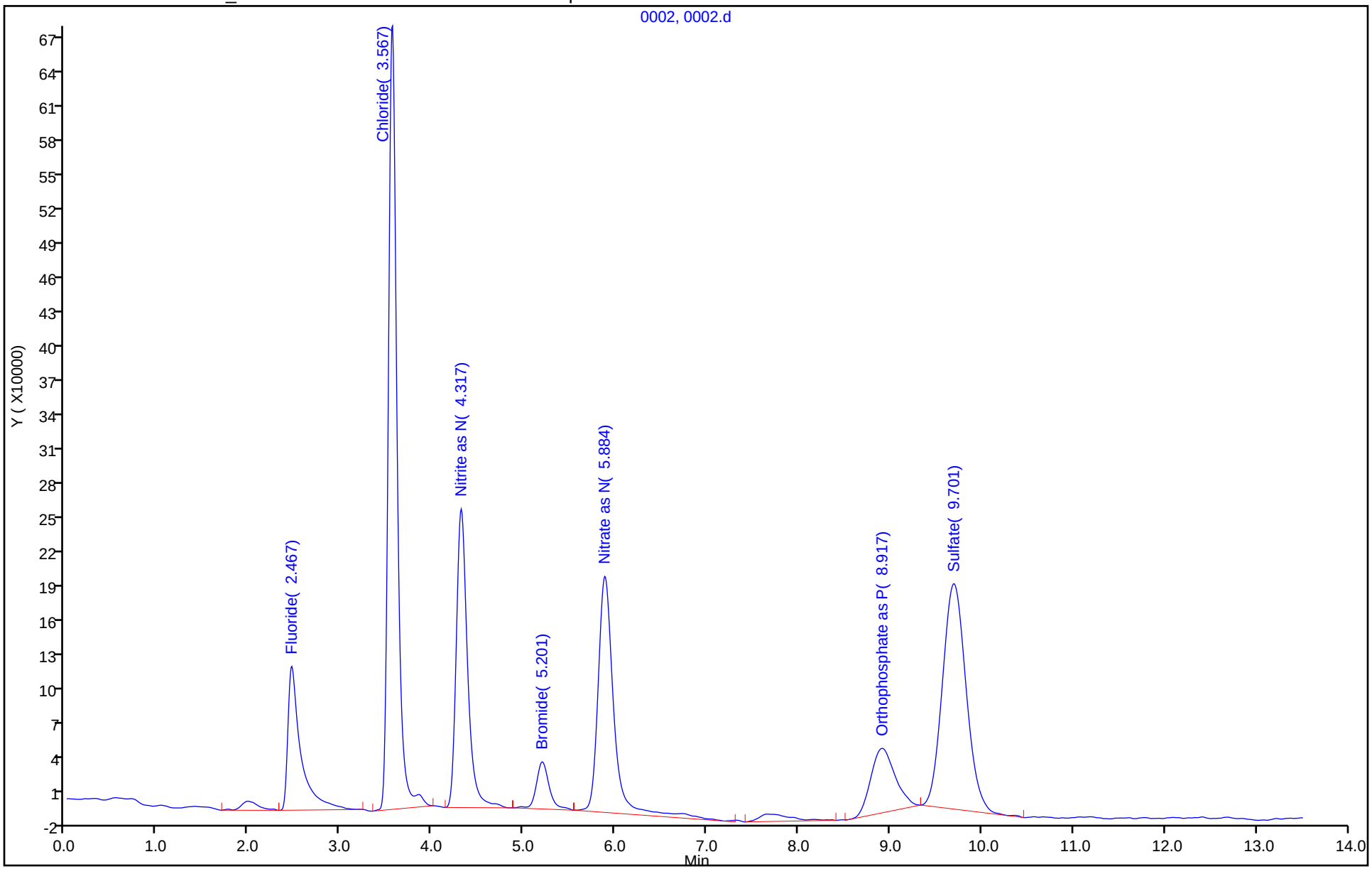
IC CAL cl/so4_00225 Amount Added: 0.02 Units: mL
IC Cal low_00406 Amount Added: 0.02 Units: mL

Report Date: 16-Oct-2018 20:06:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0002.d

Injection Date:	14-Oct-2018 12:06:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	std L1			Worklist Smp#:	2
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0003.d
Lims ID: std L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Oct-2018 12:23:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-003
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 16-Oct-2018 20:06:54 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

First Level Reviewer: newcomer Date: 15-Oct-2018 20:14:19

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	3046545	0.5000	0.4880	
2 Chloride	3.567	3.609	-0.042	11202757	2.50	2.34	
3 Nitrite as N	4.317	4.326	-0.009	5409758	0.5000	0.4859	
4 Bromide	5.200	5.201	-0.001	951306	0.5000	0.4948	
5 Nitrate as N	5.884	5.876	0.008	5471686	0.5000	0.4745	
7 Orthophosphate as P	8.909	8.892	0.017	2072741	0.5000	0.4742	
6 Sulfate	9.700	9.751	-0.051	8346719	2.50	2.41	

Reagents:

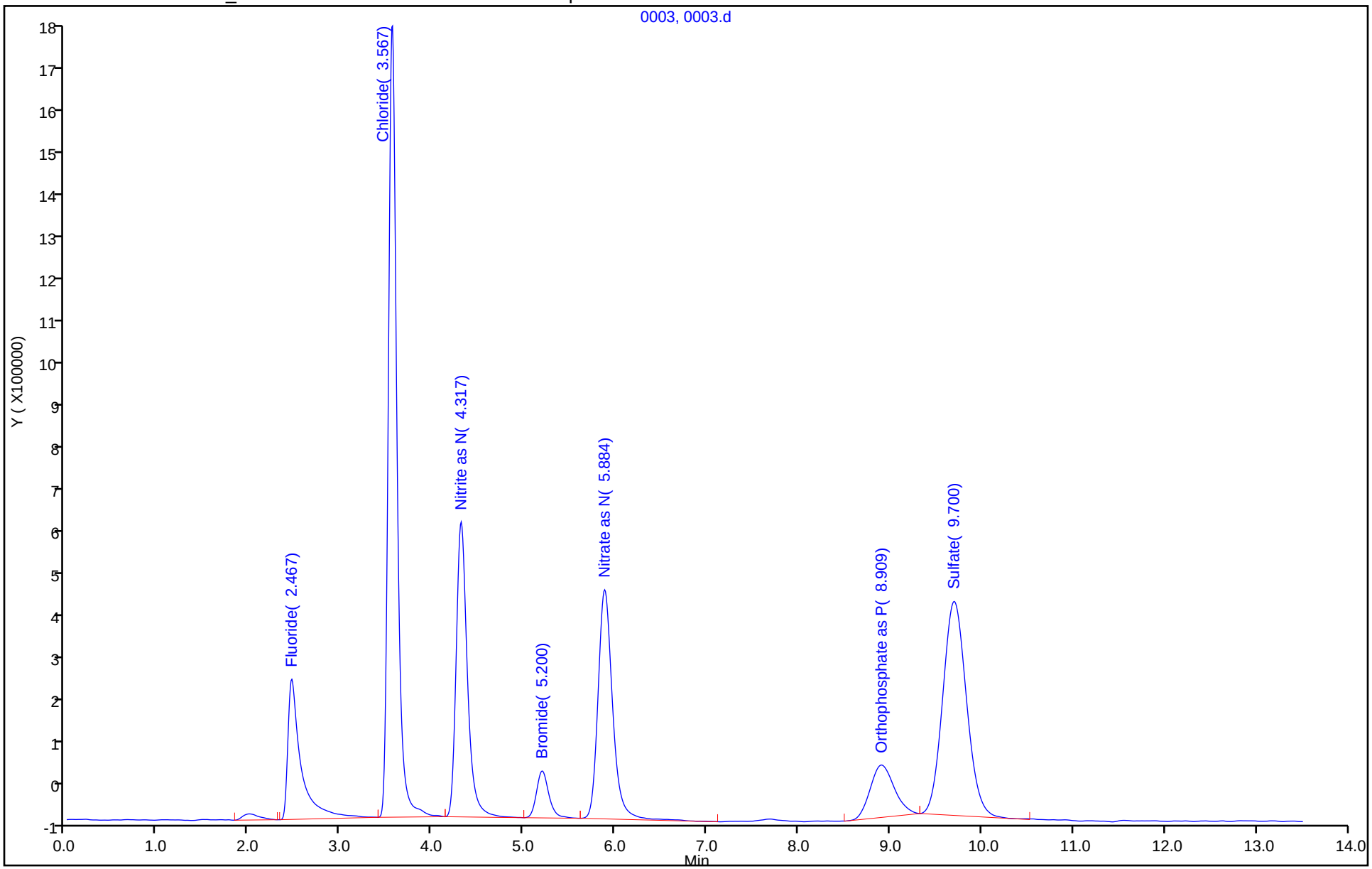
IC CAL cl/so4_00225 Amount Added: 0.05 Units: mL
IC Cal low_00406 Amount Added: 0.05 Units: mL

Report Date: 16-Oct-2018 20:06:55 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0003.d

Injection Date:	14-Oct-2018 12:23:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	std L2			Worklist Smp#:	3
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0004.d
Lims ID: std L3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Oct-2018 12:39:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-004
Misc. Info.: 4 F
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 16-Oct-2018 20:18:16 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

First Level Reviewer: newcomer Date: 16-Oct-2018 20:18:16

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	6183258	1.00	0.9600	
2 Chloride	3.567	3.600	-0.033	22509409	5.00	4.09	
3 Nitrite as N	4.317	4.325	-0.008	10952198	1.00	0.9519	
4 Bromide	5.201	5.200	0.001	1874188	1.00	0.9782	
5 Nitrate as N	5.884	5.875	0.009	11091584	1.00	0.9356	
7 Orthophosphate as P	8.901	8.884	0.017	4004461	1.00	0.9411	
6 Sulfate	9.701	9.734	-0.033	16608239	5.00	4.45	

Reagents:

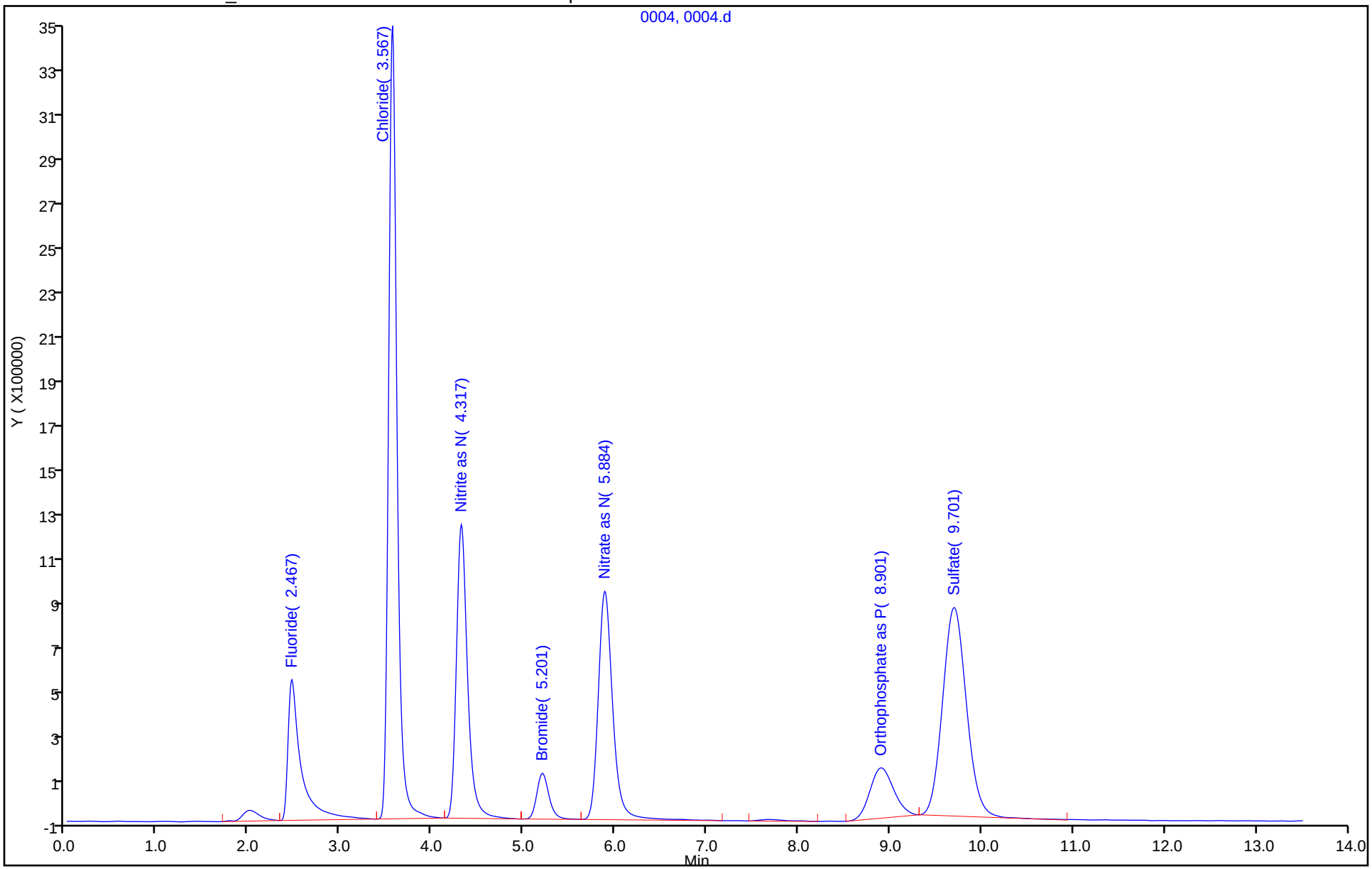
IC CAL cl/so4_00225 Amount Added: 0.10 Units: mL
IC Cal low_00406 Amount Added: 0.10 Units: mL

Report Date: 16-Oct-2018 20:18:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0004.d

Injection Date:	14-Oct-2018 12:39:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	std L3			Worklist Smp#:	4
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0005.d
Lims ID: std L4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 14-Oct-2018 12:55:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-005
Misc. Info.: 5 F
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 16-Oct-2018 20:06:56 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

First Level Reviewer: phantl Date: 16-Oct-2018 15:07:03

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	25486951	4.00	3.86	
2 Chloride	3.592	3.592	0.000	354949252	60.0	55.7	
3 Nitrite as N	4.325	4.325	0.000	45428845	4.00	3.85	
4 Bromide	5.200	5.200	0.000	7559221	4.00	3.96	
5 Nitrate as N	5.884	5.884	0.000	46034088	4.00	3.80	
7 Orthophosphate as P	8.892	8.892	0.000	16112007	4.00	3.87	
6 Sulfate	9.734	9.734	0.000	218889537	60.0	54.5	

Reagents:

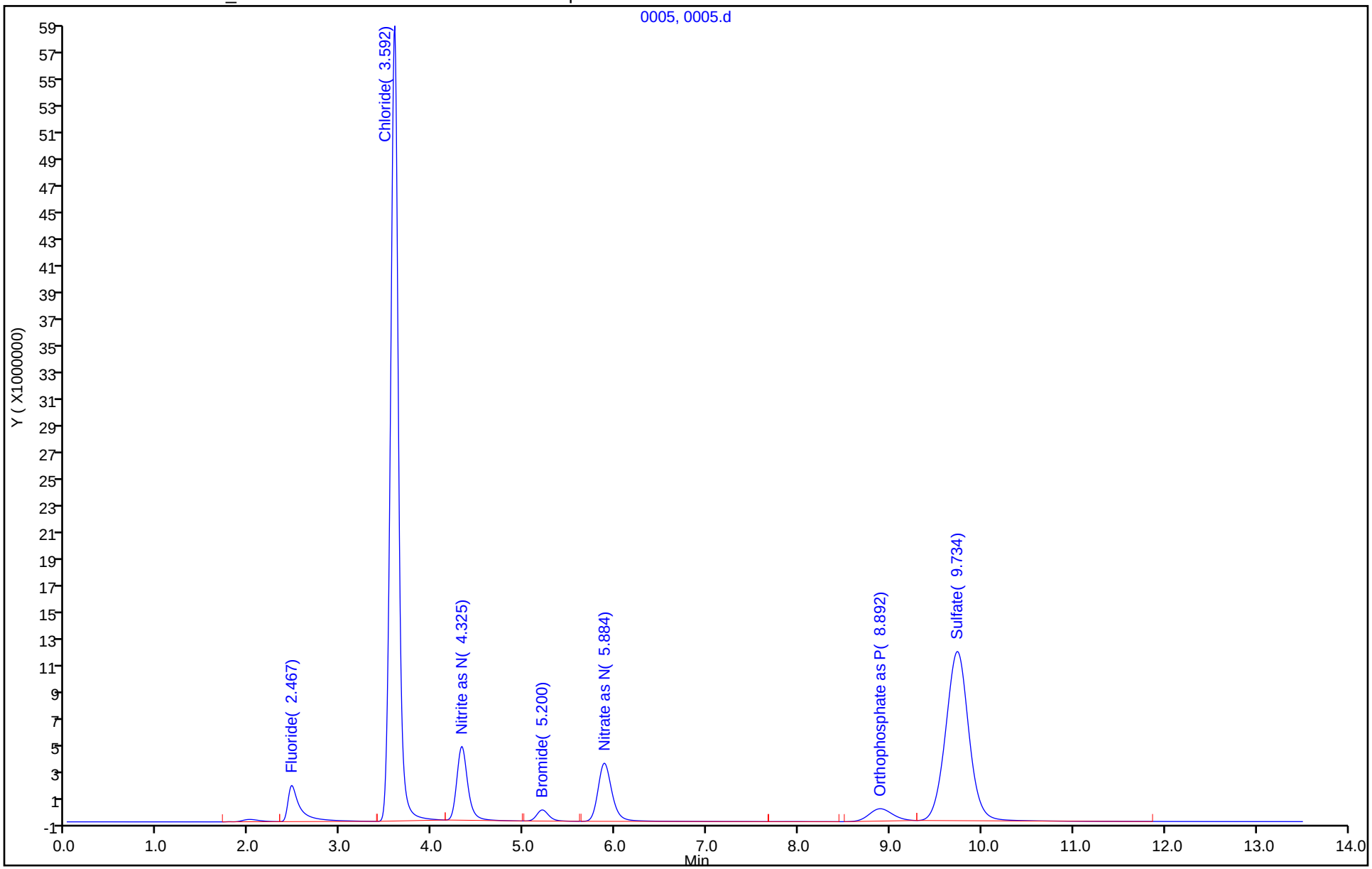
IC CAL cl/so4_00225 Amount Added: 1.20 Units: mL
IC Cal low_00406 Amount Added: 0.40 Units: mL

Report Date: 16-Oct-2018 20:06:57 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0005.d

Injection Date:	14-Oct-2018 12:55:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	std L4			Worklist Smp#:	5
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0006.d
Lims ID: std L5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 14-Oct-2018 13:12:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-006
Misc. Info.: 6 F
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 16-Oct-2018 20:06:57 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	52761942	8.00	7.97	
2 Chloride	3.617	3.592	0.025	754510664	120.0	117.8	
3 Nitrite as N	4.334	4.325	0.009	94489104	8.00	7.98	
4 Bromide	5.200	5.200	0.000	15236658	8.00	7.98	
5 Nitrate as N	5.875	5.884	-0.009	96777197	8.00	7.97	
7 Orthophosphate as P	8.884	8.892	-0.008	33108518	8.00	7.98	
6 Sulfate	9.767	9.734	0.033	466051198	120.0	115.7	

Reagents:

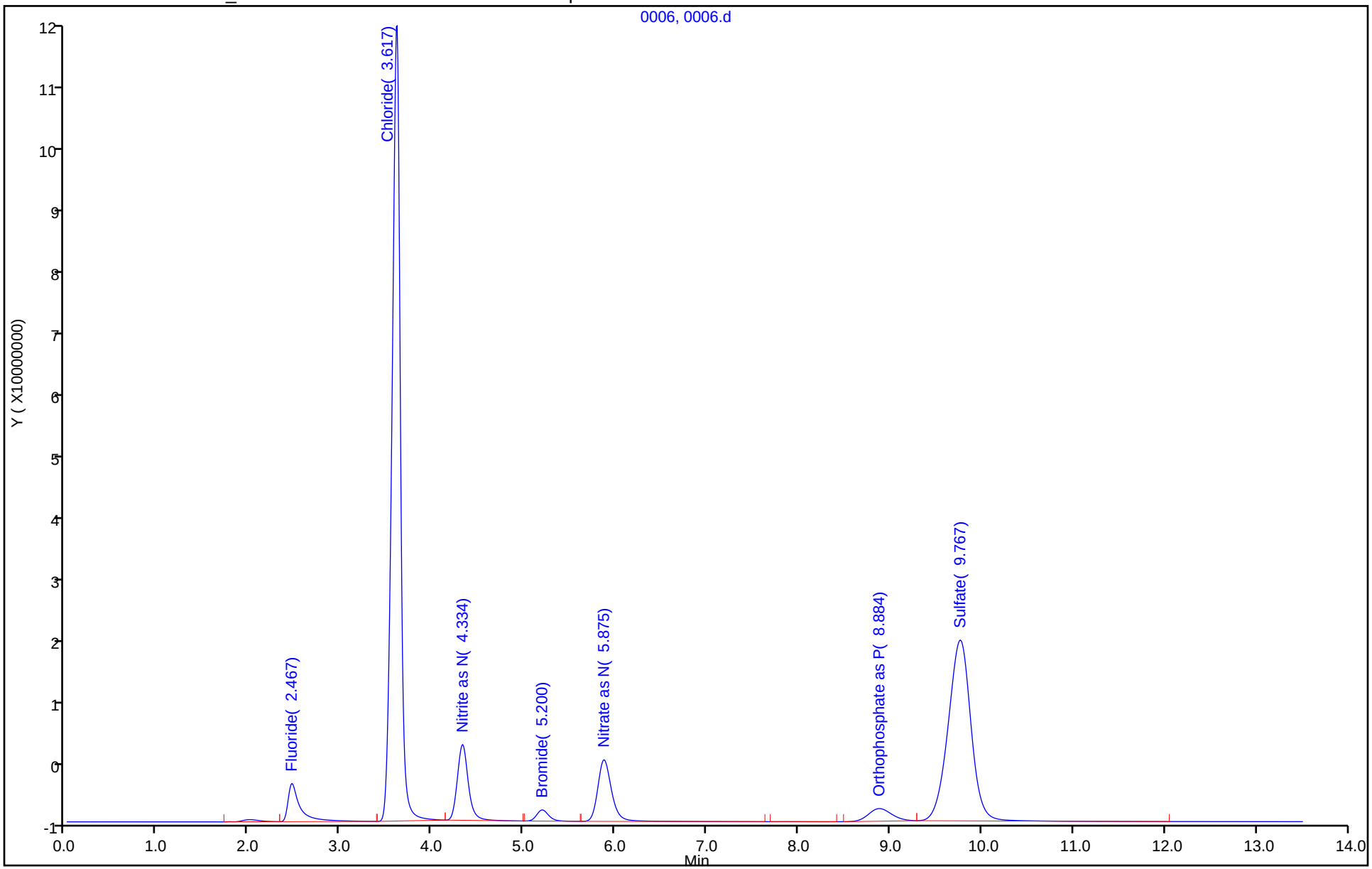
IC CAL cl/so4_00225 Amount Added: 2.40 Units: mL
IC Cal low_00406 Amount Added: 0.80 Units: mL

Report Date: 16-Oct-2018 20:06:58 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0006.d

Injection Date:	14-Oct-2018 13:12:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	std L5			Worklist Smp#:	6
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d
Lims ID: std L6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Oct-2018 13:28:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-007
Misc. Info.: 2438 F
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 16-Oct-2018 20:06:58 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	67621065	10.0	10.2	
2 Chloride	3.642	3.592	0.050	1331004347	200.0	207.3	
3 Nitrite as N	4.342	4.325	0.017	121128137	10.0	10.2	
4 Bromide	5.201	5.200	0.001	19264476	10.0	10.1	
5 Nitrate as N	5.876	5.884	-0.008	125104355	10.0	10.3	
7 Orthophosphate as P	8.876	8.892	-0.016	42371320	10.0	10.2	
6 Sulfate	9.801	9.734	0.067	847847466	200.0	210.2	

Reagents:

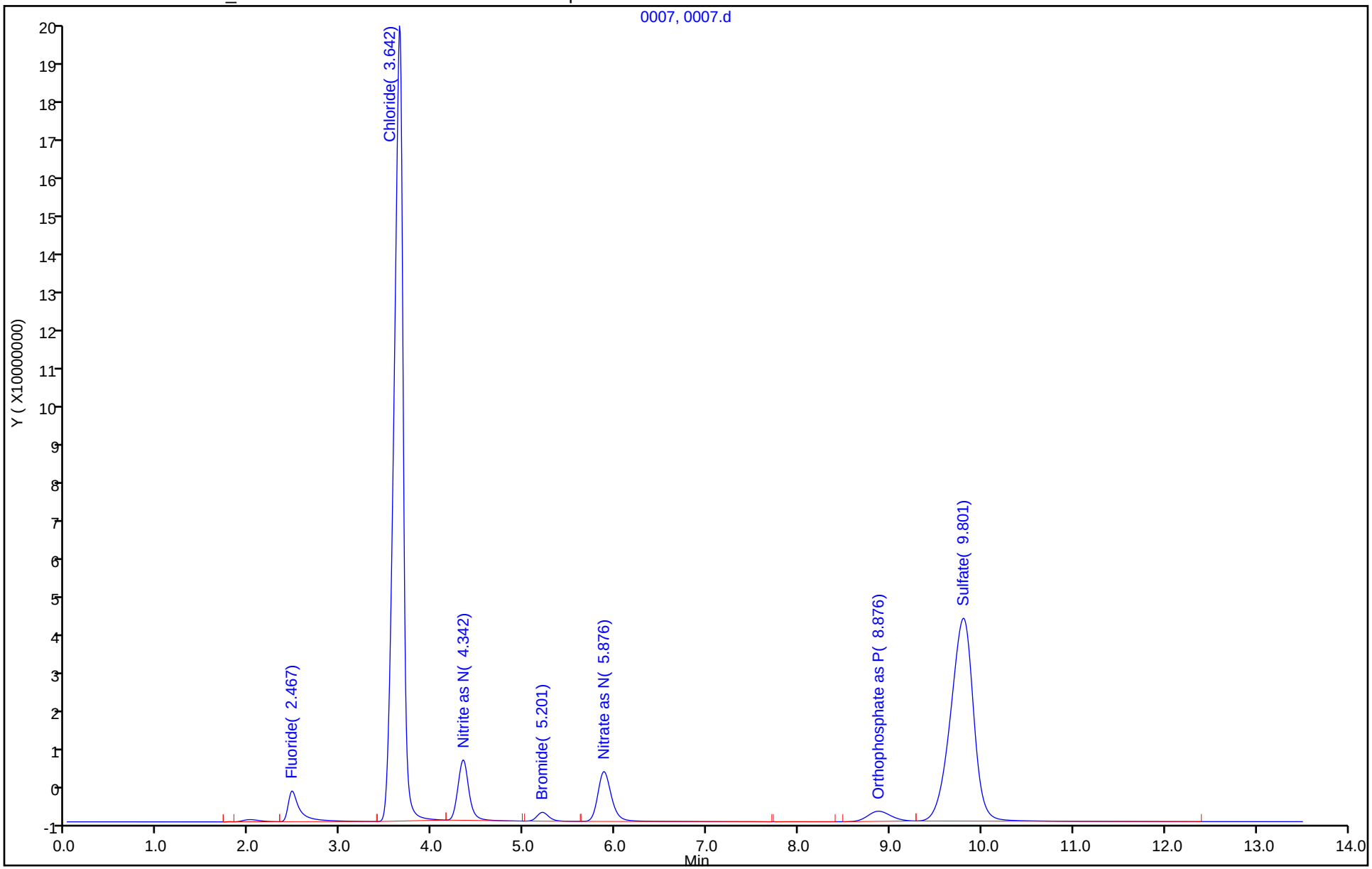
IC CAL cl/so4_00225 Amount Added: 4.00 Units: mL
IC Cal low_00406 Amount Added: 1.00 Units: mL

Report Date: 16-Oct-2018 20:06:59 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Injection Date:	14-Oct-2018 13:28:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	std L6			Worklist Smp#:	7
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



IC Instrument Information

WL: 75074 Inst ID: II Analysis Date: 10/4/18 Analyst: AM

Rush	Job No.	Samples	Anions	QC Req	HT Exp
☐	115218	AM 10/4/18 3	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D -8	client
☐	115229	2	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D	
☐	115357	8	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D 3	client
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

Job No.	Samples	Anions	Dilution	Reason
115218	7	F Cl NO2 Br NO3 PO4 SO4	10x	conductivity
115229	5,6,2,4	F Cl NO2 Br NO3 PO4 SO4	5x, 10x	conductivity
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

TestAmerica Denver

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IC Instrument Information

WL: 75074 Inst ID: 11 Analysis Date: 10/4/18 Analyst: MM

Rush	Job No.	Samples	Anions	QC Req	HT Exp
☐	115218	~~All~~ 3	F (Cl) NO2 Br NO3 PO4 (SO4)	(MS/D) -8	client
☐	115229	2	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D	
☐	115357	8	F (Cl) NO2 Br NO3 PO4 (SO4)	(MS/D) 3	client
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

Job No.	Samples	Anions	Dilution	Reason
115218	7	F Cl NO2 Br NO3 PO4 SO4	10x	conductivity
115229	5,6,2,4	F Cl NO2 Br NO3 PO4 SO4	5x, 10x	conductivity
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

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TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0008.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 14-Oct-2018 14:26:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-008
Misc. Info.: 3463 F
Operator ID: Instrument ID: WC_IonChrom11
Sublist:

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 16-Oct-2018 20:06:59 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	25982758	4.00	3.94	
2 Chloride	3.600	3.600	0.000	499637253	80.0	78.2	
3 Nitrite as N	4.325	4.325	0.000	44271402	4.00	3.75	
4 Bromide	5.200	5.200	0.000	7424200	4.00	3.89	
5 Nitrate as N	5.875	5.875	0.000	45524337	4.00	3.76	
7 Orthophosphate as P	8.884	8.884	0.000	16083103	4.00	3.86	
6 Sulfate	9.734	9.734	0.000	308513688	80.0	76.7	

Reagents:

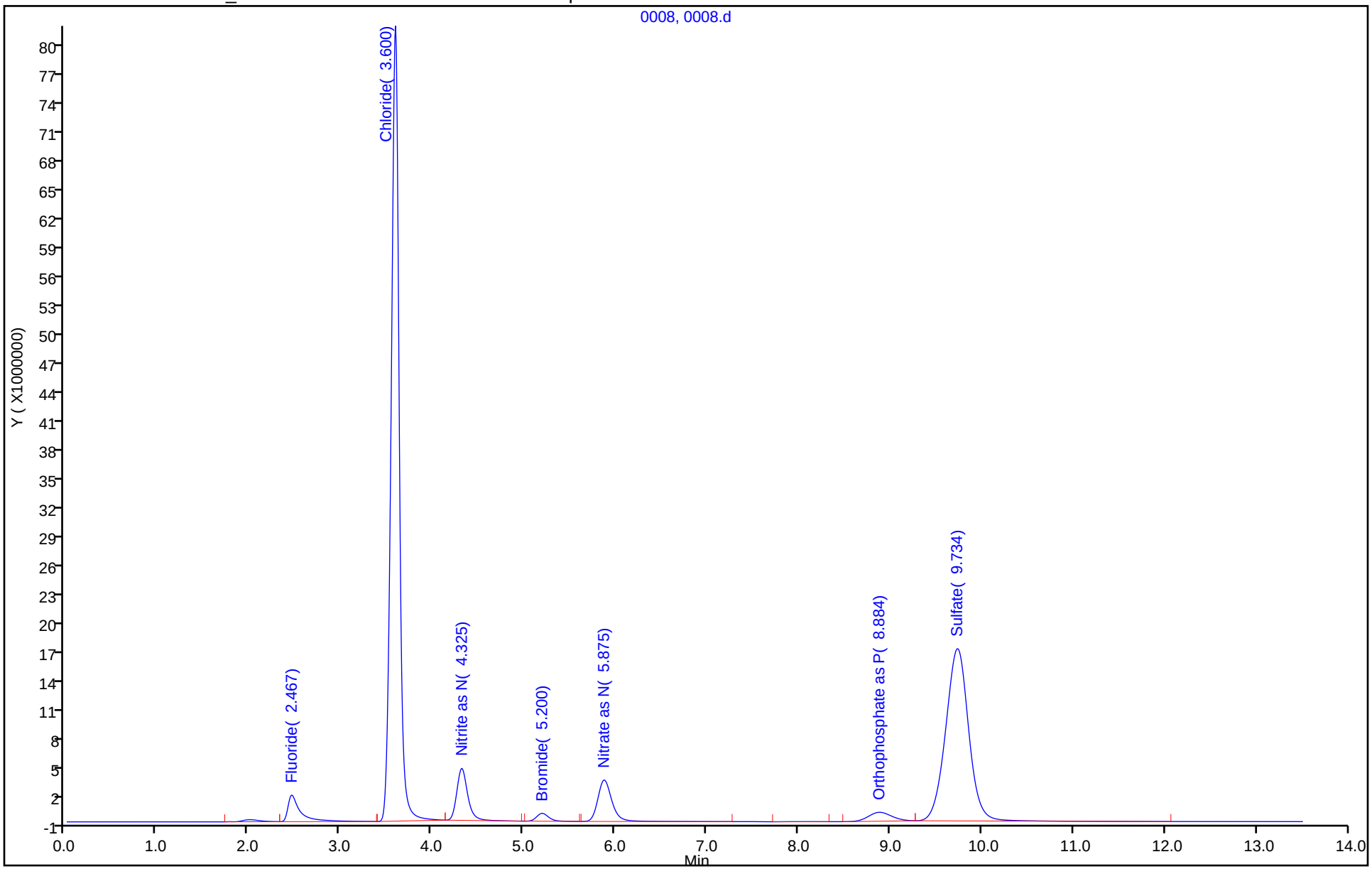
IC CL ICV_00014	Amount Added:	0.40	Units: mL
IC SO4 ICV_00017	Amount Added:	0.40	Units: mL
IC ICV 5_00212	Amount Added:	0.40	Units: mL

Report Date: 16-Oct-2018 20:07:00 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0008.d

Injection Date:	14-Oct-2018 14:26:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	ICV			Worklist Smp#:	8
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0009.d
Lims ID: ICB
Client ID:
Sample Type: ICB
Inject. Date: 14-Oct-2018 14:42:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-009
Misc. Info.: 15826 F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 16-Oct-2018 20:06:59 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

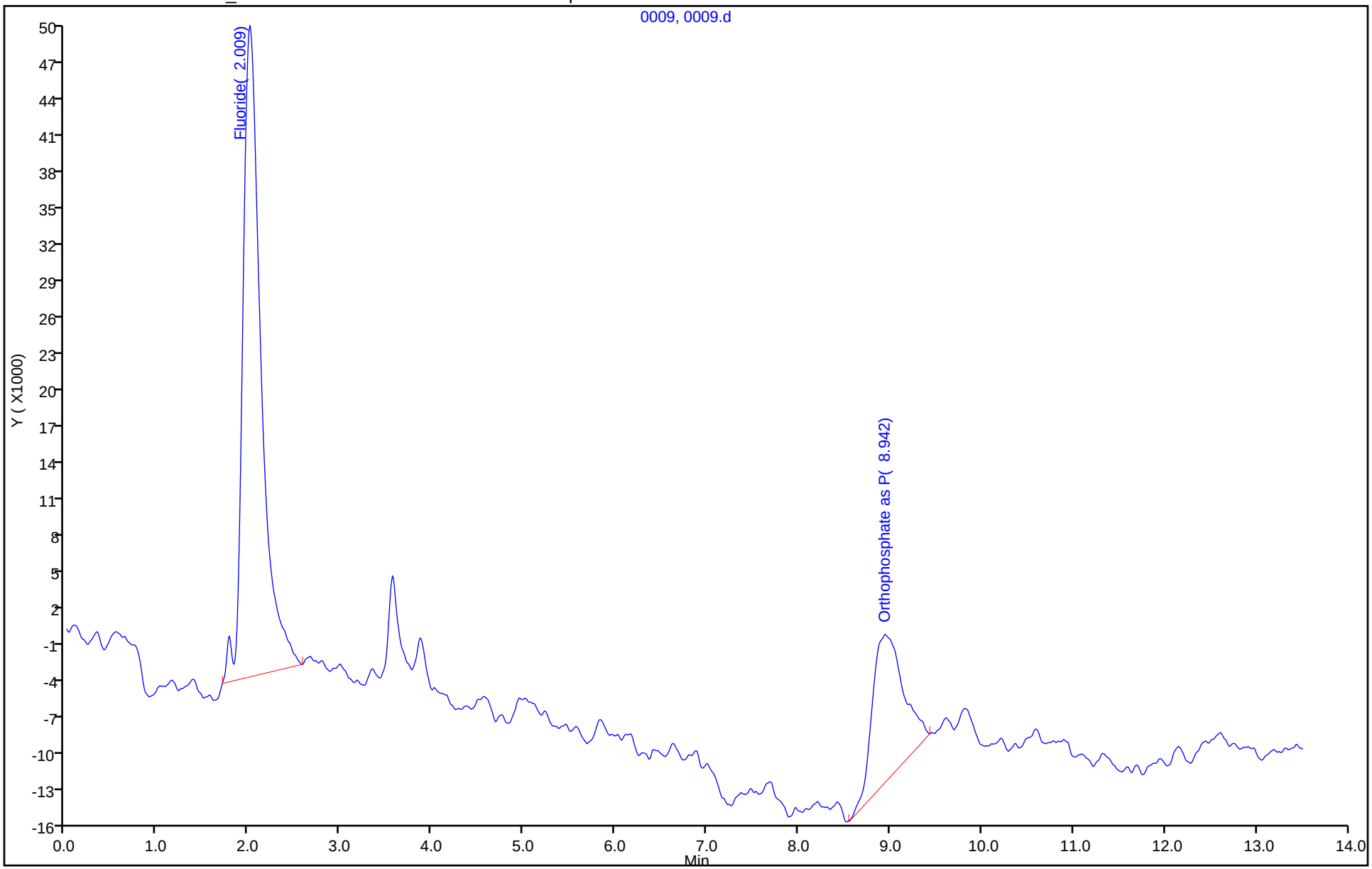
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.009	2.467	-0.458	745358		0.1418	
2 Chloride		3.592				ND	
3 Nitrite as N		4.325				ND	
4 Bromide		5.200				ND	
5 Nitrate as N		5.884				ND	
7 Orthophosphate as P	8.942	8.892	0.050	282127		0.0413	
6 Sulfate		9.734				ND	

Report Date: 16-Oct-2018 20:07:01 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0009.d

Injection Date:	14-Oct-2018 14:42:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	ICB			Worklist Smp#:	9
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



IC Instrument Information

WL: 15470 Inst ID: 11 Analysis Date: 10/25/18 Analyst: TP

Rush	Job No.	Samples	Anions	QC Req	HT Exp
=	116020 /	2	F Cl (NO2) Br (NO3) (PO4) (SO4)	(MS/D) 5	r
=	116163	1	F Cl (NO2) Br (NO3) PO4 SO4	MS/D	
=	115669	2	F (Cl) NO2 Br NO3 PO4 SO4	(MS/D) 9	
Total	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	MS/D	
Dis	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	MS/D	
=	115540	5	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D	
=	115468	5	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

	Job No.	Samples	Anions	Dilution	Reason
✓	116163	1	F Cl (NO2) Br (NO3) PO4 SO4	5x	high
✓	115540	2,4	F (Cl) NO2 Br NO3 PO4 (SO4)	5x	historical
✓	115468	6,7,8,9	F (Cl) NO2 Br NO3 PO4 (SO4)	5x	historical
Total-	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	5x	historical
Dis	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	5x	historical
			F Cl NO2 Br NO3 PO4 SO4		
			F Cl NO2 Br NO3 PO4 SO4		
			F Cl NO2 Br NO3 PO4 SO4		
			F Cl NO2 Br NO3 PO4 SO4		

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TestAmerica Denver

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IC Instrument Information

WL: 15470 Inst ID: 11 Analysis Date: 10/25/18 Analyst: TP

Rush	Job No.	Samples	Anions	QC Req	HT Exp
=	116020 /	2	F Cl (NO2) Br (NO3) (PO4) (SO4)	(MS/D) 5	r
=	116163	1	F Cl (NO2) Br (NO3) PO4 SO4	MS/D	
=	115669	2	F (Cl) NO2 Br NO3 PO4 SO4	(MS/D) 9	
Total	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	MS/D	
Dis	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	MS/D	
=	115540	5	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D	
=	115468	5	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

	Job No.	Samples	Anions	Dilution	Reason
✓	116163	1	F Cl (NO2) Br (NO3) PO4 SO4	5x	high
✓	115540	2,4	F (Cl) NO2 Br NO3 PO4 (SO4)	5x	historical
✓	115468	6,7,8,9	F (Cl) NO2 Br NO3 PO4 (SO4)	5x	historical
Total	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	5x	historical
Dis	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	5x	historical
			F Cl NO2 Br NO3 PO4 SO4		
			F Cl NO2 Br NO3 PO4 SO4		
			F Cl NO2 Br NO3 PO4 SO4		
			F Cl NO2 Br NO3 PO4 SO4		

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TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0001.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 25-Oct-2018 12:13:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-001
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.450	2.459	-0.009	30459169	5.00	4.61	
2 Chloride	3.567	3.575	-0.008	679120958	100.0	106.1	
3 Nitrite as N	4.259	4.275	-0.016	61356571	5.00	5.19	
4 Bromide	5.100	5.125	-0.025	9924247	5.00	5.19	
5 Nitrate as N	5.750	5.784	-0.034	64225580	5.00	5.30	
7 Orthophosphate as P	8.642	8.717	-0.075	20636112	5.00	4.96	
6 Sulfate	9.500	9.575	-0.075	435188840	100.0	108.1	

Reagents:

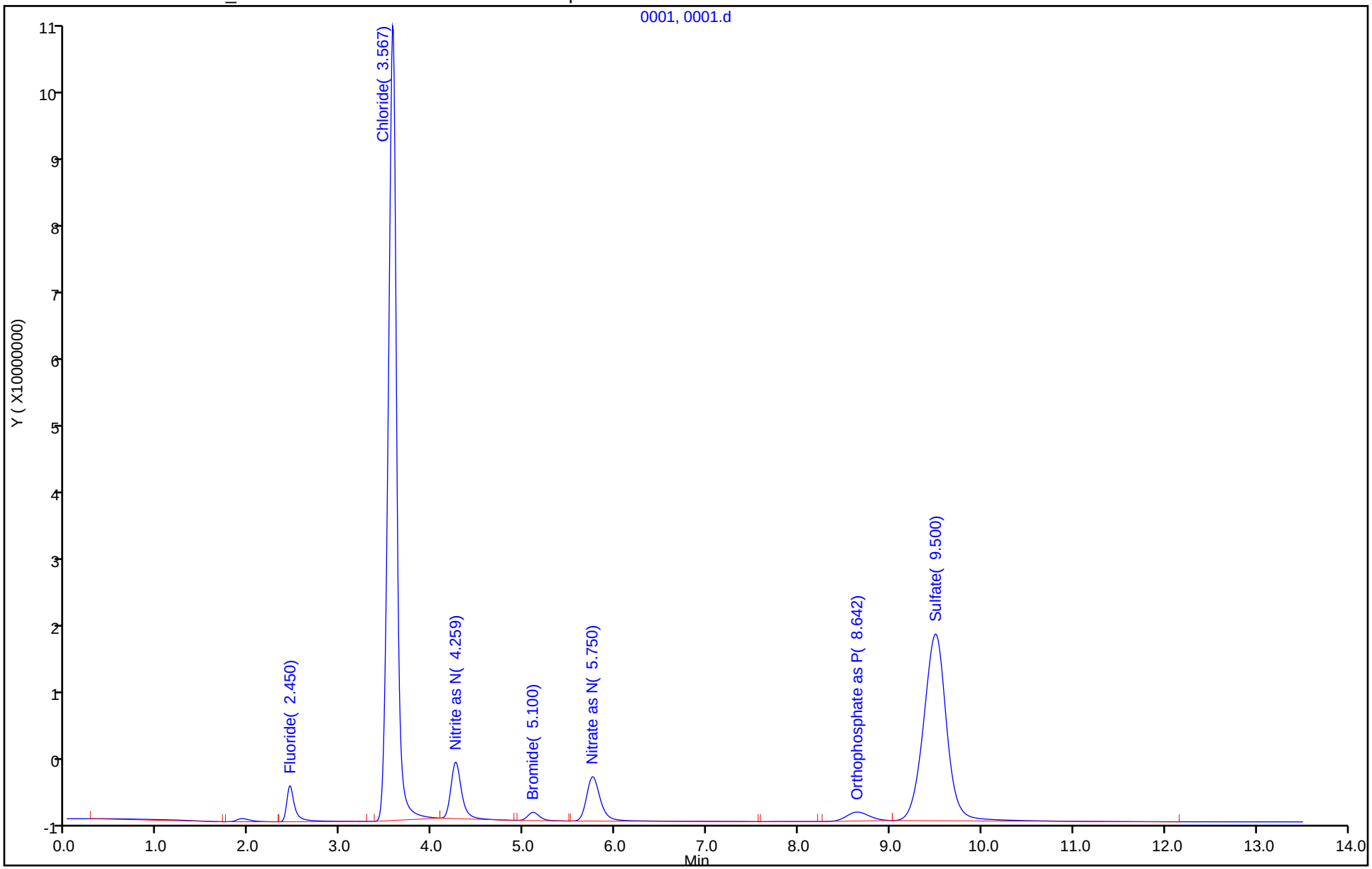
IC LCS_01382 Amount Added: 5.00 Units: mL

Report Date: 26-Oct-2018 12:30:26 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0001.d

Injection Date:	25-Oct-2018 12:13:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	1
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0002.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 25-Oct-2018 12:50:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-002
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

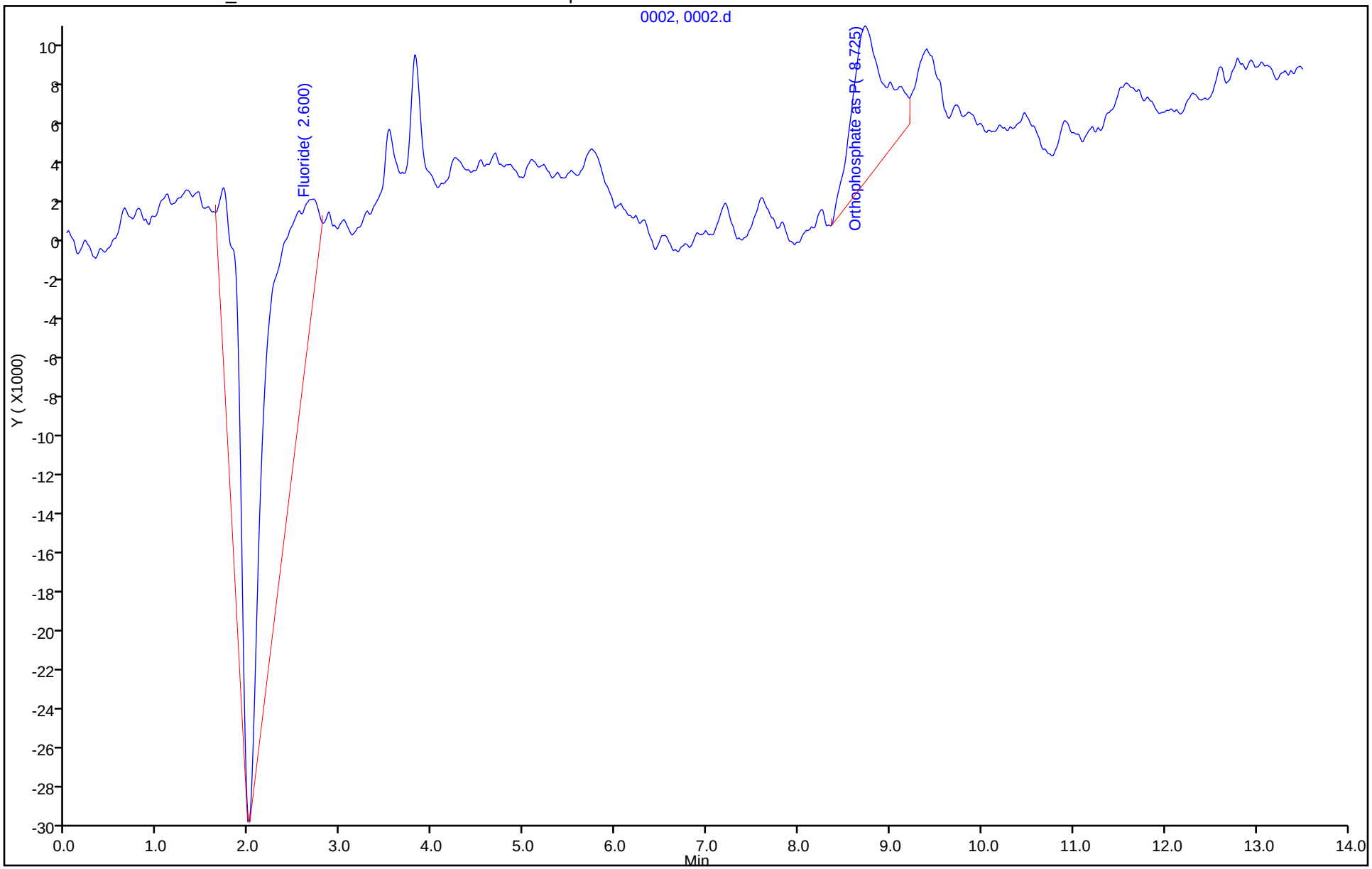
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.600	2.459	0.141	499431		0.1048	
2 Chloride		3.575				ND	
3 Nitrite as N		4.275				ND	
4 Bromide		5.125				ND	
5 Nitrate as N		5.784				ND	
7 Orthophosphate as P	8.725	8.717	0.008	200121		0.0215	
6 Sulfate		9.575				ND	

Report Date: 26-Oct-2018 12:30:31 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0002.d

Injection Date:	25-Oct-2018 12:50:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	2
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0003.d
Lims ID: MRL
Client ID:
Sample Type: MRL
Inject. Date: 25-Oct-2018 13:06:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-003
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.475	2.459	0.016	1061591	0.2000	0.1894	
2 Chloride	3.525	3.575	-0.050	12478746	2.50	2.53	
3 Nitrite as N	4.250	4.275	-0.025	2410407	0.2000	0.2337	
4 Bromide	5.100	5.125	-0.025	435530	0.2000	0.2246	
5 Nitrate as N	5.759	5.784	-0.025	2449385	0.2000	0.2265	
7 Orthophosphate as P	8.692	8.717	-0.025	648155	0.2000	0.1298	
6 Sulfate	9.434	9.575	-0.141	9277166	2.50	2.64	

Reagents:

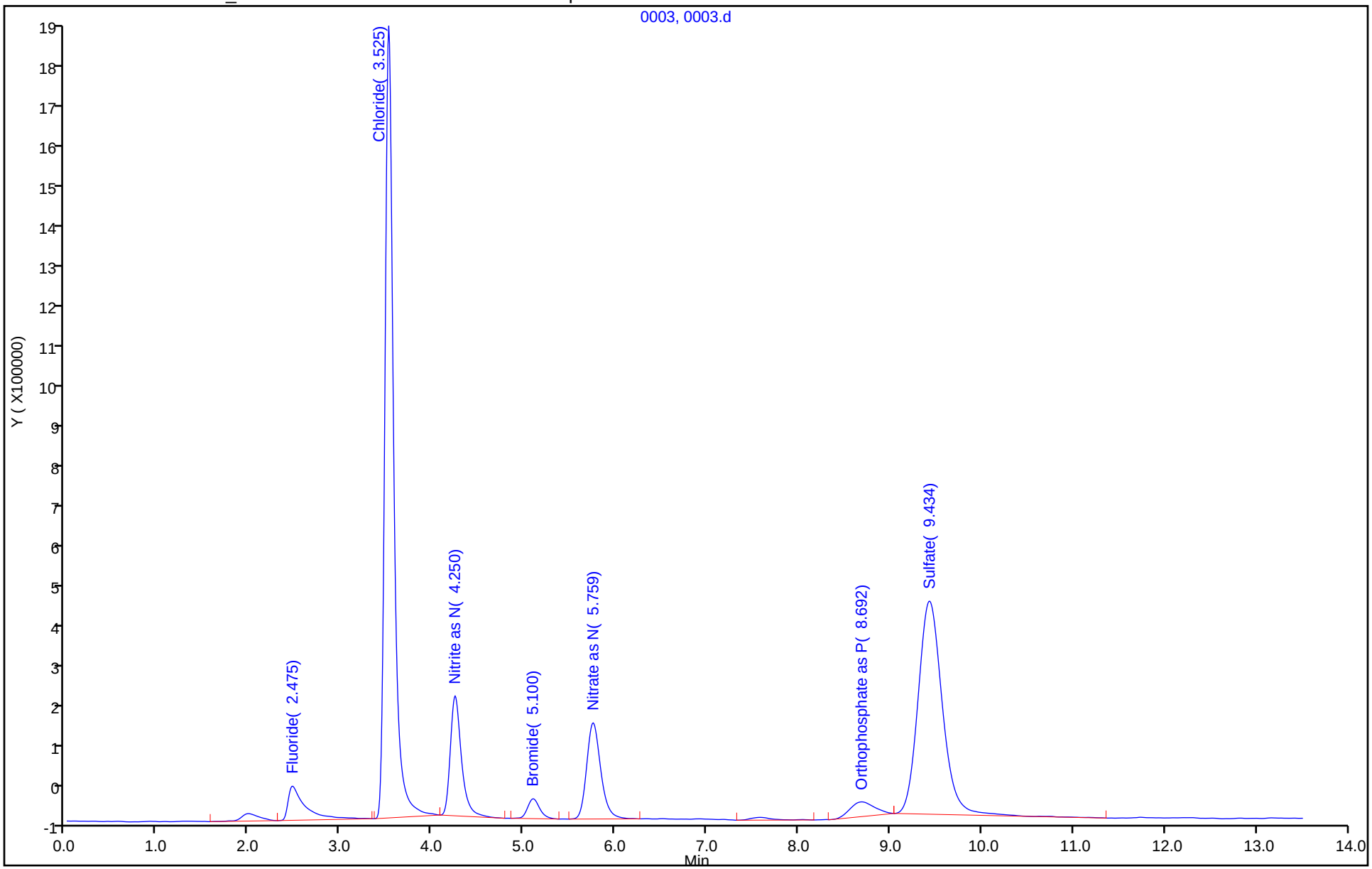
IC CAL cl/so4_00226 Amount Added: 0.05 Units: mL
IC Cal low_00408 Amount Added: 0.02 Units: mL

Report Date: 26-Oct-2018 12:30:35 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0003.d

Injection Date:	25-Oct-2018 13:06:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	MRL			Worklist Smp#:	3
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0004.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 25-Oct-2018 16:18:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-004
Misc. Info.: 4 F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.459	2.459	0.000	31653913	5.00	4.79	
2 Chloride	3.567	3.575	-0.008	693012970	100.0	108.2	
3 Nitrite as N	4.259	4.275	-0.016	62302329	5.00	5.27	
4 Bromide	5.109	5.125	-0.016	10208575	5.00	5.34	
5 Nitrate as N	5.759	5.784	-0.025	65644636	5.00	5.41	
7 Orthophosphate as P	8.625	8.717	-0.092	19611058	5.00	4.71	
6 Sulfate	9.450	9.575	-0.125	439129569	100.0	109.0	

Reagents:

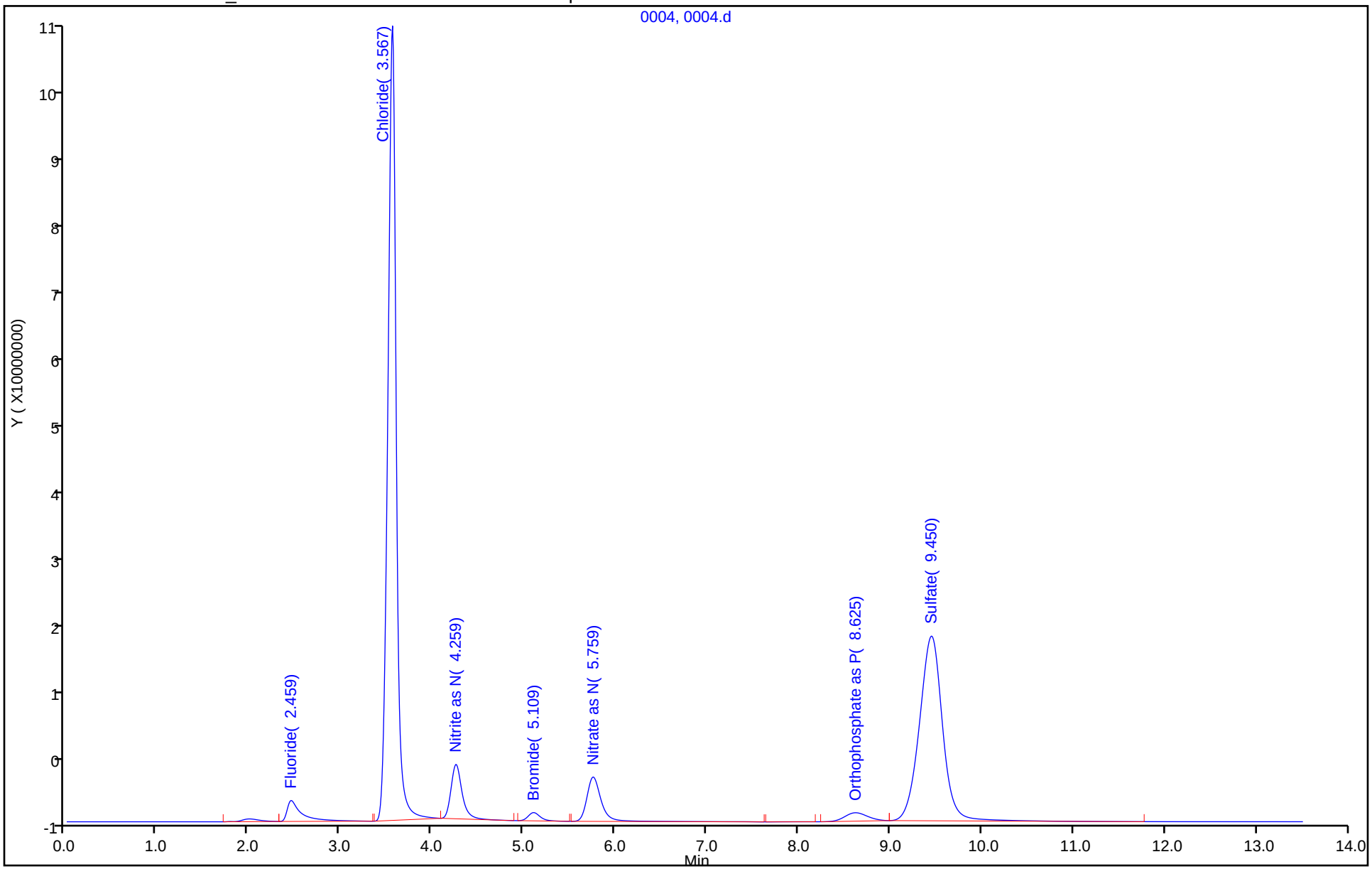
IC LCS_01382 Amount Added: 5.00 Units: mL

Report Date: 26-Oct-2018 12:30:38 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0004.d

Injection Date:	25-Oct-2018 16:18:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0005.d
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 25-Oct-2018 16:33:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-005
Misc. Info.: 5 F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.459	2.459	0.000	31784197	5.00	4.81	
2 Chloride	3.559	3.575	-0.016	690489379	100.0	107.8	
3 Nitrite as N	4.259	4.275	-0.016	62234360	5.00	5.26	
4 Bromide	5.100	5.125	-0.025	10213660	5.00	5.35	
5 Nitrate as N	5.750	5.784	-0.034	65233428	5.00	5.38	
7 Orthophosphate as P	8.617	8.717	-0.100	19841177	5.00	4.77	
6 Sulfate	9.450	9.575	-0.125	438170656	100.0	108.8	

Reagents:

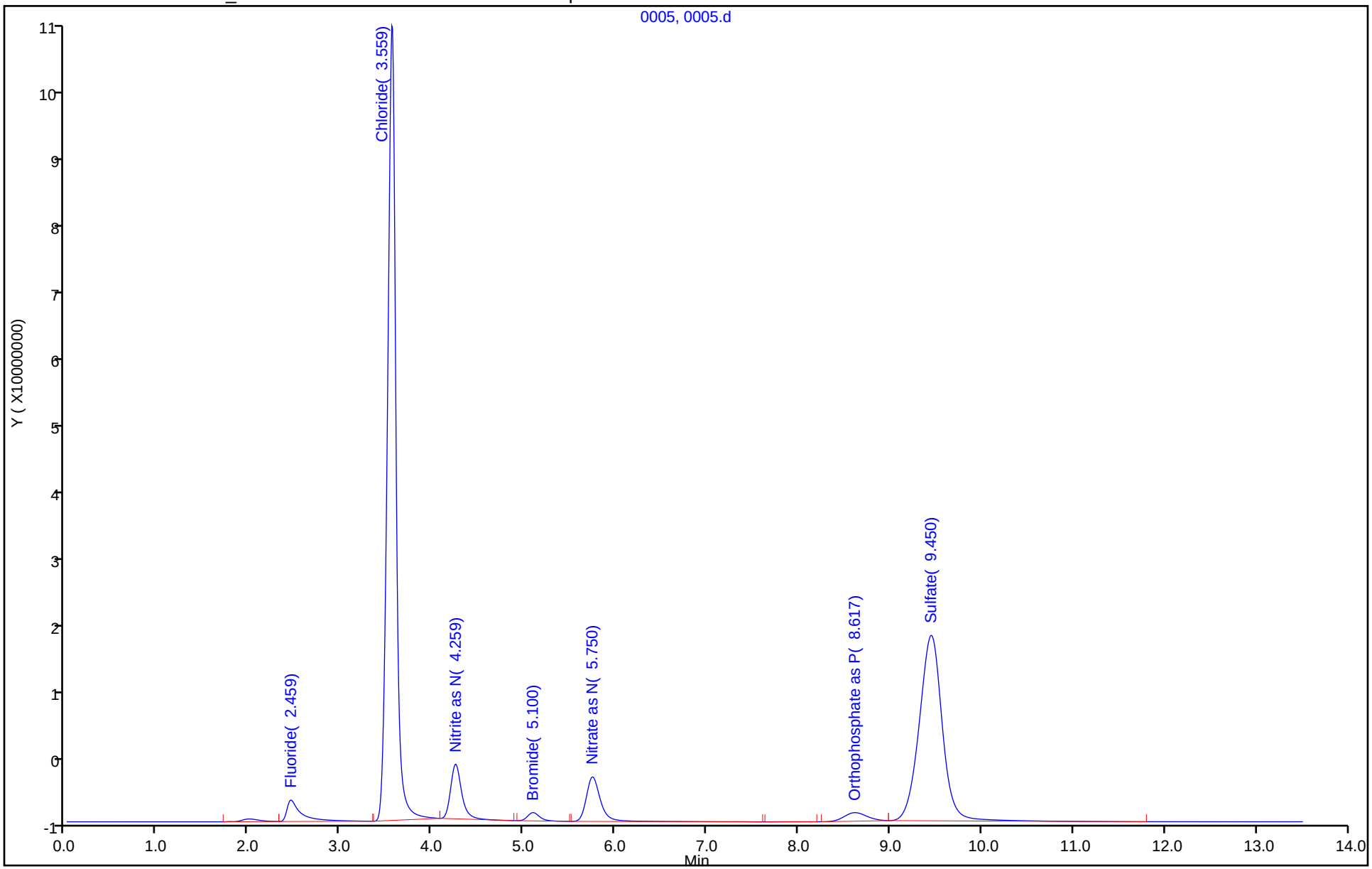
IC LCS_01382 Amount Added: 5.00 Units: mL

Report Date: 26-Oct-2018 12:30:40 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0005.d

Injection Date:	25-Oct-2018 16:33:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	LCSD			Worklist Smp#:	5
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0006.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 25-Oct-2018 17:50:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-006
Misc. Info.: 6 F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

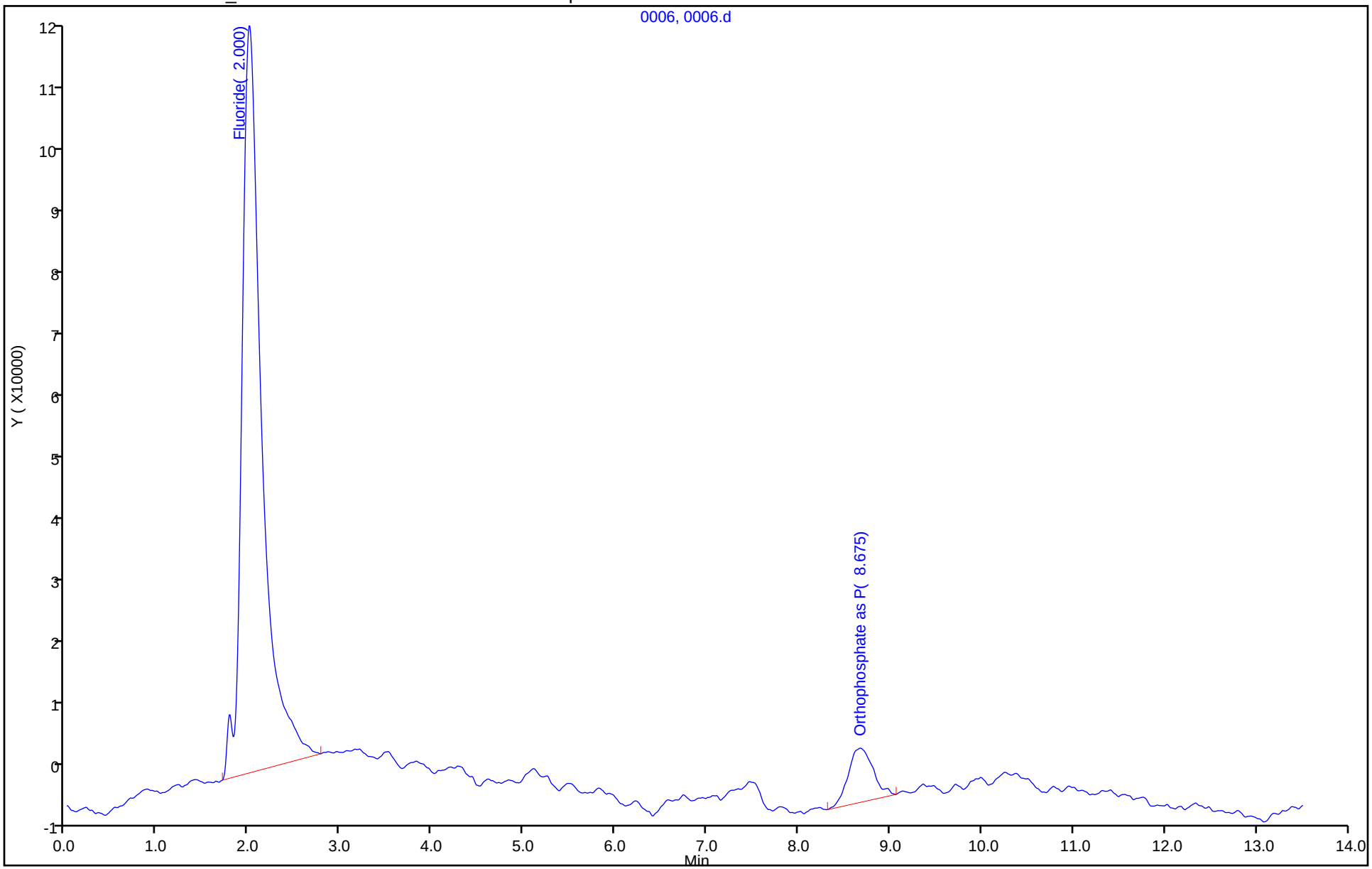
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.459	-0.459	1624407		0.2741	
2 Chloride		3.575				ND	
3 Nitrite as N		4.275				ND	
4 Bromide		5.125				ND	
5 Nitrate as N		5.784				ND	
7 Orthophosphate as P	8.675	8.717	-0.042	146166		0.008464	
6 Sulfate		9.575				ND	

Report Date: 26-Oct-2018 12:30:44 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0006.d

Injection Date:	25-Oct-2018 17:50:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	MB			Worklist Smp#:	6
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0007.d
Lims ID: 280-116020-G-5
Client ID: LL1mw-083-181001-GW
Sample Type: Client
Inject. Date: 25-Oct-2018 18:06:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-007
Misc. Info.: 1772 286F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

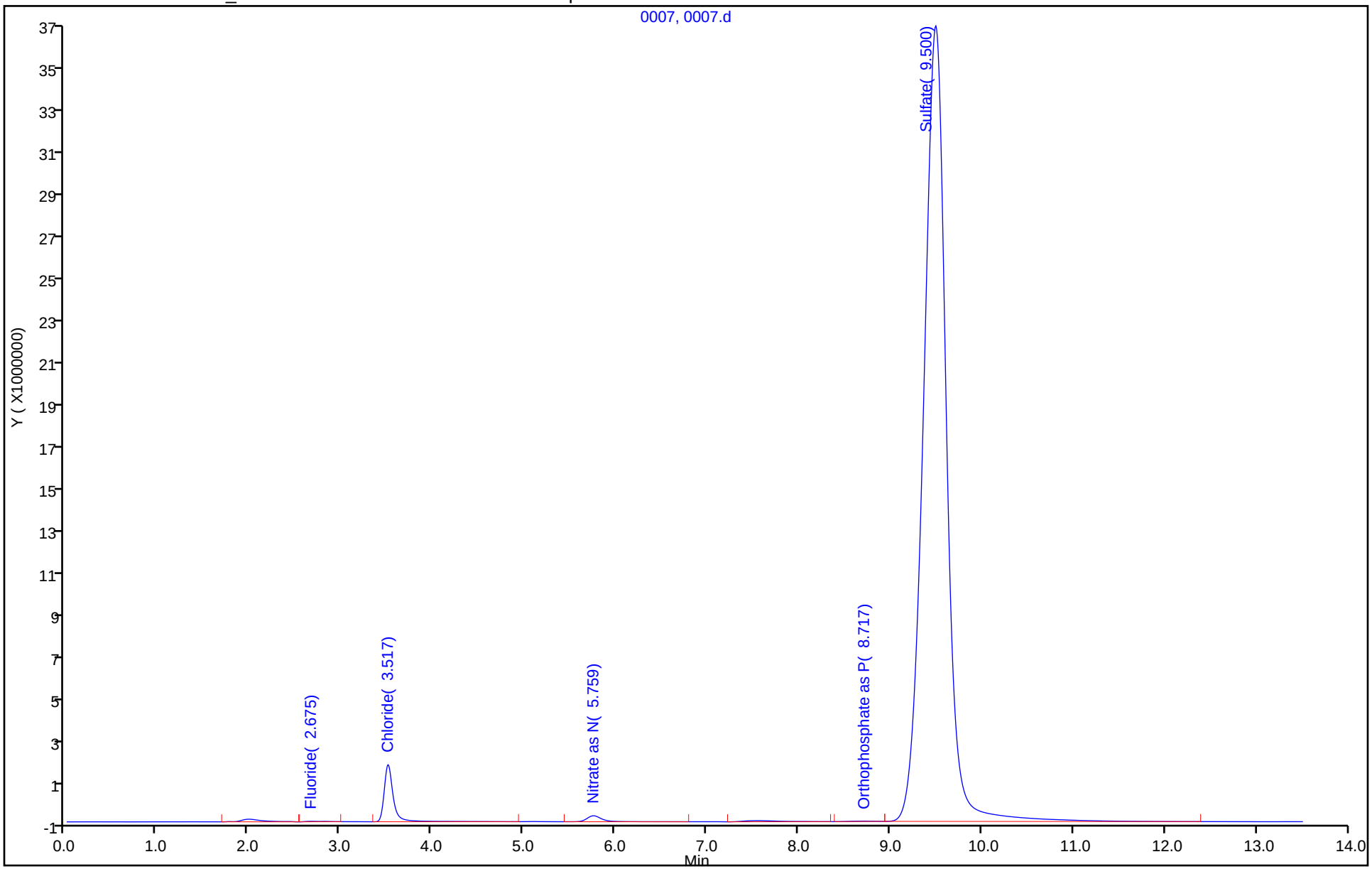
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.675	2.459	0.216	310783	0.0764	
2 Chloride	3.517	3.575	-0.058	18359130	3.45	
3 Nitrite as N		4.275			ND	
4 Bromide		5.125			ND	
5 Nitrate as N	5.759	5.784	-0.025	3263927	0.2933	
7 Orthophosphate as P	8.717	8.717	0.000	284632	0.0419	
6 Sulfate	9.500	9.575	-0.075	638318658	158.3	

Report Date: 26-Oct-2018 12:30:49 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0007.d

Injection Date:	25-Oct-2018 18:06:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	280-116020-G-5	Lab Sample ID:	280-116020-5	Worklist Smp#:	7
Client ID:	LL1mw-083-181001-GW				
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0008.d
Lims ID: 280-116020-G-5 DU
Client ID:
Sample Type: DU
Inject. Date: 25-Oct-2018 18:23:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-008
Misc. Info.: 7598 F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

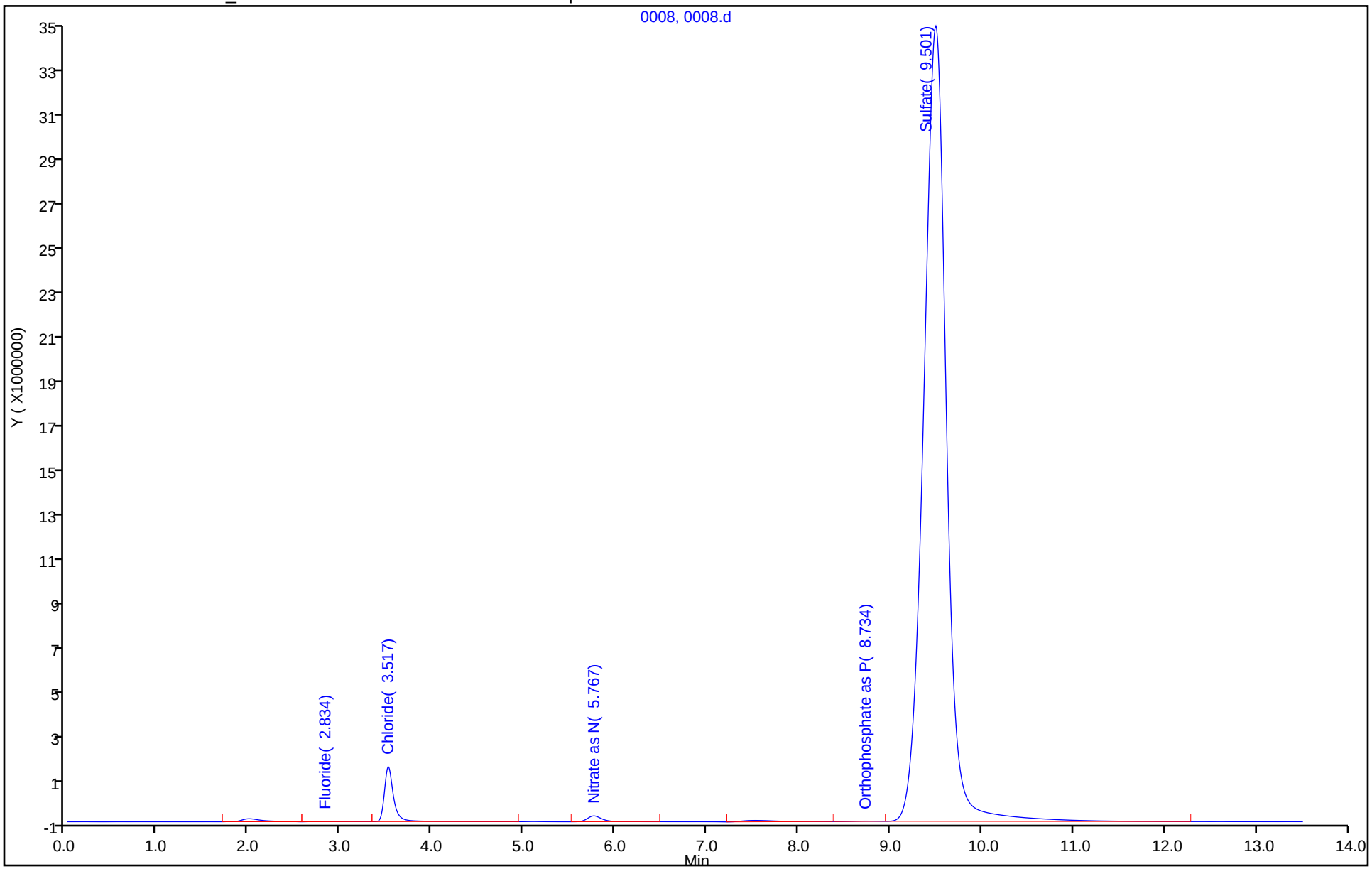
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.834	2.459	0.375	220740		0.0629	
2 Chloride	3.517	3.575	-0.058	16511829		3.16	
3 Nitrite as N		4.275				ND	
4 Bromide		5.125				ND	
5 Nitrate as N	5.767	5.784	-0.017	2780136		0.2536	
7 Orthophosphate as P	8.734	8.717	0.017	190073		0.0191	
6 Sulfate	9.501	9.575	-0.074	589136011		146.2	

Report Date: 26-Oct-2018 12:30:52 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0008.d

Injection Date:	25-Oct-2018 18:23:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	280-116020-G-5 DU			Worklist Smp#:	8
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0009.d
Lims ID: 280-116020-G-5 MS
Client ID:
Sample Type: MS
Inject. Date: 25-Oct-2018 18:41:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-009
Misc. Info.: 16932 F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.459	2.459	0.000	35329835	5.00	5.35	
2 Chloride	3.534	3.575	-0.041	175435385	25.0	27.8	
3 Nitrite as N	4.259	4.275	-0.016	58016517	5.00	4.91	
4 Bromide	5.109	5.125	-0.016	10790853	5.00	5.65	
5 Nitrate as N	5.759	5.784	-0.025	72055055	5.00	5.94	
7 Orthophosphate as P	8.675	8.717	-0.042	12783781	5.00	3.06	
6 Sulfate	9.517	9.575	-0.058	744862218	25.0	184.7	

Reagents:

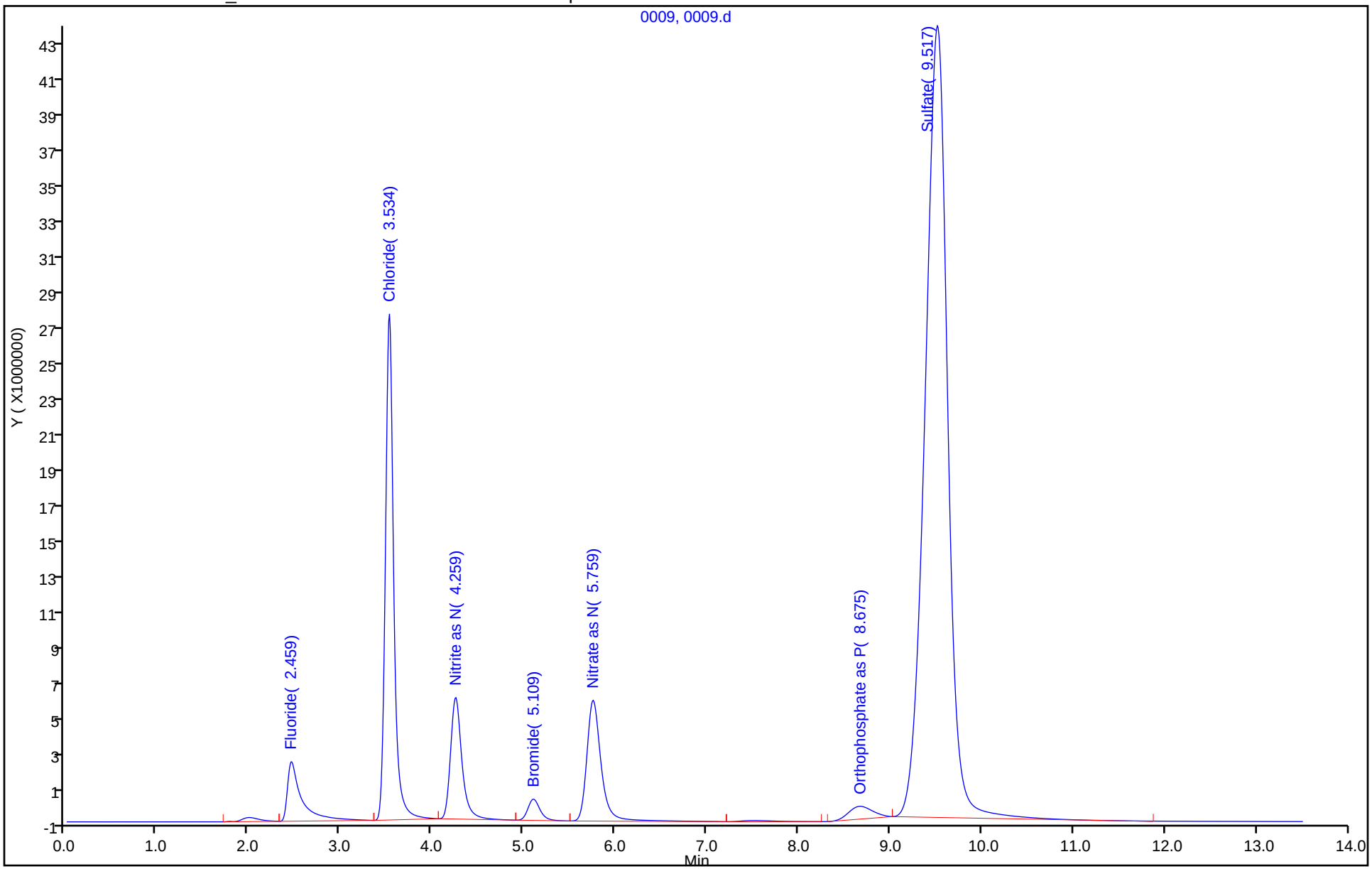
ICMS/MSD WEEK_00560 Amount Added: 0.05 Units: mL

Report Date: 26-Oct-2018 12:30:55 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0009.d

Injection Date:	25-Oct-2018 18:41:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	280-116020-G-5 MS			Worklist Smp#:	9
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0010.d
Lims ID: 280-116020-G-5 MSD
Client ID:
Sample Type: MSD
Inject. Date: 25-Oct-2018 19:01:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-010
Misc. Info.: 660 F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.459	2.459	0.000	33442466	5.00	5.06	
2 Chloride	3.525	3.575	-0.050	163693880	25.0	26.0	
3 Nitrite as N	4.250	4.275	-0.025	54613247	5.00	4.62	
4 Bromide	5.100	5.125	-0.025	10190378	5.00	5.33	
5 Nitrate as N	5.759	5.784	-0.025	67650394	5.00	5.58	
7 Orthophosphate as P	8.675	8.717	-0.042	13632149	5.00	3.27	
6 Sulfate	9.509	9.575	-0.066	689816435	25.0	171.1	

Reagents:

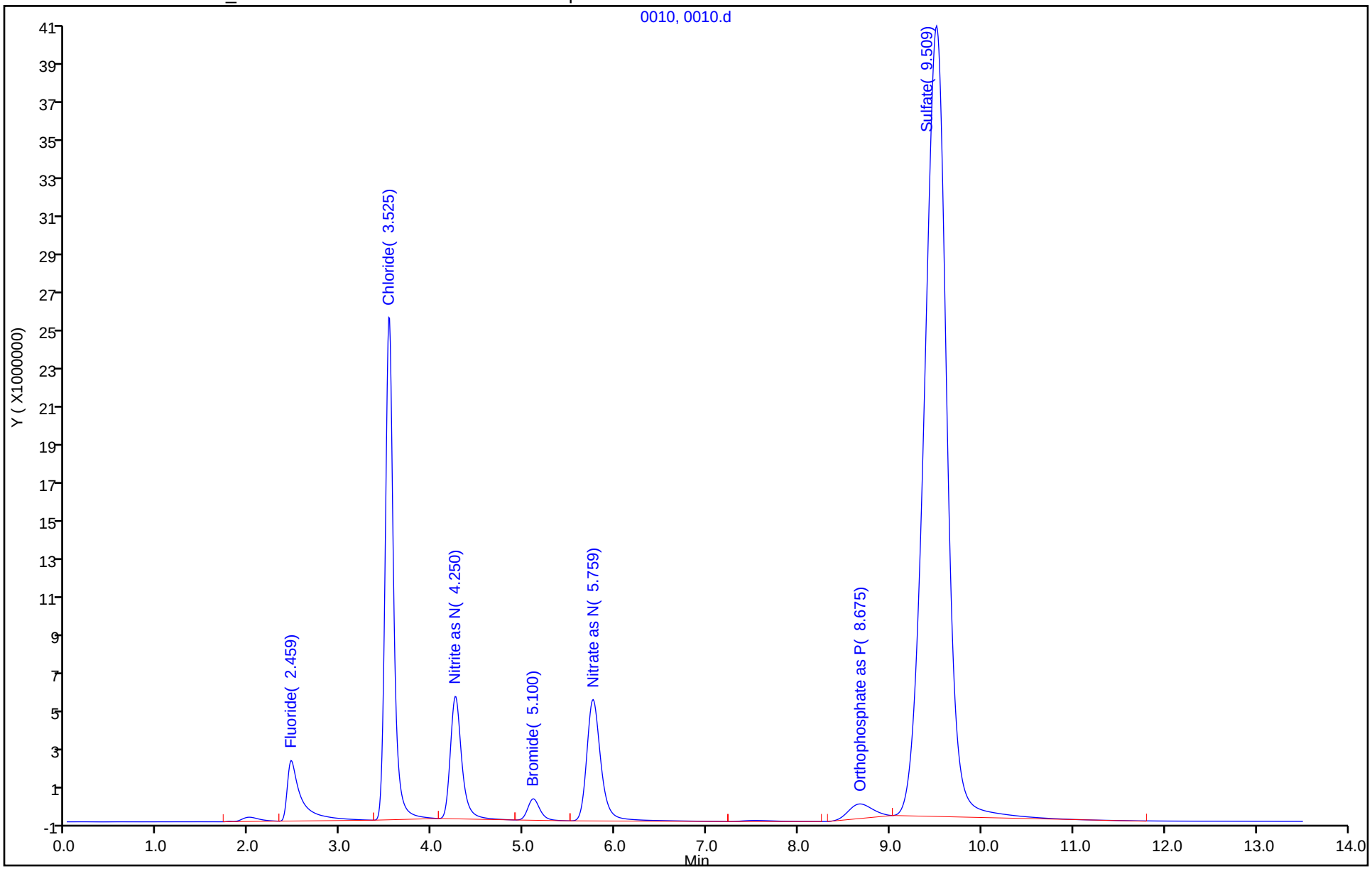
ICMS/MSD WEEK_00560 Amount Added: 0.05 Units: mL

Report Date: 26-Oct-2018 12:30:58 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0010.d

Injection Date:	25-Oct-2018 19:01:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	280-116020-G-5 MSD			Worklist Smp#:	10
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0011.d
Lims ID: 280-116020-H-6
Client ID: LL1mw-084-181001-GW
Sample Type: Client
Inject. Date: 25-Oct-2018 19:20:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-011
Misc. Info.: 13312 279
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

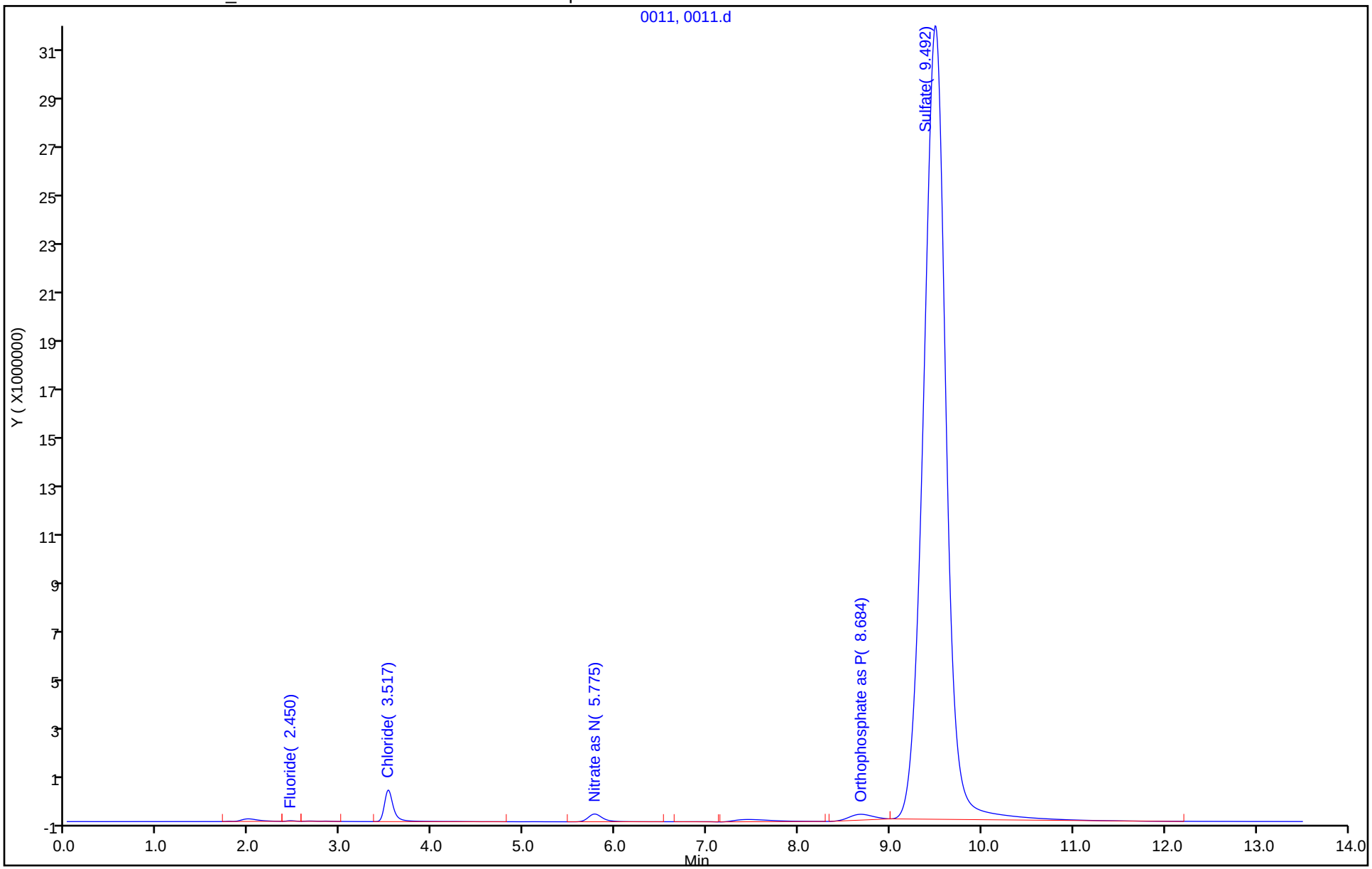
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.450	2.459	-0.009	126276	0.0487	
2 Chloride	3.517	3.575	-0.058	8832625	1.97	
3 Nitrite as N		4.275			ND	
4 Bromide		5.125			ND	
5 Nitrate as N	5.775	5.784	-0.009	3420530	0.3061	
7 Orthophosphate as P	8.684	8.717	-0.033	4076333	0.9585	
6 Sulfate	9.492	9.575	-0.083	538785333	133.7	

Report Date: 26-Oct-2018 12:31:01 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0011.d

Injection Date:	25-Oct-2018 19:20:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	280-116020-H-6	Lab Sample ID:	280-116020-6	Worklist Smp#:	11
Client ID:	LL1mw-084-181001-GW				
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0012.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 25-Oct-2018 19:39:00 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-012
Misc. Info.: 4855
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 26-Oct-2018 12:31:03 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.450	2.459	-0.009	28948372	5.00	4.39	
2 Chloride	3.559	3.575	-0.016	611082311	100.0	95.5	
3 Nitrite as N	4.259	4.275	-0.016	55308564	5.00	4.68	
4 Bromide	5.100	5.125	-0.025	9094894	5.00	4.76	
5 Nitrate as N	5.759	5.784	-0.025	58188944	5.00	4.80	
7 Orthophosphate as P	8.617	8.717	-0.100	20200517	5.00	4.86	
6 Sulfate	9.434	9.575	-0.141	388286752	100.0	96.4	

Reagents:

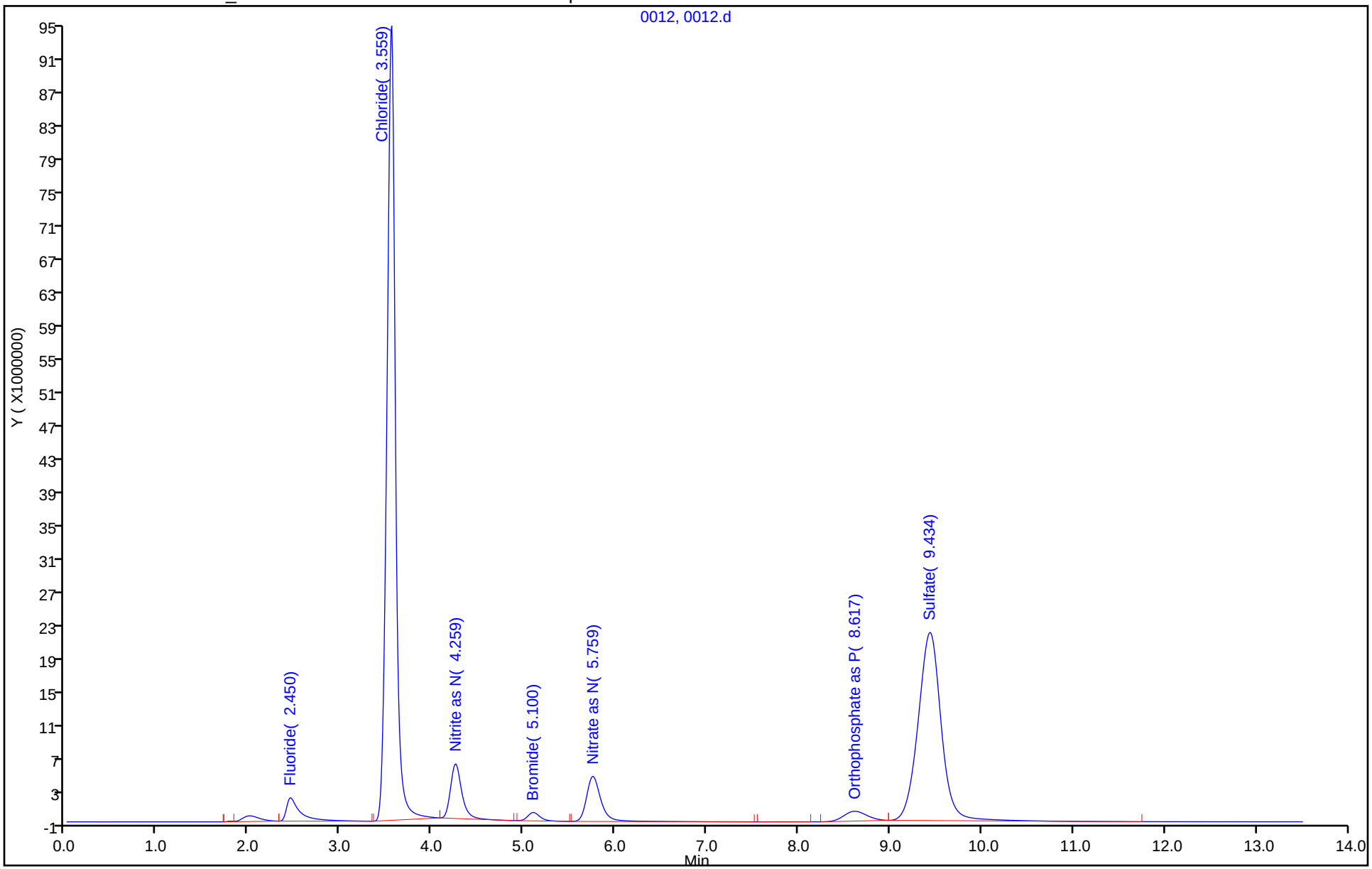
IC LCS_01382 Amount Added: 5.00 Units: mL

Report Date: 26-Oct-2018 12:31:04 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0012.d

Injection Date:	25-Oct-2018 19:39:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	12
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0013.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 25-Oct-2018 20:31:00 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-013
Misc. Info.: 31248
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions
Last Update: 26-Oct-2018 12:31:03 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

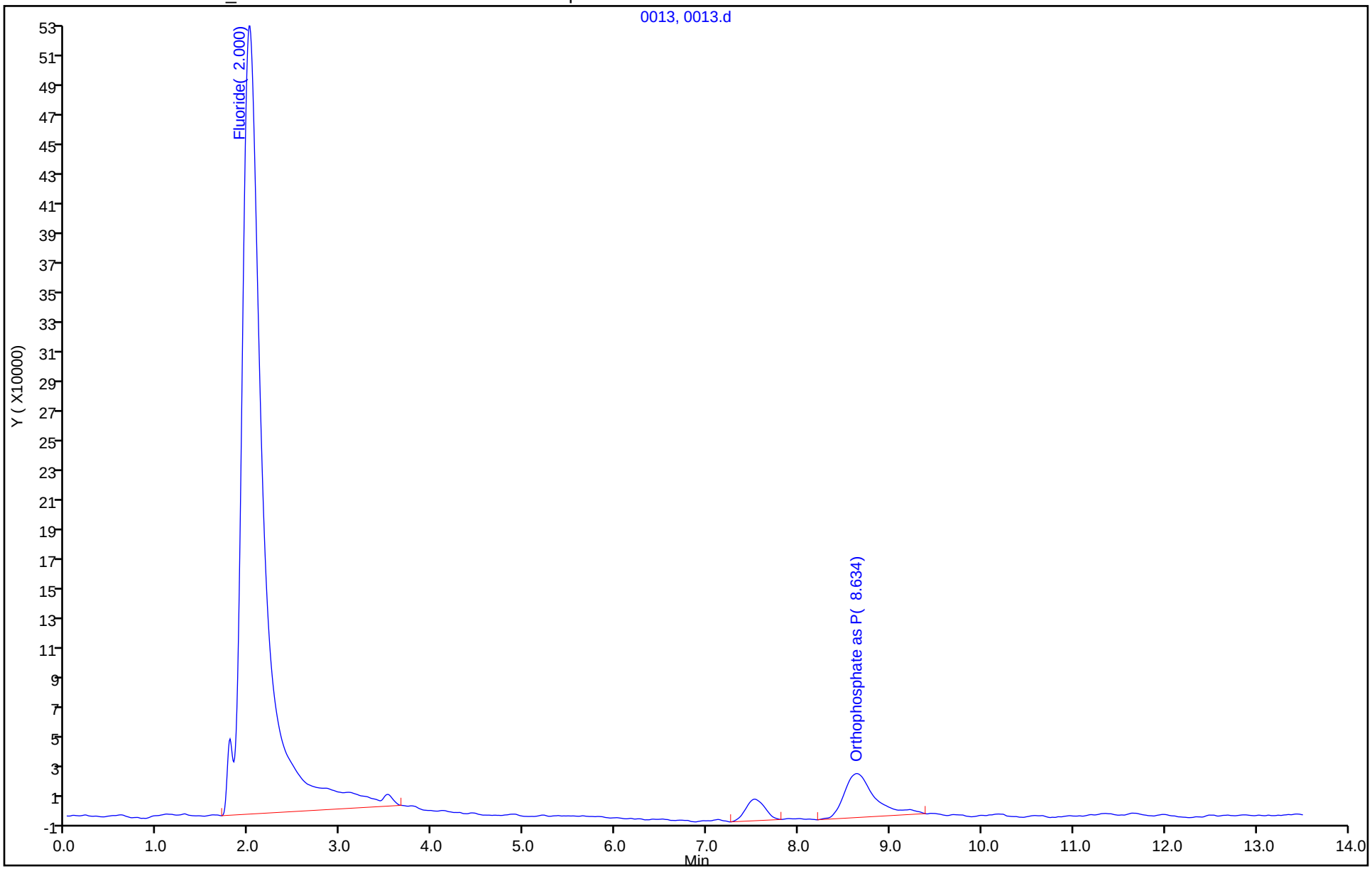
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.459	-0.459	8834856		1.36	
2 Chloride		3.575				ND	
3 Nitrite as N		4.275				ND	
4 Bromide		5.125				ND	
5 Nitrate as N		5.784				ND	
7 Orthophosphate as P	8.634	8.717	-0.083	687985		0.1394	
6 Sulfate		9.575				ND	

Report Date: 26-Oct-2018 12:31:06 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0013.d

Injection Date:	25-Oct-2018 20:31:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	13
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0002.d
Lims ID: std L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Oct-2018 12:06:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-002
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 16-Oct-2018 20:06:52 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	1240658	0.2000	0.2163	
2 Chloride	3.567	3.609	-0.042	4533296	1.00	1.30	
3 Nitrite as N	4.317	4.326	-0.009	2236057	0.2000	0.2190	
4 Bromide	5.201	5.201	0.000	402829	0.2000	0.2075	
5 Nitrate as N	5.884	5.876	0.008	2467199	0.2000	0.2279	
7 Orthophosphate as P	8.917	8.892	0.025	1041930	0.2000	0.2250	
6 Sulfate	9.701	9.751	-0.050	3543575	1.00	1.22	

Reagents:

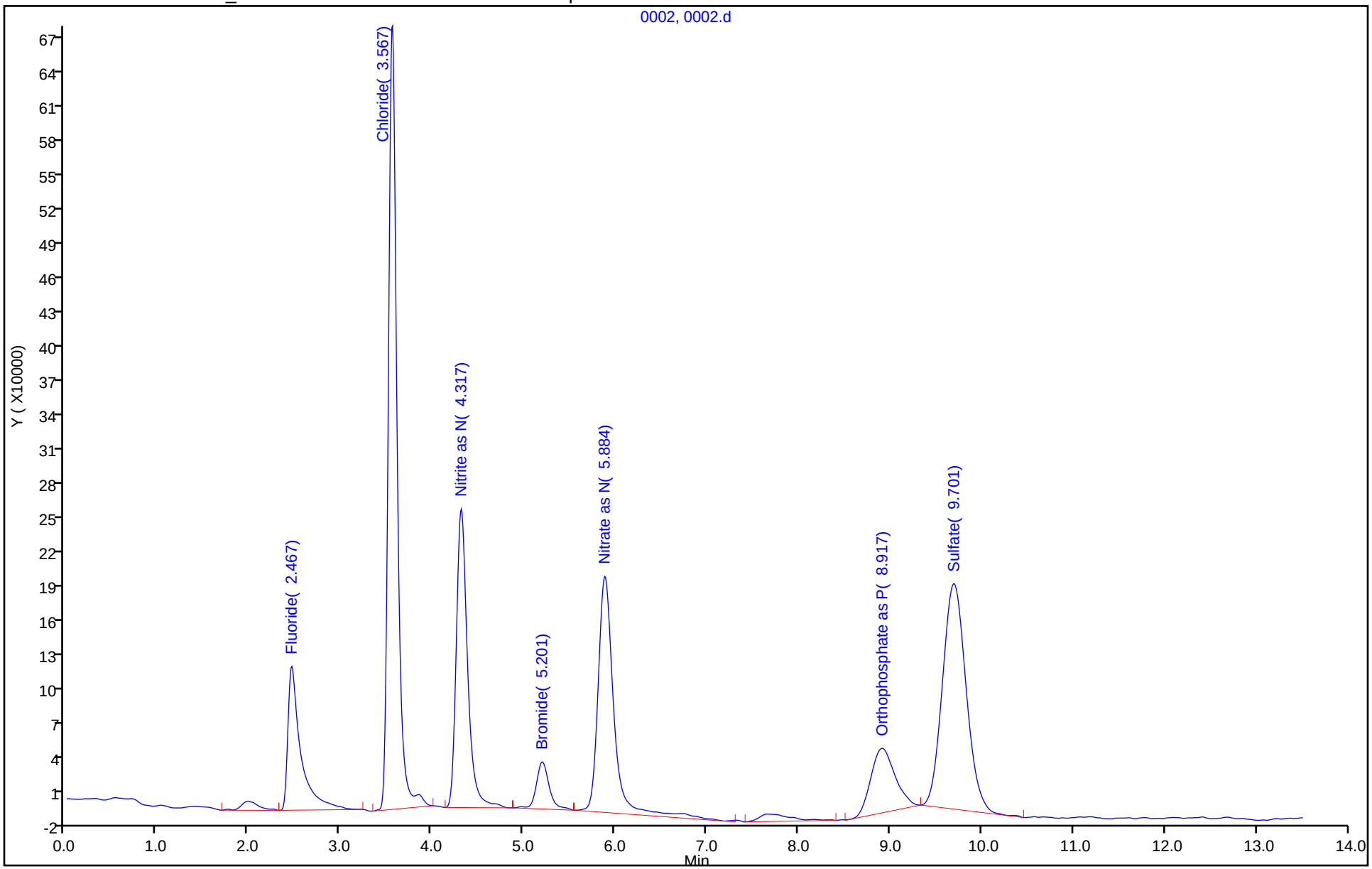
IC CAL cl/so4_00225 Amount Added: 0.02 Units: mL
IC Cal low_00406 Amount Added: 0.02 Units: mL

Report Date: 16-Oct-2018 20:06:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0002.d

Injection Date:	14-Oct-2018 12:06:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	std L1			Worklist Smp#:	2
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0003.d
Lims ID: std L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Oct-2018 12:23:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-003
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 16-Oct-2018 20:06:54 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

First Level Reviewer: newcomer Date: 15-Oct-2018 20:14:19

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	3046545	0.5000	0.4880	
2 Chloride	3.567	3.609	-0.042	11202757	2.50	2.34	
3 Nitrite as N	4.317	4.326	-0.009	5409758	0.5000	0.4859	
4 Bromide	5.200	5.201	-0.001	951306	0.5000	0.4948	
5 Nitrate as N	5.884	5.876	0.008	5471686	0.5000	0.4745	
7 Orthophosphate as P	8.909	8.892	0.017	2072741	0.5000	0.4742	
6 Sulfate	9.700	9.751	-0.051	8346719	2.50	2.41	

Reagents:

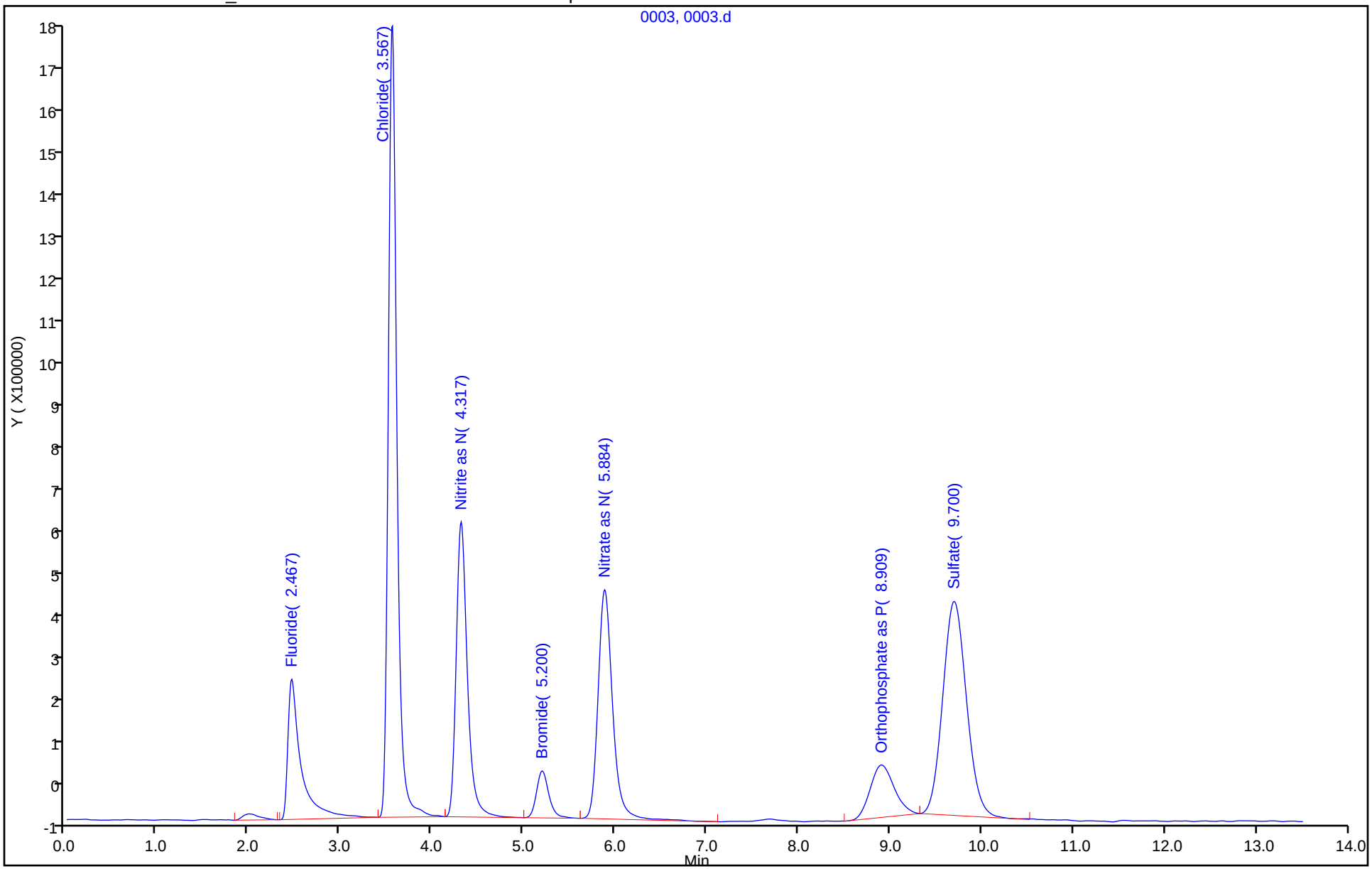
IC CAL cl/so4_00225 Amount Added: 0.05 Units: mL
IC Cal low_00406 Amount Added: 0.05 Units: mL

Report Date: 16-Oct-2018 20:06:55 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0003.d

Injection Date:	14-Oct-2018 12:23:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	std L2			Worklist Smp#:	3
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0004.d
Lims ID: std L3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Oct-2018 12:39:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-004
Misc. Info.: 4 F
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 16-Oct-2018 20:18:16 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

First Level Reviewer: newcomer Date: 16-Oct-2018 20:18:16

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	6183258	1.00	0.9600	
2 Chloride	3.567	3.600	-0.033	22509409	5.00	4.09	
3 Nitrite as N	4.317	4.325	-0.008	10952198	1.00	0.9519	
4 Bromide	5.201	5.200	0.001	1874188	1.00	0.9782	
5 Nitrate as N	5.884	5.875	0.009	11091584	1.00	0.9356	
7 Orthophosphate as P	8.901	8.884	0.017	4004461	1.00	0.9411	
6 Sulfate	9.701	9.734	-0.033	16608239	5.00	4.45	

Reagents:

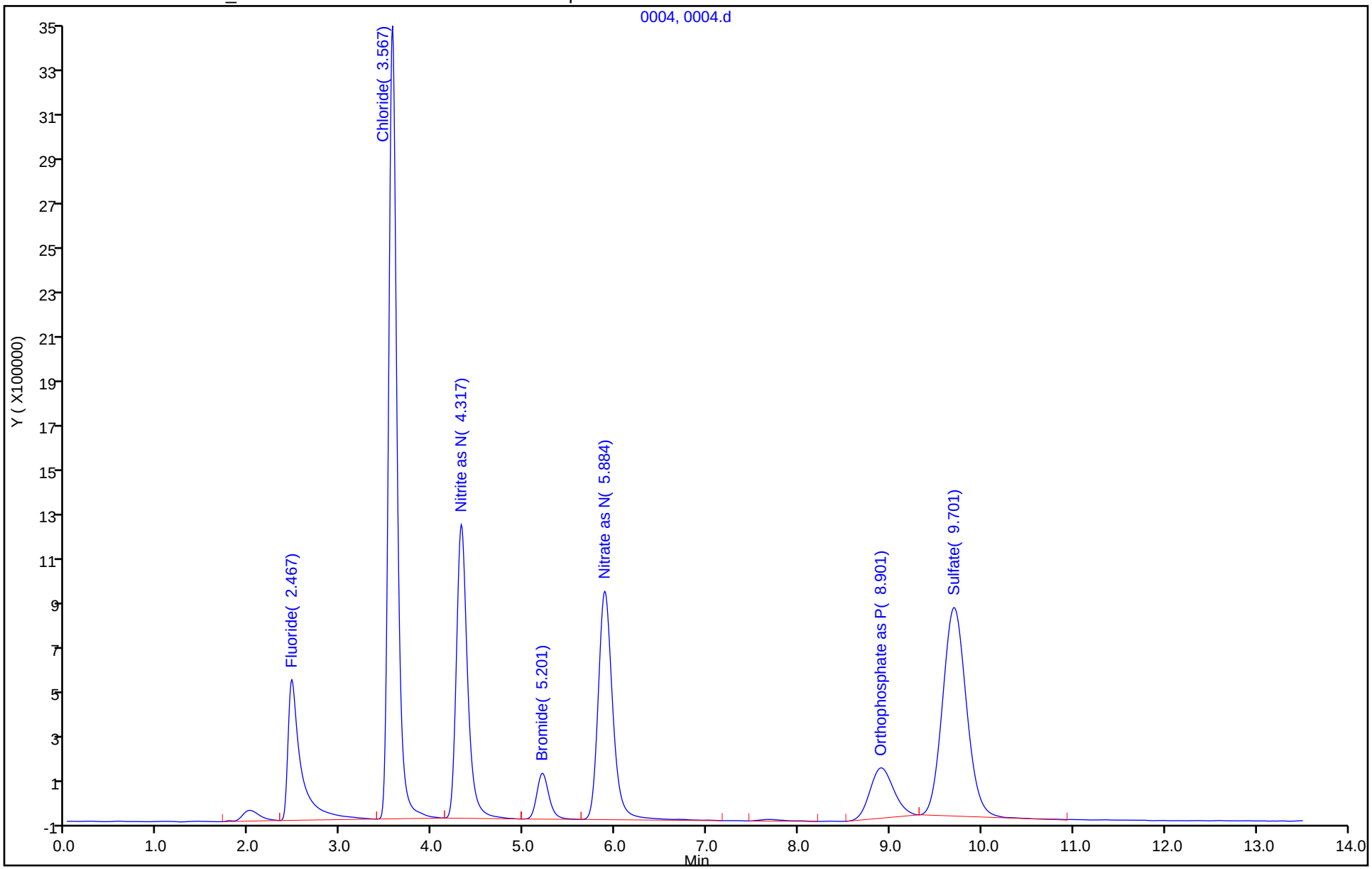
IC CAL cl/so4_00225 Amount Added: 0.10 Units: mL
IC Cal low_00406 Amount Added: 0.10 Units: mL

Report Date: 16-Oct-2018 20:18:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0004.d

Injection Date:	14-Oct-2018 12:39:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	std L3			Worklist Smp#:	4
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0005.d
Lims ID: std L4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 14-Oct-2018 12:55:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-005
Misc. Info.: 5 F
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 16-Oct-2018 20:06:56 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

First Level Reviewer: phantl Date: 16-Oct-2018 15:07:03

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	25486951	4.00	3.86	
2 Chloride	3.592	3.592	0.000	354949252	60.0	55.7	
3 Nitrite as N	4.325	4.325	0.000	45428845	4.00	3.85	
4 Bromide	5.200	5.200	0.000	7559221	4.00	3.96	
5 Nitrate as N	5.884	5.884	0.000	46034088	4.00	3.80	
7 Orthophosphate as P	8.892	8.892	0.000	16112007	4.00	3.87	
6 Sulfate	9.734	9.734	0.000	218889537	60.0	54.5	

Reagents:

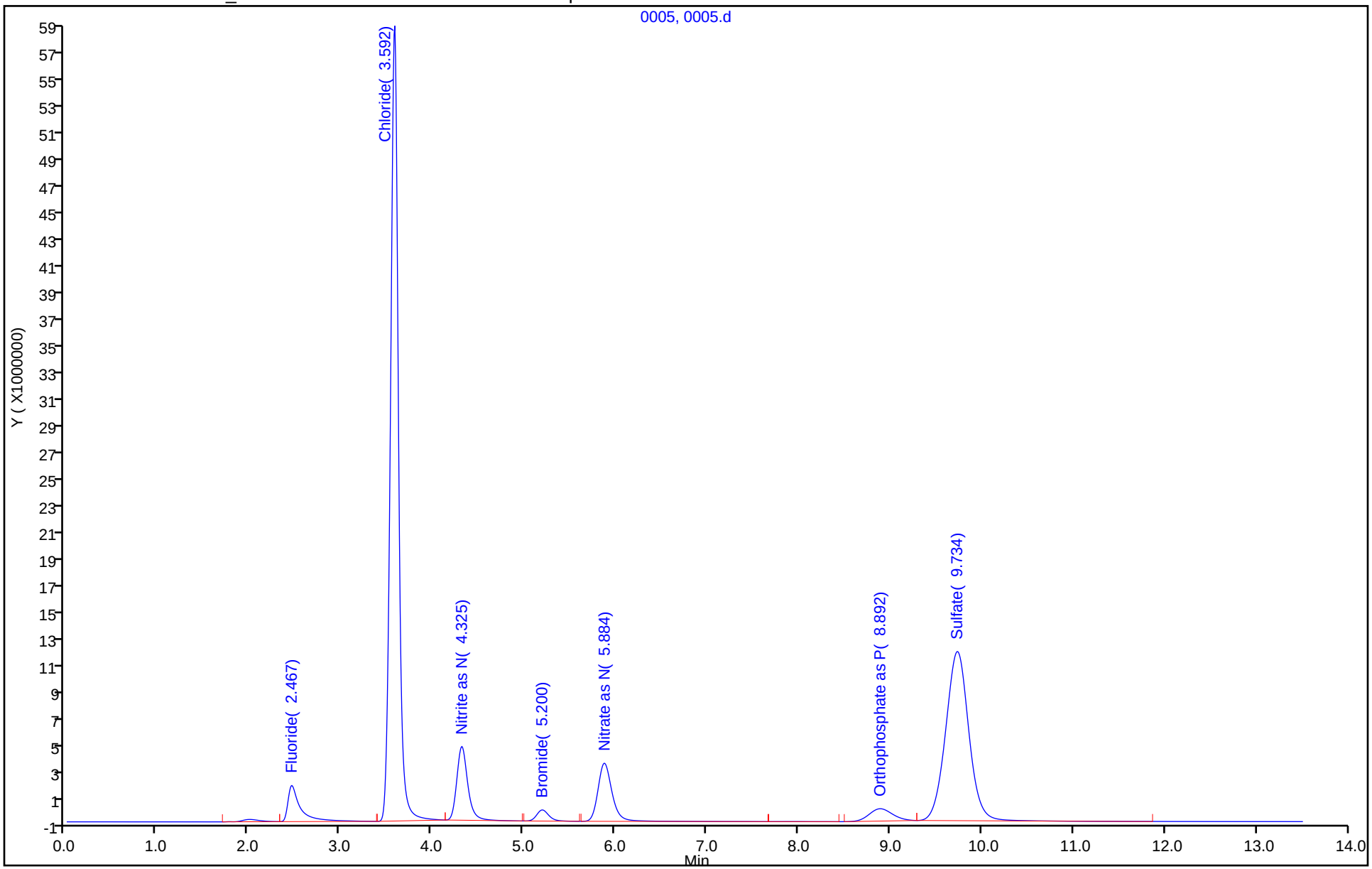
IC CAL cl/so4_00225 Amount Added: 1.20 Units: mL
IC Cal low_00406 Amount Added: 0.40 Units: mL

Report Date: 16-Oct-2018 20:06:57 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0005.d

Injection Date:	14-Oct-2018 12:55:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	std L4			Worklist Smp#:	5
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0006.d
Lims ID: std L5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 14-Oct-2018 13:12:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-006
Misc. Info.: 6 F
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 16-Oct-2018 20:06:57 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	52761942	8.00	7.97	
2 Chloride	3.617	3.592	0.025	754510664	120.0	117.8	
3 Nitrite as N	4.334	4.325	0.009	94489104	8.00	7.98	
4 Bromide	5.200	5.200	0.000	15236658	8.00	7.98	
5 Nitrate as N	5.875	5.884	-0.009	96777197	8.00	7.97	
7 Orthophosphate as P	8.884	8.892	-0.008	33108518	8.00	7.98	
6 Sulfate	9.767	9.734	0.033	466051198	120.0	115.7	

Reagents:

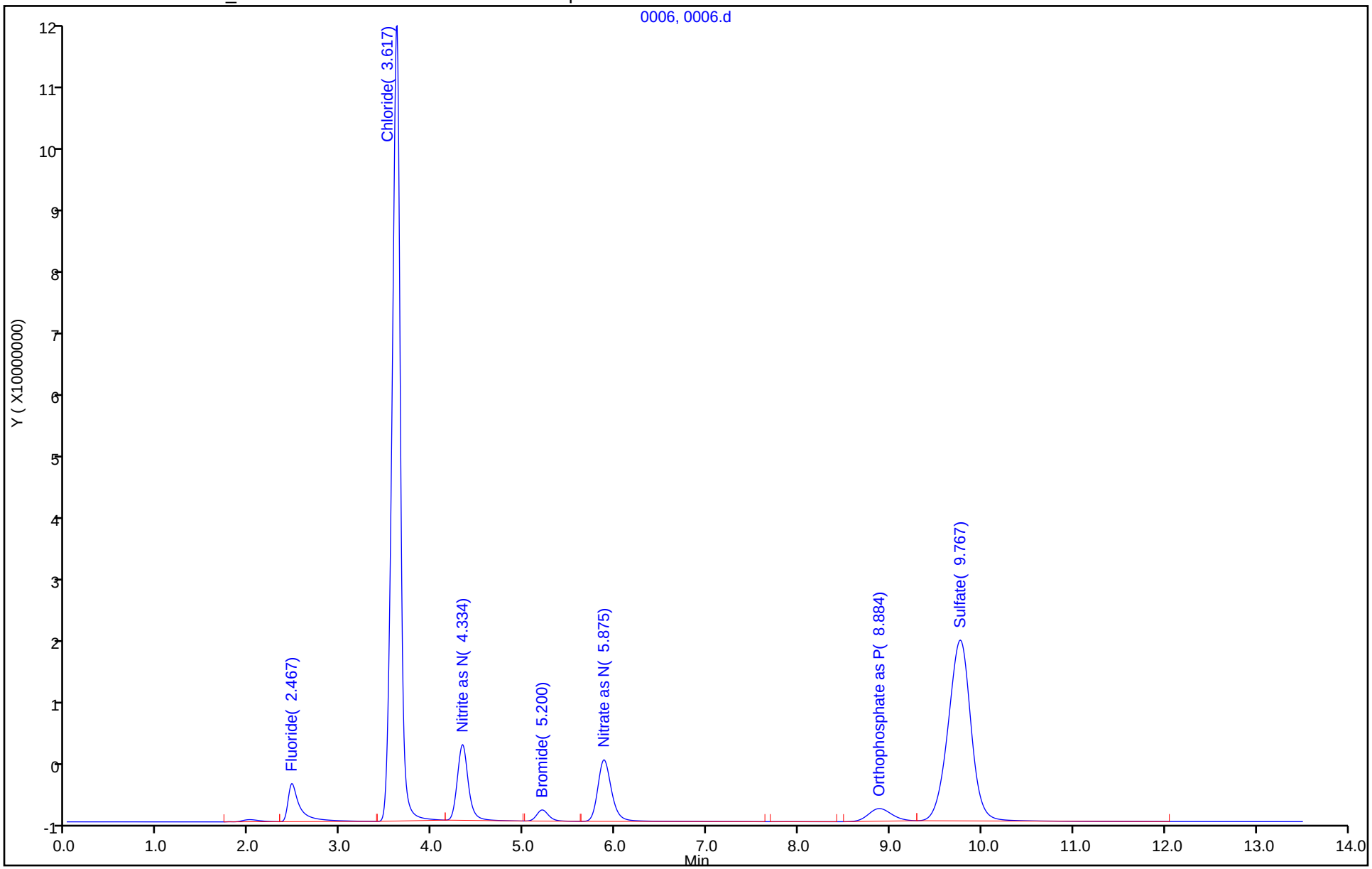
IC CAL cl/so4_00225 Amount Added: 2.40 Units: mL
IC Cal low_00406 Amount Added: 0.80 Units: mL

Report Date: 16-Oct-2018 20:06:58 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0006.d

Injection Date:	14-Oct-2018 13:12:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	std L5			Worklist Smp#:	6
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d
Lims ID: std L6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Oct-2018 13:28:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-007
Misc. Info.: 2438 F
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 16-Oct-2018 20:06:58 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	67621065	10.0	10.2	
2 Chloride	3.642	3.592	0.050	1331004347	200.0	207.3	
3 Nitrite as N	4.342	4.325	0.017	121128137	10.0	10.2	
4 Bromide	5.201	5.200	0.001	19264476	10.0	10.1	
5 Nitrate as N	5.876	5.884	-0.008	125104355	10.0	10.3	
7 Orthophosphate as P	8.876	8.892	-0.016	42371320	10.0	10.2	
6 Sulfate	9.801	9.734	0.067	847847466	200.0	210.2	

Reagents:

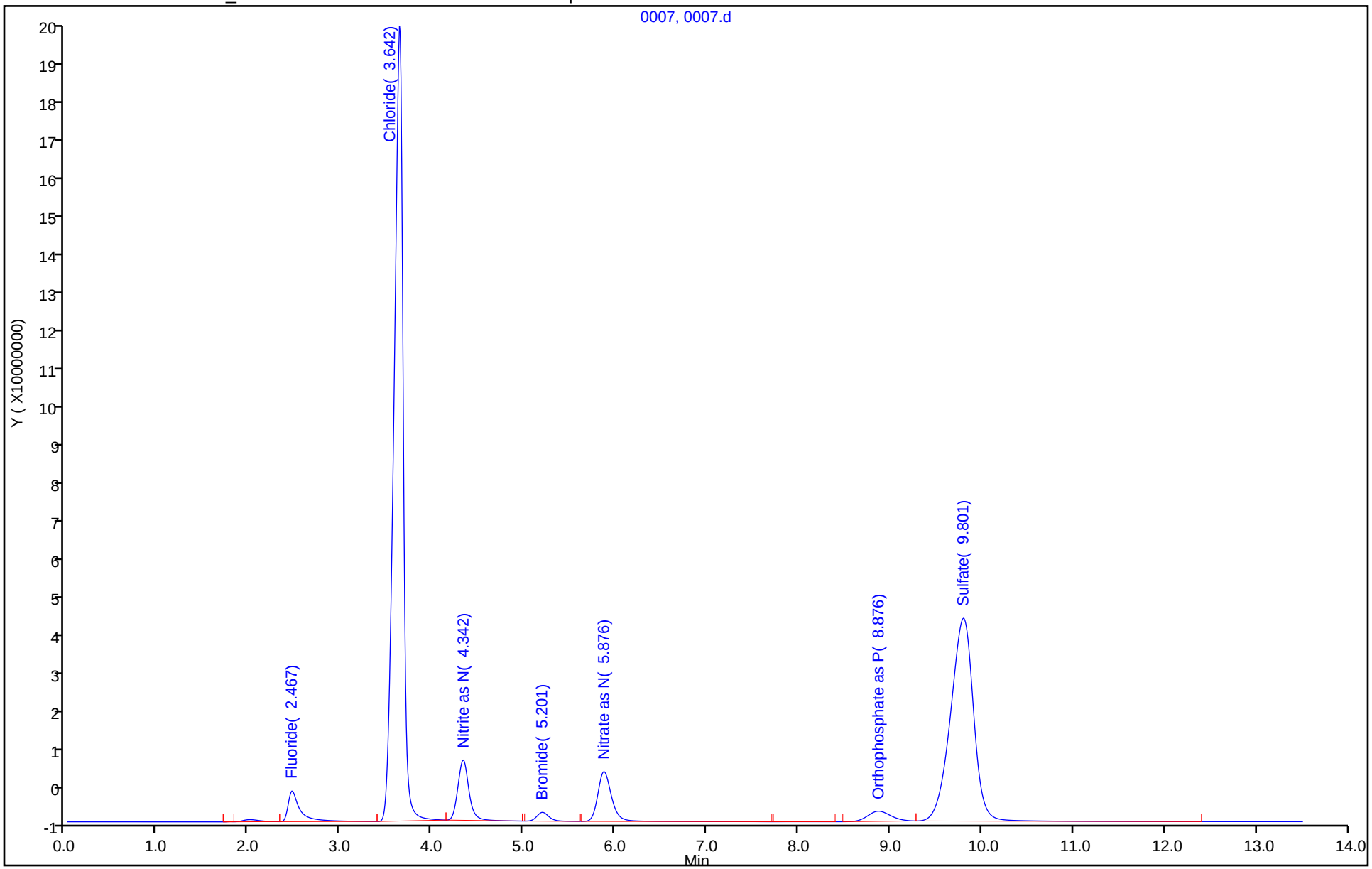
IC CAL cl/so4_00225 Amount Added: 4.00 Units: mL
IC Cal low_00406 Amount Added: 1.00 Units: mL

Report Date: 16-Oct-2018 20:06:59 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Injection Date:	14-Oct-2018 13:28:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	std L6			Worklist Smp#:	7
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



IC Instrument Information

WL: 75074 Inst ID: 11 Analysis Date: 10/14/18 Analyst: AM

Rush	Job No.	Samples	Anions	QC Req	HT Exp
☐	115218	AM 10/16/18 3	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D -8	client
☐	115229	2	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D	
☐	115357	8	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D 3	client
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

Job No.	Samples	Anions	Dilution	Reason
115218	7	F Cl NO2 Br NO3 PO4 SO4	10×	conductivity
115229	5,6,2,4	F Cl NO2 Br NO3 PO4 SO4	5×,10×	conductivity
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

TestAmerica Denver

TestAmerica

433354/55

IC Instrument Information

WL: 75074 Inst ID: 11 Analysis Date: 10/4/18 Analyst: AM

Rush	Job No.	Samples	Anions	QC Req	HT Exp
☐	115218	3	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D -8	client
☐	115229	2	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D	
☐	115357	8	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D 3	client
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

Job No.	Samples	Anions	Dilution	Reason
115218	7	F Cl NO2 Br NO3 PO4 SO4	10x	conductivity
115229	5,6,2,4	F Cl NO2 Br NO3 PO4 SO4	5x, 10x	conductivity
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

Panida P
10/17/18

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0008.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 14-Oct-2018 14:26:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-008
Misc. Info.: 3463 F
Operator ID: Instrument ID: WC_IonChrom11
Sublist:

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 16-Oct-2018 20:06:59 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	25982758	4.00	3.94	
2 Chloride	3.600	3.600	0.000	499637253	80.0	78.2	
3 Nitrite as N	4.325	4.325	0.000	44271402	4.00	3.75	
4 Bromide	5.200	5.200	0.000	7424200	4.00	3.89	
5 Nitrate as N	5.875	5.875	0.000	45524337	4.00	3.76	
7 Orthophosphate as P	8.884	8.884	0.000	16083103	4.00	3.86	
6 Sulfate	9.734	9.734	0.000	308513688	80.0	76.7	

Reagents:

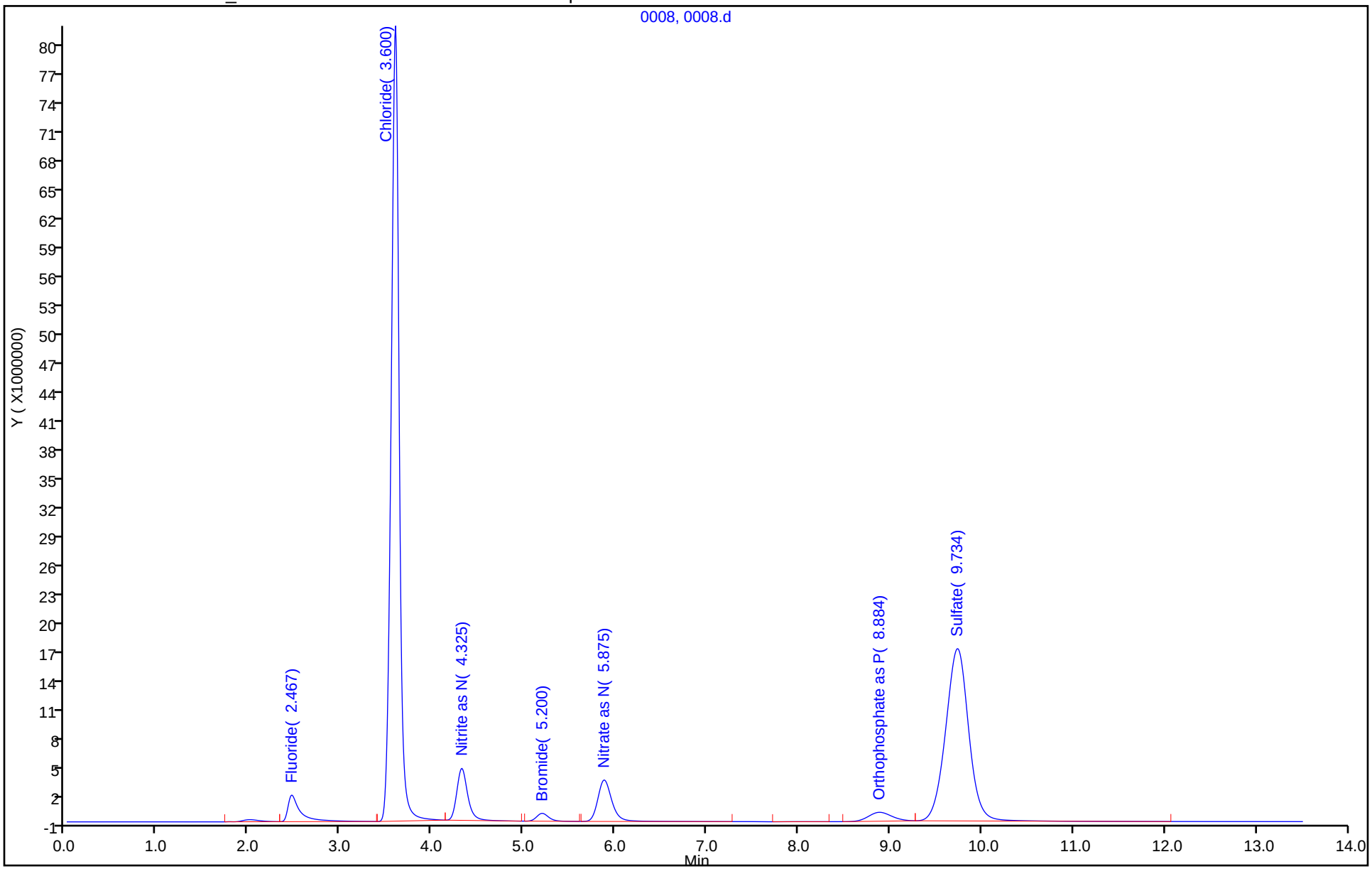
IC CL ICV_00014 Amount Added: 0.40 Units: mL
IC SO4 ICV_00017 Amount Added: 0.40 Units: mL
IC ICV 5_00212 Amount Added: 0.40 Units: mL

Report Date: 16-Oct-2018 20:07:00 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0008.d

Injection Date:	14-Oct-2018 14:26:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	ICV			Worklist Smp#:	8
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0009.d
Lims ID: ICB
Client ID:
Sample Type: ICB
Inject. Date: 14-Oct-2018 14:42:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075074-009
Misc. Info.: 15826 F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 16-Oct-2018 20:06:59 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0306

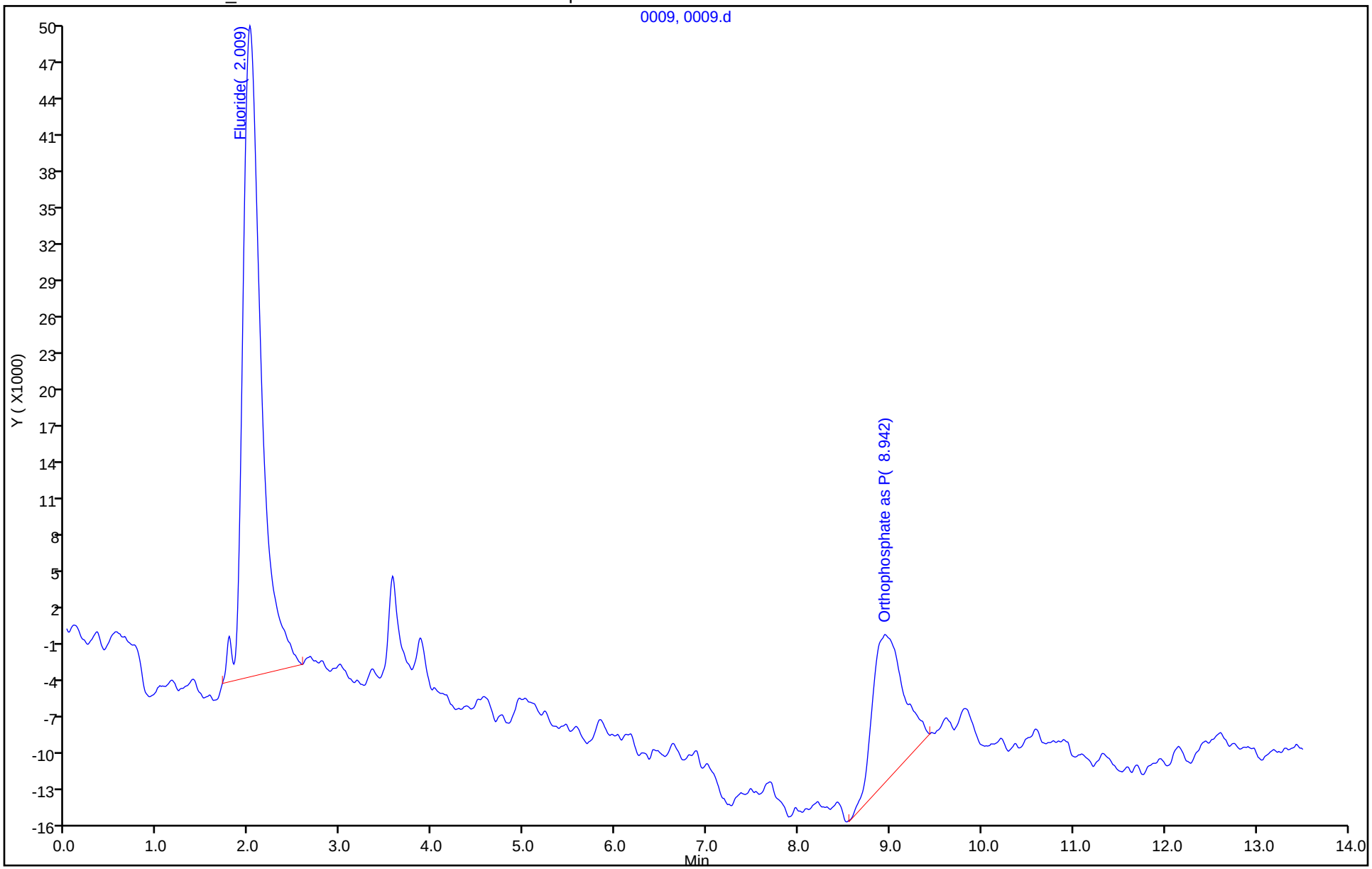
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.009	2.467	-0.458	745358		0.1418	
2 Chloride		3.592				ND	
3 Nitrite as N		4.325				ND	
4 Bromide		5.200				ND	
5 Nitrate as N		5.884				ND	
7 Orthophosphate as P	8.942	8.892	0.050	282127		0.0413	
6 Sulfate		9.734				ND	

Report Date: 16-Oct-2018 20:07:02 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0009.d

Injection Date:	14-Oct-2018 14:42:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	ICB			Worklist Smp#:	9
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



IC Instrument Information

WL: 15470 Inst ID: 11 Analysis Date: 10/25/18 Analyst: TP

Rush	Job No.	Samples	Anions	QC Req	HT Exp
=	116020 /	2	F Cl (NO2) Br (NO3) (PO4) (SO4)	(MS/D) 5	r
=	116163	1	F Cl (NO2) Br (NO3) PO4 SO4	MS/D	
=	115669	2	F (Cl) NO2 Br NO3 PO4 SO4	(MS/D) 9	
Total	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	MS/D	
Dis	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	MS/D	
=	115540	5	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D	
=	115468	5	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

	Job No.	Samples	Anions	Dilution	Reason
✓	116163	1	F Cl (NO2) Br (NO3) PO4 SO4	5x	high
✓	115540	2,4	F (Cl) NO2 Br NO3 PO4 (SO4)	5x	historical
✓	115468	6,7,8,9	F (Cl) NO2 Br NO3 PO4 (SO4)	5x	historical
Total-	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	5x	historical
Dis	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	5x	historical
			F Cl NO2 Br NO3 PO4 SO4		
			F Cl NO2 Br NO3 PO4 SO4		
			F Cl NO2 Br NO3 PO4 SO4		
			F Cl NO2 Br NO3 PO4 SO4		

434904 / 434905

TestAmerica Denver

TestAmerica

IC Instrument Information

WL: 15470 Inst ID: 11 Analysis Date: 10/25/18 Analyst: TP

Rush	Job No.	Samples	Anions	QC Req	HT Exp
=	116020 /	2	F Cl (NO2) Br (NO3) (PO4) (SO4)	(MS/D) 5	r
=	116163	1	F Cl (NO2) Br (NO3) PO4 SO4	MS/D	
=	115669	2	F (Cl) NO2 Br NO3 PO4 SO4	(MS/D) 9	
Total	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	MS/D	
Dis	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	MS/D	
=	115540	5	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D	
=	115468	5	F (Cl) NO2 Br NO3 PO4 (SO4)	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	
=			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

	Job No.	Samples	Anions	Dilution	Reason
✓	116163	1	F Cl (NO2) Br (NO3) PO4 SO4	5x	high
✓	115540	2,4	F (Cl) NO2 Br NO3 PO4 (SO4)	5x	historical
✓	115468	6,7,8,9	F (Cl) NO2 Br NO3 PO4 (SO4)	5x	historical
Total	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	5x	historical
Dis	115347	1	F (Cl) NO2 Br NO3 PO4 SO4	5x	historical
			F Cl NO2 Br NO3 PO4 SO4		
			F Cl NO2 Br NO3 PO4 SO4		
			F Cl NO2 Br NO3 PO4 SO4		
			F Cl NO2 Br NO3 PO4 SO4		

Chudapaw 10/29/18.

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0001.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 25-Oct-2018 12:13:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-001
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.450	2.459	-0.009	30459169	5.00	4.61	
2 Chloride	3.567	3.575	-0.008	679120958	100.0	106.1	
3 Nitrite as N	4.259	4.275	-0.016	61356571	5.00	5.19	
4 Bromide	5.100	5.125	-0.025	9924247	5.00	5.19	
5 Nitrate as N	5.750	5.784	-0.034	64225580	5.00	5.30	
7 Orthophosphate as P	8.642	8.717	-0.075	20636112	5.00	4.96	
6 Sulfate	9.500	9.575	-0.075	435188840	100.0	108.1	

Reagents:

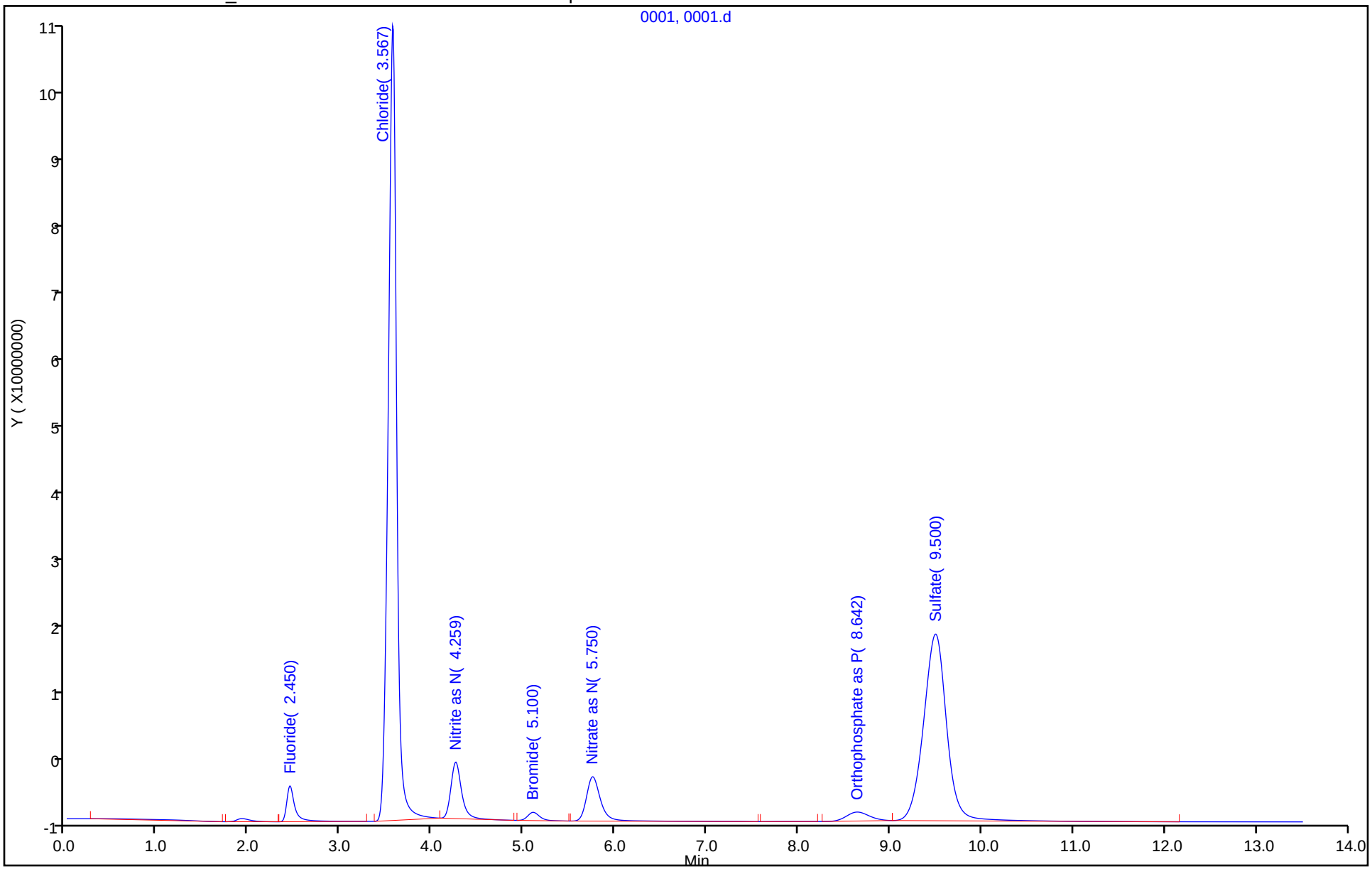
IC LCS_01382 Amount Added: 5.00 Units: mL

Report Date: 26-Oct-2018 12:30:27 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0001.d

Injection Date:	25-Oct-2018 12:13:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	1
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0002.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 25-Oct-2018 12:50:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-002
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

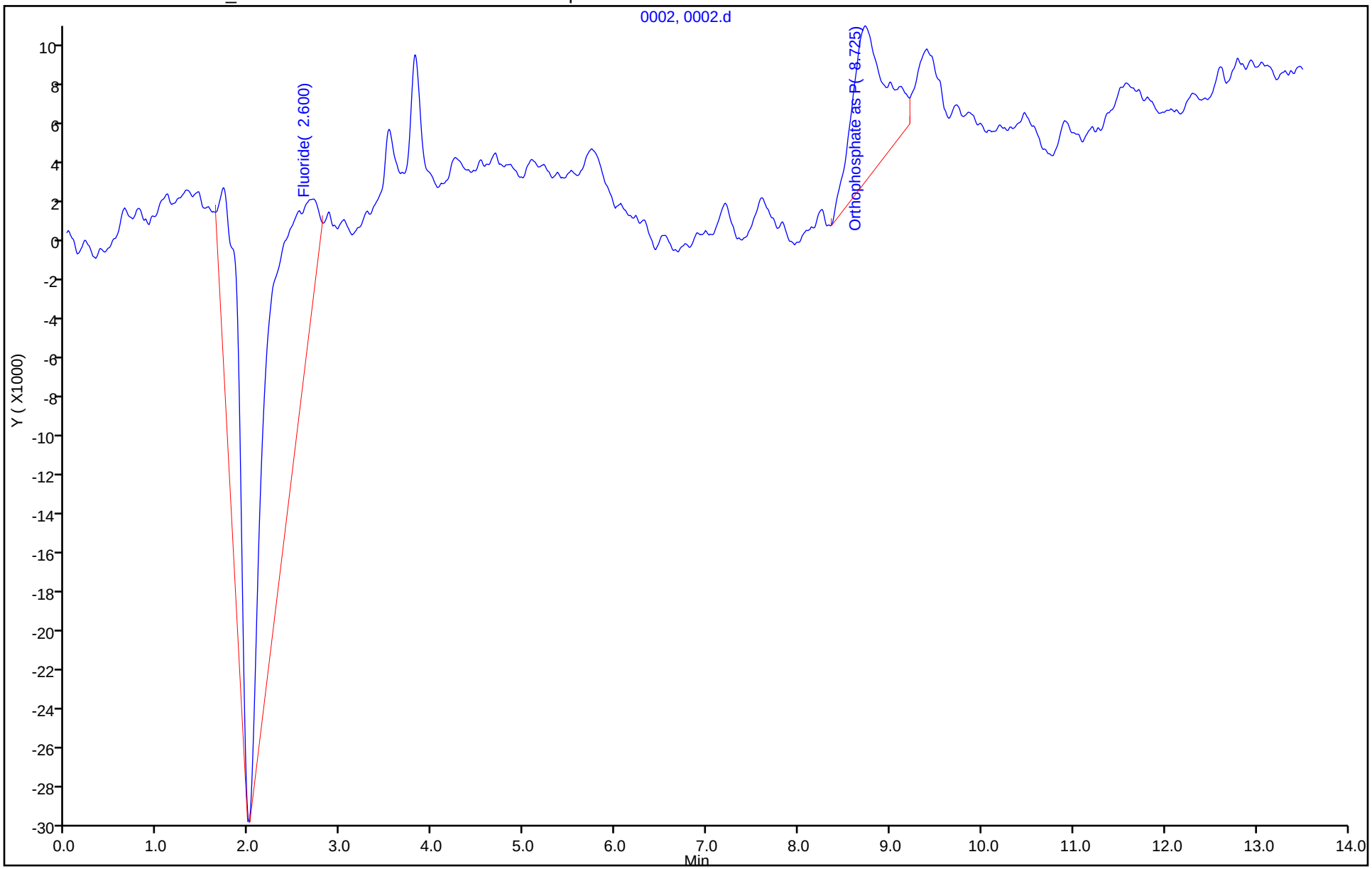
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.600	2.459	0.141	499431		0.1048	
2 Chloride		3.575				ND	
3 Nitrite as N		4.275				ND	
4 Bromide		5.125				ND	
5 Nitrate as N		5.784				ND	
7 Orthophosphate as P	8.725	8.717	0.008	200121		0.0215	
6 Sulfate		9.575				ND	

Report Date: 26-Oct-2018 12:30:31 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0002.d

Injection Date:	25-Oct-2018 12:50:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	2
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0003.d
Lims ID: MRL
Client ID:
Sample Type: MRL
Inject. Date: 25-Oct-2018 13:06:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-003
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.475	2.459	0.016	1061591	0.2000	0.1894	
2 Chloride	3.525	3.575	-0.050	12478746	2.50	2.53	
3 Nitrite as N	4.250	4.275	-0.025	2410407	0.2000	0.2337	
4 Bromide	5.100	5.125	-0.025	435530	0.2000	0.2246	
5 Nitrate as N	5.759	5.784	-0.025	2449385	0.2000	0.2265	
7 Orthophosphate as P	8.692	8.717	-0.025	648155	0.2000	0.1298	
6 Sulfate	9.434	9.575	-0.141	9277166	2.50	2.64	

Reagents:

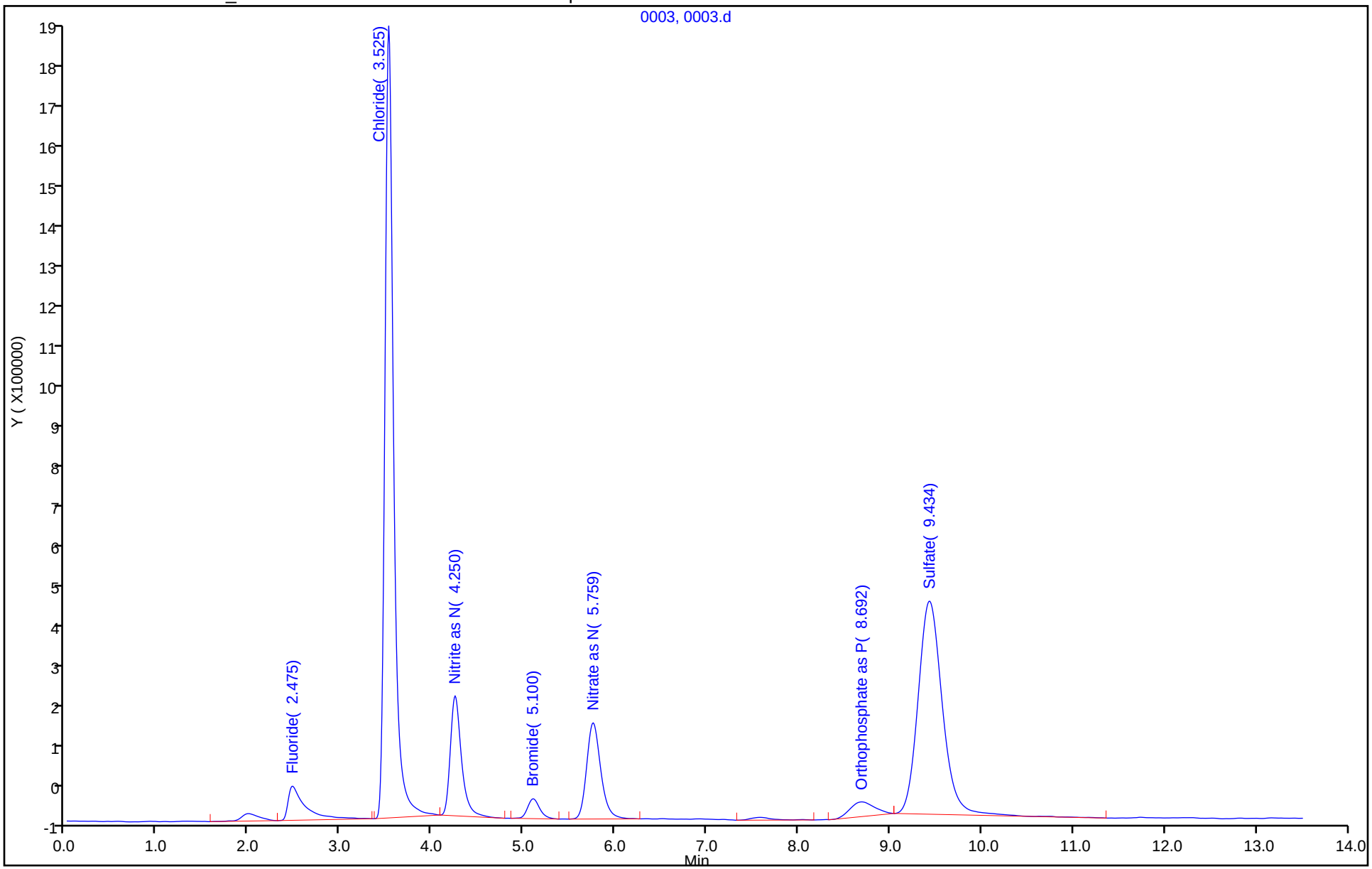
IC CAL cl/so4_00226 Amount Added: 0.05 Units: mL
IC Cal low_00408 Amount Added: 0.02 Units: mL

Report Date: 26-Oct-2018 12:30:35 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0003.d

Injection Date:	25-Oct-2018 13:06:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	MRL			Worklist Smp#:	3
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0004.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 25-Oct-2018 16:18:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-004
Misc. Info.: 4 F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.459	2.459	0.000	31653913	5.00	4.79	
2 Chloride	3.567	3.575	-0.008	693012970	100.0	108.2	
3 Nitrite as N	4.259	4.275	-0.016	62302329	5.00	5.27	
4 Bromide	5.109	5.125	-0.016	10208575	5.00	5.34	
5 Nitrate as N	5.759	5.784	-0.025	65644636	5.00	5.41	
7 Orthophosphate as P	8.625	8.717	-0.092	19611058	5.00	4.71	
6 Sulfate	9.450	9.575	-0.125	439129569	100.0	109.0	

Reagents:

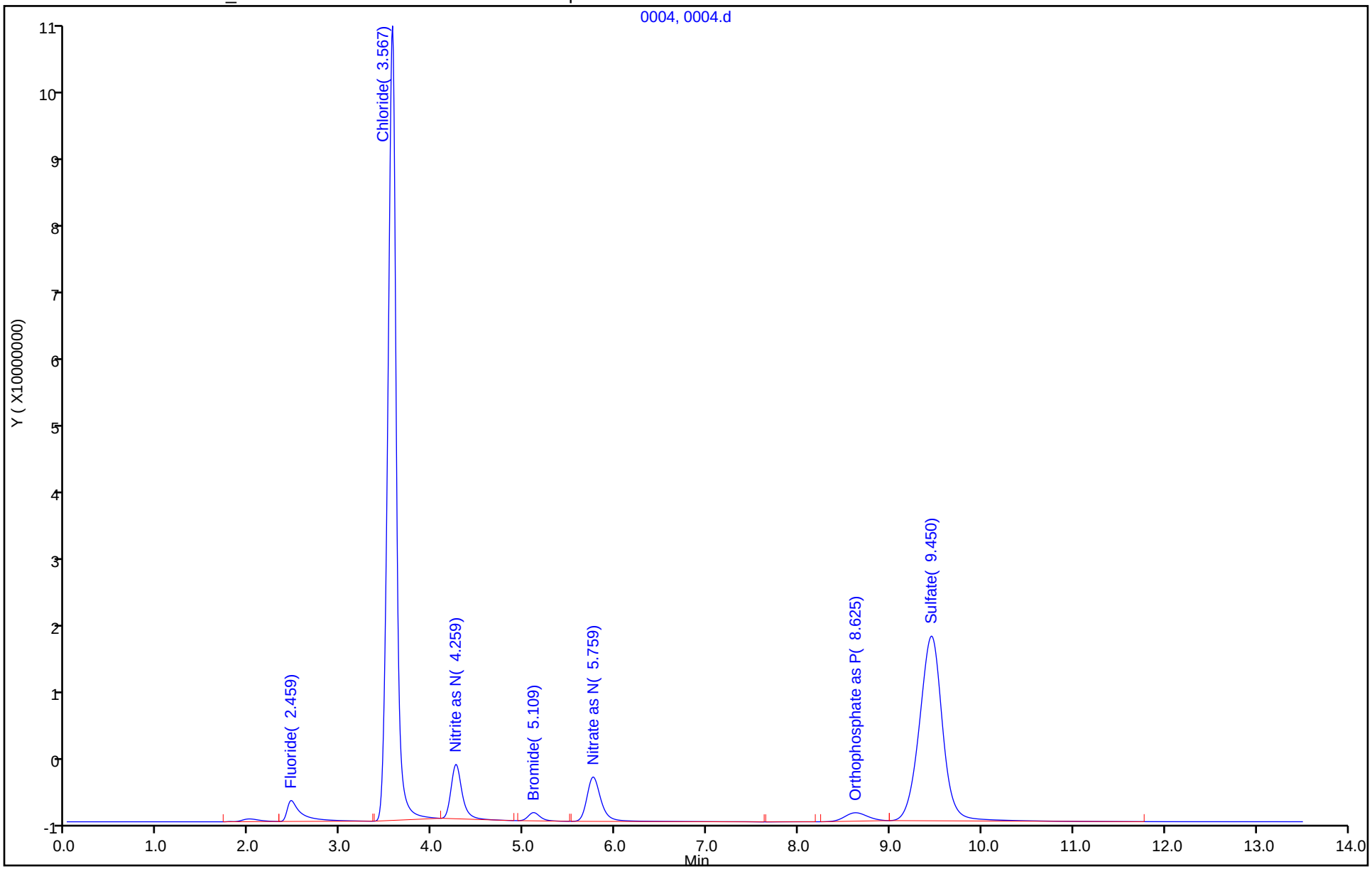
IC LCS_01382 Amount Added: 5.00 Units: mL

Report Date: 26-Oct-2018 12:30:38 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0004.d

Injection Date:	25-Oct-2018 16:18:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0005.d
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 25-Oct-2018 16:33:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-005
Misc. Info.: 5 F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.459	2.459	0.000	31784197	5.00	4.81	
2 Chloride	3.559	3.575	-0.016	690489379	100.0	107.8	
3 Nitrite as N	4.259	4.275	-0.016	62234360	5.00	5.26	
4 Bromide	5.100	5.125	-0.025	10213660	5.00	5.35	
5 Nitrate as N	5.750	5.784	-0.034	65233428	5.00	5.38	
7 Orthophosphate as P	8.617	8.717	-0.100	19841177	5.00	4.77	
6 Sulfate	9.450	9.575	-0.125	438170656	100.0	108.8	

Reagents:

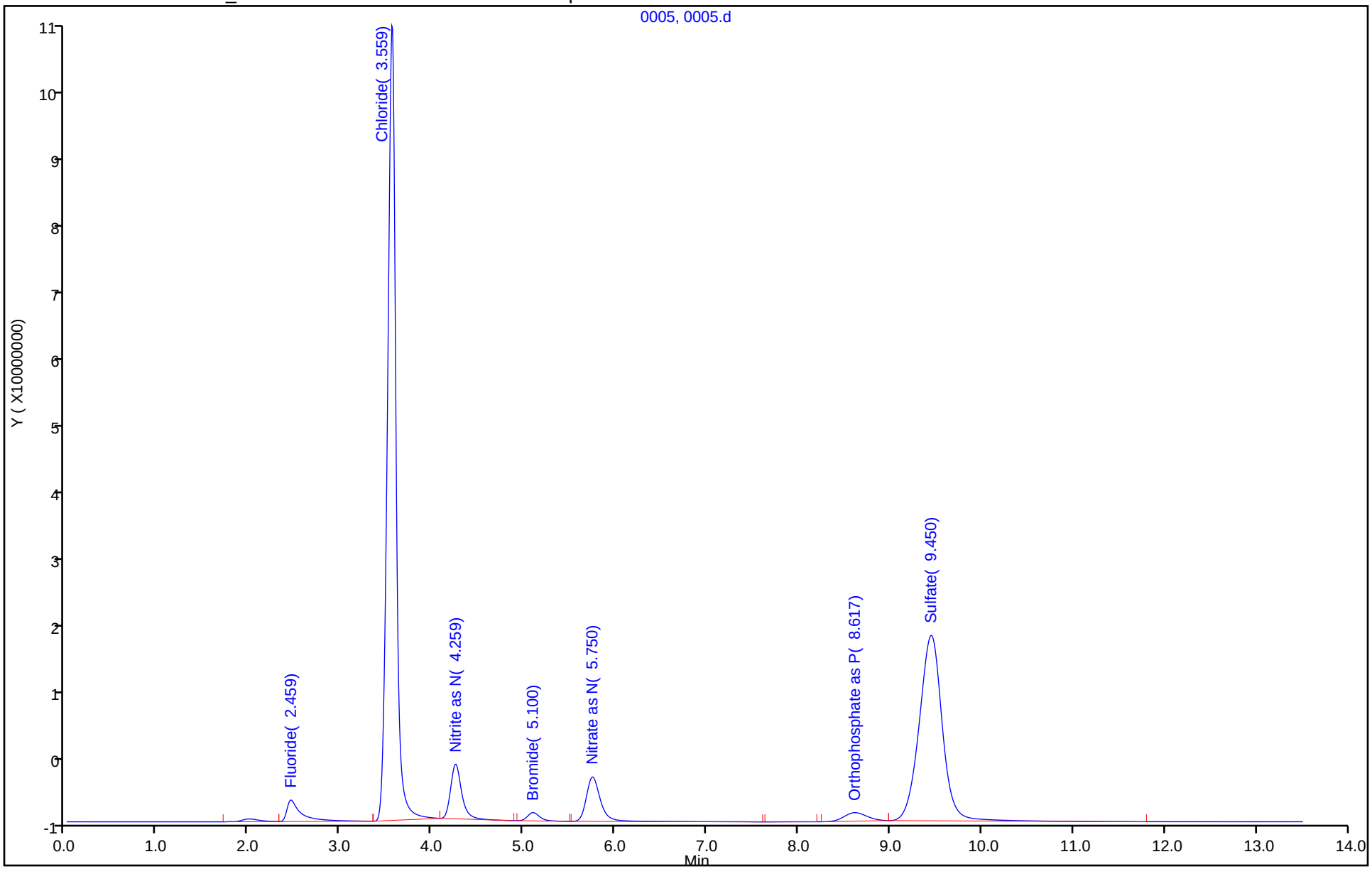
IC LCS_01382 Amount Added: 5.00 Units: mL

Report Date: 26-Oct-2018 12:30:40 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0005.d

Injection Date:	25-Oct-2018 16:33:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	LCSD			Worklist Smp#:	5
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0006.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 25-Oct-2018 17:50:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-006
Misc. Info.: 6 F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

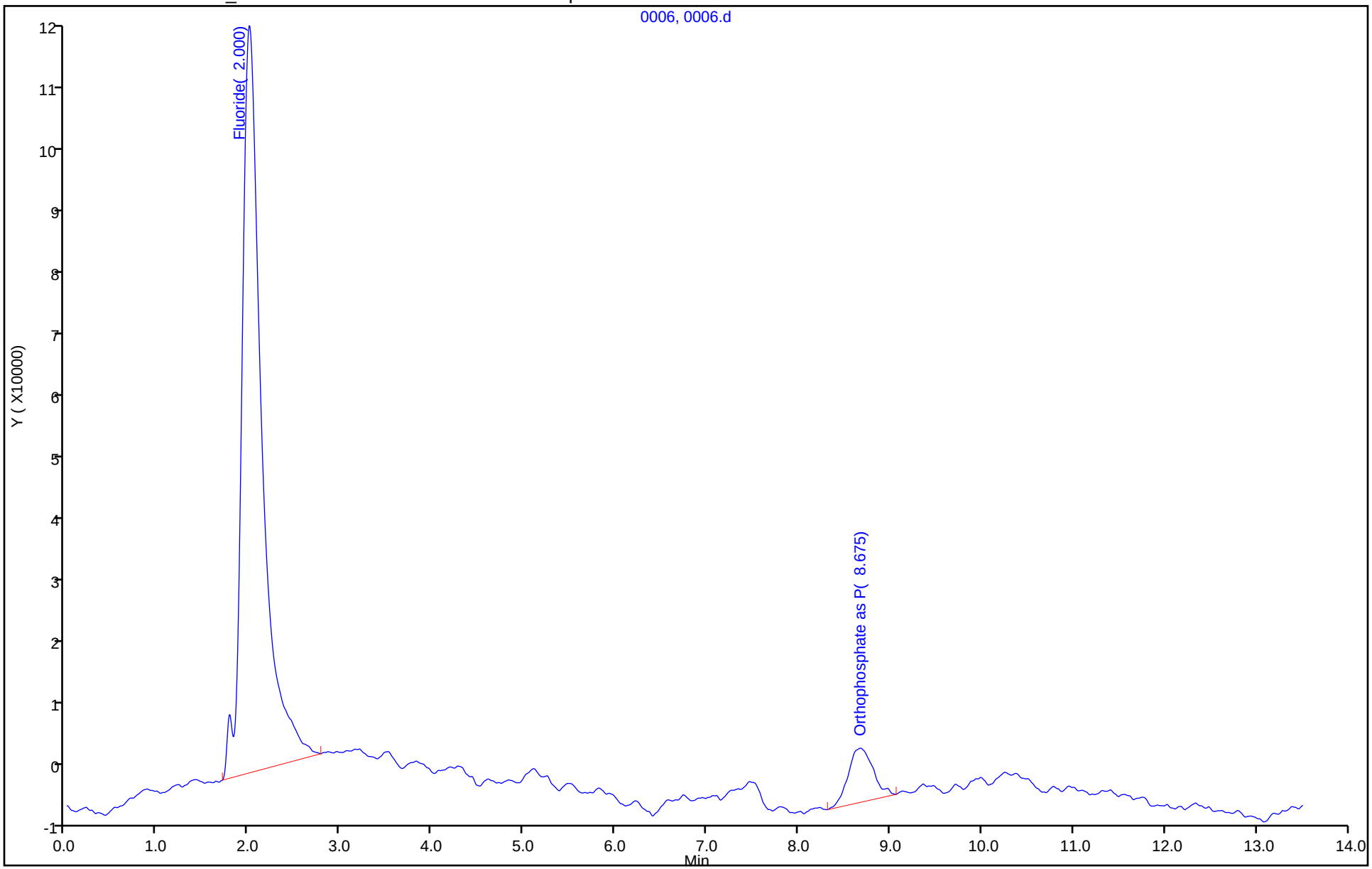
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.459	-0.459	1624407		0.2741	
2 Chloride		3.575				ND	
3 Nitrite as N		4.275				ND	
4 Bromide		5.125				ND	
5 Nitrate as N		5.784				ND	
7 Orthophosphate as P	8.675	8.717	-0.042	146166		0.008464	
6 Sulfate		9.575				ND	

Report Date: 26-Oct-2018 12:30:45 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0006.d

Injection Date:	25-Oct-2018 17:50:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	MB			Worklist Smp#:	6
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0007.d
Lims ID: 280-116020-G-5
Client ID: LL1mw-083-181001-GW
Sample Type: Client
Inject. Date: 25-Oct-2018 18:06:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-007
Misc. Info.: 1772 286F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

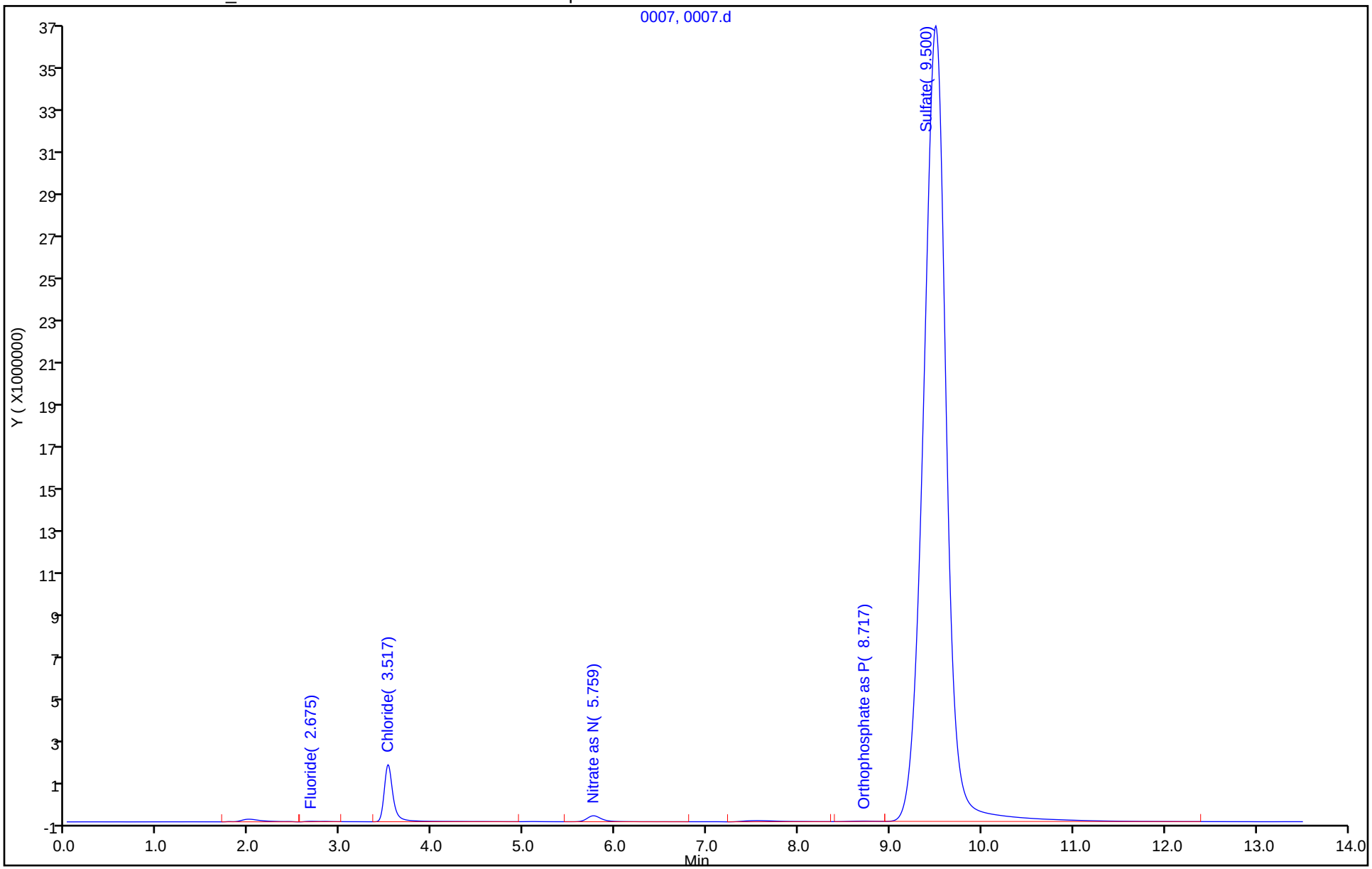
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.675	2.459	0.216	310783	0.0764	
2 Chloride	3.517	3.575	-0.058	18359130	3.45	
3 Nitrite as N		4.275			ND	
4 Bromide		5.125			ND	
5 Nitrate as N	5.759	5.784	-0.025	3263927	0.2933	
7 Orthophosphate as P	8.717	8.717	0.000	284632	0.0419	
6 Sulfate	9.500	9.575	-0.075	638318658	158.3	

Report Date: 26-Oct-2018 12:30:49 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0007.d

Injection Date:	25-Oct-2018 18:06:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	280-116020-G-5	Lab Sample ID:	280-116020-5	Worklist Smp#:	7
Client ID:	LL1mw-083-181001-GW				
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0008.d
Lims ID: 280-116020-G-5 DU
Client ID:
Sample Type: DU
Inject. Date: 25-Oct-2018 18:23:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-008
Misc. Info.: 7598 F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

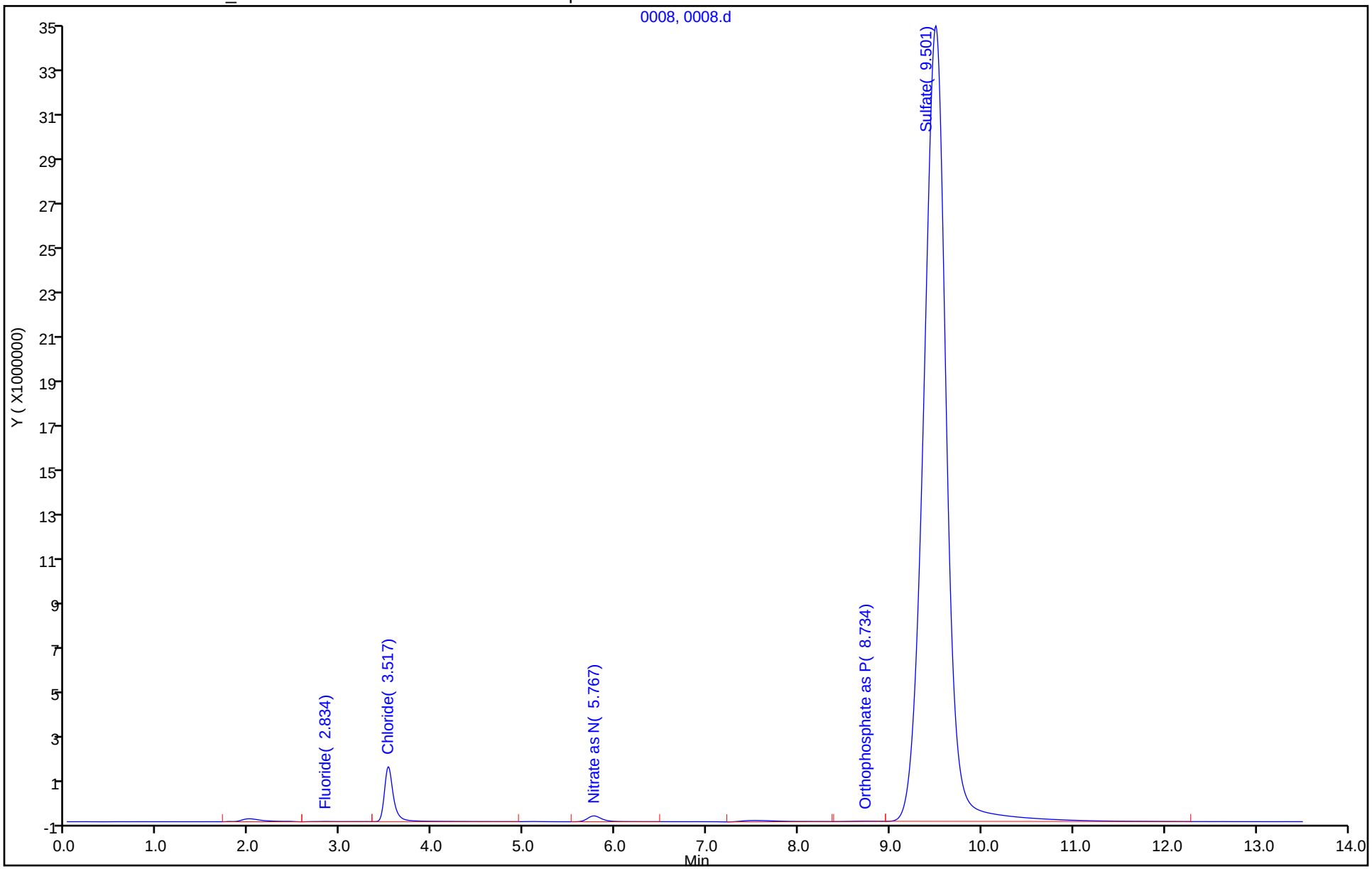
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.834	2.459	0.375	220740		0.0629	
2 Chloride	3.517	3.575	-0.058	16511829		3.16	
3 Nitrite as N		4.275				ND	
4 Bromide		5.125				ND	
5 Nitrate as N	5.767	5.784	-0.017	2780136		0.2536	
7 Orthophosphate as P	8.734	8.717	0.017	190073		0.0191	
6 Sulfate	9.501	9.575	-0.074	589136011		146.2	

Report Date: 26-Oct-2018 12:30:52 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0008.d

Injection Date:	25-Oct-2018 18:23:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	280-116020-G-5 DU			Worklist Smp#:	8
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0009.d
Lims ID: 280-116020-G-5 MS
Client ID:
Sample Type: MS
Inject. Date: 25-Oct-2018 18:41:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-009
Misc. Info.: 16932 F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.459	2.459	0.000	35329835	5.00	5.35	
2 Chloride	3.534	3.575	-0.041	175435385	25.0	27.8	
3 Nitrite as N	4.259	4.275	-0.016	58016517	5.00	4.91	
4 Bromide	5.109	5.125	-0.016	10790853	5.00	5.65	
5 Nitrate as N	5.759	5.784	-0.025	72055055	5.00	5.94	
7 Orthophosphate as P	8.675	8.717	-0.042	12783781	5.00	3.06	
6 Sulfate	9.517	9.575	-0.058	744862218	25.0	184.7	

Reagents:

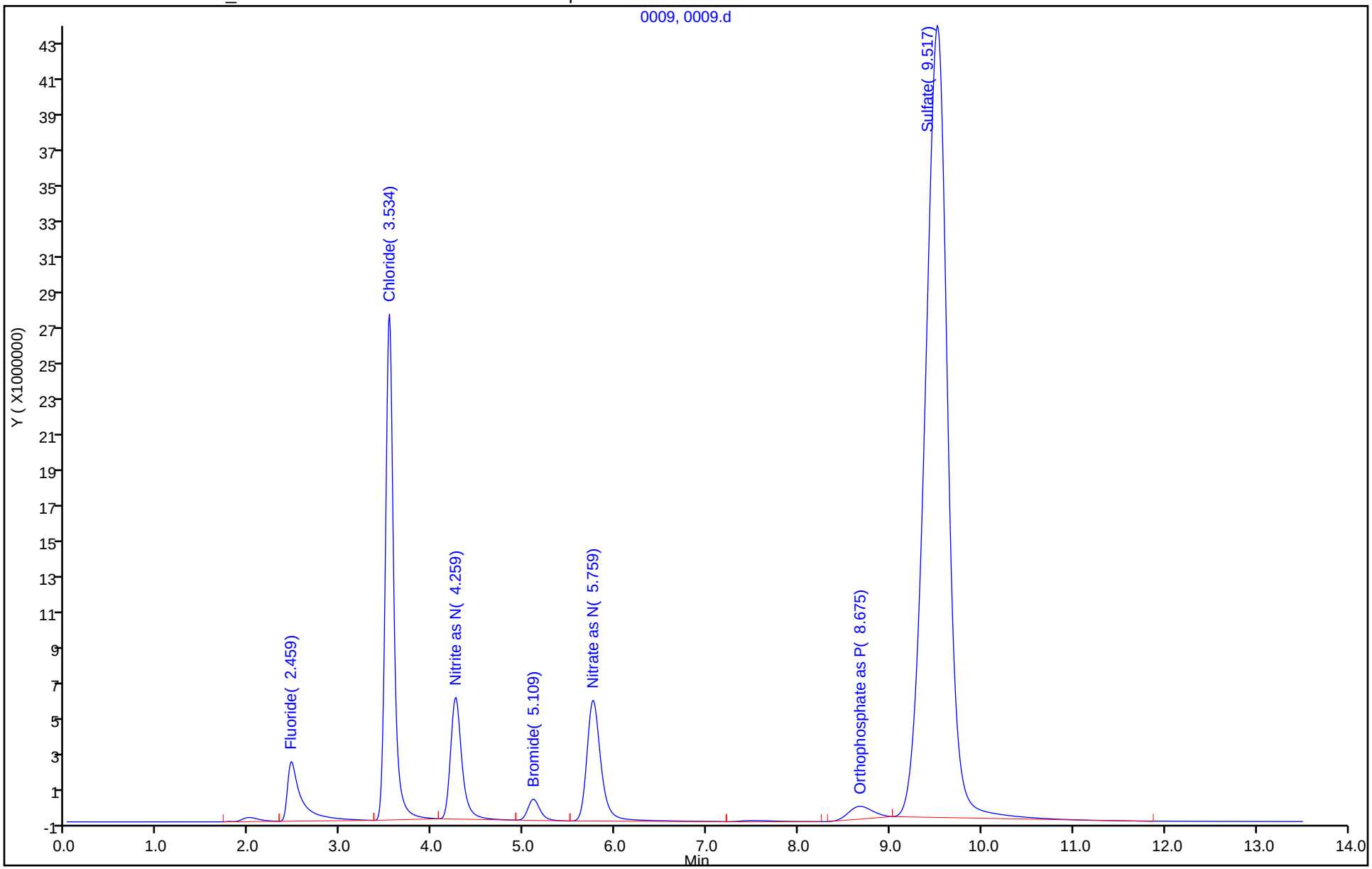
ICMS/MSD WEEK_00560 Amount Added: 0.05 Units: mL

Report Date: 26-Oct-2018 12:30:54 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0009.d

Injection Date:	25-Oct-2018 18:41:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	280-116020-G-5 MS			Worklist Smp#:	9
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0010.d
Lims ID: 280-116020-G-5 MSD
Client ID:
Sample Type: MSD
Inject. Date: 25-Oct-2018 19:01:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-010
Misc. Info.: 660 F
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.459	2.459	0.000	33442466	5.00	5.06	
2 Chloride	3.525	3.575	-0.050	163693880	25.0	26.0	
3 Nitrite as N	4.250	4.275	-0.025	54613247	5.00	4.62	
4 Bromide	5.100	5.125	-0.025	10190378	5.00	5.33	
5 Nitrate as N	5.759	5.784	-0.025	67650394	5.00	5.58	
7 Orthophosphate as P	8.675	8.717	-0.042	13632149	5.00	3.27	
6 Sulfate	9.509	9.575	-0.066	689816435	25.0	171.1	

Reagents:

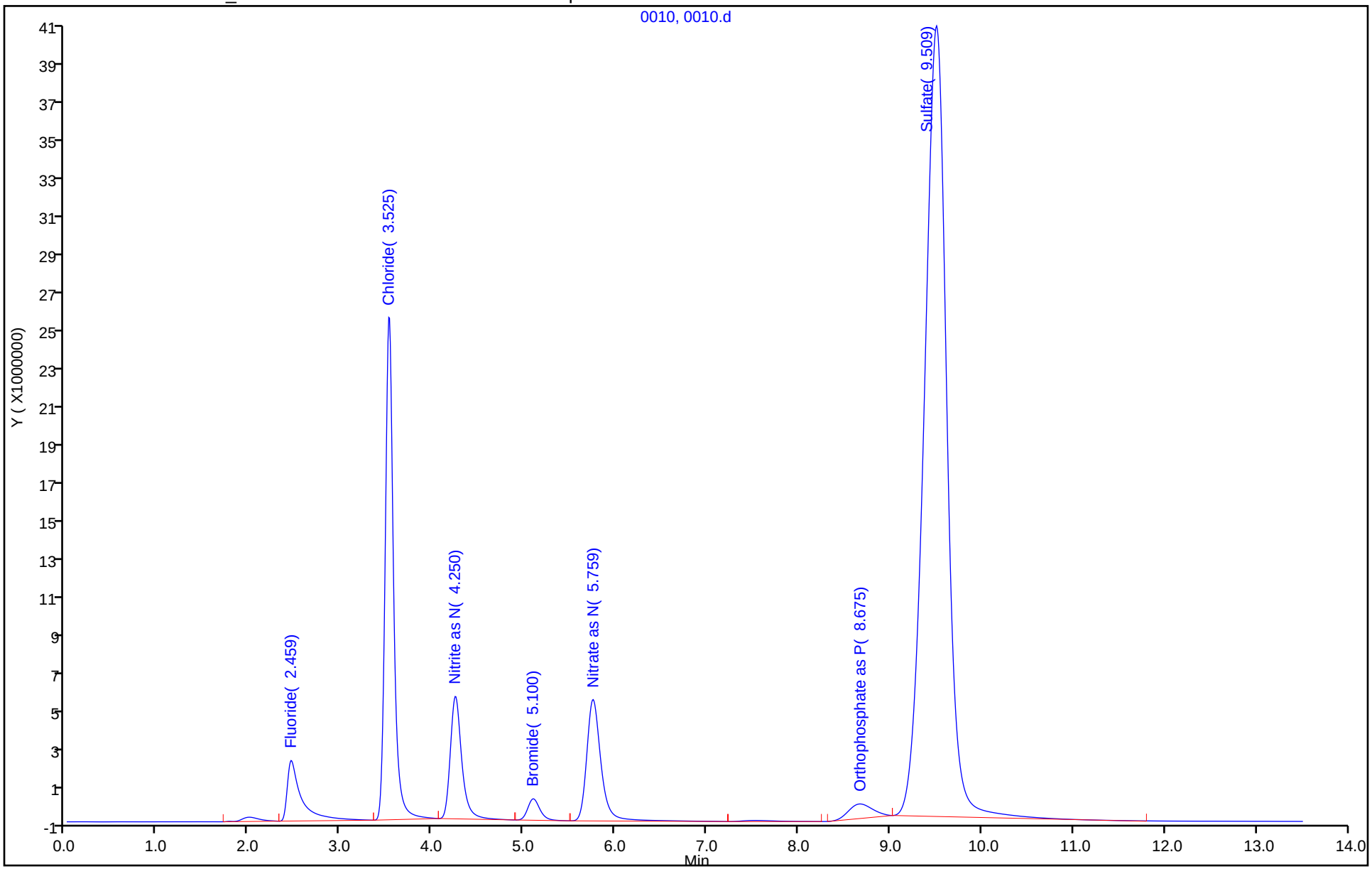
ICMS/MSD WEEK_00560 Amount Added: 0.05 Units: mL

Report Date: 26-Oct-2018 12:30:58 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0010.d

Injection Date:	25-Oct-2018 19:01:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	280-116020-G-5 MSD			Worklist Smp#:	10
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0011.d
Lims ID: 280-116020-H-6
Client ID: LL1mw-084-181001-GW
Sample Type: Client
Inject. Date: 25-Oct-2018 19:20:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-011
Misc. Info.: 13312 279
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 26-Oct-2018 12:30:25 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

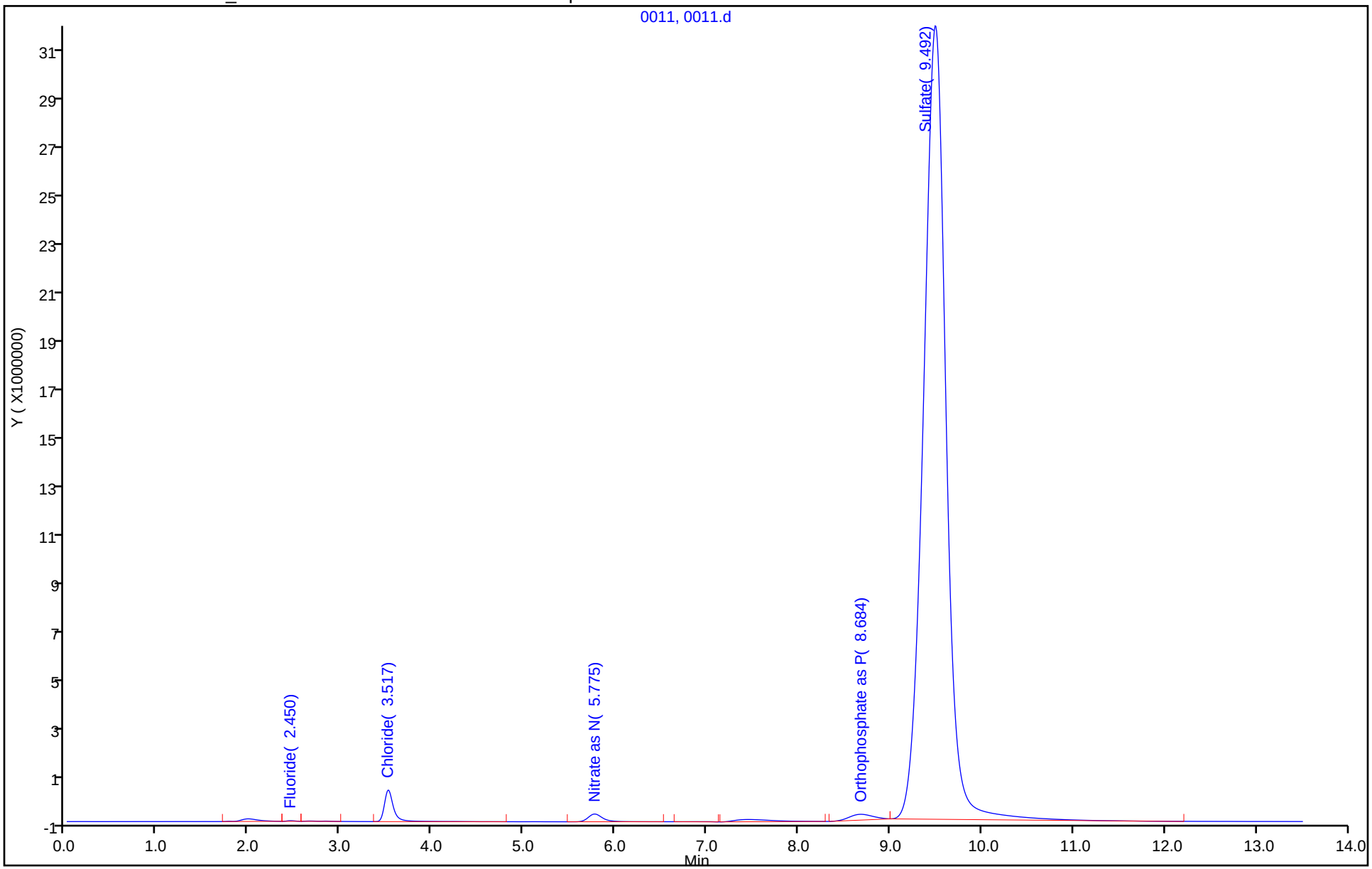
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.450	2.459	-0.009	126276	0.0487	
2 Chloride	3.517	3.575	-0.058	8832625	1.97	
3 Nitrite as N		4.275			ND	
4 Bromide		5.125			ND	
5 Nitrate as N	5.775	5.784	-0.009	3420530	0.3061	
7 Orthophosphate as P	8.684	8.717	-0.033	4076333	0.9585	
6 Sulfate	9.492	9.575	-0.083	538785333	133.7	

Report Date: 26-Oct-2018 12:31:01 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0011.d

Injection Date:	25-Oct-2018 19:20:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	280-116020-H-6	Lab Sample ID:	280-116020-6	Worklist Smp#:	11
Client ID:	LL1mw-084-181001-GW				
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0012.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 25-Oct-2018 19:39:00 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-012
Misc. Info.: 4855
Operator ID: Instrument ID: WC_IonChrom11
Sublist: chrom-Anions_IC11*sub1

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 26-Oct-2018 12:31:03 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.450	2.459	-0.009	28948372	5.00	4.39	
2 Chloride	3.559	3.575	-0.016	611082311	100.0	95.5	
3 Nitrite as N	4.259	4.275	-0.016	55308564	5.00	4.68	
4 Bromide	5.100	5.125	-0.025	9094894	5.00	4.76	
5 Nitrate as N	5.759	5.784	-0.025	58188944	5.00	4.80	
7 Orthophosphate as P	8.617	8.717	-0.100	20200517	5.00	4.86	
6 Sulfate	9.434	9.575	-0.141	388286752	100.0	96.4	

Reagents:

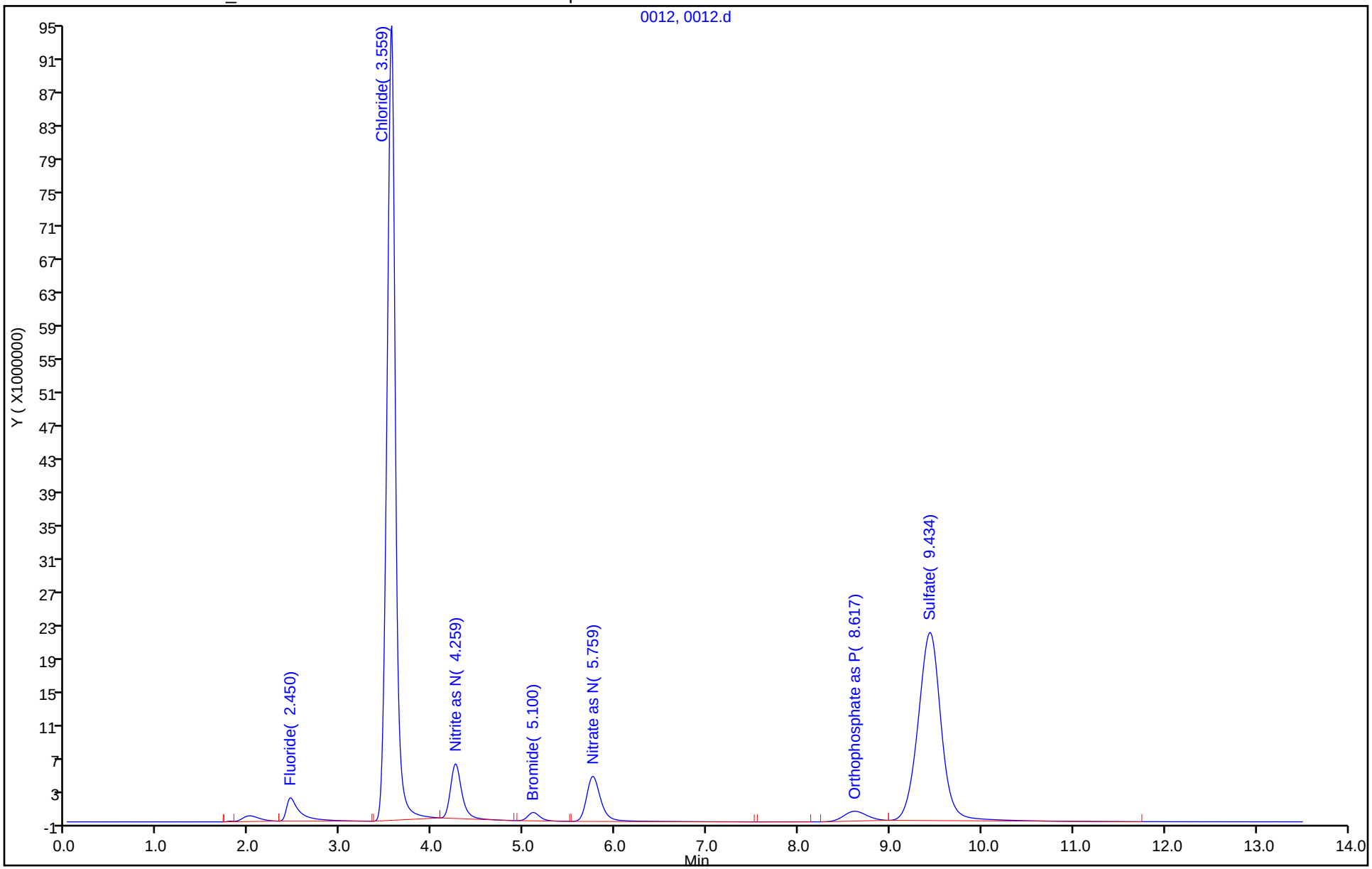
IC LCS_01382 Amount Added: 5.00 Units: mL

Report Date: 26-Oct-2018 12:31:03 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0012.d

Injection Date:	25-Oct-2018 19:39:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	12
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0013.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 25-Oct-2018 20:31:00 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 280-0075470-013
Misc. Info.: 31248
Operator ID: Instrument ID: WC_IonChrom11

Method: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\Anions_IC11.m
Limit Group: Wet - Anions 28D
Last Update: 26-Oct-2018 12:31:03 Calib Date: 14-Oct-2018 13:28:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181014-75074.b\0007.d

Column 1 : Det: 0005
Process Host: CTX0332

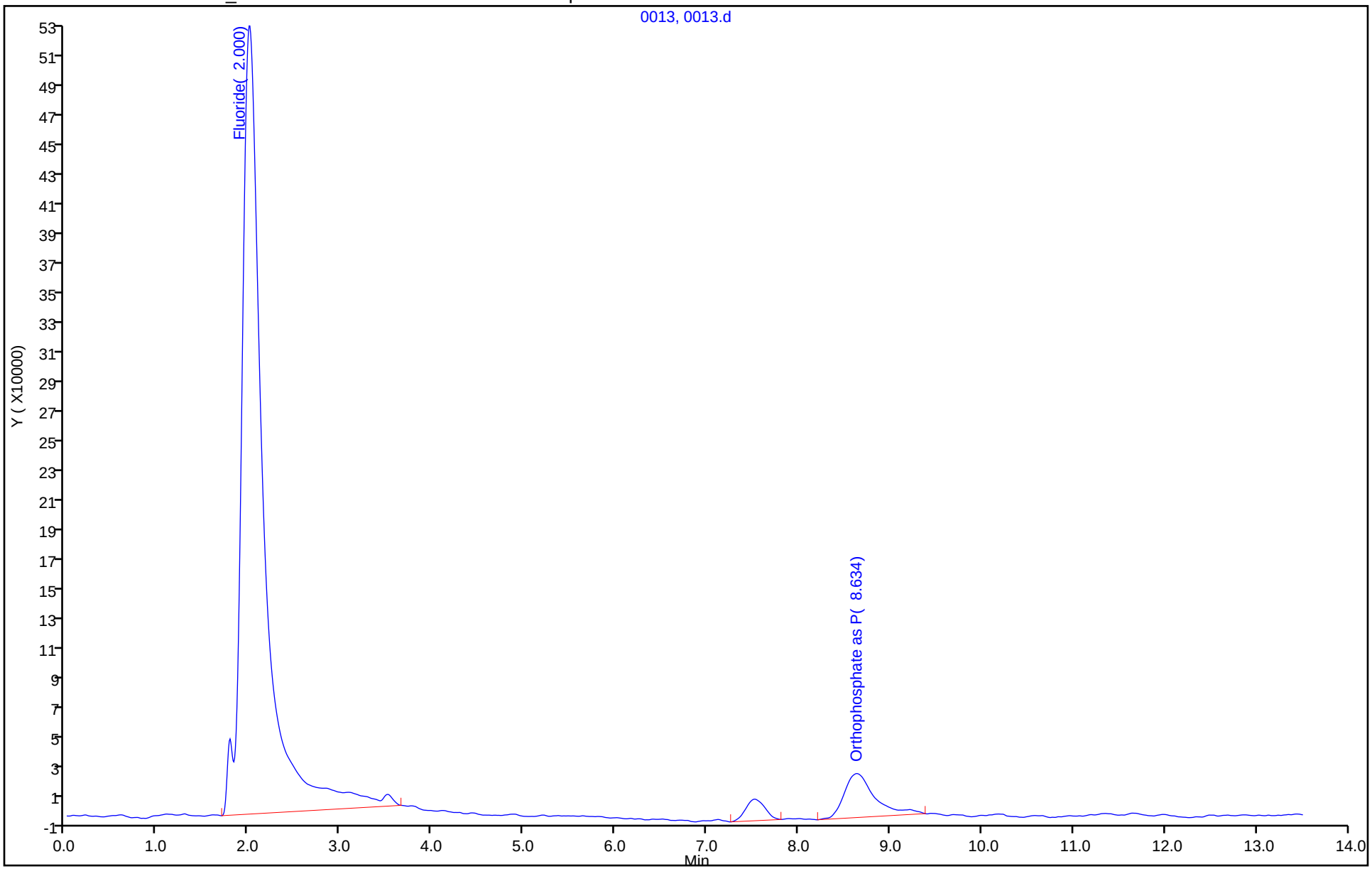
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.459	-0.459	8834856		1.36	
2 Chloride		3.575				ND	
3 Nitrite as N		4.275				ND	
4 Bromide		5.125				ND	
5 Nitrate as N		5.784				ND	
7 Orthophosphate as P	8.634	8.717	-0.083	687985		0.1394	
6 Sulfate		9.575				ND	

Report Date: 26-Oct-2018 12:31:06 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom11\20181025-75470.b\0013.d

Injection Date:	25-Oct-2018 20:31:00	Instrument ID:	WC_IonChrom11	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	13
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC11	Limit Group:	Wet - Anions 28D		

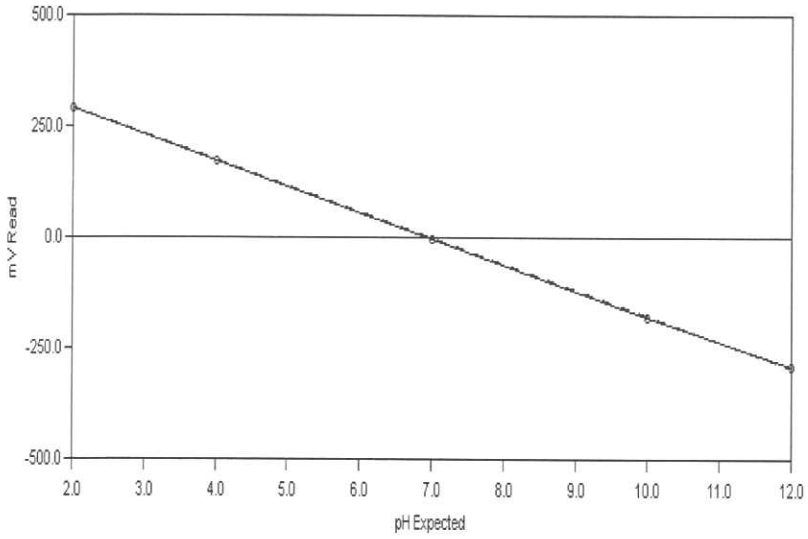


Report Date: 11/1/2018 : 12:10 PM

PC-TitratION PLUS
Calibration Report

Analyst: SAB

Calibration Record # 1306



Calibration Settings

Calibration ID	PH	Date	11/1/2018	
Channel	1	Time	11:38 AM	
Probe Type	pH	Temperature	297.04 K	23.89 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit	

Calibration Results

Slope	-58.510	CorrCoeff	0.9999
Intercept	-2.122	Equation: Y = (-58.510) X + (-2.122)	

Calibration Validity True Operator

	Result	Minimum	Maximum
Slope	-58.510	-65.00	-53.00
Intercept	-2.122	-100.00	100.00
Correlation Coefficient	0.9999	1.00	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	Standard	Reading
	2.00	292.84
	4.00	172.85
	7.00	-4.27
	10.00	-182.12
	12.00	-289.91

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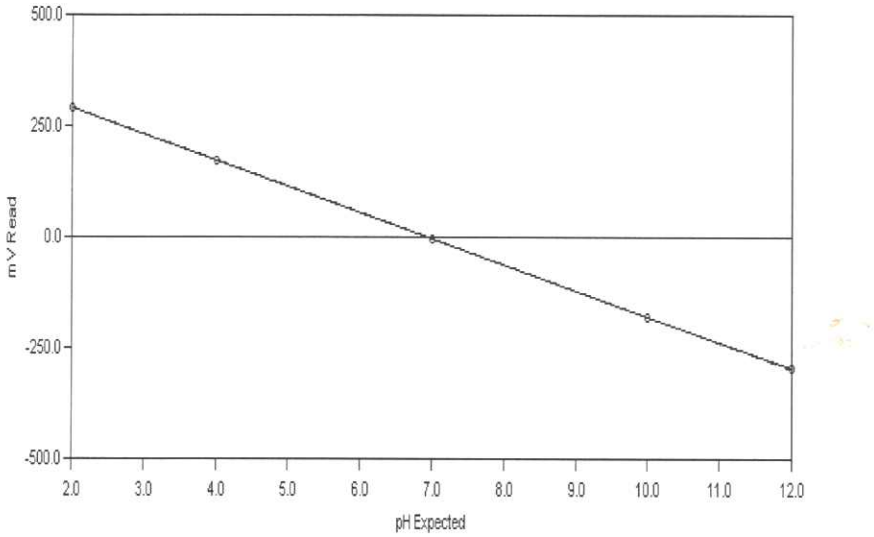
PC-TitratION PLUS
Calibration Report

Analyst:_____

Calibration Record # 1307



Calibration Settings

Calibration ID	PH	Date	11/2/2018	
Channel	1	Time	10:37 AM	
Probe Type	pH	Temperature	297.42 K	24.27 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit	

Calibration Results

Slope	-58.939	CorrCoeff	1.0000
Intercept	-3.024	Equation: Y = (-58.939) X + (-3.024)	

Calibration Validity **True** Operator

	Result	Minimum	Maximum
Slope	-58.939	-65.00	-53.00
Intercept	-3.024	-100.00	100.00
Correlation Coefficient	1.0000	1.00	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	Standard	Reading
	2.00	292.48
	4.00	173.46
	7.00	-4.02
	10.00	-180.05
	12.00	-296.99

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Test America

Water Analysis Historical Data Report

Run Number 4395 **Order Number** 20181101-4

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	pH2	pH3	Acid	palk ppm	talk ppm	bcarb ppm	carb ppm	hydr ppm	mL @8.3	mL @4.5	mL @4.2	tcon
b7	11/1/2018	8:42 PM	23.36	-1.00	7.01	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
check	11/1/2018	8:52 PM	23.01	-1.00	10.69	-1.00	-1.00	-1.00	93.13	187.36	1.09	186.27	.00	2.33	4.68	-1.00	.02
lcs	11/1/2018	9:02 PM	22.57	-1.00	10.70	-1.00	-1.00	-1.00	100.01	195.69	.00	191.36	4.33	2.50	4.89	-1.00	.02
mb	11/1/2018	9:09 PM	21.90	-1.00	6.37	-1.00	-1.00	-1.00	.00	.37	.37	.00	.00	.00	.05	.08	.02
280-116281-B-1	11/1/2018	9:16 PM	20.66	-1.00	6.97	-1.00	-1.00	-1.00	.00	39.18	39.18	.00	.00	.00	.98	-1.00	.02
du 280-116281-B-1	11/1/2018	9:23 PM	20.74	-1.00	6.96	-1.00	-1.00	-1.00	.00	39.85	39.85	.00	.00	.00	1.00	-1.00	.02
280-115845-D-6	11/1/2018	9:32 PM	21.70	-1.00	7.34	-1.00	-1.00	-1.00	.00	349.75	349.75	.00	.00	.00	8.74	-1.00	.02
280-115845-D-5	11/1/2018	9:43 PM	21.48	-1.00	7.24	-1.00	-1.00	-1.00	.00	410.98	410.98	.00	.00	.00	10.27	-1.00	.02
280-115935-D-3	11/1/2018	9:53 PM	21.47	-1.00	7.70	-1.00	-1.00	-1.00	.00	330.27	330.27	.00	.00	.00	8.26	-1.00	.02
280-116242-C-1	11/1/2018	10:01 PM	21.41	-1.00	7.90	-1.00	-1.00	-1.00	.00	77.76	77.76	.00	.00	.00	1.94	-1.00	.02
280-116242-D-2	11/1/2018	10:06 PM	21.18	-1.00	4.79	-1.00	-1.00	-1.00	.00	5.74	5.74	.00	.00	.00	.43	.72	.02
280-115935-D-3	11/1/2018	10:15 PM	20.89	-1.00	7.65	-1.00	-1.00	-1.00	.00	331.38	331.38	.00	.00	.00	8.28	-1.00	.02
280-116272-F-6	11/1/2018	10:24 PM	21.37	-1.00	8.02	-1.00	-1.00	-1.00	.00	143.51	143.51	.00	.00	.00	3.59	-1.00	.02
280-116272-F-3	11/1/2018	10:35 PM	22.31	-1.00	7.62	-1.00	-1.00	-1.00	.00	490.08	490.08	.00	.00	.00	12.25	-1.00	.02
ccv	11/1/2018	10:45 PM	22.05	-1.00	10.66	-1.00	-1.00	-1.00	94.55	192.33	3.22	189.10	.00	2.36	4.81	-1.00	.02
ccb	11/1/2018	10:52 PM	21.71	-1.00	6.16	-1.00	-1.00	-1.00	.00	.43	.43	.00	.00	.00	.05	.10	.02
280-116272-F-4	11/1/2018	11:01 PM	21.34	-1.00	7.55	-1.00	-1.00	-1.00	.00	284.16	284.16	.00	.00	.00	7.10	-1.00	.02
280-116272-F-2	11/1/2018	11:12 PM	21.21	-1.00	7.81	-1.00	-1.00	-1.00	.00	450.17	450.17	.00	.00	.00	11.25	-1.00	.02
280-116272-E-9	11/1/2018	11:20 PM	21.45	-1.00	8.17	-1.00	-1.00	-1.00	.00	174.66	174.66	.00	.00	.00	4.37	-1.00	.02
280-116272-F-1	11/1/2018	11:32 PM	21.98	-1.00	7.52	-1.00	-1.00	-1.00	.00	465.00	465.00	.00	.00	.00	11.62	-1.00	.02
280-116020-H-6	11/1/2018	11:38 PM	22.83	-1.00	6.14	-1.00	-1.00	-1.00	.00	17.16	17.16	.00	.00	.00	.47	.52	.02
280-116020-G-5	11/1/2018	11:43 PM	22.10	-1.00	4.36	-1.00	-1.00	-1.00	.00	-1.41	-1.41	.00	.00	.00	.00	.04	.02
280-116091-A-4	11/2/2018	12:00 AM	21.67	-1.00	7.68	-1.00	-1.00	-1.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
280-116091-B-6	11/2/2018	12:16 AM	21.74	-1.00	7.42	-1.00	-1.00	-1.00	.00	836.82	836.82	.00	.00	.00	20.92	-1.00	.02
280-116039-A-7	11/2/2018	12:28 AM	21.80	-1.00	7.35	-1.00	-1.00	-1.00	.00	575.75	575.75	.00	.00	.00	14.39	-1.00	.02
280-116039-A-6	11/2/2018	12:40 AM	22.03	-1.00	7.59	-1.00	-1.00	-1.00	.00	436.82	436.82	.00	.00	.00	10.92	-1.00	.02
ccv	11/2/2018	12:49 AM	22.52	-1.00	10.61	-1.00	-1.00	-1.00	93.24	192.96	6.47	186.49	.00	2.33	4.82	-1.00	.02
ccb	11/2/2018	12:56 AM	23.23	-1.00	6.11	-1.00	-1.00	-1.00	.00	.27	.27	.00	.00	.00	.05	.09	.02
lcs	11/2/2018	1:06 AM	22.66	-1.00	10.60	-1.00	-1.00	-1.00	92.31	193.12	8.49	184.62	.00	2.31	4.83	-1.00	.02
mb	11/2/2018	1:13 AM	22.29	-1.00	6.10	-1.00	-1.00	-1.00	.00	.36	.36	.00	.00	.00	.05	.09	.02
280-116039-A-4	11/2/2018	1:24 AM	22.10	-1.00	7.53	-1.00	-1.00	-1.00	.00	486.34	486.34	.00	.00	.00	12.16	-1.00	.02
280-116039-A-4 du	11/2/2018	1:35 AM	22.20	-1.00	7.52	-1.00	-1.00	-1.00	.00	476.28	476.28	.00	.00	.00	11.91	-1.00	.02
280-116041-B-3	11/2/2018	1:44 AM	22.42	-1.00	7.62	-1.00	-1.00	-1.00	.00	257.47	257.47	.00	.00	.00	6.44	-1.00	.02
280-116041-B-4	11/2/2018	1:53 AM	22.81	-1.00	7.67	-1.00	-1.00	-1.00	.00	273.21	273.21	.00	.00	.00	6.83	-1.00	.02
280-116042-C-1	11/2/2018	2:03 AM	23.54	-1.00	7.55	-1.00	-1.00	-1.00	.00	348.74	348.74	.00	.00	.00	8.72	-1.00	.02
280-116043-B-6	11/2/2018	2:09 AM	23.09	-1.00	6.14	-1.00	-1.00	-1.00	.00	47.30	47.30	.00	.00	.00	1.18	-1.00	.02
280-116043-B-2	11/2/2018	2:15 AM	22.72	-1.00	5.63	-1.00	-1.00	-1.00	.00	11.81	11.81	.00	.00	.00	.34	.39	.02
280-116043-B-3	11/2/2018	2:23 AM	23.89	-1.00	5.69	-1.00	-1.00	-1.00	.00	218.19	218.19	.00	.00	.00	5.45	-1.00	.02
280-116043-B-4	11/2/2018	2:30 AM	24.19	-1.00	4.87	-1.00	-1.00	-1.00	.00	212.27	212.27	.00	.00	.00	5.31	-1.00	.02
280-116043-B-1	11/2/2018	2:39 AM	24.22	-1.00	4.48	-1.00	-1.00	-1.00	.00	-200.10	-200.10	.00	.00	.00	.00	5.00	.02
ccv	11/2/2018	2:43 AM	24.25	-1.00	4.00	-1.00	-1.00	-1.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
ccb	11/2/2018	2:48 AM	24.22	-1.00	4.55	-1.00	-1.00	-1.00	.00	-.36	-.36	.00	.00	.00	.00	.01	.02

NO SAMPLE PULLED

SGB 11/2/18

Run Number 4395 **Order Number** 20181101-4

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	pH2	pH3	Acid	palk ppm	talk ppm	bcarb ppm	carb ppm	hydr ppm	mL @8.3	mL @4.5	mL @4.2	tcon
280-116043-B-7	11/2/2018	2:55 AM	23.97	-1.00	5.36	-1.00	-1.00	-1.00	.00	156.88	156.88	.00	.00	.00	3.92	-1.00	.02
280-116043-B-8	11/2/2018	3:03 AM	24.29	-1.00	5.06	-1.00	-1.00	-1.00	.00	63.24	63.24	.00	.00	.00	1.58	-1.00	.02
280-116043-B-9	11/2/2018	3:08 AM	24.29	-1.00	4.62	-1.00	-1.00	-1.00	.00	-.17	-.17	.00	.00	.00	.00	.00	.02
280-116043-B-5	11/2/2018	3:14 AM	24.30	-1.00	4.75	-1.00	-1.00	-1.00	.00	-1.49	-1.49	.00	.00	.00	.01	.06	.02
280-116194-A-2	11/2/2018	3:21 AM	24.27	-1.00	4.83	-1.00	-1.00	-1.00	.00	-25.95	-25.95	.00	.00	.00	.14	.93	.02
280-116194-A-5	11/2/2018	3:25 AM	24.39	-1.00	4.38	-1.00	-1.00	-1.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
280-116194-A-4	11/2/2018	3:31 AM	24.32	-1.00	4.46	-1.00	-1.00	-1.00	.00	-.88	-.88	.00	.00	.00	.00	.02	.02
280-116194-A-3	11/2/2018	3:39 AM	24.32	-1.00	5.95	-1.00	-1.00	-1.00	.00	233.93	233.93	.00	.00	.00	5.85	-1.00	.02
280-116194-A-1	11/2/2018	3:47 AM	24.34	-1.00	4.57	-1.00	-1.00	-1.00	.00	-208.25	-208.25	.00	.00	.00	5.21	.02	
280-116194-A-6	11/2/2018	3:52 AM	24.34	-1.00	4.04	-1.00	-1.00	-1.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
ccv	11/2/2018	3:56 AM	24.34	-1.00	4.15	-1.00	-1.00	-1.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
ccb	11/2/2018	4:01 AM	24.32	-1.00	4.37	-1.00	-1.00	-1.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
ccv	11/2/2018	10:16 AM	24.37	-1.00	10.48	-1.00	-1.00	-1.00	84.40	192.44	23.65	168.80	.00	2.11	4.81	-1.00	.02
ccb	11/2/2018	10:23 AM	24.17	-1.00	6.16	-1.00	-1.00	-1.00	.00	.32	.32	.00	.00	.00	.05	.10	.02
icv	11/2/2018	10:45 AM	24.19	-1.00	10.05	-1.00	-1.00	-1.00	60.95	192.88	70.97	121.91	.00	1.52	4.82	-1.00	.02
b7	11/2/2018	10:50 AM	24.62	-1.00	7.01	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
icb	11/2/2018	10:57 AM	24.12	-1.00	6.27	-1.00	-1.00	-1.00	.00	.55	.55	.00	.00	.00	.05	.09	.02
280-116043-B-3	11/2/2018	11:33 AM	24.05	-1.00	6.01	-1.00	-1.00	-1.00	.00	11.31	11.31	.00	.00	.00	.33	.38	.02
280-116043-B-4	11/2/2018	11:39 AM	23.86	-1.00	6.38	-1.00	-1.00	-1.00	.00	49.34	49.34	.00	.00	.00	1.23	-1.00	.02
280-116043-B-1	11/2/2018	11:46 AM	23.89	-1.00	7.05	-1.00	-1.00	-1.00	.00	58.64	58.64	.00	.00	.00	1.47	-1.00	.02
ccv	11/2/2018	11:56 AM	23.99	-1.00	10.25	-1.00	-1.00	-1.00	75.30	194.95	44.34	150.61	.00	1.88	4.87	-1.00	.02
ccb	11/2/2018	12:03 PM	24.42	-1.00	6.10	-1.00	-1.00	-1.00	.00	.15	.15	.00	.00	.00	.05	.09	.02
280-116043-B-7	11/2/2018	12:15 PM	24.27	-1.00	5.36	-1.00	-1.00	-1.00	.00	513.15	513.15	.00	.00	.00	12.83	-1.00	.02
280-116043-B-8	11/2/2018	12:22 PM	24.05	-1.00	6.86	-1.00	-1.00	-1.00	.00	35.89	35.89	.00	.00	.00	.90	-1.00	.02
280-116043-B-9	11/2/2018	12:31 PM	23.83	-1.00	7.44	-1.00	-1.00	-1.00	.00	206.65	206.65	.00	.00	.00	5.17	-1.00	.02
280-116043-B-5	11/2/2018	12:38 PM	23.75	-1.00	5.82	-1.00	-1.00	-1.00	.00	2.83	2.83	.00	.00	.00	.12	.16	.02
280-116194-A-2	11/2/2018	12:45 PM	23.84	-1.00	7.42	-1.00	-1.00	-1.00	.00	130.69	130.69	.00	.00	.00	3.27	-1.00	.02
280-116194-A-5	11/2/2018	12:53 PM	23.94	-1.00	8.24	-1.00	-1.00	-1.00	.00	185.23	185.23	.00	.00	.00	4.63	-1.00	.02
280-116194-A-4	11/2/2018	1:10 PM	24.54	-1.00	8.57	-1.00	-1.00	-1.00	25.82	.00	-51.65	51.65	.00	.65	.00	.00	.02
280-116194-A-3	11/2/2018	1:20 PM	24.27	-1.00	7.96	-1.00	-1.00	-1.00	.00	318.95	318.95	.00	.00	.00	7.97	-1.00	.02
280-116194-A-1	11/2/2018	1:31 PM	24.04	-1.00	8.36	-1.00	-1.00	-1.00	5.28	440.49	429.92	10.57	.00	.13	11.01	-1.00	.02
280-116194-A-6	11/2/2018	1:38 PM	23.84	-1.00	5.26	-1.00	-1.00	-1.00	.00	-.24	-.24	.00	.00	.00	.04	.08	.02
ccv	11/2/2018	1:46 PM	23.81	-1.00	10.21	-1.00	-1.00	-1.00	73.65	195.20	47.90	147.31	.00	1.84	4.88	-1.00	.02
ccb	11/2/2018	1:53 PM	23.81	-1.00	6.11	-1.00	-1.00	-1.00	.00	.29	.29	.00	.00	.00	.05	.10	.02

NO SAMPLE PULLED

SCB 11/2/18

Shipping and Receiving Documents

Chain of Custody Record

leidos

COC No.: RVAAP-006-TA

Page 1 of 1 Date: 10/24/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)

RL Ryan Lausch

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOC (phthalates/nitroarom/phenols) (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides/PCB (5)(A)	PCBs (4)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Alkalinity/Sulfate/Nitrate/Nitrite (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)	Temperature Blank	Total Number of Containers	
	DET-004-181001-GW	GW	N/A	10/24/18	1120	W	3	2	1	2	2		1	1							12	Associated with Equip Blank FEQTB-181002-TB
	~~FBWTB-181004-TB~~			~~10/24/18~~	~~1120~~		~~2~~		CS		10/24/18											reduced volume
						CS			10/24/18													

280-116020 Chain of Custody

12 MA 10/24/18

Relinquished by	Date	Received by	Date	Notes: Total Number of Containers: 12	Shipment Method: Courier
Signature	10/24/18	Test America	10/24/18	A. Cool, 4C E. NaOH/Zn Acetate, pH>9, Cool 4C	
Heather Adams	Time	Signature RC Robison	Time	B. HCl, pH<2, Cool, 4C	
Printed Name	1600	Printed Name RICK ROBISON	1600	C. HNO3, pH<2, Cool, 4C	
Leidos				D. NaOH, pH>12, Cool 4C	
Company		Company		1. SW 8260 2. SW 8270 3. SW 8270SIM 4. SW 8082 5. SW 8081/8082 6. SW 8330 7. SW 6010 8. SW 9012 9. SW 9034 10. SW 9056/SM2320 11. SW 6860 12. EPA 353.2 13. SW 7196	Notes:
Relinquished by TA, 240	Date 10/26/18	Received by	Date 10/25/18		Temperature Blank
Signature RC Robison	Time 1723	Signature	Time 0900		Lab: Leidos 8866 Commons Drive Twinsburg, OH 44087 (330) 405-5802
Printed Name Robison		Printed Name Jessica Court			
Company		Company TAEN			

Leidos White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

Chain of Custody Record

leidos

COC No.: RVAAP-046-TA

Page 1 of 1 Date: 10/24/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)

Gabrielle Gronowfsky

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOCs (Phthalates) (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides (5)(A)	PCBs (4)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Alkalinity/Sulfate/Nitrate/Nitrite (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A1)	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	LL1mw-083-181001-GW	GW	MA	10/24/18	1325	W		2		2	2				1	1			1		9	Cr6 filtered

Requested Parameters

Relinquished by: Signature [signature] Printed Name HEATHER ADAMS Company Leidos — Date 10/24/18 — Time 1600

Received by: Signature [signature] Printed Name Rick Robison Company — Date 10/24/18 — Time 1600

Relinquished by: Signature [signature] Printed Name ROBISON Company — Date 10/24/18 — Time 1723

Received by: Signature [signature] Printed Name Jessica Grant TA DEN Company — Date 10/25/18 — Time 0900

Notes:
Total Number of Containers: 9
A. Cool, 4C
A1. Field filtered, Cool, 4C
B. HCl, pH<2, Cool, 4C
C. HNO3, pH<2, Cool, 4C
D. NaOH, pH>12, Cool 4C
E. NaOH/Zn Acetate, pH>9, Cool 4C

1. SW 8260
2. SW 8270
3. SW 8270SIM
4. SW 8082
5. SW 8081
6. SW 8330
7. SW 6010
8. SW 9012
9. SW 9034
10. SW 9056/SM2320
11. SW 6860
12. EPA 353.2
13. SW 7196

Notes:

Shipment Method: Courier

Temperature Blank

Lab:
Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

Leidos White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

Chain of Custody Record

leidos

COC No.: RVAAP-047-TA

Page 1 of 1 Date: 10/24/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)

Gabrielle Gromofsky

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOCs (Phthalates) (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides (5)(A)	PCBs (4)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Alkalinity/Sulfate/Nitrate/Nitrite (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A1)	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	LL1mw-084-181001-GW	GW	NA	10/24/18	0930	W		2		2	2		1	1	1	1			1		11	Cr6 filtered

Requested Parameters

Relinquished by
Signature
HEATHER ADAMS
Printed Name
Leidos
Company
Date 10/24/18
Time 1600

Received by
Signature
RC
Printed Name
RICK ROBISON
Company
Date 10/24/18
Time 1600

Relinquished by
Signature
RC
Printed Name
ROBISON
Company
Date 10/26/18
Time 1723

Received by
Signature
Printed Name
Jessica Grant
Company
PADEP
Date 10/25/18
Time 0900

Notes:
Total Number of Containers: 11
A. Cool, 4C
A1. Field filtered, Cool, 4C
B. HCl, pH<2, Cool, 4C
C. HNO3, pH<2, Cool, 4C
D. NaOH, pH>12, Cool 4C
E. NaOH/Zn Acetate, pH>9, Cool 4C

1. SW 8260
2. SW 8270
3. SW 8270SIM
4. SW 8082
5. SW 8081
6. SW 8330
7. SW 6010
8. SW 9012
9. SW 9034
10. SW 9056/SM2320
11. SW 6860
12. EPA 353.2
13. SW 7196

Notes:

Shipment Method: Courier

Temperature Blank

Lab:
Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

Leidos White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

Leidos Proprietary

Chain of Custody Record

leidos

COC No.: RVAAP-022-TA

Page 1 of 1 Date: 10/24/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Requested Parameters

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOCs (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides (5)(A)	PCBs (4)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Alkalinity/Sulfate/Nitrate/Nitrite (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	FWGmw-013-181001-GW	GW	NA	10/24/18	1355	W								1							1	

Relinquished by	Date	Received by	Date
Signature: [signature]	10/24/2018	Signature: Test America	10/24/18
Printed Name: HEATHER ADAMS	Time: 1080	Printed Name: RC Robson	Time: 1600
Company: Leidos		Company: RICK ROBSON	

Relinquished by	Date	Received by	Date
Signature: TAI 240	10/24/18	Signature: [signature]	10/25/18
Printed Name: RC Robson	Time: 1723	Printed Name: Jessica Quint	Time: 0100
Company: ROBISON		Company: TADEN	

Total Number of Containers: 1

Notes:
A. Cool, 4C
B. HCl, pH<2, Cool, 4C
C. HNO3, pH<2, Cool, 4C
D. NaOH, pH>12, Cool 4C
E. NaOH/Zn Acetate, pH>9, Cool 4C

1. SW 8260
2. SW 8270
3. SW 8270SIM
4. SW 8082
5. SW 8081
6. SW 8330
7. SW 6010
8. SW 9012
9. SW 9034
10. SW 9056/SM2320
11. SW 6860
12. EPA 353.2
13. SW 7196

Notes:

Shipment Method: Courier

Temperature Blank

Lab:

Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

Leidos White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

Chain of Custody Record

leidos

COC No.: RVAAP-004-TA

Page 1 of 1 Date: 10/24/2016

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name) HEATHER ADAMS

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOCs (Phthalates) (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides (5)(A)	PCBs (4)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Alkalinity/Sulfate/Nitrate/Nitrite (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	DA2mw-115-181001-GW	GW	NA	10/24/2016	1245	W		2		2			1	1							6	
	DA2mw-115-181002-GW	GW	↓	↓	1245	W				2			1	1							4	
	DA2mw-115-181001-GWMSD	MSD	↓	↓	1245	W				4			1	2							7	Extra Volume for MS/MSD, only parameters indicated

Requested Parameters

Relinquished by	Date	Received by	Date
Signature	10/24/16	Signature: Test America	10/24/16
Printed Name: HEATHER ADAMS	Time: 1600	Printed Name: RICK ROBSON	Time: 1600
Company: Leidos		Company	
Relinquished by: TA, '240	Date: 10/24/16	Received by	Date: 10/25/16
Signature: RC Robson	Time	Signature	Time: 0900
Printed Name: ROBSON		Printed Name: Jessica Burke	
Company		Company: TMDCN	

Notes: Total Number of Containers: 17

A. Cool, 4C
B. HCl, pH<2, Cool, 4C
C. HNO3, pH<2, Cool, 4C
D. NaOH, pH>12, Cool 4C
E. NaOH/Zn Acetate, pH>9, Cool 4C

1. SW 8260
2. SW 8270
3. SW 8270SIM
4. SW 8082
5. SW 8081
6. SW 8330
7. SW 6010
8. SW 9012
9. SW 9034
10. SW 9056/SM2320
11. SW 6860
12. EPA 353.2
13. SW 7196

Notes:

Shipment Method: Courier

Temperature Blank
Lab:

Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

Leidos White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

Leidos Proprietary

Chain of Custody Record

leidos

COC No.: RVAAP-005-TA

Page 1 of 1 Date: 10/24/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)

Jed Thomas Jed Thomas

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Requested Parameters

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOC (phthalates/nitroarom/phenols) (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides/PCB (5)(A)	SVOCs (Phthalates) (2)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Alkalinity/Sulfate/Nitrate/Nitrite (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	DET-003-181001-GW	GW	NA	10/24/18	1005	W	3	2	2	2	2		1	1							13	
	DET-003-181002-GW	GW	↓	↓	1005	W	3		2		2	2									9	
	DET-003-181001-GWMSD	MSD	↓	↓	1005	W	4	4	4												12	Extra Volume for MS/MSD, only parameters indicated
	FWGTB-181002-TB	TB	↓	↓	1005	W	2														2	

Jed Thomas 10/24/18

Total Number of Containers: 34

Relinquished by	Date	Received by	Date
Signature: [signature]	10/24/18	Signature: Test America	10/24/18
Printed Name: HEATHER ADAMS	Time: 1600	Printed Name: RC Robison	Time: 1600
Company: Leidos		Company:	
Relinquished by: TAi 240	Date: 10/24/18	Received by	Date: 10/25/18
Signature: RC Robison	Time: 1723	Signature: [signature]	Time: 0900
Printed Name: ROBISON		Printed Name: Jessica Grant	
Company:		Company: TADEN	

Notes:
A. Cool, 4C
B. HCl, pH<2, Cool, 4C
C. HNO3, pH<2, Cool, 4C
D. NaOH, pH>12, Cool 4C
E. NaOH/Zn Acetate, pH>9, Cool 4C

1. SW 8260
2. SW 8270
3. SW 8270SIM
4. SW 8082
5. SW 8081/8082
6. SW 8330
7. SW 6010
8. SW 9012
9. SW 9034
10. SW 9056/SM2320
11. SW 6860
12. EPA 353.2
13. SW 7196

Notes:

Shipment Method: Courier
TA 10/22/2018

Temperature Blank

Lab:
Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

Leidos White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

Chain of Custody Record

leidos

COC No.: RVAAP-077-TA

Page 1 of 1 Date: 10/23/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOCs (Phthalates) (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides (5)(A)	PCBs (4)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Alkalinity/Sulfate/Nitrate/Nitrite (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	WBGmw-009-181001-GW	GW	NA	10/23/18	1435	W		2		2			1								5	* REDUCED VOLUME

Requested Parameters

Relinquished by: Signature; Printed Name: HEATHER ADAMS; Company: Leidos — Date: 10/24/18 — Time: 1000

Received by: Signature; Printed Name: RICK ROBISON; Company: Test America — Date: 10/24/18 — Time: 1600

Relinquished by: Signature; Printed Name: ROBISON; Company: Leidos — Date: 10/24/18 — Time: 1723

Received by: Signature; Printed Name: Jessica Cant; Company: TAOEN — Date: 10/25/18 — Time: 0900

Total Number of Containers: 5

Notes:
A. Cool, 4C
B. HCl, pH<2, Cool, 4C
C. HNO3, pH<2, Cool, 4C
D. NaOH, pH>12, Cool 4C
E. NaOH/Zn Acetate, pH>9, Cool 4C

1. SW 8260
2. SW 8270
3. SW 8270SIM
4. SW 8082
5. SW 8081
6. SW 8330
7. SW 6010
8. SW 9012
9. SW 9034
10. SW 9056/SM2320
11. SW 6860
12. EPA 353.2
13. SW 7196

Notes:
* 1 SVOC IL AMBER IS FILLED 1/3 ALL OTHER BOTTLES 100% FULL

Shipment Method: Courier

Temperature Blank

Lab:
Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

Leidos White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

3.6 | 4.5

Leidos Proprietary

Chain of Custody Record

leidos

COC No.: RVAAP-046-TA

Page 1 of 1 Date: 10/24/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)

Gabrielle Gronefsky

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOCs (Phthalates) (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides (5)(A)	PCBs (4)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Alkalinity/Sulfate/Nitrate/Nitrite (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A1)	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	LL1mw-083-181001-GW	GW	MA	10/24/18	1325	W		2		2	2				1	1			1		9	Cr6 filtered

Requested Parameters

280-116020 Chain of Custody

Relinquished by	Date	Received by	Date	Time
Signature	10/24/18	Signature	10/24/18	
HEATHER ADAMS	Time	RC Robison	Time	1600
Printed Name	1600	Printed Name		
Leidos		RKL ROBISON		
Company		Company		
Relinquished by	Date	Received by	Date	
Signature	10/24/18	Signature	10-24-18	
RC Robison	Time		Time	1707
Printed Name	1702	Printed Name		
		TAL		
Company		Company		

Notes: Total Number of Containers: 9

A. Cool, 4C
A1. Field filtered, Cool, 4C
B. HCl, pH<2, Cool, 4C
C. HNO3, pH<2, Cool, 4C
D. NaOH, pH>12, Cool 4C
E. NaOH/Zn Acetate, pH>9, Cool 4C

1. SW 8260
2. SW 8270
3. SW 8270SIM
4. SW 8082
5. SW 8081
6. SW 8330
7. SW 6010
8. SW 9012
9. SW 9034
10. SW 9056/SM2320
11. SW 6860
12. EPA 353.2
13. SW 7196

Notes:

Shipment Method: Courier

Temperature Blank

Lab:
Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

Leidos White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

Chain of Custody Record

leidos

COC No.: RVAAP-047-TA

Page 1 of 1 Date: 10/24/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)

Gabrielle Gromofsky

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOCs (Phthalates) (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides (5)(A)	PCBs (4)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Alkalinity/Sulfate/Nitrate/Nitrite (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A1)	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	LL1mw-084-181001-GW	GW	NA	10/24/18	0930	W		2		2	2		1	1	1	1			1		11	Cr6 filtered

Requested Parameters

Relinquished by	Date	Received by	Date	Notes: Total Number of Containers: 11	Shipment Method: Courier
Signature	10/24/18	Signature	10/24/18	A. Cool, 4C; A1. Field filtered, Cool, 4C; B. HCl, pH<2, Cool, 4C; C. HNO3, pH<2, Cool, 4C; D. NaOH, pH>12, Cool 4C; E. NaOH/Zn Acetate, pH>9, Cool 4C	
Printed Name: Gabrielle Adams	Time: 1600	Printed Name: Rick Robison	Time: 1605	1. SW 8260; 2. SW 8270; 3. SW 8270SIM; 4. SW 8082; 5. SW 8081; 6. SW 8330; 7. SW 6010; 8. SW 9012; 9. SW 9034; 10. SW 9056/SM2320; 11. SW 6860; 12. EPA 353.2; 13. SW 7196	Notes:
Company: Leidos		Company:			
Relinquished by	Date 10/26/18	Received by	Date 10-24-18		Temperature Blank
Signature		Signature			Lab: Leidos, 8866 Commons Drive, Twinsburg, OH 44087, (330) 405-5802
Printed Name	Time 1702	Printed Name	Time 1702		
Company		Company			

Leidos — White: Laboratory — Pink: Project Manager — Yellow: Project QAO — Goldenrod: Field Project Manager

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 280-116020**
Canton Facility

Client LEIDOS Site Name —

Cooler Received on 10-24-18 Opened on 10-24-18

Cooler unpacked by: GOP

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off (TestAmerica Courier) Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # (Foam Box) Client Cooler Box Other

Packing material used: Bubble Wrap Foam (Plastic Bag) None Other

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-8 (CF +0.9 °C) Observed Cooler Temp. 3.6 °C Corrected Cooler Temp. 4.5 °C
   IR GUN #36 (CF +0.6°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity —	Yes (No)	
-Were the seals on the outside of the cooler(s) signed & dated?	Yes No (NA)	
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes (No)	
-Were tamper/custody seals intact and uncompromised?	Yes No (NA)	
3. Shippers' packing slip attached to the cooler(s)?	Yes (No)	
4. Did custody papers accompany the sample(s)?	(Yes) No	
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes) No	
6. Was/were the person(s) who collected the samples clearly identified on the COC?	(Yes) No	
7. Did all bottles arrive in good condition (Unbroken)?	(Yes) No	
8. Could all bottle labels be reconciled with the COC?	(Yes) No	
9. Were correct bottle(s) used for the test(s) indicated?	(Yes) No	
10. Sufficient quantity received to perform indicated analyses?	(Yes) No	
11. Are these work share samples?	Yes (No)	
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?	Yes No (NA)	pH Strip Lot# **HC849161**
13. Were VOAs on the COC?	Yes (No)	
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes No (NA)	
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes (No)	
16. Was a LL Hg or Me Hg trip blank present? _____	Yes (No)	

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: TB

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

Login Sample Receipt Checklist

Client: Leidos, Inc.

Job Number: 280-116020-1

Login Number: 116020
List Number: 1
Creator: Rydberg, Donna R

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	