TestAmerica
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ANALYTICAL REPORT

Job Number: 180-70792-1

Job Description: Harley Davidson

For:
Groundwater Sciences Corporation
2601 Market Place Street, Suite 310
Harrisburg, PA 17110-9307

Attention: Christopher O'Neil

Approved for release.
Carrie L Gamber
Senior Project Manager
10/11/2017 9:33 AM

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10/11/2017

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
^c	CCV Recovery is outside acceptance limits.
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
E	Result exceeded calibration range.

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

CASE NARRATIVE

Client: Groundwater Sciences Corporation

Project: Harley Davidson

Report Number: 180-70792-1

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

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

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

RECEIPT

The samples were received on 09/29/2017; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.5 C.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): HD-SPBA-CW-22-0/1-0 (180-70792-1). The container labels list a collection date of 9/26/17, while the COC lists a collection date of 9/27/17. The date on the COC was used. This info was emailed to the client and it was determined that the date on the COC was correct.

VOLATILES

The following samples was diluted to bring the concentration of target analytes within the calibration range: HD-SPBA-CW-22-0/1-0 (180-70792-1) and HD-SPBA-CW-22-0/1-0 (180-70792-2). Elevated reporting limits (RLs) are provided.

The following analyte recovered outside control limits for the LCS 180-224560/4 associated with analytical batch 180-224560: Chlorodibromomethane. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

The continuing calibration verification (CCV) analyzed in batch 180-224560 was outside the method criteria for the following analytes: 1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, 2,2-Dichloropropane, Bromoform, Bromomethane, Carbon tetrachloride, Chlorodibromomethane and Isobutyl alcohol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analytes is considered estimated.

METALS

Vanadium was detected in method blank MB 180-224718/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

GENERAL CHEMISTRY

The following sample was diluted to bring the concentration of target analytes within the calibration range for Turbidity: HD-SPBA-CW-22-0/1-0 (180-70792-2). Elevated reporting limits (RLs) are provided.

Detection Summary

Client: Groundwater Sciences Corporation
Project/Site: Harley Davidson

TestAmerica Job ID: 180-70792-1

Client Sample ID: HD-SPBA-CW-22-0/1-0 — Lab Sample ID: 180-70792-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.46	J	1.0	0.32	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	2.5		1.0	0.30	ug/L	1		8260C	Total/NA
Chloroform	0.34	J	1.0	0.27	ug/L	1		8260C	Total/NA
Trichloroethene	270	E	1.0	0.20	ug/L	1		8260C	Total/NA
Tetrachloroethene	270	E	1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene - DL	140		13	2.5	ug/L	12.5		8260C	Total/NA
Tetrachloroethene - DL	200		13	3.1	ug/L	12.5		8260C	Total/NA

Client Sample ID: HD-SPBA-CW-22-0/1-0 — Lab Sample ID: 180-70792-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	170		13	2.5	ug/L	12.5		8260C	Total/NA
Tetrachloroethene	240		13	3.1	ug/L	12.5		8260C	Total/NA
Nitrate as N	4.5		0.10	0.023	mg/L	1		300.0	Total/NA
Fluoride	0.094	J	0.10	0.026	mg/L	1		300.0	Total/NA
Chloride	14		1.0	0.71	mg/L	1		300.0	Total/NA
Sulfate	0.97	J	1.0	0.38	mg/L	1		300.0	Total/NA
Arsenic	4.4		1.0	0.22	ug/L	1		6020A	Dissolved
Barium	38		10	1.4	ug/L	1		6020A	Dissolved
Chromium	3.0		2.0	0.38	ug/L	1		6020A	Dissolved
Calcium	54000		500	74	ug/L	1		6020A	Dissolved
Thallium	0.11	J	1.0	0.053	ug/L	1		6020A	Dissolved
Nickel	1.7		1.0	0.27	ug/L	1		6020A	Dissolved
Zinc	8.8		5.0	2.7	ug/L	1		6020A	Dissolved
Copper	1.5	J	2.0	1.0	ug/L	1		6020A	Dissolved
Potassium	2300		500	96	ug/L	1		6020A	Dissolved
Magnesium	3400		500	45	ug/L	1		6020A	Dissolved
Sodium	3300		500	220	ug/L	1		6020A	Dissolved
Vanadium	6.9	B	1.0	0.50	ug/L	1		6020A	Dissolved
Turbidity	46		4.3	0.25	NTU	5		180.1	Total/NA
Ammonia, distilled	0.15		0.10	0.081	mg/L	1		350.1	Total/NA
pH	7.6	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	180		5.0	5.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	180		5.0	5.0	mg/L	1		SM 2320B	Total/NA
Hardness as calcium carbonate	150		5.0	5.0	mg/L	1		SM 2340C	Total/NA
Specific Conductance	330		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA
Total Suspended Solids	35		0.50	0.50	mg/L	1		SM 2540D	Total/NA

Client Sample ID: HD-QC3-0/1-2 — Lab Sample ID: 180-70792-3

No Detections.

This Detection Summary does not include radiochemical test results.

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

Client Sample ID: HD-SPBA-CW-22-0/1-0
Date Collected: 09/27/17 09:40
Date Received: 09/29/17 09:15

Lab Sample ID: 180-70792-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	1.0	U	1.0	0.38	ug/L			10/02/17 10:48	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			10/02/17 10:48	1
Bromomethane	1.0	U ^c	1.0	0.59	ug/L			10/02/17 10:48	1
Chloroethane	1.0	U	1.0	0.58	ug/L			10/02/17 10:48	1
1,1-Dichloroethene	**0.46**	**J**	1.0	0.32	ug/L			10/02/17 10:48	1
Acetone	5.0	U	5.0	3.1	ug/L			10/02/17 10:48	1
Carbon disulfide	1.0	U	1.0	0.53	ug/L			10/02/17 10:48	1
Methylene Chloride	1.0	U	1.0	0.94	ug/L			10/02/17 10:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.20	ug/L			10/02/17 10:48	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			10/02/17 10:48	1
1,1-Dichloroethane	1.0	U	1.0	0.34	ug/L			10/02/17 10:48	1
cis-1,2-Dichloroethene	**2.5**		1.0	0.30	ug/L			10/02/17 10:48	1
Bromochloromethane	1.0	U	1.0	0.36	ug/L			10/02/17 10:48	1
2-Butanone (MEK)	5.0	U	5.0	2.6	ug/L			10/02/17 10:48	1
Chloroform	**0.34**	**J**	1.0	0.27	ug/L			10/02/17 10:48	1
1,1,1-Trichloroethane	1.0	U ^c	1.0	0.27	ug/L			10/02/17 10:48	1
Carbon tetrachloride	1.0	U ^c	1.0	0.56	ug/L			10/02/17 10:48	1
Benzene	1.0	U	1.0	0.18	ug/L			10/02/17 10:48	1
1,2-Dichloroethane	1.0	U	1.0	0.24	ug/L			10/02/17 10:48	1
Trichloroethene	**270**	**E**	1.0	0.20	ug/L			10/02/17 10:48	1
1,2-Dichloropropane	1.0	U	1.0	0.35	ug/L			10/02/17 10:48	1
Bromodichloromethane	1.0	U	1.0	0.57	ug/L			10/02/17 10:48	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.32	ug/L			10/02/17 10:48	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.2	ug/L			10/02/17 10:48	1
Toluene	1.0	U	1.0	0.16	ug/L			10/02/17 10:48	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.22	ug/L			10/02/17 10:48	1
1,1,2-Trichloroethane	1.0	U	1.0	0.31	ug/L			10/02/17 10:48	1
Tetrachloroethene	**270**	**E**	1.0	0.24	ug/L			10/02/17 10:48	1
2-Hexanone	5.0	U	5.0	2.0	ug/L			10/02/17 10:48	1
Dibromochloromethane	1.0	U ^c *	1.0	0.44	ug/L			10/02/17 10:48	1
1,2-Dibromoethane (EDB)	1.0	U	1.0	0.51	ug/L			10/02/17 10:48	1
Chlorobenzene	1.0	U	1.0	0.15	ug/L			10/02/17 10:48	1
1,1,1,2-Tetrachloroethane	1.0	U ^c	1.0	0.49	ug/L			10/02/17 10:48	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			10/02/17 10:48	1
Xylenes, Total	2.0	U	2.0	0.27	ug/L			10/02/17 10:48	1
Styrene	1.0	U	1.0	0.22	ug/L			10/02/17 10:48	1
Bromoform	1.0	U ^c	1.0	0.76	ug/L			10/02/17 10:48	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.37	ug/L			10/02/17 10:48	1
Acrylonitrile	20	U	20	3.3	ug/L			10/02/17 10:48	1
1,4-Dioxane	200	U	200	16	ug/L			10/02/17 10:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*65 - 121*		*10/02/17 10:48*	*1*
Toluene-d8 (Surr)	*84*		*73 - 120*		*10/02/17 10:48*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*10/02/17 10:48*	*1*
Dibromofluoromethane (Surr)	*102*		*73 - 120*		*10/02/17 10:48*	*1*

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

Client Sample ID: HD-SPBA-CW-22-0/1-0
Date Collected: 09/28/17 09:40
Date Received: 09/29/17 09:15

Lab Sample ID: 180-70792-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	13	U	13	4.8	ug/L			10/03/17 08:04	12.5
Vinyl chloride	13	U	13	2.1	ug/L			10/03/17 08:04	12.5
Bromomethane	13	U	13	7.3	ug/L			10/03/17 08:04	12.5
Chloroethane	13	U	13	7.2	ug/L			10/03/17 08:04	12.5
1,1-Dichloroethene	13	U	13	4.0	ug/L			10/03/17 08:04	12.5
Acetone	63	U	63	39	ug/L			10/03/17 08:04	12.5
Carbon disulfide	13	U	13	6.6	ug/L			10/03/17 08:04	12.5
Methylene Chloride	13	U	13	12	ug/L			10/03/17 08:04	12.5
trans-1,2-Dichloroethene	13	U	13	2.5	ug/L			10/03/17 08:04	12.5
Methyl tert-butyl ether	13	U	13	2.4	ug/L			10/03/17 08:04	12.5
1,1-Dichloroethane	13	U	13	4.2	ug/L			10/03/17 08:04	12.5
cis-1,2-Dichloroethene	13	U	13	3.8	ug/L			10/03/17 08:04	12.5
Bromochloromethane	13	U	13	4.5	ug/L			10/03/17 08:04	12.5
2-Butanone (MEK)	63	U	63	32	ug/L			10/03/17 08:04	12.5
Chloroform	13	U	13	3.3	ug/L			10/03/17 08:04	12.5
1,1,1-Trichloroethane	13	U	13	3.4	ug/L			10/03/17 08:04	12.5
Carbon tetrachloride	13	U	13	7.0	ug/L			10/03/17 08:04	12.5
Benzene	13	U	13	2.3	ug/L			10/03/17 08:04	12.5
1,2-Dichloroethane	13	U	13	3.0	ug/L			10/03/17 08:04	12.5
Trichloroethene	**170**		13	2.5	ug/L			10/03/17 08:04	12.5
1,2-Dichloropropane	13	U	13	4.3	ug/L			10/03/17 08:04	12.5
Bromodichloromethane	13	U	13	7.1	ug/L			10/03/17 08:04	12.5
cis-1,3-Dichloropropene	13	U	13	4.0	ug/L			10/03/17 08:04	12.5
4-Methyl-2-pentanone (MIBK)	63	U	63	27	ug/L			10/03/17 08:04	12.5
Toluene	13	U	13	2.0	ug/L			10/03/17 08:04	12.5
trans-1,3-Dichloropropene	13	U	13	2.8	ug/L			10/03/17 08:04	12.5
1,1,2-Trichloroethane	13	U	13	3.8	ug/L			10/03/17 08:04	12.5
Tetrachloroethene	**240**		13	3.1	ug/L			10/03/17 08:04	12.5
2-Hexanone	63	U	63	25	ug/L			10/03/17 08:04	12.5
Dibromochloromethane	13	U	13	5.5	ug/L			10/03/17 08:04	12.5
1,2-Dibromoethane (EDB)	13	U	13	6.4	ug/L			10/03/17 08:04	12.5
Chlorobenzene	13	U	13	1.8	ug/L			10/03/17 08:04	12.5
1,1,1,2-Tetrachloroethane	13	U	13	6.2	ug/L			10/03/17 08:04	12.5
Ethylbenzene	13	U	13	3.2	ug/L			10/03/17 08:04	12.5
Xylenes, Total	25	U	25	3.4	ug/L			10/03/17 08:04	12.5
Styrene	13	U	13	2.7	ug/L			10/03/17 08:04	12.5
Bromoform	13	U	13	9.5	ug/L			10/03/17 08:04	12.5
1,1,2,2-Tetrachloroethane	13	U	13	4.6	ug/L			10/03/17 08:04	12.5
Acrylonitrile	250	U	250	42	ug/L			10/03/17 08:04	12.5
1,4-Dioxane	2500	U	2500	200	ug/L			10/03/17 08:04	12.5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*65 - 121*		*10/03/17 08:04*	*12.5*
Toluene-d8 (Surr)	*97*		*73 - 120*		*10/03/17 08:04*	*12.5*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*10/03/17 08:04*	*12.5*
Dibromofluoromethane (Surr)	*102*		*73 - 120*		*10/03/17 08:04*	*12.5*

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

Client Sample ID: HD-QC3-0/1-2
Date Collected: 09/27/17 12:00
Date Received: 09/29/17 09:15

Lab Sample ID: 180-70792-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	1.0	U	1.0	0.38	ug/L			10/02/17 10:24	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			10/02/17 10:24	1
Bromomethane	1.0	U ^c	1.0	0.59	ug/L			10/02/17 10:24	1
Chloroethane	1.0	U	1.0	0.58	ug/L			10/02/17 10:24	1
1,1-Dichloroethene	1.0	U	1.0	0.32	ug/L			10/02/17 10:24	1
Acetone	5.0	U	5.0	3.1	ug/L			10/02/17 10:24	1
Carbon disulfide	1.0	U	1.0	0.53	ug/L			10/02/17 10:24	1
Methylene Chloride	1.0	U	1.0	0.94	ug/L			10/02/17 10:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.20	ug/L			10/02/17 10:24	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			10/02/17 10:24	1
1,1-Dichloroethane	1.0	U	1.0	0.34	ug/L			10/02/17 10:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			10/02/17 10:24	1
Bromochloromethane	1.0	U	1.0	0.36	ug/L			10/02/17 10:24	1
2-Butanone (MEK)	5.0	U	5.0	2.6	ug/L			10/02/17 10:24	1
Chloroform	1.0	U	1.0	0.27	ug/L			10/02/17 10:24	1
1,1,1-Trichloroethane	1.0	U ^c	1.0	0.27	ug/L			10/02/17 10:24	1
Carbon tetrachloride	1.0	U ^c	1.0	0.56	ug/L			10/02/17 10:24	1
Benzene	1.0	U	1.0	0.18	ug/L			10/02/17 10:24	1
1,2-Dichloroethane	1.0	U	1.0	0.24	ug/L			10/02/17 10:24	1
Trichloroethene	1.0	U	1.0	0.20	ug/L			10/02/17 10:24	1
1,2-Dichloropropane	1.0	U	1.0	0.35	ug/L			10/02/17 10:24	1
Bromodichloromethane	1.0	U	1.0	0.57	ug/L			10/02/17 10:24	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.32	ug/L			10/02/17 10:24	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.2	ug/L			10/02/17 10:24	1
Toluene	1.0	U	1.0	0.16	ug/L			10/02/17 10:24	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.22	ug/L			10/02/17 10:24	1
1,1,2-Trichloroethane	1.0	U	1.0	0.31	ug/L			10/02/17 10:24	1
Tetrachloroethene	1.0	U	1.0	0.24	ug/L			10/02/17 10:24	1
2-Hexanone	5.0	U	5.0	2.0	ug/L			10/02/17 10:24	1
Dibromochloromethane	1.0	U ^c *	1.0	0.44	ug/L			10/02/17 10:24	1
1,2-Dibromoethane (EDB)	1.0	U	1.0	0.51	ug/L			10/02/17 10:24	1
Chlorobenzene	1.0	U	1.0	0.15	ug/L			10/02/17 10:24	1
1,1,1,2-Tetrachloroethane	1.0	U ^c	1.0	0.49	ug/L			10/02/17 10:24	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			10/02/17 10:24	1
Xylenes, Total	2.0	U	2.0	0.27	ug/L			10/02/17 10:24	1
Styrene	1.0	U	1.0	0.22	ug/L			10/02/17 10:24	1
Bromoform	1.0	U ^c	1.0	0.76	ug/L			10/02/17 10:24	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.37	ug/L			10/02/17 10:24	1
Acrylonitrile	20	U	20	3.3	ug/L			10/02/17 10:24	1
1,4-Dioxane	200	U	200	16	ug/L			10/02/17 10:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*65 - 121*		*10/02/17 10:24*	*1*
Toluene-d8 (Surr)	*85*		*73 - 120*		*10/02/17 10:24*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*10/02/17 10:24*	*1*
Dibromofluoromethane (Surr)	*101*		*73 - 120*		*10/02/17 10:24*	*1*

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

Client Sample ID: HD-SPBA-CW-22-0/1-0
Date Collected: 09/27/17 09:40
Date Received: 09/29/17 09:15

Lab Sample ID: 180-70792-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	13	U	13	4.8	ug/L			10/03/17 07:40	12.5
Vinyl chloride	13	U	13	2.1	ug/L			10/03/17 07:40	12.5
Bromomethane	13	U	13	7.3	ug/L			10/03/17 07:40	12.5
Chloroethane	13	U	13	7.2	ug/L			10/03/17 07:40	12.5
1,1-Dichloroethene	13	U	13	4.0	ug/L			10/03/17 07:40	12.5
Acetone	63	U	63	39	ug/L			10/03/17 07:40	12.5
Carbon disulfide	13	U	13	6.6	ug/L			10/03/17 07:40	12.5
Methylene Chloride	13	U	13	12	ug/L			10/03/17 07:40	12.5
trans-1,2-Dichloroethene	13	U	13	2.5	ug/L			10/03/17 07:40	12.5
Methyl tert-butyl ether	13	U	13	2.4	ug/L			10/03/17 07:40	12.5
1,1-Dichloroethane	13	U	13	4.2	ug/L			10/03/17 07:40	12.5
cis-1,2-Dichloroethene	13	U	13	3.8	ug/L			10/03/17 07:40	12.5
Bromochloromethane	13	U	13	4.5	ug/L			10/03/17 07:40	12.5
2-Butanone (MEK)	63	U	63	32	ug/L			10/03/17 07:40	12.5
Chloroform	13	U	13	3.3	ug/L			10/03/17 07:40	12.5
1,1,1-Trichloroethane	13	U	13	3.4	ug/L			10/03/17 07:40	12.5
Carbon tetrachloride	13	U	13	7.0	ug/L			10/03/17 07:40	12.5
Benzene	13	U	13	2.3	ug/L			10/03/17 07:40	12.5
1,2-Dichloroethane	13	U	13	3.0	ug/L			10/03/17 07:40	12.5
Trichloroethene	**140**		13	2.5	ug/L			10/03/17 07:40	12.5
1,2-Dichloropropane	13	U	13	4.3	ug/L			10/03/17 07:40	12.5
Bromodichloromethane	13	U	13	7.1	ug/L			10/03/17 07:40	12.5
cis-1,3-Dichloropropene	13	U	13	4.0	ug/L			10/03/17 07:40	12.5
4-Methyl-2-pentanone (MIBK)	63	U	63	27	ug/L			10/03/17 07:40	12.5
Toluene	13	U	13	2.0	ug/L			10/03/17 07:40	12.5
trans-1,3-Dichloropropene	13	U	13	2.8	ug/L			10/03/17 07:40	12.5
1,1,2-Trichloroethane	13	U	13	3.8	ug/L			10/03/17 07:40	12.5
Tetrachloroethene	**200**		13	3.1	ug/L			10/03/17 07:40	12.5
2-Hexanone	63	U	63	25	ug/L			10/03/17 07:40	12.5
Dibromochloromethane	13	U	13	5.5	ug/L			10/03/17 07:40	12.5
1,2-Dibromoethane (EDB)	13	U	13	6.4	ug/L			10/03/17 07:40	12.5
Chlorobenzene	13	U	13	1.8	ug/L			10/03/17 07:40	12.5
1,1,1,2-Tetrachloroethane	13	U	13	6.2	ug/L			10/03/17 07:40	12.5
Ethylbenzene	13	U	13	3.2	ug/L			10/03/17 07:40	12.5
Xylenes, Total	25	U	25	3.4	ug/L			10/03/17 07:40	12.5
Styrene	13	U	13	2.7	ug/L			10/03/17 07:40	12.5
Bromoform	13	U	13	9.5	ug/L			10/03/17 07:40	12.5
1,1,2,2-Tetrachloroethane	13	U	13	4.6	ug/L			10/03/17 07:40	12.5
Acrylonitrile	250	U	250	42	ug/L			10/03/17 07:40	12.5
1,4-Dioxane	2500	U	2500	200	ug/L			10/03/17 07:40	12.5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*65 - 121*		*10/03/17 07:40*	*12.5*
Toluene-d8 (Surr)	*100*		*73 - 120*		*10/03/17 07:40*	*12.5*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*10/03/17 07:40*	*12.5*
Dibromofluoromethane (Surr)	*103*		*73 - 120*		*10/03/17 07:40*	*12.5*

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: HD-SPBA-CW-22-0/1-0
Date Collected: 09/28/17 09:40
Date Received: 09/29/17 09:15

Lab Sample ID: 180-70792-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	**4.5**		0.10	0.023	mg/L			09/29/17 20:59	1
Nitrite as N	0.050	U	0.050	0.029	mg/L			09/29/17 20:59	1
Fluoride	**0.094**	**J**	0.10	0.026	mg/L			09/29/17 20:59	1
Chloride	**14**		1.0	0.71	mg/L			09/29/17 20:59	1
Sulfate	**0.97**	**J**	1.0	0.38	mg/L			09/29/17 20:59	1

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

Client Sample ID: HD-SPBA-CW-22-0/1-0
Date Collected: 09/28/17 09:40
Date Received: 09/29/17 09:15

Lab Sample ID: 180-70792-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.4**		1.0	0.22	ug/L		10/03/17 10:25	10/10/17 00:21	1
Cadmium	1.0	U	1.0	0.078	ug/L		10/03/17 10:25	10/10/17 00:21	1
Barium	**38**		10	1.4	ug/L		10/03/17 10:25	10/10/17 00:21	1
Chromium	**3.0**		2.0	0.38	ug/L		10/03/17 10:25	10/10/17 00:21	1
Lead	1.0	U	1.0	0.32	ug/L		10/03/17 10:25	10/10/17 00:21	1
Selenium	5.0	U	5.0	1.3	ug/L		10/03/17 10:25	10/10/17 00:21	1
Silver	1.0	U	1.0	0.20	ug/L		10/03/17 10:25	10/10/17 00:21	1
Beryllium	1.0	U	1.0	0.13	ug/L		10/03/17 10:25	10/10/17 00:21	1
Calcium	**54000**		500	74	ug/L		10/03/17 10:25	10/10/17 00:21	1
Thallium	**0.11**	**J**	1.0	0.053	ug/L		10/03/17 10:25	10/10/17 00:21	1
Antimony	2.0	U	2.0	0.44	ug/L		10/03/17 10:25	10/10/17 00:21	1
Nickel	**1.7**		1.0	0.27	ug/L		10/03/17 10:25	10/10/17 00:21	1
Zinc	**8.8**		5.0	2.7	ug/L		10/03/17 10:25	10/10/17 00:21	1
Copper	**1.5**	**J**	2.0	1.0	ug/L		10/03/17 10:25	10/10/17 00:21	1
Potassium	**2300**		500	96	ug/L		10/03/17 10:25	10/10/17 00:21	1
Magnesium	**3400**		500	45	ug/L		10/03/17 10:25	10/10/17 00:21	1
Sodium	**3300**		500	220	ug/L		10/03/17 10:25	10/10/17 00:21	1
Vanadium	**6.9**	**B**	1.0	0.50	ug/L		10/03/17 10:25	10/10/17 00:21	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: HD-SPBA-CW-22-0/1-0
Date Collected: 09/28/17 09:40
Date Received: 09/29/17 09:15

Lab Sample ID: 180-70792-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.065	ug/L		10/04/17 09:52	10/06/17 07:55	1

General Chemistry

Client Sample ID: HD-SPBA-CW-22-0/1-0
Date Collected: 09/28/17 09:40
Date Received: 09/29/17 09:15

Lab Sample ID: 180-70792-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**46**		4.3	0.25	NTU			09/29/17 13:42	5
Ammonia, distilled	**0.15**		0.10	0.081	mg/L		09/30/17 10:02	10/03/17 10:56	1
pH	**7.6**	**HF**	0.1	0.1	SU			09/29/17 16:20	1
Total Alkalinity as CaCO3 to pH 4.	**180**		5.0	5.0	mg/L			10/03/17 09:40	1
Bicarbonate Alkalinity as CaCO3	**180**		5.0	5.0	mg/L			10/03/17 09:40	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	5.0	mg/L			10/03/17 09:40	1
Hardness as calcium carbonate	**150**		5.0	5.0	mg/L			10/03/17 11:03	1
Specific Conductance	**330**		1.0	1.0	umhos/cm			10/06/17 10:58	1
Total Suspended Solids	**35**		0.50	0.50	mg/L			10/03/17 15:27	1
Total Organic Carbon - Duplicates	1.0	U	1.0	0.51	mg/L			10/02/17 14:26	1

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

Analyte	RL	MDL	Units	Method
1,1,1,2-Tetrachloroethane	1.0	0.49	ug/L	8260C
1,1,1-Trichloroethane	1.0	0.27	ug/L	8260C
1,1,2,2-Tetrachloroethane	1.0	0.37	ug/L	8260C
1,1,2-Trichloroethane	1.0	0.31	ug/L	8260C
1,1-Dichloroethane	1.0	0.34	ug/L	8260C
1,1-Dichloroethene	1.0	0.32	ug/L	8260C
1,2-Dibromoethane (EDB)	1.0	0.51	ug/L	8260C
1,2-Dichloroethane	1.0	0.24	ug/L	8260C
1,2-Dichloropropane	1.0	0.35	ug/L	8260C
1,4-Dioxane	200	16	ug/L	8260C
2-Butanone (MEK)	5.0	2.6	ug/L	8260C
2-Hexanone	5.0	2.0	ug/L	8260C
4-Methyl-2-pentanone (MIBK)	5.0	2.2	ug/L	8260C
Acetone	5.0	3.1	ug/L	8260C
Acrylonitrile	20	3.3	ug/L	8260C
Benzene	1.0	0.18	ug/L	8260C
Bromochloromethane	1.0	0.36	ug/L	8260C
Bromodichloromethane	1.0	0.57	ug/L	8260C
Bromoform	1.0	0.76	ug/L	8260C
Bromomethane	1.0	0.59	ug/L	8260C
Carbon disulfide	1.0	0.53	ug/L	8260C
Carbon tetrachloride	1.0	0.56	ug/L	8260C
Chlorobenzene	1.0	0.15	ug/L	8260C
Chloroethane	1.0	0.58	ug/L	8260C
Chloroform	1.0	0.27	ug/L	8260C
Chloromethane	1.0	0.38	ug/L	8260C
cis-1,2-Dichloroethene	1.0	0.30	ug/L	8260C
cis-1,3-Dichloropropene	1.0	0.32	ug/L	8260C
Dibromochloromethane	1.0	0.44	ug/L	8260C
Ethylbenzene	1.0	0.25	ug/L	8260C
Methyl tert-butyl ether	1.0	0.20	ug/L	8260C
Methylene Chloride	1.0	0.94	ug/L	8260C
Styrene	1.0	0.22	ug/L	8260C
Tetrachloroethene	1.0	0.24	ug/L	8260C
Toluene	1.0	0.16	ug/L	8260C
trans-1,2-Dichloroethene	1.0	0.20	ug/L	8260C
trans-1,3-Dichloropropene	1.0	0.22	ug/L	8260C
Trichloroethene	1.0	0.20	ug/L	8260C
Vinyl chloride	1.0	0.17	ug/L	8260C
Xylenes, Total	2.0	0.27	ug/L	8260C

Method: 300.0 - Anions, Ion Chromatography

Analyte	RL	MDL	Units	Method
Chloride	1.0	0.71	mg/L	300.0
Fluoride	0.10	0.026	mg/L	300.0
Nitrate as N	0.10	0.023	mg/L	300.0
Nitrite as N	0.050	0.029	mg/L	300.0
Sulfate	1.0	0.38	mg/L	300.0

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

Prep: 3005A

Default Detection Limits

Client: Groundwater Sciences Corporation
Project/Site: Harley Davidson

TestAmerica Job ID: 180-70792-1

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

Prep: 3005A

Analyte	RL	MDL	Units	Method
Antimony	2.0	0.44	ug/L	6020A
Arsenic	1.0	0.22	ug/L	6020A
Barium	10	1.4	ug/L	6020A
Beryllium	1.0	0.13	ug/L	6020A
Cadmium	1.0	0.078	ug/L	6020A
Calcium	500	74	ug/L	6020A
Chromium	2.0	0.38	ug/L	6020A
Copper	2.0	1.0	ug/L	6020A
Lead	1.0	0.32	ug/L	6020A
Magnesium	500	45	ug/L	6020A
Nickel	1.0	0.27	ug/L	6020A
Potassium	500	96	ug/L	6020A
Selenium	5.0	1.3	ug/L	6020A
Silver	1.0	0.20	ug/L	6020A
Sodium	500	220	ug/L	6020A
Thallium	1.0	0.053	ug/L	6020A
Vanadium	1.0	0.50	ug/L	6020A
Zinc	5.0	2.7	ug/L	6020A

Method: 7470A - Mercury (CVAA) - Dissolved

Prep: 7470A

Analyte	RL	MDL	Units	Method
Mercury	0.20	0.065	ug/L	7470A

General Chemistry

Analyte	RL	MDL	Units	Method
Turbidity	0.85	0.050	NTU	180.1
pH	0.1	0.1	SU	9040C
Bicarbonate Alkalinity as CaCO3	5.0	5.0	mg/L	SM 2320B
Carbonate Alkalinity as CaCO3	5.0	5.0	mg/L	SM 2320B
Total Alkalinity as CaCO3 to pH 4.5	5.0	5.0	mg/L	SM 2320B
Hardness as calcium carbonate	5.0	5.0	mg/L	SM 2340C
Specific Conductance	1.0	1.0	umhos/cm	SM 2510B
Total Suspended Solids	0.50	0.50	mg/L	SM 2540D
Total Organic Carbon - Duplicates	1.0	0.51	mg/L	SM 5310C

General Chemistry

Prep: Distill/Ammonia

Analyte	RL	MDL	Units	Method
Ammonia, distilled	0.10	0.081	mg/L	350.1

Surrogate Summary

Client: Groundwater Sciences Corporation
Project/Site: Harley Davidson

TestAmerica Job ID: 180-70792-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	12DCE (65-121)	TOL (73-120)	BFB (80-120)	DBFM (73-120)
180-70792-1	HD-SPBA-CW-22-0/1-0	90	84	94	102
180-70792-1 - DL	HD-SPBA-CW-22-0/1-0	112	100	93	103
180-70792-2	HD-SPBA-CW-22-0/1-0	116	97	90	102
180-70792-3	HD-QC3-0/1-2	90	85	96	101
LCS 180-224560/4	Lab Control Sample	97	115	114	108
LCS 180-224674/4	Lab Control Sample	100	119	109	98
MB 180-224560/6	Method Blank	89	88	97	94
MB 180-224674/6	Method Blank	107	99	94	98

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

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

Lab Sample ID: MB 180-224560/6
Matrix: Water
Analysis Batch: 224560

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	1.0	U	1.0	0.38	ug/L			10/02/17 02:22	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			10/02/17 02:22	1
Bromomethane	1.0	U	1.0	0.59	ug/L			10/02/17 02:22	1
Chloroethane	1.0	U	1.0	0.58	ug/L			10/02/17 02:22	1
1,1-Dichloroethene	1.0	U	1.0	0.32	ug/L			10/02/17 02:22	1
Acetone	5.0	U	5.0	3.1	ug/L			10/02/17 02:22	1
Carbon disulfide	1.0	U	1.0	0.53	ug/L			10/02/17 02:22	1
Methylene Chloride	1.0	U	1.0	0.94	ug/L			10/02/17 02:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.20	ug/L			10/02/17 02:22	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			10/02/17 02:22	1
1,1-Dichloroethane	1.0	U	1.0	0.34	ug/L			10/02/17 02:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			10/02/17 02:22	1
Bromochloromethane	1.0	U	1.0	0.36	ug/L			10/02/17 02:22	1
2-Butanone (MEK)	5.0	U	5.0	2.6	ug/L			10/02/17 02:22	1
Chloroform	1.0	U	1.0	0.27	ug/L			10/02/17 02:22	1
1,1,1-Trichloroethane	1.0	U	1.0	0.27	ug/L			10/02/17 02:22	1
Carbon tetrachloride	1.0	U	1.0	0.56	ug/L			10/02/17 02:22	1
Benzene	1.0	U	1.0	0.18	ug/L			10/02/17 02:22	1
1,2-Dichloroethane	1.0	U	1.0	0.24	ug/L			10/02/17 02:22	1
Trichloroethene	1.0	U	1.0	0.20	ug/L			10/02/17 02:22	1
1,2-Dichloropropane	1.0	U	1.0	0.35	ug/L			10/02/17 02:22	1
Bromodichloromethane	1.0	U	1.0	0.57	ug/L			10/02/17 02:22	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.32	ug/L			10/02/17 02:22	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.2	ug/L			10/02/17 02:22	1
Toluene	1.0	U	1.0	0.16	ug/L			10/02/17 02:22	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.22	ug/L			10/02/17 02:22	1
1,1,2-Trichloroethane	1.0	U	1.0	0.31	ug/L			10/02/17 02:22	1
Tetrachloroethene	1.0	U	1.0	0.24	ug/L			10/02/17 02:22	1
2-Hexanone	5.0	U	5.0	2.0	ug/L			10/02/17 02:22	1
Dibromochloromethane	1.0	U	1.0	0.44	ug/L			10/02/17 02:22	1
1,2-Dibromoethane (EDB)	1.0	U	1.0	0.51	ug/L			10/02/17 02:22	1
Chlorobenzene	1.0	U	1.0	0.15	ug/L			10/02/17 02:22	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.49	ug/L			10/02/17 02:22	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			10/02/17 02:22	1
Xylenes, Total	2.0	U	2.0	0.27	ug/L			10/02/17 02:22	1
Styrene	1.0	U	1.0	0.22	ug/L			10/02/17 02:22	1
Bromoform	1.0	U	1.0	0.76	ug/L			10/02/17 02:22	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.37	ug/L			10/02/17 02:22	1
Acrylonitrile	20	U	20	3.3	ug/L			10/02/17 02:22	1
1,4-Dioxane	200	U	200	16	ug/L			10/02/17 02:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*65 - 121*		*10/02/17 02:22*	*1*
Toluene-d8 (Surr)	*88*		*73 - 120*		*10/02/17 02:22*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*10/02/17 02:22*	*1*
Dibromofluoromethane (Surr)	*94*		*73 - 120*		*10/02/17 02:22*	*1*

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

Lab Sample ID: LCS 180-224560/4
Matrix: Water
Analysis Batch: 224560

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	10.0	8.70		ug/L		87	49 - 135
Vinyl chloride	10.0	8.70		ug/L		87	52 - 136
Bromomethane	10.0	8.82		ug/L		88	37 - 150
Chloroethane	10.0	9.59		ug/L		96	44 - 139
1,1-Dichloroethene	10.0	9.60		ug/L		96	64 - 131
Acetone	20.0	19.3		ug/L		97	24 - 150
Carbon disulfide	10.0	10.8		ug/L		108	20 - 150
Methylene Chloride	10.0	9.59		ug/L		96	66 - 123
trans-1,2-Dichloroethene	10.0	9.76		ug/L		98	70 - 123
Methyl tert-butyl ether	10.0	10.0		ug/L		100	66 - 130
1,1-Dichloroethane	10.0	10.3		ug/L		103	66 - 122
cis-1,2-Dichloroethene	10.0	9.60		ug/L		96	73 - 120
Bromochloromethane	10.0	10.3		ug/L		103	73 - 122
2-Butanone (MEK)	20.0	19.3		ug/L		96	37 - 150
Chloroform	10.0	10.2		ug/L		102	72 - 123
1,1,1-Trichloroethane	10.0	11.1		ug/L		111	66 - 129
Carbon tetrachloride	10.0	12.8		ug/L		128	58 - 145
Benzene	10.0	10.2		ug/L		102	75 - 123
1,2-Dichloroethane	10.0	10.7		ug/L		107	63 - 130
Trichloroethene	10.0	9.68		ug/L		97	74 - 121
1,2-Dichloropropane	10.0	10.7		ug/L		107	67 - 119
Bromodichloromethane	10.0	11.2		ug/L		112	62 - 127
cis-1,3-Dichloropropene	10.0	11.6		ug/L		116	61 - 127
4-Methyl-2-pentanone (MIBK)	20.0	18.6		ug/L		93	41 - 135
Toluene	10.0	10.2		ug/L		102	76 - 129
trans-1,3-Dichloropropene	10.0	11.5		ug/L		115	61 - 136
1,1,2-Trichloroethane	10.0	10.5		ug/L		105	74 - 126
Tetrachloroethene	10.0	9.31		ug/L		93	76 - 128
2-Hexanone	20.0	21.5		ug/L		108	37 - 150
Dibromochloromethane	10.0	13.3	*	ug/L		133	63 - 131
1,2-Dibromoethane (EDB)	10.0	9.70		ug/L		97	76 - 128
Chlorobenzene	10.0	10.4		ug/L		104	79 - 124
1,1,1,2-Tetrachloroethane	10.0	12.5		ug/L		125	70 - 130
Ethylbenzene	10.0	9.92		ug/L		99	77 - 124
Xylenes, Total	20.0	19.7		ug/L		99	76 - 124
Styrene	10.0	10.3		ug/L		103	80 - 125
Bromoform	10.0	12.4		ug/L		124	54 - 136
1,1,2,2-Tetrachloroethane	10.0	9.40		ug/L		94	72 - 128
Acrylonitrile	100	93.5		ug/L		93	60 - 130
1,4-Dioxane	200	238		ug/L		119	26 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*65 - 121*
Toluene-d8 (Surr)	*115*		*73 - 120*
4-Bromofluorobenzene (Surr)	*114*		*80 - 120*
Dibromofluoromethane (Surr)	*108*		*73 - 120*

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

Lab Sample ID: MB 180-224674/6
Matrix: Water
Analysis Batch: 224674

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	1.0	U	1.0	0.38	ug/L			10/03/17 01:25	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			10/03/17 01:25	1
Bromomethane	1.0	U	1.0	0.59	ug/L			10/03/17 01:25	1
Chloroethane	1.0	U	1.0	0.58	ug/L			10/03/17 01:25	1
1,1-Dichloroethene	1.0	U	1.0	0.32	ug/L			10/03/17 01:25	1
Acetone	5.0	U	5.0	3.1	ug/L			10/03/17 01:25	1
Carbon disulfide	1.0	U	1.0	0.53	ug/L			10/03/17 01:25	1
Methylene Chloride	1.0	U	1.0	0.94	ug/L			10/03/17 01:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.20	ug/L			10/03/17 01:25	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			10/03/17 01:25	1
1,1-Dichloroethane	1.0	U	1.0	0.34	ug/L			10/03/17 01:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			10/03/17 01:25	1
Bromochloromethane	1.0	U	1.0	0.36	ug/L			10/03/17 01:25	1
2-Butanone (MEK)	5.0	U	5.0	2.6	ug/L			10/03/17 01:25	1
Chloroform	1.0	U	1.0	0.27	ug/L			10/03/17 01:25	1
1,1,1-Trichloroethane	1.0	U	1.0	0.27	ug/L			10/03/17 01:25	1
Carbon tetrachloride	1.0	U	1.0	0.56	ug/L			10/03/17 01:25	1
Benzene	1.0	U	1.0	0.18	ug/L			10/03/17 01:25	1
1,2-Dichloroethane	1.0	U	1.0	0.24	ug/L			10/03/17 01:25	1
Trichloroethene	1.0	U	1.0	0.20	ug/L			10/03/17 01:25	1
1,2-Dichloropropane	1.0	U	1.0	0.35	ug/L			10/03/17 01:25	1
Bromodichloromethane	1.0	U	1.0	0.57	ug/L			10/03/17 01:25	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.32	ug/L			10/03/17 01:25	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.2	ug/L			10/03/17 01:25	1
Toluene	1.0	U	1.0	0.16	ug/L			10/03/17 01:25	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.22	ug/L			10/03/17 01:25	1
1,1,2-Trichloroethane	1.0	U	1.0	0.31	ug/L			10/03/17 01:25	1
Tetrachloroethene	1.0	U	1.0	0.24	ug/L			10/03/17 01:25	1
2-Hexanone	5.0	U	5.0	2.0	ug/L			10/03/17 01:25	1
Dibromochloromethane	1.0	U	1.0	0.44	ug/L			10/03/17 01:25	1
1,2-Dibromoethane (EDB)	1.0	U	1.0	0.51	ug/L			10/03/17 01:25	1
Chlorobenzene	1.0	U	1.0	0.15	ug/L			10/03/17 01:25	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.49	ug/L			10/03/17 01:25	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			10/03/17 01:25	1
Xylenes, Total	2.0	U	2.0	0.27	ug/L			10/03/17 01:25	1
Styrene	1.0	U	1.0	0.22	ug/L			10/03/17 01:25	1
Bromoform	1.0	U	1.0	0.76	ug/L			10/03/17 01:25	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.37	ug/L			10/03/17 01:25	1
Acrylonitrile	20	U	20	3.3	ug/L			10/03/17 01:25	1
1,4-Dioxane	200	U	200	16	ug/L			10/03/17 01:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*65 - 121*		*10/03/17 01:25*	*1*
Toluene-d8 (Surr)	*99*		*73 - 120*		*10/03/17 01:25*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*10/03/17 01:25*	*1*
Dibromofluoromethane (Surr)	*98*		*73 - 120*		*10/03/17 01:25*	*1*

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

Lab Sample ID: LCS 180-224674/4
Matrix: Water
Analysis Batch: 224674

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	10.0	11.6		ug/L		116	49 - 135
Vinyl chloride	10.0	11.0		ug/L		110	52 - 136
Bromomethane	10.0	11.7		ug/L		117	37 - 150
Chloroethane	10.0	11.3		ug/L		113	44 - 139
1,1-Dichloroethene	10.0	11.2		ug/L		112	64 - 131
Acetone	20.0	20.5		ug/L		102	24 - 150
Carbon disulfide	10.0	10.7		ug/L		107	20 - 150
Methylene Chloride	10.0	9.53		ug/L		95	66 - 123
trans-1,2-Dichloroethene	10.0	10.8		ug/L		108	70 - 123
Methyl tert-butyl ether	10.0	9.05		ug/L		91	66 - 130
1,1-Dichloroethane	10.0	10.1		ug/L		101	66 - 122
cis-1,2-Dichloroethene	10.0	9.61		ug/L		96	73 - 120
Bromochloromethane	10.0	9.38		ug/L		94	73 - 122
2-Butanone (MEK)	20.0	17.8		ug/L		89	37 - 150
Chloroform	10.0	9.66		ug/L		97	72 - 123
1,1,1-Trichloroethane	10.0	10.7		ug/L		107	66 - 129
Carbon tetrachloride	10.0	10.5		ug/L		105	58 - 145
Benzene	10.0	9.67		ug/L		97	75 - 123
1,2-Dichloroethane	10.0	9.24		ug/L		92	63 - 130
Trichloroethene	10.0	9.49		ug/L		95	74 - 121
1,2-Dichloropropane	10.0	9.02		ug/L		90	67 - 119
Bromodichloromethane	10.0	9.09		ug/L		91	62 - 127
cis-1,3-Dichloropropene	10.0	8.88		ug/L		89	61 - 127
4-Methyl-2-pentanone (MIBK)	20.0	20.2		ug/L		101	41 - 135
Toluene	10.0	11.5		ug/L		115	76 - 129
trans-1,3-Dichloropropene	10.0	10.1		ug/L		101	61 - 136
1,1,2-Trichloroethane	10.0	10.7		ug/L		107	74 - 126
Tetrachloroethene	10.0	11.1		ug/L		111	76 - 128
2-Hexanone	20.0	18.7		ug/L		94	37 - 150
Dibromochloromethane	10.0	10.1		ug/L		101	63 - 131
1,2-Dibromoethane (EDB)	10.0	9.92		ug/L		99	76 - 128
Chlorobenzene	10.0	10.4		ug/L		104	79 - 124
1,1,1,2-Tetrachloroethane	10.0	11.1		ug/L		111	70 - 130
Ethylbenzene	10.0	10.5		ug/L		105	77 - 124
Xylenes, Total	20.0	21.0		ug/L		105	76 - 124
Styrene	10.0	10.1		ug/L		101	80 - 125
Bromoform	10.0	9.56		ug/L		96	54 - 136
1,1,2,2-Tetrachloroethane	10.0	10.4		ug/L		104	72 - 128
Acrylonitrile	100	99.4		ug/L		99	60 - 130
1,4-Dioxane	200	201		ug/L		101	26 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*65 - 121*
Toluene-d8 (Surr)	*119*		*73 - 120*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*73 - 120*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 180-224419/6
Matrix: Water
Analysis Batch: 224419

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.10	U	0.10	0.023	mg/L			09/29/17 10:59	1
Nitrite as N	0.050	U	0.050	0.029	mg/L			09/29/17 10:59	1
Fluoride	0.10	U	0.10	0.026	mg/L			09/29/17 10:59	1
Chloride	1.0	U	1.0	0.71	mg/L			09/29/17 10:59	1
Sulfate	1.0	U	1.0	0.38	mg/L			09/29/17 10:59	1

Lab Sample ID: LCS 180-224419/5
Matrix: Water
Analysis Batch: 224419

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1.25	1.17		mg/L		93	90 - 110
Nitrite as N	1.25	1.14		mg/L		91	90 - 110
Fluoride	1.25	1.21		mg/L		97	90 - 110
Chloride	25.0	26.1		mg/L		105	90 - 110
Sulfate	25.0	23.1		mg/L		92	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-224718/1-A
Matrix: Water
Analysis Batch: 225403

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 224718

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.0	U	1.0	0.22	ug/L		10/03/17 10:25	10/10/17 00:10	1
Cadmium	1.0	U	1.0	0.078	ug/L		10/03/17 10:25	10/10/17 00:10	1
Barium	10	U	10	1.4	ug/L		10/03/17 10:25	10/10/17 00:10	1
Chromium	2.0	U	2.0	0.38	ug/L		10/03/17 10:25	10/10/17 00:10	1
Lead	1.0	U	1.0	0.32	ug/L		10/03/17 10:25	10/10/17 00:10	1
Selenium	5.0	U	5.0	1.3	ug/L		10/03/17 10:25	10/10/17 00:10	1
Silver	1.0	U	1.0	0.20	ug/L		10/03/17 10:25	10/10/17 00:10	1
Beryllium	1.0	U	1.0	0.13	ug/L		10/03/17 10:25	10/10/17 00:10	1
Calcium	500	U	500	74	ug/L		10/03/17 10:25	10/10/17 00:10	1
Thallium	1.0	U	1.0	0.053	ug/L		10/03/17 10:25	10/10/17 00:10	1
Antimony	2.0	U	2.0	0.44	ug/L		10/03/17 10:25	10/10/17 00:10	1
Nickel	1.0	U	1.0	0.27	ug/L		10/03/17 10:25	10/10/17 00:10	1
Zinc	5.0	U	5.0	2.7	ug/L		10/03/17 10:25	10/10/17 00:10	1
Copper	2.0	U	2.0	1.0	ug/L		10/03/17 10:25	10/10/17 00:10	1
Potassium	500	U	500	96	ug/L		10/03/17 10:25	10/10/17 00:10	1
Magnesium	500	U	500	45	ug/L		10/03/17 10:25	10/10/17 00:10	1
Sodium	500	U	500	220	ug/L		10/03/17 10:25	10/10/17 00:10	1
Vanadium	0.614	J	1.0	0.50	ug/L		10/03/17 10:25	10/10/17 00:10	1

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

Lab Sample ID: LCS 180-224718/2-A
Matrix: Water
Analysis Batch: 225403

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 224718

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	40.0	44.3		ug/L		111	80 - 120
Cadmium	50.0	55.9		ug/L		112	80 - 120
Barium	2000	1930		ug/L		96	80 - 120
Chromium	200	175		ug/L		88	80 - 120
Lead	20.0	20.1		ug/L		100	80 - 120
Selenium	10.0	10.9		ug/L		109	80 - 120
Silver	50.0	51.7		ug/L		103	80 - 120
Beryllium	50.0	54.6		ug/L		109	80 - 120
Calcium	50000	49400		ug/L		99	80 - 120
Thallium	50.0	49.0		ug/L		98	80 - 120
Antimony	500	514		ug/L		103	80 - 120
Nickel	500	473		ug/L		95	80 - 120
Zinc	500	514		ug/L		103	80 - 120
Copper	250	250		ug/L		100	80 - 120
Potassium	50000	47000		ug/L		94	80 - 120
Magnesium	50000	48800		ug/L		98	80 - 120
Sodium	50000	47900		ug/L		96	80 - 120
Vanadium	500	421		ug/L		84	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-224843/1-A
Matrix: Water
Analysis Batch: 225095

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 224843

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.065	ug/L		10/04/17 09:52	10/06/17 07:06	1

Lab Sample ID: LCS 180-224843/2-A
Matrix: Water
Analysis Batch: 225095

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 224843

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.80		ug/L		112	80 - 120

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 180-224488/8
Matrix: Water
Analysis Batch: 224488

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	0.85	U	0.85	0.050	NTU			09/29/17 13:32	1

Method: 180.1 - Turbidity, Nephelometric (Continued)

Lab Sample ID: LCS 180-224488/7
Matrix: Water
Analysis Batch: 224488

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	0.850	0.910		NTU		107	85 - 115

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 180-224503/1-A
Matrix: Water
Analysis Batch: 224750

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 224503

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	0.10	U	0.10	0.081	mg/L		09/30/17 10:02	10/03/17 10:49	1

Lab Sample ID: LCS 180-224503/2-A
Matrix: Water
Analysis Batch: 224750

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 224503

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	2.00	2.20		mg/L		110	90 - 110

Method: 9040C - pH

Lab Sample ID: LCS 180-224409/1
Matrix: Water
Analysis Batch: 224409

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: 180-70792-2 DU
Matrix: Water
Analysis Batch: 224409

Client Sample ID: HD-SPBA-CW-22-0/1-0
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.6	HF	7.6		SU		0.1	2

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 180-224684/30
Matrix: Water
Analysis Batch: 224684

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3 to pH 4.5	5.0	U	5.0	5.0	mg/L			10/03/17 09:40	1
Bicarbonate Alkalinity as CaCO3	5.0	U	5.0	5.0	mg/L			10/03/17 09:40	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	5.0	mg/L			10/03/17 09:40	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 180-224684/29
Matrix: Water
Analysis Batch: 224684

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3 to pH 4.5	249	280		mg/L		112	85 - 115

Method: SM 2340C - Hardness, Total (mg/l as CaC03)

Lab Sample ID: MB 180-224714/2
Matrix: Water
Analysis Batch: 224714

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	5.0	U	5.0	5.0	mg/L			10/03/17 10:28	1

Lab Sample ID: LCS 180-224714/1
Matrix: Water
Analysis Batch: 224714

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hardness as calcium carbonate	50.0	50.0		mg/L		100	90 - 110

Lab Sample ID: 180-70792-2 DU
Matrix: Water
Analysis Batch: 224714

Client Sample ID: HD-SPBA-CW-22-0/1-0
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Hardness as calcium carbonate	150		156		mg/L		1	20

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 180-225089/2
Matrix: Water
Analysis Batch: 225089

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	1.0	U	1.0	1.0	umhos/cm			10/06/17 10:52	1

Lab Sample ID: LCS 180-225089/1
Matrix: Water
Analysis Batch: 225089

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.2		umhos/cm		101	90 - 110

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 180-224780/2
Matrix: Water
Analysis Batch: 224780

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	0.50	U	0.50	0.50	mg/L			10/03/17 15:27	1

Lab Sample ID: LCS 180-224780/1
Matrix: Water
Analysis Batch: 224780

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	81.0	76.0		mg/L		94	80 - 120

Method: SM 5310C - TOC

Lab Sample ID: MB 180-224683/6
Matrix: Water
Analysis Batch: 224683

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	1.0	U	1.0	0.51	mg/L			10/02/17 14:13	1

Lab Sample ID: LCS 180-224683/4
Matrix: Water
Analysis Batch: 224683

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	20.0	20.4		mg/L		102	85 - 115

Lab Sample ID: LCSD 180-224683/5
Matrix: Water
Analysis Batch: 224683

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	20.0	20.8		mg/L		104	85 - 115	2	20

QC Association Summary

Client: Groundwater Sciences Corporation
Project/Site: Harley Davidson

TestAmerica Job ID: 180-70792-1

GC/MS VOA

Analysis Batch: 224560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-1	HD-SPBA-CW-22-0/1-0	Total/NA	Water	8260C	
180-70792-3	HD-QC3-0/1-2	Total/NA	Water	8260C	
MB 180-224560/6	Method Blank	Total/NA	Water	8260C	
LCS 180-224560/4	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 224674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-1 - DL	HD-SPBA-CW-22-0/1-0	Total/NA	Water	8260C	
180-70792-2	HD-SPBA-CW-22-0/1-0	Total/NA	Water	8260C	
MB 180-224674/6	Method Blank	Total/NA	Water	8260C	
LCS 180-224674/4	Lab Control Sample	Total/NA	Water	8260C	

HPLC/IC

Analysis Batch: 224419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-2	HD-SPBA-CW-22-0/1-0	Total/NA	Water	300.0	
MB 180-224419/6	Method Blank	Total/NA	Water	300.0	
LCS 180-224419/5	Lab Control Sample	Total/NA	Water	300.0	

Metals

Prep Batch: 224718

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-2	HD-SPBA-CW-22-0/1-0	Dissolved	Water	3005A	
MB 180-224718/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-224718/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 224843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-2	HD-SPBA-CW-22-0/1-0	Dissolved	Water	7470A	
MB 180-224843/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-224843/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 225095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-2	HD-SPBA-CW-22-0/1-0	Dissolved	Water	7470A	224843
MB 180-224843/1-A	Method Blank	Total/NA	Water	7470A	224843
LCS 180-224843/2-A	Lab Control Sample	Total/NA	Water	7470A	224843

Analysis Batch: 225403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-2	HD-SPBA-CW-22-0/1-0	Dissolved	Water	6020A	224718
MB 180-224718/1-A	Method Blank	Total Recoverable	Water	6020A	224718
LCS 180-224718/2-A	Lab Control Sample	Total Recoverable	Water	6020A	224718

General Chemistry

Analysis Batch: 224409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-2	HD-SPBA-CW-22-0/1-0	Total/NA	Water	9040C	
LCS 180-224409/1	Lab Control Sample	Total/NA	Water	9040C	
180-70792-2 DU	HD-SPBA-CW-22-0/1-0	Total/NA	Water	9040C	

Analysis Batch: 224488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-2	HD-SPBA-CW-22-0/1-0	Total/NA	Water	180.1	
MB 180-224488/8	Method Blank	Total/NA	Water	180.1	
LCS 180-224488/7	Lab Control Sample	Total/NA	Water	180.1	

Prep Batch: 224503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-2	HD-SPBA-CW-22-0/1-0	Total/NA	Water	Distill/Ammonia	
MB 180-224503/1-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 180-224503/2-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	

Analysis Batch: 224683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-2	HD-SPBA-CW-22-0/1-0	Total/NA	Water	SM 5310C	
MB 180-224683/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 180-224683/4	Lab Control Sample	Total/NA	Water	SM 5310C	
LCSD 180-224683/5	Lab Control Sample Dup	Total/NA	Water	SM 5310C	

Analysis Batch: 224684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-2	HD-SPBA-CW-22-0/1-0	Total/NA	Water	SM 2320B	
MB 180-224684/30	Method Blank	Total/NA	Water	SM 2320B	
LCS 180-224684/29	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 224714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-2	HD-SPBA-CW-22-0/1-0	Total/NA	Water	SM 2340C	
MB 180-224714/2	Method Blank	Total/NA	Water	SM 2340C	
LCS 180-224714/1	Lab Control Sample	Total/NA	Water	SM 2340C	
180-70792-2 DU	HD-SPBA-CW-22-0/1-0	Total/NA	Water	SM 2340C	

Analysis Batch: 224750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-2	HD-SPBA-CW-22-0/1-0	Total/NA	Water	350.1	224503
MB 180-224503/1-A	Method Blank	Total/NA	Water	350.1	224503
LCS 180-224503/2-A	Lab Control Sample	Total/NA	Water	350.1	224503

Analysis Batch: 224780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-2	HD-SPBA-CW-22-0/1-0	Total/NA	Water	SM 2540D	
MB 180-224780/2	Method Blank	Total/NA	Water	SM 2540D	
LCS 180-224780/1	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 225089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-70792-2	HD-SPBA-CW-22-0/1-0	Total/NA	Water	SM 2510B	

General Chemistry (Continued)

Analysis Batch: 225089 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-225089/2	Method Blank	Total/NA	Water	SM 2510B	
LCS 180-225089/1	Lab Control Sample	Total/NA	Water	SM 2510B	

Client Sample ID: HD-SPBA-CW-22-0/1-0

Lab Sample ID: 180-70792-1

Date Collected: 09/27/17 09:40

Matrix: Water

Date Received: 09/29/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C	DL	12.5	5 mL	5 mL	224674	10/03/17 07:40	FBB	TAL PIT
	Instrument ID: CHHP5									
Total/NA	Analysis	8260C		1	5 mL	5 mL	224560	10/02/17 10:48	FBB	TAL PIT
	Instrument ID: CHHP6									

Client Sample ID: HD-SPBA-CW-22-0/1-0

Lab Sample ID: 180-70792-2

Date Collected: 09/28/17 09:40

Matrix: Water

Date Received: 09/29/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		12.5	5 mL	5 mL	224674	10/03/17 08:04	FBB	TAL PIT
	Instrument ID: CHHP5									
Total/NA	Analysis	300.0		1			224419	09/29/17 20:59	CMR	TAL PIT
	Instrument ID: CHICS2000									
Dissolved	Prep	3005A			50 mL	50 mL	224718	10/03/17 10:25	KA	TAL PIT
Dissolved	Analysis	6020A		1			225403	10/10/17 00:21	WTR	TAL PIT
	Instrument ID: X									
Dissolved	Prep	7470A			50 mL	50 mL	224843	10/04/17 09:52	RJR	TAL PIT
Dissolved	Analysis	7470A		1			225095	10/06/17 07:55	RJR	TAL PIT
	Instrument ID: K									
Total/NA	Analysis	180.1		5			224488	09/29/17 13:42	ERH	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Prep	Distill/Ammonia			50 mL	50 mL	224503	09/30/17 10:02	ERH	TAL PIT
Total/NA	Analysis	350.1		1	8 mL	8 mL	224750	10/03/17 10:56	CAK	TAL PIT
	Instrument ID: ASTORIA1									
Total/NA	Analysis	9040C		1			224409	09/29/17 16:20	RMA	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2320B		1	50 mL	50 mL	224684	10/03/17 09:40	CLL	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2340C		1	50 mL	50 mL	224714	10/03/17 11:03	CAK	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2510B		1			225089	10/06/17 10:58	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	224780	10/03/17 15:27	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 5310C		1			224683	10/02/17 14:26	CLL	TAL PIT
	Instrument ID: TOC1030									

Client Sample ID: HD-QC3-0/1-2

Date Collected: 09/27/17 12:00
Date Received: 09/29/17 09:15

Lab Sample ID: 180-70792-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	224560	10/02/17 10:24	FBB	TAL PIT
	Instrument ID: CHHP6									

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT

Batch Type: Prep

ERH = Elizabeth Higgins

KA = Kayla Kalamasz

RJR = Ron Rosenbaum

Batch Type: Analysis

CAK = Chuck Kieda

CLL = Cheryl Loheyde

CMR = Carl Reagle

ERH = Elizabeth Higgins

FBB = Frank Bungard

KXW = Kaitlyn White

RJR = Ron Rosenbaum

RMA = Rachel Aguiar

WTR = Bill Reinheimer

Accreditation/Certification Summary

Client: Groundwater Sciences Corporation
Project/Site: Harley Davidson

TestAmerica Job ID: 180-70792-1

Laboratory: TestAmerica Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Pennsylvania	NELAP	3	02-00416	04-30-18

Method Summary

Client: Groundwater Sciences Corporation
Project/Site: Harley Davidson

TestAmerica Job ID: 180-70792-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds (GC/MS)	SW846	TAL PIT
300.0	Anions, Ion Chromatography	MCAWW	TAL PIT
6020A	Metals (ICP/MS)	SW846	TAL PIT
7470A	Mercury (CVAA)	SW846	TAL PIT
180.1	Turbidity, Nephelometric	MCAWW	TAL PIT
350.1	Nitrogen, Ammonia	MCAWW	TAL PIT
9040C	pH	SW846	TAL PIT
SM 2320B	Alkalinity	SM	TAL PIT
SM 2340C	Hardness, Total (mg/l as CaC03)	SM	TAL PIT
SM 2510B	Conductivity, Specific Conductance	SM	TAL PIT
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL PIT
SM 5310C	TOC	SM	TAL PIT

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater",
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Sample Summary

Client: Groundwater Sciences Corporation
Project/Site: Harley Davidson

TestAmerica Job ID: 180-70792-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-70792-1	HD-SPBA-CW-22-0/1-0	Water	09/27/17 09:40	09/29/17 09:15
180-70792-2	HD-SPBA-CW-22-0/1-0	Water	09/28/17 09:40	09/29/17 09:15
180-70792-3	HD-QC3-0/1-2	Water	09/27/17 12:00	09/29/17 09:15

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: CHHP5 Analysis Batch Number: 218218

Lab Sample ID: IC 180-218218/2 Client Sample ID:

Date Analyzed: 07/27/17 00:51 Lab File ID: 50727D02.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.76	Poor chromatography	bungardf	07/27/17 03:06

Lab Sample ID: IC 180-218218/3 Client Sample ID:

Date Analyzed: 07/27/17 01:15 Lab File ID: 50727D03.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.75	Poor chromatography	bungardf	07/27/17 03:13
1,4-Dioxane	8.05	Poor chromatography	bungardf	07/27/17 03:14

Lab Sample ID: ICIS 180-218218/4 Client Sample ID:

Date Analyzed: 07/27/17 01:39 Lab File ID: 50727D04.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.75	Poor chromatography	bungardf	07/27/17 03:15
1,4-Dioxane	8.05	Poor chromatography	bungardf	07/27/17 03:15

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: CHHP5 Analysis Batch Number: 224674

Lab Sample ID: 180-70792-1 DL Client Sample ID: HD-SPBA-CW-22-0/1-0 DL

Date Analyzed: 10/03/17 07:40 Lab File ID: 51002D21.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
cis-1,2-Dichloroethene	6.03	Poor chromatography	bungardf	10/03/17 20:57
Chloroform	6.44	Poor chromatography	bungardf	10/03/17 20:57

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: CHHP6 Analysis Batch Number: 217861

Lab Sample ID: IC 180-217861/3 Client Sample ID:

Date Analyzed: 07/24/17 06:39 Lab File ID: 60724D03.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.50	Poor chromatography	bungardf	07/24/17 07:17

Lab Sample ID: IC 180-217861/4 Client Sample ID:

Date Analyzed: 07/24/17 07:03 Lab File ID: 60724D04.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	7.80	Poor chromatography	bungardf	07/24/17 07:27

Lab Sample ID: ICIS 180-217861/5 Client Sample ID:

Date Analyzed: 07/24/17 07:27 Lab File ID: 60724D05.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	7.81	Poor chromatography	bungardf	07/24/17 07:58

Lab Sample ID: IC 180-217861/6 Client Sample ID:

Date Analyzed: 07/24/17 07:52 Lab File ID: 60724D06.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	7.81	Poor chromatography	bungardf	07/24/17 08:11

Lab Sample ID: IC 180-217861/7 Client Sample ID:

Date Analyzed: 07/24/17 08:16 Lab File ID: 60724D07.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	7.80	Poor chromatography	bungardf	07/24/17 08:44

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: CHHP6 Analysis Batch Number: 217861

Lab Sample ID: IC 180-217861/9 Client Sample ID:

Date Analyzed: 07/24/17 09:04 Lab File ID: 60724D09.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	7.81	Poor chromatography	bungardf	07/24/17 09:26

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: CHHP6 Analysis Batch Number: 224560

Lab Sample ID: 180-70792-3 Client Sample ID: HD-QC3-0/1-2

Date Analyzed: 10/02/17 10:24 Lab File ID: 6100125.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone	3.16	Poor chromatography	bungardf	10/02/17 22:12

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: CHICS2000 Analysis Batch Number: 224350

Lab Sample ID: IC 180-224350/2 Client Sample ID:

Date Analyzed: 09/28/17 14:23 Lab File ID: 09-28-2017-2.d GC Column: AS-14 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.47	Baseline Smoothing	reaglec	09/28/17 15:12
Chloride	3.51	Baseline Smoothing	reaglec	09/28/17 15:12
Nitrite as N	4.18	Baseline Smoothing	reaglec	09/28/17 15:12
Bromide	5.25	Baseline Smoothing	reaglec	09/28/17 15:12
Nitrate as N	6.12	Baseline Smoothing	reaglec	09/28/17 15:12
Orthophosphate as P	8.46	Baseline Smoothing	reaglec	09/28/17 15:13

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: CHICS2000 Analysis Batch Number: 224419

Lab Sample ID: CCB 180-224419/4 Client Sample ID:

Date Analyzed: 09/29/17 10:27 Lab File ID: 09-29-2017-4.d GC Column: AS-14 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	10.28	Baseline Smoothing	reaglec	09/29/17 10:47

Lab Sample ID: CCB 180-224419/19 Client Sample ID:

Date Analyzed: 09/29/17 15:29 Lab File ID: 09-29-2017-19.d GC Column: AS-14 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	10.28	Baseline Smoothing	reaglec	09/29/17 16:03

Lab Sample ID: CCB 180-224419/31 Client Sample ID:

Date Analyzed: 09/29/17 19:39 Lab File ID: 09-29-2017-31.d GC Column: AS-14 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	10.28	Baseline Smoothing	reaglec	09/30/17 05:01

Lab Sample ID: CCB 180-224419/43 Client Sample ID:

Date Analyzed: 09/29/17 22:50 Lab File ID: 09-29-2017-43.d GC Column: AS-14 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	10.28	Baseline Smoothing	reaglec	09/30/17 06:53

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
10 PPM TOC/CC_00942	10/03/17	10/02/17	DI Water, Lot DI WATER	200 mg/L	WTOC1000SP_00018	2 mL	Total Organic Carbon - Duplicates	10 mg/L
.WTOC1000SP_00018	01/31/18	Ricca Chemical Co, Lot 2701C46			(Purchased Reagent)		Total Organic Carbon - Duplicates	1000 mg/L
Cond. CCV_00006	02/19/18	LAB CHEM, Lot F050-02			(Purchased Reagent)		Specific Conductance	500 umho/cm
icccv_01909	09/30/17	09/29/17	DI Water, Lot 0	15 mL	ICPRIMARYSTA_00010	0.3 mL	Chloride	50 ug/mL
							Fluoride	2.5 ug/mL
							Nitrate as N	2.5 ug/mL
							Sulfate	50 ug/mL
					ICPRIMARYSTDB_00012	0.3 mL	Nitrite as N	2.5 ug/mL
.ICPRIMARYSTA_00010	02/16/18	HIGH-PURITY STDS, Lot 1704502			(Purchased Reagent)		Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Nitrate as N	125 ug/mL
							Sulfate	2500 ug/mL
.ICPRIMARYSTDB_00012	02/16/18	HIGH-PURITY STDS, Lot 1704503			(Purchased Reagent)		Nitrite as N	125 ug/mL
icicv_01951	09/30/17	09/29/17	DI Water, Lot NA	5 mL	ICSECONDSTD1_00010	0.6 mL	Chloride	60 ug/mL
							Fluoride	3 ug/mL
							Nitrate as N	3 ug/mL
							Sulfate	60 ug/mL
					ICSECONDSTDB_00015	0.6 mL	Nitrite as N	3.0012 ug/mL
.ICSECONDSTD1_00010	07/31/18	inorganic ventures, Lot M2-MEB660169			(Purchased Reagent)		Chloride	500 ug/mL
							Fluoride	25 ug/mL
							Nitrate as N	25 ug/mL
							Sulfate	500 ug/mL
.ICSECONDSTDB_00015	07/31/18	inorganic ventures, Lot M2-MEB660168			(Purchased Reagent)		Nitrite as N	25.01 ug/mL
iclcs_00142	09/30/17	09/29/17	DI Water, Lot 0	7.5 mL	ICPRIMARYSTA_00010	0.075 mL	Chloride	25 ug/mL
							Fluoride	1.25 ug/mL
							Nitrate as N	1.25 ug/mL
							Sulfate	25 ug/mL
					ICPRIMARYSTDB_00012	0.075 mL	Nitrite as N	1.25 ug/mL
.ICPRIMARYSTA_00010	02/16/18	HIGH-PURITY STDS, Lot 1704502			(Purchased Reagent)		Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Nitrate as N	125 ug/mL
							Sulfate	2500 ug/mL
.ICPRIMARYSTDB_00012	02/16/18	HIGH-PURITY STDS, Lot 1704503			(Purchased Reagent)		Nitrite as N	125 ug/mL
ICSTDL2_00317	09/28/17	09/27/17	DI Water, Lot SUPER Q	5 mL	ICSTDL6_00399	0.1 mL	Bromide	0.2 ug/mL
							Chloride	1 ug/mL
							Fluoride	0.05 ug/mL
							Nitrate as N	0.05 ug/mL
							Orthophosphate as P	0.05 ug/mL
							Sulfate	1 ug/mL
							Nitrite as N	0.05 ug/mL
.ICSTDL6_00399	09/28/17	09/27/17	DI Water, Lot SUPER Q	5 mL	ICPRIMARYSTA_00010	0.1 mL	Bromide	10 ug/mL
							Chloride	50 ug/mL
							Fluoride	2.5 ug/mL
							Nitrate as N	2.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Orthophosphate as P	2.5 ug/mL
							Sulfate	50 ug/mL
					ICPRIMARYSTDB_00012	0.1 mL	Nitrite as N	2.5 ug/mL
..ICPRIMARYSTA_00010	02/16/18	HIGH-PURITY STDS, Lot 1704502			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Nitrate as N	125 ug/mL
							Orthophosphate as P	125 ug/mL
							Sulfate	2500 ug/mL
..ICPRIMARYSTDB_00012	02/16/18	HIGH-PURITY STDS, Lot 1704503			(Purchased Reagent)		Nitrite as N	125 ug/mL
ICSTDL3_00380	09/28/17	09/27/17	DI Water, Lot SUPER Q	5 mL	ICSTDL6_00399	0.5 mL	Bromide	1 ug/mL
							Chloride	5 ug/mL
							Fluoride	0.25 ug/mL
							Nitrate as N	0.25 ug/mL
							Orthophosphate as P	0.25 ug/mL
							Sulfate	5 ug/mL
							Nitrite as N	0.25 ug/mL
.ICSTDL6_00399	09/28/17	09/27/17	DI Water, Lot SUPER Q	5 mL	ICPRIMARYSTA_00010	0.1 mL	Bromide	10 ug/mL
							Chloride	50 ug/mL
							Fluoride	2.5 ug/mL
							Nitrate as N	2.5 ug/mL
							Orthophosphate as P	2.5 ug/mL
							Sulfate	50 ug/mL
					ICPRIMARYSTDB_00012	0.1 mL	Nitrite as N	2.5 ug/mL
..ICPRIMARYSTA_00010	02/16/18	HIGH-PURITY STDS, Lot 1704502			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Nitrate as N	125 ug/mL
							Orthophosphate as P	125 ug/mL
							Sulfate	2500 ug/mL
..ICPRIMARYSTDB_00012	02/16/18	HIGH-PURITY STDS, Lot 1704503			(Purchased Reagent)		Nitrite as N	125 ug/mL
ICSTDL4_00254	09/28/17	09/27/17	DI Water, Lot na	5 mL	ICSTDL8_00194	0.5 mL	Bromide	2 ug/mL
							Chloride	10 ug/mL
							Fluoride	0.5 ug/mL
							Nitrate as N	0.5 ug/mL
							Orthophosphate as P	0.5 ug/mL
							Sulfate	10 ug/mL
							Nitrite as N	0.5 ug/mL
.ICSTDL8_00194	09/28/17	09/27/17	DI Water, Lot SUPER Q	5 mL	ICPRIMARYSTA_00010	0.2 mL	Bromide	20 ug/mL
							Chloride	100 ug/mL
							Fluoride	5 ug/mL
							Nitrate as N	5 ug/mL
							Orthophosphate as P	5 ug/mL
							Sulfate	100 ug/mL
					ICPRIMARYSTDB_00012	0.2 mL	Nitrite as N	5 ug/mL
..ICPRIMARYSTA_00010	02/16/18	HIGH-PURITY STDS, Lot 1704502			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluoride	125 ug/mL
							Nitrate as N	125 ug/mL
							Orthophosphate as P	125 ug/mL
							Sulfate	2500 ug/mL
..ICPRIMARYSTDB_00012	02/16/18	HIGH-PURITY STDS, Lot 1704503			(Purchased Reagent)		Nitrite as N	125 ug/mL
ICSTDL5_00254	09/28/17	09/27/17	DI Water, Lot SUPER Q	5 mL	ICSTDL8_00194	1 mL	Bromide	4 ug/mL
							Chloride	20 ug/mL
							Fluoride	1 ug/mL
							Nitrate as N	1 ug/mL
							Orthophosphate as P	1 ug/mL
							Sulfate	20 ug/mL
							Nitrite as N	1 ug/mL
.ICSTDL8_00194	09/28/17	09/27/17	DI Water, Lot SUPER Q	5 mL	ICPRIMARYSTA_00010	0.2 mL	Bromide	20 ug/mL
							Chloride	100 ug/mL
							Fluoride	5 ug/mL
							Nitrate as N	5 ug/mL
							Orthophosphate as P	5 ug/mL
							Sulfate	100 ug/mL
					ICPRIMARYSTDB_00012	0.2 mL	Nitrite as N	5 ug/mL
..ICPRIMARYSTA_00010	02/16/18	HIGH-PURITY STDS, Lot 1704502			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Nitrate as N	125 ug/mL
							Orthophosphate as P	125 ug/mL
							Sulfate	2500 ug/mL
..ICPRIMARYSTDB_00012	02/16/18	HIGH-PURITY STDS, Lot 1704503			(Purchased Reagent)		Nitrite as N	125 ug/mL
ICSTDL6_00399	09/28/17	09/27/17	DI Water, Lot SUPER Q	5 mL	ICPRIMARYSTA_00010	0.1 mL	Bromide	10 ug/mL
							Chloride	50 ug/mL
							Fluoride	2.5 ug/mL
							Nitrate as N	2.5 ug/mL
							Orthophosphate as P	2.5 ug/mL
							Sulfate	50 ug/mL
					ICPRIMARYSTDB_00012	0.1 mL	Nitrite as N	2.5 ug/mL
.ICPRIMARYSTA_00010	02/16/18	HIGH-PURITY STDS, Lot 1704502			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Nitrate as N	125 ug/mL
							Orthophosphate as P	125 ug/mL
							Sulfate	2500 ug/mL
.ICPRIMARYSTDB_00012	02/16/18	HIGH-PURITY STDS, Lot 1704503			(Purchased Reagent)		Nitrite as N	125 ug/mL
ICSTDL7_00259	09/28/17	09/27/17	DI Water, Lot SUPER Q	5 mL	ICPRIMARYSTA_00010	0.15 mL	Bromide	15 ug/mL
							Chloride	75 ug/mL
							Fluoride	3.75 ug/mL
							Nitrate as N	3.75 ug/mL
							Orthophosphate as P	3.75 ug/mL
							Sulfate	75 ug/mL
					ICPRIMARYSTDB_00012	0.15 mL	Nitrite as N	3.75 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.ICPRIMARYSTA_00010	02/16/18	HIGH-PURITY STDS, Lot 1704502			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Nitrate as N	125 ug/mL
							Orthophosphate as P	125 ug/mL
							Sulfate	2500 ug/mL
.ICPRIMARYSTDB_00012	02/16/18	HIGH-PURITY STDS, Lot 1704503			(Purchased Reagent)		Nitrite as N	125 ug/mL
ICSTDL8_00194	09/28/17	09/27/17	DI Water, Lot SUPER Q	5 mL	ICPRIMARYSTA_00010	0.2 mL	Bromide	20 ug/mL
							Chloride	100 ug/mL
							Fluoride	5 ug/mL
							Nitrate as N	5 ug/mL
							Orthophosphate as P	5 ug/mL
							Sulfate	100 ug/mL
					ICPRIMARYSTDB_00012	0.2 mL	Nitrite as N	5 ug/mL
.ICPRIMARYSTA_00010	02/16/18	HIGH-PURITY STDS, Lot 1704502			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Nitrate as N	125 ug/mL
							Orthophosphate as P	125 ug/mL
							Sulfate	2500 ug/mL
.ICPRIMARYSTDB_00012	02/16/18	HIGH-PURITY STDS, Lot 1704503			(Purchased Reagent)		Nitrite as N	125 ug/mL
ICV 40 PPM_01072	10/03/17	10/02/17	DI Water, Lot DIWATER	100 mg/L	WTOC1000SP_00018	4 mL	Total Organic Carbon - Duplicates	40 mg/L
.WTOC1000SP_00018	01/31/18	Ricca Chemical Co, Lot 2701C46			(Purchased Reagent)		Total Organic Carbon - Duplicates	1000 mg/L
LCS 20 PPM_01071	10/03/17	10/02/17	DI Water, Lot DIWATER	200 mg/L	WTOC1000P_00037	4 mL	Total Organic Carbon - Duplicates	20 mg/L
.WTOC1000P_00037	05/11/19	Lab Chem, Lot G131-05			(Purchased Reagent)		Total Organic Carbon - Duplicates	1000 mg/L
MCCV1X_00103	11/30/17	08/27/17	2% Nitric Acid, Lot 1241747	500 mL	MCALSPECAREV_00009	10 mL	Arsenic	0.1 ppm
							Barium	0.1 ppm
							Beryllium	0.1 ppm
							Cadmium	0.1 ppm
							Calcium	50 ppm
							Chromium	0.1 ppm
							Copper	0.1 ppm
							Lead	0.1 ppm
							Magnesium	50 ppm
							Nickel	0.1 ppm
							Potassium	50 ppm
							Selenium	0.1 ppm
							Silver	0.1 ppm
							Sodium	50 ppm
							Thallium	0.1 ppm
							Vanadium	0.1 ppm
							Zinc	0.1 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MCALSPECB_00011	10 mL	Antimony	0.1 ppm
.MCALSPECAREV_00009	07/03/20	Inorganic Ventures, Lot M2-MEB659661			(Purchased Reagent)		Arsenic	5 ppm
							Barium	5 ppm
							Beryllium	5 ppm
							Cadmium	5 ppm
							Calcium	2500 ppm
							Chromium	5 ppm
							Copper	5 ppm
							Lead	5 ppm
							Magnesium	2500 ppm
							Nickel	5 ppm
							Potassium	2500 ppm
							Selenium	5 ppm
							Silver	5 ppm
							Sodium	2500 ppm
							Thallium	5 ppm
							Vanadium	5 ppm
							Zinc	5 ppm
.MCALSPECB_00011	07/03/20	Inorganic Ventures, Lot M2-MEB659662			(Purchased Reagent)		Antimony	5 ppm
MCRIX_00101	11/30/17	08/27/17	HNO3, Lot 1191081	250 mL	MMSCRI-1B_00007	1 mL	Arsenic	0.001 ppm
							Barium	0.01 ppm
							Beryllium	0.001 ppm
							Cadmium	0.001 ppm
							Calcium	0.5 ppm
							Chromium	0.002 ppm
							Copper	0.002 ppm
							Lead	0.001 ppm
							Magnesium	0.5 ppm
							Nickel	0.001 ppm
							Potassium	0.5 ppm
							Selenium	0.005 ppm
							Silver	0.001 ppm
							Sodium	0.5 ppm
							Thallium	0.001 ppm
							Vanadium	0.001 ppm
							Zinc	0.005 ppm
					MMSCRI-2_00009	1 mL	Antimony	0.002 ppm
.MMSCRI-1B_00007	06/30/18	Inorganic Ventures, Lot K2-MEB628079			(Purchased Reagent)		Arsenic	0.25 ppm
							Barium	2.5 ppm
							Beryllium	0.25 ppm
							Cadmium	0.25 ppm
							Calcium	125 ppm
							Chromium	0.5 ppm
							Copper	0.5 ppm
							Lead	0.25 ppm
							Magnesium	125 ppm
							Nickel	0.25 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Potassium	125 ppm
							Selenium	1.25 ppm
							Silver	0.25 ppm
							Sodium	125 ppm
							Thallium	0.25 ppm
							Vanadium	0.25 ppm
							Zinc	1.25 ppm
.MMSCRI-2_00009	06/30/18	Inorganic Ventures, Lot M2-MEB659044			(Purchased Reagent)		Antimony	0.5 ppm
MHgworkingCal_01654	10/06/17	10/06/17	2% Nitric Acid, Lot 0000148204	100 mL	MHgIntcal_00721	1 mL	Mercury	100 ppb
.MHgIntcal_00721	10/06/17	10/06/17	2% Nitric Acid, Lot 0000148204	100 mL	MCGHG1-1_00011	1 mL	Mercury	10 ppm
..MCGHG1-1_00011	12/29/18	Inorganic Ventures, Lot J2-HG02140			(Purchased Reagent)		Mercury	1000 ppm
MHgWorkingicv_01616	10/06/17	10/06/17	2% Nitric Acid, Lot 0000148204	100 mL	MHgIntICV_00701	1 mL	Mercury	100 ppb
.MHgIntICV_00701	10/06/17	10/06/17	2% Nitric Acid, Lot 0000148204	100 mL	MHGICV-1_00007	1 mL	Mercury	10 ppm
..MHGICV-1_00007	06/30/21	ULTRA SCIENTIFIC, Lot T00602			(Purchased Reagent)		Mercury	1000 ppm
MICSABX_00095	11/03/17	08/03/17	2% Nitric Acid, Lot J38N82	100 mL	M6020ICS-0A_00007	10 mL	Al	100 ppm
							Calcium	100 ppm
							Fe	100 ppm
							Magnesium	100 ppm
							Mo	2 ppm
							Potassium	100 ppm
							Sodium	100 ppm
							Ti	2 ppm
					M6020ICS-0B_00008	1 mL	Arsenic	0.02 ppm
							Cadmium	0.02 ppm
							Chromium	0.02 ppm
							Co	0.02 ppm
							Copper	0.02 ppm
							Mn	0.022 ppm
							Nickel	0.02 ppm
							Silver	0.02 ppm
							Zinc	0.022 ppm
					MMSICSAB-1_00010	0.2 mL	Barium	0.02 ppm
							Beryllium	0.02 ppm
							Lead	0.02 ppm
							Sr	0.025 ppm
							Thallium	0.02 ppm
							Vanadium	0.02 ppm
					MMSICSAB-2_00009	0.2 mL	Antimony	0.02 ppm
							B	0.05 ppm
							Selenium	0.05 ppm
							Si	0.5 ppm
							Sn	0.1 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.M6020ICS-0A_00007	10/24/20	Inorganic Ventures, Lot K2-MEB651985			(Purchased Reagent)		Al	1000 ppm
							Calcium	1000 ppm
							Fe	1000 ppm
							Magnesium	1000 ppm
							Mo	20 ppm
							Potassium	1000 ppm
							Sodium	1000 ppm
							Ti	20 ppm
.M6020ICS-0B_00008	06/26/18	Inorganic Ventures, Lot J2-MEB569107			(Purchased Reagent)		Arsenic	2 ppm
							Cadmium	2 ppm
							Chromium	2 ppm
							Co	2 ppm
							Copper	2 ppm
							Mn	2.2 ppm
							Nickel	2 ppm
							Silver	2 ppm
							Zinc	2.2 ppm
.MMSICSAB-1_00010	04/20/20	Inorganic Ventures, Lot M2-MEB657380			(Purchased Reagent)		Barium	10 ppm
							Beryllium	10 ppm
							Lead	10 ppm
							Sr	12.5 ppm
							Thallium	10 ppm
							Vanadium	10 ppm
.MMSICSAB-2_00009	04/20/20	Inorganic Ventures, Lot M2--MEB657381			(Purchased Reagent)		Antimony	10 ppm
							B	25 ppm
							Selenium	25 ppm
							Si	250 ppm
							Sn	50 ppm
MICSAX_00100	11/03/17	08/03/17	DI Water, Lot J38N82	100 mL	M6020ICS-0A_00007	10 mL	Al	100 ppm
							Calcium	100 ppm
							Fe	100 ppm
							Magnesium	100 ppm
							Mo	2 ppm
							Potassium	100 ppm
							Sodium	100 ppm
							Ti	2 ppm
.M6020ICS-0A_00007	10/24/20	Inorganic Ventures, Lot K2-MEB651985			(Purchased Reagent)		Al	1000 ppm
							Calcium	1000 ppm
							Fe	1000 ppm
							Magnesium	1000 ppm
							Mo	20 ppm
							Potassium	1000 ppm
							Sodium	1000 ppm
							Ti	20 ppm
MICVX_00059	09/30/17	06/30/17	2% Nitric Acid, Lot 25106	250 mg/L	MICPMSICV_00021	10 mL	Antimony	0.08 mg/L
							Arsenic	0.08 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Barium	0.08 mg/L
							Beryllium	0.08 mg/L
							Cadmium	0.08 mg/L
							Calcium	40 mg/L
							Chromium	0.08 mg/L
							Copper	0.08 mg/L
							Lead	0.08 mg/L
							Magnesium	40 mg/L
							Nickel	0.08 mg/L
							Potassium	40 mg/L
							Selenium	0.08 mg/L
							Silver	0.08 mg/L
							Sodium	40 mg/L
							Thallium	0.08 mg/L
							Vanadium	0.08 mg/L
							Zinc	0.08 mg/L
.MICPMSICV_00021	06/30/18	SPEX CertiPrep, Lot 43-227CR			(Purchased Reagent)		Antimony	2 ppm
							Arsenic	2 ppm
							Barium	2 ppm
							Beryllium	2 ppm
							Cadmium	2 ppm
							Calcium	1000 ppm
							Chromium	2 ppm
							Copper	2 ppm
							Lead	2 ppm
							Magnesium	1000 ppm
							Nickel	2 ppm
							Potassium	1000 ppm
							Selenium	2 ppm
							Silver	2 ppm
							Sodium	1000 ppm
							Thallium	2 ppm
							Vanadium	2 ppm
							Zinc	2 ppm
MSTD2X_00069	11/30/17	08/27/17	DI Water, Lot 1241717	250 mL	MCALSPECAREV_00009	10 mL	Arsenic	0.2 ppm
							Barium	0.2 ppm
							Beryllium	0.2 ppm
							Cadmium	0.2 ppm
							Calcium	100 ppm
							Chromium	0.2 ppm
							Copper	0.2 ppm
							Lead	0.2 ppm
							Magnesium	100 ppm
							Nickel	0.2 ppm
							Potassium	100 ppm
							Selenium	0.2 ppm
							Silver	0.2 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Sodium	100 ppm
							Thallium	0.2 ppm
							Vanadium	0.2 ppm
							Zinc	0.2 ppm
.MCALSPECAREV_00009	07/03/20	Inorganic Ventures, Lot M2-MEB659661			(Purchased Reagent)		Arsenic	5 ppm
							Barium	5 ppm
							Beryllium	5 ppm
							Cadmium	5 ppm
							Calcium	2500 ppm
							Chromium	5 ppm
							Copper	5 ppm
							Lead	5 ppm
							Magnesium	2500 ppm
							Nickel	5 ppm
							Potassium	2500 ppm
							Selenium	5 ppm
							Silver	5 ppm
							Sodium	2500 ppm
							Thallium	5 ppm
							Vanadium	5 ppm
							Zinc	5 ppm
MSTD3X_00075	11/30/17	08/27/17	2% Nitric Acid, Lot 1241747	250 mL	MCALSPECB_00011	10 mL	Antimony	0.2 ppm
.MCALSPECB_00011	07/03/20	Inorganic Ventures, Lot M2-MEB659662			(Purchased Reagent)		Antimony	5 ppm
MTAPITTICPMS_00027	04/01/18	INORGANIC VENTURES, Lot J2-MEB608142			(Purchased Reagent)		Al	200 ug/mL
							Arsenic	4 ug/mL
							B	100 ug/mL
							Barium	200 ug/mL
							Beryllium	5 ug/mL
							Cadmium	5 ug/mL
							Chromium	20 ug/mL
							Co	50 ug/mL
							Copper	25 ug/mL
							Fe	100 ug/mL
							Lead	2 ug/mL
							Mn	50 ug/mL
							Nickel	50 ug/mL
							Selenium	1 ug/mL
							Silver	5 ug/mL
							Sr	100 ug/mL
							Thallium	5 ug/mL
							Vanadium	50 ug/mL
							Zinc	50 ug/mL
MTAPITTMSA_00036	02/28/21	INORGANIC VENTURES, Lot M2-MEB656021			(Purchased Reagent)		Calcium	5000 ug/mL
							Magnesium	5000 ug/mL
							Potassium	5000 ug/mL
							Sodium	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MTAPITTMSC_00045	07/12/18	Inorganic Ventures, Lot K2-MEB653776			(Purchased Reagent)		Antimony	50 ug/mL
							Mo	100 ug/mL
							Si	1000 ug/mL
							SiO2	2140 ug/mL
							Sn	200 ug/mL
							Ti	100 ug/mL
VOA8260INT_00072	08/21/17	07/21/17	Methanol, Lot 2019055	10 mL	VOA8260INTRES_00123	1 mL	1,4-Dichlorobenzene-d4	25 ug/mL
							Chlorobenzene-d5	25 ug/mL
							Fluorobenzene (IS)	25 ug/mL
							TBA-d9 (IS)	500 ug/mL
.VOA8260INTRES_00123	08/31/20	Restek, Lot A0113246			(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene (IS)	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
VOA8260INT_00074	10/20/17	09/20/17	Methanol, Lot 2469125	10 mL	VOA8260INTRES_00135	1 mL	1,4-Dichlorobenzene-d4	25 ug/mL
							Chlorobenzene-d5	25 ug/mL
							Fluorobenzene (IS)	25 ug/mL
							TBA-d9 (IS)	500 ug/mL
.VOA8260INTRES_00135	01/31/22	Restek, Lot A0124343			(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene (IS)	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
VOA8260SURR_00071	08/21/17	07/21/17	Methanol, Lot 2019055	100 mL	VOA8260SURRES_00118	1 mL	1,2-Dichloroethane-d4 (Surr)	25 ug/mL
							4-Bromofluorobenzene (Surr)	25 ug/mL
							Dibromofluoromethane (Surr)	25 ug/mL
							Toluene-d8 (Surr)	25 ug/mL
.VOA8260SURRES_00118	10/31/20	Restek, Lot A0114901			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
VOA8260SURR_00073	10/20/17	09/20/17	Methanol, Lot 2469125	100 mL	VOA8260SURRES_00122	1 mL	1,2-Dichloroethane-d4 (Surr)	25 ug/mL
							4-Bromofluorobenzene (Surr)	25 ug/mL
							Dibromofluoromethane (Surr)	25 ug/mL
							Toluene-d8 (Surr)	25 ug/mL
.VOA8260SURRES_00122	10/31/20	Restek, Lot A0114901			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
VOA8260VOA2ND_00266	10/02/17	09/25/17	Methanol, Lot 2469119	10 mL	VOA8260GAS2ND_00210	100 uL	Bromomethane	25 ug/mL
							Chloroethane	25 ug/mL
							Chloromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOA8260VOA2ND_00263	1 mL	1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,2-Dibromoethane (EDB)	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,4-Dioxane	500 ug/mL
							Acrylonitrile	250 ug/mL
							Benzene	25 ug/mL
							Bromochloromethane	25 ug/mL
							Bromodichloromethane	25 ug/mL
							Bromoform	25 ug/mL
							Carbon disulfide	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Dibromochloromethane	25 ug/mL
							Ethylbenzene	25 ug/mL
							Methyl tert-butyl ether	25 ug/mL
							Methylene Chloride	25 ug/mL
							Styrene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							Trichloroethene	25 ug/mL
							Xylenes, Total	50 ug/mL
.VOA8260GAS2ND_00210	06/30/20		Restek, Lot A0128832		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.VOA8260VOA2ND_00263	10/09/17	09/09/17	Methanol, Lot 2469125	10 mL	VOA8260MEGA2_00062	1 mL	1,1,1,2-Tetrachloroethane	250 ug/mL
							1,1,1-Trichloroethane	250 ug/mL
							1,1,2,2-Tetrachloroethane	250 ug/mL
							1,1,2-Trichloroethane	250 ug/mL
							1,1-Dichloroethane	250 ug/mL
							1,1-Dichloroethene	250 ug/mL
							1,2-Dibromoethane (EDB)	250 ug/mL
							1,2-Dichloroethane	250 ug/mL
							1,2-Dichloropropane	250 ug/mL
							1,4-Dioxane	5000 ug/mL
							Acrylonitrile	2500 ug/mL
							Benzene	250 ug/mL
							Bromochloromethane	250 ug/mL
							Bromodichloromethane	250 ug/mL
							Bromoform	250 ug/mL
							Carbon disulfide	250 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbon tetrachloride	250 ug/mL
							Chlorobenzene	250 ug/mL
							Chloroform	250 ug/mL
							cis-1,2-Dichloroethene	250 ug/mL
							cis-1,3-Dichloropropene	250 ug/mL
							Dibromochloromethane	250 ug/mL
							Ethylbenzene	250 ug/mL
							Methyl tert-butyl ether	250 ug/mL
							Methylene Chloride	250 ug/mL
							Styrene	250 ug/mL
							Tetrachloroethene	250 ug/mL
							Toluene	250 ug/mL
							trans-1,2-Dichloroethene	250 ug/mL
							trans-1,3-Dichloropropene	250 ug/mL
							Trichloroethene	250 ug/mL
							Xylenes, Total	500 ug/mL
..VOA8260MEGA2_00062	12/31/18		Restek, Lot A0123775		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dibromoethane (EDB)	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
VOA8260VOA2ND_00267	10/09/17	10/02/17	Methanol, Lot 2469119	10 mL	VOA8260GAS2ND_00211	100 uL	Bromomethane	25 ug/mL
							Chloroethane	25 ug/mL
							Chloromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOA8260VOA2ND_00263	1 mL	1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,2-Dibromoethane (EDB)	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,4-Dioxane	500 ug/mL
							Acrylonitrile	250 ug/mL
							Benzene	25 ug/mL
							Bromochloromethane	25 ug/mL
							Bromodichloromethane	25 ug/mL
							Bromoform	25 ug/mL
							Carbon disulfide	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Dibromochloromethane	25 ug/mL
							Ethylbenzene	25 ug/mL
							Methyl tert-butyl ether	25 ug/mL
							Methylene Chloride	25 ug/mL
							Styrene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							Trichloroethene	25 ug/mL
							Xylenes, Total	50 ug/mL
.VOA8260GAS2ND_00211	06/30/20		Restek, Lot A0128832		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.VOA8260VOA2ND_00263	10/09/17	09/09/17	Methanol, Lot 2469125	10 mL	VOA8260MEGA2_00062	1 mL	1,1,1,2-Tetrachloroethane	250 ug/mL
							1,1,1-Trichloroethane	250 ug/mL
							1,1,2,2-Tetrachloroethane	250 ug/mL
							1,1,2-Trichloroethane	250 ug/mL
							1,1-Dichloroethane	250 ug/mL
							1,1-Dichloroethene	250 ug/mL
							1,2-Dibromoethane (EDB)	250 ug/mL
							1,2-Dichloroethane	250 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichloropropane	250 ug/mL
							1,4-Dioxane	5000 ug/mL
							Acrylonitrile	2500 ug/mL
							Benzene	250 ug/mL
							Bromochloromethane	250 ug/mL
							Bromodichloromethane	250 ug/mL
							Bromoform	250 ug/mL
							Carbon disulfide	250 ug/mL
							Carbon tetrachloride	250 ug/mL
							Chlorobenzene	250 ug/mL
							Chloroform	250 ug/mL
							cis-1,2-Dichloroethene	250 ug/mL
							cis-1,3-Dichloropropene	250 ug/mL
							Dibromochloromethane	250 ug/mL
							Ethylbenzene	250 ug/mL
							Methyl tert-butyl ether	250 ug/mL
							Methylene Chloride	250 ug/mL
							Styrene	250 ug/mL
							Tetrachloroethene	250 ug/mL
							Toluene	250 ug/mL
							trans-1,2-Dichloroethene	250 ug/mL
							trans-1,3-Dichloropropene	250 ug/mL
							Trichloroethene	250 ug/mL
							Xylenes, Total	500 ug/mL
..VOA8260MEGA2_00062	12/31/18		Restek, Lot A0123775		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dibromoethane (EDB)	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Methyl tert-butyl ether	2500 ug/mL

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methylene Chloride	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
VOA8260VOAPRI_00263	07/29/17	07/22/17	Methanol, Lot 2019055	10 mL	VOA8260GAS1ST_00203	0.1 mL	Bromomethane	25 ug/mL
							Butadiene	25 ug/mL
							Chloroethane	25 ug/mL
							Chloromethane	25 ug/mL
							Dichlorodifluoromethane	25 ug/mL
							Trichlorofluoromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOA8260VOAPRI_00260	1 mL	2-Butanone (MEK)	25 ug/mL
							2-Hexanone	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
							1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,1-Dichloropropene	25 ug/mL
							1,2,3-Trichlorobenzene	25 ug/mL
							1,2,3-Trichloropropane	25 ug/mL
							1,2,4-Trichlorobenzene	25 ug/mL
							1,2,4-Trimethylbenzene	25 ug/mL
							1,2-Dibromo-3-Chloropropane	25 ug/mL
							1,2-Dibromoethane (EDB)	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,3,5-Trimethylbenzene	25 ug/mL
							1,3-Dichlorobenzene	25 ug/mL
							1,3-Dichloropropane	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							1,4-Dioxane	500 ug/mL
							2,2-Dichloropropane	25 ug/mL
							2-Chlorotoluene	25 ug/mL
							2-Methyl-2-propanol	250 ug/mL
							3-Chloro-1-propene	25 ug/mL
							4-Chlorotoluene	25 ug/mL
							4-Isopropyltoluene	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acrylonitrile	250 ug/mL
							Benzene	25 ug/mL
							Bromobenzene	25 ug/mL
							Bromochloromethane	25 ug/mL
							Bromodichloromethane	25 ug/mL
							Bromoform	25 ug/mL
							Carbon disulfide	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Cyclohexane	25 ug/mL
							Dibromochloromethane	25 ug/mL
							Dibromomethane	25 ug/mL
							Ethyl ether	25 ug/mL
							Ethyl methacrylate	25 ug/mL
							Ethylbenzene	25 ug/mL
							Hexachlorobutadiene	25 ug/mL
							Hexane	25 ug/mL
							Iodomethane	25 ug/mL
							Isobutyl alcohol	625 ug/mL
							Isopropylbenzene	25 ug/mL
							m-Xylene & p-Xylene	25 ug/mL
							Methyl acetate	50 ug/mL
							Methyl tert-butyl ether	25 ug/mL
							Methylcyclohexane	25 ug/mL
							Methylene Chloride	25 ug/mL
							n-Butylbenzene	25 ug/mL
							n-Heptane	25 ug/mL
							N-Propylbenzene	25 ug/mL
							Naphthalene	25 ug/mL
							o-Xylene	25 ug/mL
							sec-Butylbenzene	25 ug/mL
							Styrene	25 ug/mL
							tert-Butylbenzene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Tetrahydrofuran	50 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							trans-1,4-Dichloro-2-butene	25 ug/mL
							Trichloroethene	25 ug/mL
.VOA8260GAS1ST_00203	01/31/20		Restek, Lot A0124278		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Butadiene	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.VOA8260VOAPRI_00260	08/06/17	07/06/17	Methanol, Lot 2019056	10 mL	VOA8260KET1ST_00100	0.2 mL	2-Butanone (MEK)	250 ug/mL
							2-Hexanone	250 ug/mL
							4-Methyl-2-pentanone (MIBK)	250 ug/mL
							Acetone	250 ug/mL
					VOA8260MEGA1_00065	1 mL	1,1,1,2-Tetrachloroethane	250 ug/mL
							1,1,1-Trichloroethane	250 ug/mL
							1,1,2,2-Tetrachloroethane	250 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	250 ug/mL
							1,1,2-Trichloroethane	250 ug/mL
							1,1-Dichloroethane	250 ug/mL
							1,1-Dichloroethene	250 ug/mL
							1,1-Dichloropropene	250 ug/mL
							1,2,3-Trichlorobenzene	250 ug/mL
							1,2,3-Trichloropropane	250 ug/mL
							1,2,4-Trichlorobenzene	250 ug/mL
							1,2,4-Trimethylbenzene	250 ug/mL
							1,2-Dibromo-3-Chloropropane	250 ug/mL
							1,2-Dibromoethane (EDB)	250 ug/mL
							1,2-Dichlorobenzene	250 ug/mL
							1,2-Dichloroethane	250 ug/mL
							1,2-Dichloropropane	250 ug/mL
							1,3,5-Trimethylbenzene	250 ug/mL
							1,3-Dichlorobenzene	250 ug/mL
							1,3-Dichloropropane	250 ug/mL
							1,4-Dichlorobenzene	250 ug/mL
							1,4-Dioxane	5000 ug/mL
							2,2-Dichloropropane	250 ug/mL
							2-Chlorotoluene	250 ug/mL
							2-Methyl-2-propanol	2500 ug/mL
							3-Chloro-1-propene	250 ug/mL
							4-Chlorotoluene	250 ug/mL
							4-Isopropyltoluene	250 ug/mL
							Acrylonitrile	2500 ug/mL
							Benzene	250 ug/mL
							Bromobenzene	250 ug/mL
							Bromochloromethane	250 ug/mL
							Bromodichloromethane	250 ug/mL
							Bromoform	250 ug/mL
							Carbon disulfide	250 ug/mL
							Carbon tetrachloride	250 ug/mL
							Chlorobenzene	250 ug/mL
							Chloroform	250 ug/mL
							cis-1,2-Dichloroethene	250 ug/mL
							cis-1,3-Dichloropropene	250 ug/mL
							Cyclohexane	250 ug/mL

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibromochloromethane	250 ug/mL
							Dibromomethane	250 ug/mL
							Ethyl ether	250 ug/mL
							Ethyl methacrylate	250 ug/mL
							Ethylbenzene	250 ug/mL
							Hexachlorobutadiene	250 ug/mL
							Hexane	250 ug/mL
							Iodomethane	250 ug/mL
							Isobutyl alcohol	6250 ug/mL
							Isopropylbenzene	250 ug/mL
							m-Xylene & p-Xylene	250 ug/mL
							Methyl acetate	500 ug/mL
							Methyl tert-butyl ether	250 ug/mL
							Methylcyclohexane	250 ug/mL
							Methylene Chloride	250 ug/mL
							n-Butylbenzene	250 ug/mL
							n-Heptane	250 ug/mL
							N-Propylbenzene	250 ug/mL
							Naphthalene	250 ug/mL
							o-Xylene	250 ug/mL
							sec-Butylbenzene	250 ug/mL
							Styrene	250 ug/mL
							tert-Butylbenzene	250 ug/mL
							Tetrachloroethene	250 ug/mL
							Tetrahydrofuran	500 ug/mL
							Toluene	250 ug/mL
							trans-1,2-Dichloroethene	250 ug/mL
							trans-1,3-Dichloropropene	250 ug/mL
							trans-1,4-Dichloro-2-butene	250 ug/mL
							Trichloroethene	250 ug/mL
..VOA8260KET1ST_00100	01/31/20		Restek, Lot A0123890		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
..VOA8260MEGA1_00065	12/31/18		Restek, Lot A0123711		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dibromoethane (EDB)	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
VOABFB25_00090							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							Tentatively Identified Compound	
							Total BTEX	
							Xylenes, Total	
					VOABFB50_00093	5 mL	BFB	25 ug/mL
.VOABFB50_00093	08/10/17	07/10/17	Methanol, Lot 2019056	50 mL	VOABFBRES_00058	1 mL	BFB	50 ug/mL
..VOABFBRES_00058	11/30/21		Restek, Lot A0122647		(Purchased Reagent)		BFB	2500 ug/mL
VOABFB25_00093							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							Tentatively Identified Compound	
							Total BTEX	
							Xylenes, Total	
					VOABFB50_00095	5 mL	BFB	25 ug/mL
.VOABFB50_00095	10/09/17	09/09/17	Methanol, Lot 2469125	50 mL	VOABFBRES_00056	1 mL	BFB	50 ug/mL
..VOABFBRES_00056	11/30/21		Restek, Lot A0122647		(Purchased Reagent)		BFB	2500 ug/mL
voaW2clev1stR_00013	07/31/17	07/24/17	Methanol, Lot 2019056	10 mL	VOACEVERES_00127	200 uL	2-Chloroethyl vinyl ether	50 ug/mL
.VOACEVERES_00127	01/31/20		Restek, Lot A0123891		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
voaWAcro1stRe_00016	08/17/17	07/17/17	Methanol, Lot 2019056	100 mL	VOAACRORES_00115	0.125 mL	Acrolein	25 ug/mL
.VOAACRORES_00115	09/30/17		Restek, Lot A0125560		(Purchased Reagent)		Acrolein	20000 ug/mL
voaWEEmix1stR_00009	08/03/17	07/03/17	Methanol, Lot 127999	25 mL	VOARESEE1ST_00045	0.125 mL	1,2-dichloro-4-(trifluoromethyl)benzene	25 ug/mL
							2,3,6-Trichlorotoluene	25 ug/mL
							2,3- & 3,4- Dichlorotoluene	50 ug/mL
							2,4,5-Trichlorotoluene	25 ug/mL
							2,4- & 2,5- & 2,6-Dichlorotoluene	75 ug/mL
							2,4-Dichloro-1-(triflouromethyl)-benzene	25 ug/mL
							2,5-Dichlorobenzotrifluoride	25 ug/mL
							2-Chlorobenzotrifluoride	25 ug/mL
							3-Chlorobenzotrifluoride	25 ug/mL
							3-Chlorotoluene	25 ug/mL
							4-Chlorobenzotrifluoride	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.VOARESEE1ST_00045	01/31/18		Restek, Lot A0120234		(Purchased Reagent)		1,2-dichloro-4-(trifluoromethyl)benzene	5000 ug/mL
							2,3,6-Trichlorotoluene	5000 ug/mL
							2,3- & 3,4- Dichlorotoluene	10000 ug/mL
							2,4,5-Trichlorotoluene	5000 ug/mL
							2,4- & 2,5- & 2,6-Dichlorotoluene	15000 ug/mL
							2,4-Dichloro-1-(triflouromethyl)-benzene	5000 ug/mL
							2,5-Dichlorobenzotrifluoride	5000 ug/mL
							2-Chlorobenzotrifluoride	5000 ug/mL
							3-Chlorobenzotrifluoride	5000 ug/mL
							3-Chlorotoluene	5000 ug/mL
							4-Chlorobenzotrifluoride	5000 ug/mL
voaWKetmix1st_00004	07/29/17	06/29/17	Methanol, Lot 2019054	50 mL	VOA8260KET1ST_00099	0.1 mL	2-Butanone (MEK)	25 ug/mL
							2-Hexanone	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
.VOA8260KET1ST_00099	01/31/20		Restek, Lot A0123890		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
voaWKetmix1st_00006	10/25/17	09/25/17	Methanol, Lot 2469119	50 mL	VOA8260KET1ST_00102	100 uL	2-Butanone (MEK)	25 ug/mL
							2-Hexanone	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
.VOA8260KET1ST_00102	01/31/20		Restek, Lot A0123890		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
voaWVA1stRest_00016	07/31/17	07/17/17	Methanol, Lot 2019056	25 mL	VOA8260VARES_00082	0.125 mL	Vinyl acetate	25 ug/mL
.VOA8260VARES_00082	07/31/17		Restek, Lot A0124520		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
voaWVA1stRest_00017	07/31/17	07/24/16	Methanol, Lot 2019067	25 mL	VOA8260VARES_00083	125 uL	Vinyl acetate	25 ug/mL
.VOA8260VARES_00083	07/31/17		Restek, Lot A0124520		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
WALK125PPMCCV_00155	10/04/17	09/27/17	DI Water, Lot SUPERQ	1000 mL	WNa2CO3P_00012	0.1325 g	Total Alkalinity as CaCO3 to pH 4.5	124.55 mg/L
.WNa2CO3P_00012	06/09/20		Fisher Scientific, Lot 164101		(Purchased Reagent)		Total Alkalinity as CaCO3 to pH 4.5	0.94 g/g
WALK250PPMPi_00148	10/04/17	09/27/17	DI Water, Lot Super Q	1000 mL	WNa2CO3P_00012	0.265 g	Total Alkalinity as CaCO3 to pH 4.5	249.1 mg/L
.WNa2CO3P_00012	06/09/20		Fisher Scientific, Lot 164101		(Purchased Reagent)		Total Alkalinity as CaCO3 to pH 4.5	0.94 g/g
WCond84SP_00025	12/22/18		LabChem Inc, Lot F351-03		(Purchased Reagent)		Specific Conductance	84 umhos/cm
WHdCaCO3P_00009	04/18/19		LabChem Inc., Lot G101-27		(Purchased Reagent)		Hardness as calcium carbonate	1000 mg/L
WNH31000P_00025	12/01/18		Lab Chem, Lot F334-08		(Purchased Reagent)		Ammonia, distilled	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
WNH31000S_00015	11/02/18	Lab Chem Inc., Lot f302-20			(Purchased Reagent)		Ammonia, distilled	1000 mg/L
							Ammonia, undistilled	1000 mg/L
WpHBuffer7CCV_00022	07/31/19	Ricca Chemical, Lot 4707D98			(Purchased Reagent)		pH	7 SU
WpHBuffer7P_00015	01/03/19	Lab Chem, Lot F364-05			(Purchased Reagent)		pH	7 SU
WResPSP_00050	09/30/19	Phenova, Lot 8171-09			(Purchased Reagent)		Total Suspended Solids	81 mg/L
WTurbCCV40P_00005	03/31/18	GFS Chemicals, Lot C795518			(Purchased Reagent)		Turbidity	40 NTU
WTurbICVCCV2_00006	12/31/17	GFS Chemicals, Lot C691450			(Purchased Reagent)		Turbidity	10 NTU
WTurbLCS_0.85_00245	09/30/17	09/29/17	DI Water, Lot Super Q	1000 mL	WTurb1000L3_00008	0.85 mL	Turbidity	0.85 NTU
.WTurb1000L3_00008	03/31/18	GFS Chemicals, Lot C795251			(Purchased Reagent)		Turbidity	1000 NTU

Reagent

ICPRIMARYSTA_00010

HIGH-PURITY STANDARDS
www.highpuritystandards.com
P.O. Box 41727
Charleston, SC 29423
Phone: (843) 767-7900
Fax: (843) 767-7906

Certificate of Analysis

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Product Description:

Name:	IC Spike
Part Number:	**SM-606-005 Solution A**
Lot Number:	**1704502**
Matrix:	H_2O
Purity:	98.5+%

Certified Values:

Component	Certified Value (µg/mL)	NIST SRM ID	NIST SRM Lot #
Bromide	500 ± 3	3184	020701
Chloride	2500 ± 13	3182	060925
Fluoride	125 ± 1	*	
NO_3 as N	125 ± 1	3185	050517
PO_4 as P	125 ± 1	3186	090723
Sulfate	2500 ± 13	3181	080603

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via ion chromatography (IC) and/or inductively coupled plasma optical emission spectrometry (ICP-OES) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided. For this reason, standards from the same lot may have different expiration dates.

Preparation Date:	February 14, 2017
Shipped Date:	February 16, 2017
Expiration Date:	February 16, 2018
Certificate Issue Date:	February 15, 2017

Moven Mutuvari

Moven Mutuvari PhD., Laboratory Manager

Reagent

ICPRIMARYSTDB_00012

HIGH-PURITY STANDARDS
www.high-purity-standards.com
P.O. Box 41727
Charleston, SC 29423
Phone: (843) 767-7900
Fax: (843) 767-7926

Certificate of Analysis

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Product Description:

Name:	IC Spike
Part Number:	**SM-606-005 Solution B**
Lot Number:	**1704503**
Matrix:	H_2O
Purity:	99.9999%

Certified Values:

Component	Certified Value (µg/mL)	NIST SRM ID	NIST SRM Lot #
NO2 as N	125 ± 1	*	

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via ion chromatography (IC) and/or inductively coupled plasma optical emission spectrometry (ICP-OES) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided. For this reason, standards from the same lot may have different expiration dates.

Preparation Date:	February 14, 2017
Shipped Date:	February 16, 2017
Expiration Date:	February 16, 2018
Certificate Issue Date:	February 15, 2017

Moven Mututuvari

Moven Mututuvari PhD., Laboratory Manager

Reagent

ICSECONDSTD1_00010

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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Ion Chromatography Solution
Catalog Number:	TA-17
Lot Number:	M2-MEB660169
Matrix:	H2O
Value / Analyte(s):	500 mg/L ea: Chloride, Sulfate, 100 mg/L ea: Bromide, 25 mg/L ea: Fluoride, Nitrate as N, o-Phosphate as P

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Bromide, Br	100.0 ± 0.5 mg/L	Chloride, Cl	500.0 ± 2.7 mg/L
Fluoride, F-	25.00 ± 0.11 mg/L	Nitrate as N, NNO3-	25.00 ± 0.12 mg/L
o-Phosphate as P, PPO4	25.01 ± 0.11 mg/L	Sulfate, SO4	500.0 ± 2.4 mg/L

Density: 1.001 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Br	IC Assay	3184	020701
Br	Volhard	999c	999c
Cl	ICP Assay	3182	060925
Cl	Volhard	999c	999c
F-	IC Assay	3183	050721
NNO3-	IC Assay	3185	050517
PPO4	IC Assay	3186	090723
SO4	IC Assay	3181	080603

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

5.0 CHROMATOGRAM

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 24, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 24, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: 7-31-2017 MJH

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

icate Approved By:

el Booth
visor, Quality Control

Nichael 2 Booth

ying Officer:

Gaines
Senior Technical Director

Paul R Gaines

Reagent

ICSECONDSTDB_00015

INORGANIC VENTURES
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Ion Chromatography Solution
Catalog Number:	TA-16
Lot Number:	M2-MEB660168
Matrix:	H2O
Value / Analyte(s):	25 mg/L ea: Nitrite as N

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Nitrite as N, NNO2-	25.00 ± 0.15 mg/L		

Density: 1.001 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
NNO2-	Calculated	40h	40h
NNO2-	IC Assay		traceable to 40h

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

5.0 CHROMATOGRAM

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 24, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 24, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: 7-31-17 mOH

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

M6020ICS-0A_00007

INORGANIC VENTURES
CERTIFICATE OF ANALYSIS
Christiansburg, VA 24073 (USA)

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate #83.01
ACCREDITED Reference Material Producer Certificate #83.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	6020ICS-0A
Lot Number:	K2-MEB651985
Matrix:	1% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Chloride, 2 000 µg/mL ea: Carbon, 1 000 µg/mL ea: Aluminum, Calcium, Iron, Potassium, Magnesium, Sodium, Phosphorus, Sulfur, 20 µg/mL ea: Molybdenum, Titanium

2274163
ID: M6020ICS-0A_00007
Exp:10/24/20 Prpd:RJR Opn:03/07/17
6020ICS-0A

Rec'd 3/7/17

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	1 001 ± 4 µg/mL	Calcium, Ca	1 001 ± 4 µg/mL
Carbon, C	2 001 ± 9 µg/mL	Chloride, Cl	10 010.0 ± 60.0 µg/mL
Iron, Fe	1 001 ± 4 µg/mL	Magnesium, Mg	1 001 ± 4 µg/mL
Molybdenum, Mo	20.01 ± 0.10 µg/mL	Phosphorus, P	1 001 ± 4 µg/mL
Potassium, K	1 001 ± 4 µg/mL	Sodium, Na	1 001 ± 4 µg/mL
Sulfur, S	1 001 ± 4 µg/mL	Titanium, Ti	20.01 ± 0.12 µg/mL

Certified Density: 1.034 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
C	Acidimetric	84L	84L
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Cl	Acidimetric		traceable to 84L
Fe	ICP Assay	3126a	051031
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mo	ICP Assay	3134	130418
Na	Gravimetric		
Na	ICP Assay	3152a	120715
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
S	Acidimetric	84L	84L
S	ICP Assay	3154	892205
Ti	ICP Assay	3162a	130925

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000207	M	Eu	<	0.000103	s	Na	<		M	Se	<	0.003623	O	Zn	<	0.008272
s	Al	<		s	Fe	<		M	Nb	<	0.000207	n	Si	<		M	Zr	<	0.000621
O	As	<	0.020680	M	Ga	<	0.000103	M	Nd	<	0.000103	M	Sm	<	0.000103				
M	Au	<	0.000931	M	Gd	<	0.000103	O	Ni	<	0.002591	M	Sn	<	0.000414				
O	B	<	0.001646	M	Ge	<	0.005179	M	Os	<	0.000103	O	Sr		0.006204				
M	Ba		0.000828	M	Hf	<	0.000103	s	P	<		M	Ta	<	0.000103				
O	Be	<	0.000103	M	Hg	<	0.000103	M	Pb		0.001553	M	Tb	<	0.000103				
M	Bi	<	0.000414	M	Ho	<	0.000103	M	Pd	<	0.000207	M	Te	<	0.000828				
s	Ca	<		M	In	<	0.000103	M	Pr	<	0.000103	M	Th	<	0.000103				
O	Cd	<	0.002028	M	Ir	<	0.000103	M	Pt	<	0.000621	s	Ti	<					
M	Ce	<	0.000414	s	K	<		M	Rb		0.017403	M	Tl	<	0.000103				
M	Co	<	0.000828	M	La	<	0.000103	M	Re	<	0.000207	M	Tm	<	0.000103				
M	Cr		0.012327	O	Li		0.001169	M	Rh	<	0.000103	M	U	<	0.000103				
M	Cs		0.000725	M	Lu	<	0.000103	M	Ru	<	0.000103	O	V	<	0.006204				
M	Cu	<	0.012431	s	Mg	<		s	S	<		M	W		0.002382				
M	Dy	<	0.000103	O	Mn	<	0.002068	M	Sb	<	0.001035	M	Y	<	0.000103				
M	Er	<	0.000103	s	Mo	<		M	Sc	<	0.000621	M	Yb	<	0.000103				

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.8752; 540.585.3030; Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION, PERIOD OF VALIDITY AND REVISION HISTORY

11.1 Certification Issue Date

October 04, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- October 04, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

11.4 Revision Status

- Revision 1 - Tuesday, Jan 10, 2017. Updated TMI

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Joseph Burns
Technical Support Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

M6020ICS-0B_00008

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	6020ICS-0B
Lot Number:	J2-MEB569107
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	2 µg/mL ea:

Ag, As, Cd,
Co, Cr3, Cu,
Mn, Ni, Zn

2274164
ID: M6020ICS-0B_00008
Exp:06/26/18 Prpd:RJR Opn:03/07/17
6020ICS-0B

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	2.000 ± 0.013 µg/mL	Cadmium, Cd	2.000 ± 0.013 µg/mL
Chromium+3, Cr3	2.000 ± 0.011 µg/mL	Cobalt, Co	2.000 ± 0.010 µg/mL
Copper, Cu	2.000 ± 0.013 µg/mL	Manganese, Mn	2.000 ± 0.011 µg/mL
Nickel, Ni	2.000 ± 0.011 µg/mL	Silver, Ag	2.000 ± 0.014 µg/mL
Zinc, Zn	2.000 ± 0.013 µg/mL		

Rec'd 3/7/17 RJR

Certified Density: 1.013 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
As	EDTA		See Sec. 4.2
As	ICP Assay	3103a	100818
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr3	Calculated		See Sec. 4.2
Cr3	ICP Assay	3112a	030730
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Certified Value $(\bar{x}) = \frac{\sum x_i}{n}$ ($\bar{x}$) = mean

x_i = individual results

n = number of measurements

Uncertainty $(\pm) = 2\,[\,\Sigma(s_i)^2\,]^{1/2}$ 2 = the coverage factor.

$[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 26, 2015

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- June 26, 2018

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

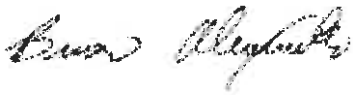
12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Zach Saunders
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director



Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

MCALSPECAREV_00009

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

2414924
ID: MCALSPECAREV_00009
Exp: 07/03/20 Prod: RJR
TAPITT-CAL-SPECA-REV

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-CAL-SPECA-REV
Lot Number:	M2-MEB659661
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	2 500 µg/mL ea: Calcium, Magnesium, Sodium, Potassium, 1 250 µg/mL ea: Iron, 25 µg/mL ea: Manganese, Aluminum, 5 µg/mL ea: Arsenic, Barium, Beryllium, Cadmium, Cobalt, Chromium, Copper, Nickel, Lead, Selenium, Strontium, Thallium, Vanadium, Zinc, Silver

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	25.01 ± 0.09 µg/mL	Arsenic, As	5.001 ± 0.034 µg/mL
Barium, Ba	5.001 ± 0.026 µg/mL	Beryllium, Be	5.002 ± 0.030 µg/mL
Cadmium, Cd	5.002 ± 0.030 µg/mL	Calcium, Ca	2 500 ± 10 µg/mL
Chromium, Cr	5.002 ± 0.026 µg/mL	Cobalt, Co	5.003 ± 0.026 µg/mL
Copper, Cu	5.002 ± 0.030 µg/mL	Iron, Fe	1 250 ± 5 µg/mL
Lead, Pb	5.003 ± 0.022 µg/mL	Magnesium, Mg	2 500 ± 10 µg/mL
Manganese, Mn	25.03 ± 0.10 µg/mL	Nickel, Ni	5.001 ± 0.030 µg/mL
Potassium, K	2 500 ± 9 µg/mL	Selenium, Se	5.000 ± 0.026 µg/mL
Silver, Ag	5.004 ± 0.034 µg/mL	Sodium, Na	2 500 ± 9 µg/mL
Strontium, Sr	5.003 ± 0.030 µg/mL	Thallium, Tl	5.002 ± 0.030 µg/mL
Vanadium, V	5.001 ± 0.030 µg/mL	Zinc, Zn	5.001 ± 0.030 µg/mL

Density: 1.048 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Tl	ICP Assay	3158	993012
Tl	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 03, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 03, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MCALSPECB_00011

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-CAL-SPECB
Lot Number:	M2-MEB659662
Matrix:	3% (v/v) HNO3 tr. HF
Value / Analyte(s):	250 µg/mL ea: Silicon, 5 µg/mL ea: Tin, Titanium, Boron, Molybdenum, Antimony

2414950
ID: MCALSPECB_00011
Exp: 07/03/20 Prpd: RJR
TAPITT-CAL-SPECB

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	5.002 ± 0.034 µg/mL	Boron, B	5.001 ± 0.034 µg/mL
Molybdenum, Mo	5.003 ± 0.030 µg/mL	Silicon, Si	250.0 ± 1.6 µg/mL
Tin, Sn	5.000 ± 0.038 µg/mL	Titanium, Ti	5.004 ± 0.030 µg/mL

Density: 1.014 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
B	Calculated		See Sec. 4.2
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	061229 Sb
Sb	Calculated		See Sec. 4.2
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 03, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 03, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MCGHG1-1_00011

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

#1994446
1994447
Rec'd 7/12/16 RR

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGHG1
Lot Number:	J2-HG02140
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Mercury
Starting Material:	Hg Metal
Starting Material Lot#:	1780
Starting Material Purity:	99.9997%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1 000 ± 3 µg/mL

Certified Density: 1.029 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**1004 ± 5 µg/mL** ICP Assay NIST SRM 3133 Lot Number: 061204
Assay Method #2	**998 ± 3 µg/mL** EDTA NIST SRM 928 Lot Number: 928

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

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

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

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

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.003050	M	Eu	<	0.000203	O	Na		0.000779	M	Se	<	0.014233	O	Zn		0.000145
O	Al	<	0.000753	O	Fe	<	0.001614	M	Nb	<	0.000610	O	Si		0.000890	O	Zr	<	0.001614
M	As	<	0.001017	M	Ga	<	0.000203	M	Nd	<	0.000203	M	Sm	<	0.000203				
M	Au	<	0.002033	M	Gd	<	0.000203	O	Ni	<	0.001614	M	Sn	<	0.000203				
M	B	<	0.004067	M	Ge	<	0.001627	n	Os	<		O	Sr	<	0.000215				
M	Ba	<	0.000610	M	Hf	<	0.000610	O	P	<	0.010760	M	Ta	<	0.000610				
O	Be	<	0.000108	s	Hg	<		M	Pb	<	0.000610	M	Tb	<	0.000203				
M	Bi	<	0.002033	M	Ho	<	0.000203	M	Pd	<	0.003050	M	Te	<	0.004067				
O	Ca		0.001057	M	In	<	0.000407	M	Pr	<	0.000203	M	Th	<	0.000407				
M	Cd	<	0.000203	M	Ir	<	0.000203	M	Pt	<	0.000203	O	Ti	<	0.000646				
M	Ce	<	0.000203	O	K		0.000556	M	Rb	<	0.000203	O	Tl	<	0.005380				
M	Co	<	0.000407	M	La	<	0.000203	M	Re	<	0.000203	M	Tm	<	0.000203				
O	Cr	<	0.000538	O	Li	<	0.000215	M	Rh	<	0.000203	M	U	<	0.004067				
M	Cs	<	0.004067	M	Lu	<	0.000203	M	Ru	<	0.000203	O	V	<	0.000538				
O	Cu	<	0.002152	O	Mg		0.000167	O	S	<	0.005380	M	W	<	0.001017				
M	Dy	<	0.000203	O	Mn	<	0.000161	M	Sb	<	0.002033	M	Y	<	0.000203				
M	Er	<	0.000203	M	Mo	<	0.002033	O	Sc	<	0.000430	M	Yb	<	0.000203				

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.
Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.
Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 29, 2015

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- December 29, 2018

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Maurice Harris
Product Documentation Technician

Certificate Approved By:

Michael Booth
QC Supervisor

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

MHGICV-1_00007

1878953
1878954

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ULTRAgrade™ Solution
Mercury ICP / ICP-MS Standard
1000 µg/mL

Catalog Number: ICP-080
Lot Number: T00602
Job Number: J00018291
Lot Issue Date: 05/23/2014
Expiration Date: 06/30/2021

Starting Material:	*mercuric nitrate ***(light sensitive)***
Starting Material Purity:	99.999%
Starting Material Lot #:	NT00079
Matrix:	2% nitric acid in low TOC water (< 50 ppb)
Atomic Weight Hg:	200.61

Certified Value: 1001 ± 2 µg/mL

This Certified Reference Material (CRM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system. The analyte concentration(s) were prepared and verified by an ISO Guide 34 / ISO 17025 accredited laboratory, and compared to calibration standards independently prepared using NIST SRM(s). The certified value and uncertainty value at the 95% confidence level for each analyte is determined gravimetrically.

Classical Wet Assay Method: Theoretical, based on gravimetric measurements

Confirmation by Inductively Coupled Plasma Spectroscopy (ICP / ICP/MS) vs. NIST SRM 3133

ULTRA uses purified acids, 18 megohm double deionized water, calibrated Class A glassware & meticulously cleaned bottles in the manufacturing of ULTRAgrade standards. Balances used in the manufacturing of this standard are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001.

Trace Metallic Impurities in Solution Standard in µg/mL:

*	Al	<0.005	ND	*	Ga	<0.005	ND	n	Nb			n	S	
*	Sb	<0.005	ND	n	Ge			n	Os			n	Ta	
*	As	<0.005	ND	n	Au			*	Pd	<0.005	ND	n	Te	
*	Ba	<0.005	ND	n	Hf			*	P	<0.005	ND	n	Tb	
*	Be	<0.005	ND	n	Ho			*	Pt	<0.005	ND	*	Tl	<0.005 ND
*	Bi	<0.005	ND	*	In	<0.005	ND	*	K	<0.005	ND	n	Th	
*	B	<0.005	ND	n	Ir			n	Pr			n	Tm	
*	Cd	<0.005	ND	*	Fe	<0.005	ND	n	Re			*	Sn	<0.005 ND
*	Ca	<0.005	ND	*	La	<0.005	ND	n	Rh			*	Ti	<0.005 ND
n	Ce			*	Pb	<0.005	ND	n	Rb			n	W	
n	Cs			*	Li	<0.005	ND	n	Ru			n	U	
*	Cr	<0.005	ND	n	Lu			n	Sm			*	V	<0.005 ND
*	Co	<0.005	ND	*	Mg	<0.005	ND	n	Sc			n	Yb	
*	Cu	<0.005	ND	*	Mn	<0.005	ND	*	Se	<0.005	ND	n	Y	
n	Dy			s	Hg			*	Si	<0.005	ND	*	Zn	<0.005 ND
*	Er	<0.005	ND	*	Mo	<0.005	ND	*	Ag	<0.005	ND	n	Zr	
*	Eu	<0.005	ND	n	Nd			*	Na	<0.005	ND			
*	Gd	<0.005	ND	*	Ni	<0.005	D	*	Sr	<0.005	ND			

* - element checked for
ND – not detected
I – spectral interference
D – detected
n – not checked for
s – solution standard element

Density of Solution (measured at 20.00°C ± 0.05°C): 1.0100 g/mL

ACCREDITED
ISO 17025:2005
Accredited
A2LA
Cert. No. 0861.01

ISO 9001:2000
Registered
TUV USA, Inc.
Cert. No. 05-1004

William J. Leary
Quality Assurance Manager

Reagent

MICPMSICV_00021

ACCREDITED
Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

ILAC-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: ZCAL-60-250 **Lot No.** 43-227CR
Description: Custom Claritas Standard
Matrix: 5% HNO_3 / Tr. Tart. Acid / Tr. HF

This **CLARITAS PPT®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICP-OES, DCP, AA, ICP-MS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentrations.

Instrumental Analysis by ICP Spectrometer:

Analyte	Labeled	Uncertainty	SRM
Ca	1000 µg/mL	±5 µg/mL	3109a*
K	1000 µg/mL	±5 µg/mL	3141a*
Mg	1000 µg/mL	±5 µg/mL	3131a*
Na	1000 µg/mL	±5 µg/mL	3152a*
Fe	500 µg/mL	±3 µg/mL	3126a*
Si	100 µg/mL	±0.5 µg/mL	3150*
Al	10 µg/mL	±0.05 µg/mL	3101a*
Mn	10 µg/mL	±0.05 µg/mL	3132*
Ag	2 µg/mL	±0.01 µg/mL	3151*
As	2 µg/mL	±0.01 µg/mL	3103a*
B	2 µg/mL	±0.01 µg/mL	3107*
Ba	2 µg/mL	±0.01 µg/mL	3104a*
Be	2 µg/mL	±0.01 µg/mL	3105a*
Cd	2 µg/mL	±0.01 µg/mL	3108*
Co	2 µg/mL	±0.01 µg/mL	3113*
Cr	2 µg/mL	±0.01 µg/mL	3112a*
Cu	2 µg/mL	±0.01 µg/mL	3114*
Mo	2 µg/mL	±0.01 µg/mL	3134*
Ni	2 µg/mL	±0.01 µg/mL	3136*
Pb	2 µg/mL	±0.01 µg/mL	3128*
Sb	2 µg/mL	±0.01 µg/mL	3102a*
Se	2 µg/mL	±0.01 µg/mL	3149*
Sn	2 µg/mL	±0.01 µg/mL	3161a*
Sr	2 µg/mL	±0.01 µg/mL	3153a*
Ti	2 µg/mL	±0.01 µg/mL	3162a*
Tl	2 µg/mL	±0.01 µg/mL	3158*
V	2 µg/mL	±0.01 µg/mL	3165*
Zn	2 µg/mL	±0.01 µg/mL	3168a*

* - indicates NIST SRM
† - indicates SPEX CertiPrep CRM (when NIST SRM is not available)

SPEX CertiPrep Reference Multi: Lot# ALL8

Trace Metallic Impurities in the Actual Solution via ICP-MS Analysis:

Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L
Au	0.4	Ga	0.5	Ir	0.3	Pd	<0.6	Sc	30	Tm	<0.01
Bi	0.2	Gd	<0.03	La	1	Pr	0.1	Sm	0.2	U	0.09
Ce	2	Ge	<4	Li	<3	Pt	0.4	Ta	20	W	<2
Cs	0.3	Hf	20	Lu	0.01	Rb	40	Tb	<0.03	Y	0.1
Dy	<0.02	Hg	<0.7	Nb	2	Re	<0.03	Te	<0.4	Yb	<0.05
Er	<0.02	Ho	<0.02	Nd	0.3	Rh	<0.2	Th	0.6	Zr	6
Eu	<0.01	In	0.3	P	<200	Ru	<0.2				

2411397
ID: MICPMSICV_00021
Exp:06/30/18 Prpd:RJR Opn:06/30/17
TAPITT ICP-MS ICV

Rec'd 6/30/17 RJR

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to ±0.5% of the labeled value. This includes uncertainty components due to preparation, measurement, homogeneity, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is unopened and stored under ambient laboratory conditions.

Date of Certification: JUN -- 2017 Certifying Officer: Kathleen Callan

Reagent

MMSCRI-1B_00007

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

Rec 61917

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-MSCRI-1B-REV1
Lot Number:	K2-MEB628079
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	125 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 12.5 µg/mL ea: Iron, 7.5 µg/mL ea: Aluminum, 2.5 µg/mL ea: Barium, 1.25 µg/mL ea: Manganese, Selenium, Strontium, Zinc, 0.5 µg/mL ea: Chromium+3, Copper, 0.25 µg/mL ea: Silver, Arsenic, Beryllium, Cadmium, Nickel, Lead, Thallium, Vanadium, 0.125 µg/mL ea: Cobalt

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	7.50 ± 0.04 µg/mL	Arsenic, As	0.2501 ± 0.0019 µg/mL
Barium, Ba	2.500 ± 0.014 µg/mL	Beryllium, Be	0.2502 ± 0.0015 µg/mL
Cadmium, Cd	0.2502 ± 0.0017 µg/mL	Calcium, Ca	125.3 ± 0.5 µg/mL
Chromium+3, Cr3	0.5003 ± 0.0029 µg/mL	Cobalt, Co	0.1250 ± 0.0010 µg/mL
Copper, Cu	0.5000 ± 0.0021 µg/mL	Iron, Fe	12.52 ± 0.06 µg/mL
Lead, Pb	0.2501 ± 0.0016 µg/mL	Magnesium, Mg	125.1 ± 0.5 µg/mL
Manganese, Mn	1.253 ± 0.006 µg/mL	Nickel, Ni	0.2501 ± 0.0019 µg/mL
Potassium, K	125.1 ± 0.5 µg/mL	Selenium, Se	1.252 ± 0.009 µg/mL
Silver, Ag	0.2502 ± 0.0022 µg/mL	Sodium, Na	125.0 ± 0.5 µg/mL
Strontium, Sr	1.253 ± 0.008 µg/mL	Thallium, Tl	0.2501 ± 0.0021 µg/mL
Vanadium, V	0.2503 ± 0.0017 µg/mL	Zinc, Zn	1.252 ± 0.007 µg/mL

Certified Density: 1.018 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	ICP Assay	3113	00630
Co	EDTA	928	928
Cr3	ICP Assay	3112a	030730
Cr3	Calculated		See Sec. 4.2
Cu	Calculated		See Sec. 4.2
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	000612
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Tl	ICP Assay	3158	993012
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM by two independent methods

Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

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

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

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

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 04, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 04, 2019**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Certificate Approved By:

Michael Booth
QC Supervisor

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

MMSCRI-2_00009

2396846
ID: MMSCRI-2_00009
Exp: 06/12/20 Prpd: RJG
TAPITT-MSCRI-2-REV1

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

Rec 61917

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-MSCRI-2-REV1
Lot Number:	M2-MEB659044
Matrix:	5% (v/v) HNO_3 tr. HF
Value / Analyte(s):	125 µg/mL ea: Silicon, 5 µg/mL ea: Boron, 1.25 µg/mL ea: Molybdenum, Tin, Titanium, 0.5 µg/mL ea: Antimony

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	0.5001 ± 0.0039 µg/mL	Boron, B	4.999 ± 0.034 µg/mL
Molybdenum, Mo	1.250 ± 0.008 µg/mL	Silicon, Si	125.0 ± 0.8 µg/mL
Tin, Sn	1.250 ± 0.007 µg/mL	Titanium, Ti	1.250 ± 0.008 µg/mL

Density: 1.026 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
B	Calculated		See Sec. 4.2
Mo	ICP Assay	3134	130418
Sb	ICP Assay	3102A	061229
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	070330
Sn	Calculated		See Sec. 4.2
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

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

Characterization of CRM by two independent methods Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 12, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 12, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MMSICSAB-1_00010

INORGANIC VENTURES
[illegible] Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 540.961.2799 540.961.2800
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-MSICSAB-1
Lot Number:	M2-MEB657380
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 µg/mL ea: Barium, Beryllium, Lead, Strontium, Thallium, Vanadium

2318313
ID: MMSICSAB-1_00010
Exp: 05/01/17 Prpd: RJR
TAPITT-MSICSAB-1

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Barium, Ba	10.00 ± 0.05 µg/mL	Beryllium, Be	10.00 ± 0.05 µg/mL
Lead, Pb	10.00 ± 0.05 µg/mL	Strontium, Sr	10.00 ± 0.06 µg/mL
Thallium, Tl	10.00 ± 0.07 µg/mL	Vanadium, V	10.00 ± 0.06 µg/mL

Certified Density: 1.014 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Tl	ICP Assay	3158	993012
Tl	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 12, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- April 12, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MMSICSAB-2_00009

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 USA

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-MSICSAB-2
Lot Number:	M2-MEB657381
Matrix:	3% (v/v) HNO3 tr. HF
Value / Analyte(s):	250 µg/mL ea: Silicon, 50 µg/mL ea: Tin, 25 µg/mL ea: Boron, Selenium, 10 µg/mL ea: Antimony

2318314
ID: MMSICSAB-2_00009
Exp: 05/01/17 Prpd: RJR
TAPITT-MSICSAB-2

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	10.00 ± 0.07 µg/mL	Boron, B	25.00 ± 0.17 µg/mL
Selenium, Se	25.00 ± 0.16 µg/mL	Silicon, Si	250.0 ± 1.6 µg/mL
Tin, Sn	50.01 ± 0.24 µg/mL		

Certified Density: 1.018 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
B	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	061229 Sb
Sb	Calculated		See Sec. 4.2
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	070330

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 12, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- April 12, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MTAPITTICPMS_00027

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 583.01 ACCREDITED Reference Material Producer Certificate 583.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-MS-ICPMS
Lot Number:	J2-MEB608142
Matrix:	0.7% (v/v) HNO3
Value / Analyte(s):	200 µg/mL ea: Aluminum, Barium, 100 µg/mL ea: Boron, Iron, Strontium, 50 µg/mL ea: Cobalt, Manganese, Nickel, Vanadium, Zinc, 25 µg/mL ea: Copper, 20 µg/mL ea: Chromium+3, 5 µg/mL ea: Silver, Beryllium, Cadmium, Thallium, 4 µg/mL ea: Arsenic, 2 µg/mL ea: Lead, 1 µg/mL ea: Selenium

2273245
ID: MTAPITTICPMS_00027
Exp: 04/01/18 Prpd: RJR
TAPITT-MS-ICPMS SPIKE

2273244
ID: MTAPITTICPMS_00027
Exp: 04/01/18 Prpd: RJR
TAPITT-MS-ICPMS SPIKE

2273243
ID: MTAPITTICPMS_00027
Exp: 04/01/18 Prpd: RJR
TAPITT-MS-ICPMS SPIKE

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Recd 3/3/17

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	200.0 ± 0.9 µg/mL	Arsenic, As	4.001 ± 0.023 µg/mL
Barium, Ba	200.0 ± 0.8 µg/mL	Beryllium, Be	5.000 ± 0.029 µg/mL
Boron, B	100.0 ± 0.8 µg/mL	Cadmium, Cd	4.999 ± 0.021 µg/mL
Chromium+3, Cr3	20.01 ± 0.08 µg/mL	Cobalt, Co	50.01 ± 0.22 µg/mL
Copper, Cu	25.00 ± 0.09 µg/mL	Iron, Fe	100.0 ± 0.4 µg/mL
Lead, Pb	2.000 ± 0.009 µg/mL	Manganese, Mn	50.00 ± 0.19 µg/mL
Nickel, Ni	50.01 ± 0.22 µg/mL	Selenium, Se	1.001 ± 0.005 µg/mL
Silver, Ag	4.999 ± 0.034 µg/mL	Strontium, Sr	100.0 ± 0.4 µg/mL
Thallium, Tl	5.000 ± 0.038 µg/mL	Vanadium, V	50.01 ± 0.21 µg/mL
Zinc, Zn	50.00 ± 0.19 µg/mL		

Certified Density: 1.007 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
B	ICP Assay	3107	110830
Ba	ICP Assay	3104a	070222
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Cr3	ICP Assay	3112a	030730
Cr3	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Tl	ICP Assay	3158	993012
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM by two independent methods

Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

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

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

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

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 14, 2015

11.2 Expiration Date

EXPIRES
12/2018

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Donna Senn

Certificate Approved By:

Michael Booth
QC Supervisor

Michael J Booth

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Paul R Gaines

Reagent

MTAPITTMSA_00036

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-MS-A
Lot Number:	M2-MEB656021
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium

2414998
ID: MTAPITTMSA_00036
Exp: 02/28/21 Prpd: RJR
TAPITT-MS-A SPIKE

2414997
ID: MTAPITTMSA_00036
Exp: 02/28/21 Prpd: RJR
TAPITT-MS-A SPIKE

2414996
ID: MTAPITTMSA_00036
Exp: 02/28/21 Prpd: RJR
TAPITT-MS-A SPIKE

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Calcium, Ca	5 000 ± 20 µg/mL	Magnesium, Mg	5 000 ± 20 µg/mL
Potassium, K	5 000 ± 18 µg/mL	Sodium, Na	5 000 ± 18 µg/mL

Certified Density: 1.073 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Na	Gravimetric		
Na	ICP Assay	3152a	120715

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

2414995
ID: MTAPITTMSA_00036
Exp: 02/28/21 Prpd: RJR
TAPITT-MS-A SPIKE

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 28, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **February 28, 2021**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

VOA8260GAS1ST_00203

RESTEK
110 Benner Circle
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Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722 **Lot No.:** A0124278

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500 ug/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8 (Lot Q167-08) **Purity** 99%	2,500.5 µg/mL	+/- 16.7232 µg/mL +/- 140.4412 µg/mL +/- 143.7161 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3 (Lot SHBG7976V) **Purity** 99%	2,498.7 µg/mL	+/- 17.4998 µg/mL +/- 140.4406 µg/mL +/- 143.7111 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4 (Lot 1026101231B1) **Purity** 99%	2,498.4 µg/mL	+/- 16.6753 µg/mL +/- 140.3203 µg/mL +/- 143.5926 µg/mL	Gravimetric Unstressed Stressed
4	1,3-Butadiene **CAS #** 106-99-0 (Lot SHBF3387V) **Purity** 99%	2,496.9 µg/mL	+/- 17.0619 µg/mL +/- 140.2843 µg/mL +/- 143.5535 µg/mL	Gravimetric Unstressed Stressed
5	Bromomethane (methyl bromide) **CAS #** 74-83-9 (Lot 101604) **Purity** 99%	2,500.5 µg/mL	+/- 17.3456 µg/mL +/- 140.5211 µg/mL +/- 143.7944 µg/mL	Gravimetric Unstressed Stressed
6	Chloroethane (ethyl chloride) **CAS #** 75-00-3 (Lot 23593) **Purity** 99%	2,500.5 µg/mL	+/- 16.8189 µg/mL +/- 140.4526 µg/mL +/- 143.7272 µg/mL	Gravimetric Unstressed Stressed
7	Dichlorofluoromethane (CFC-21) **CAS #** 75-43-4 (Lot 4938100) **Purity** 99%	2,500.0 µg/mL	+/- 10.0499 µg/mL +/- 139.7786 µg/mL +/- 143.0675 µg/mL	Gravimetric Unstressed Stressed

8	Trichlorofluoromethane (CFC-11)		2,501.5	µg/mL	+/-	16.5404	µg/mL	Gravimetric
	CAS # 75-69-4	(Lot SHBG7531V)			+/-	140.4793	µg/mL	Unstressed
	Purity 99%				+/-	143.7562	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

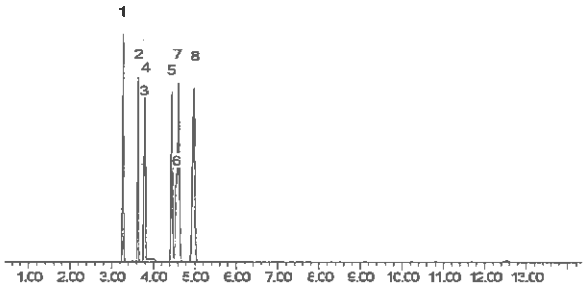
Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Joseph Jaglowski - Mix Technician **Date Mixed:** 17-Jan-2017 **Balance:** 1125113331

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 24-Jan-2017

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

VOA8260GAS2ND_00210

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
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www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722.SEC **Lot No.:** A0128832

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500 ug/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8.SEC (Lot 23586) **Purity** 99%	2,505.9 µg/mL	+/- 22.3986 µg/mL +/- 141.5312 µg/mL +/- 144.7955 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3.SEC (Lot 18343) **Purity** 99%	2,503.7 µg/mL	+/- 24.8413 µg/mL +/- 141.8153 µg/mL +/- 145.0675 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4.SEC (Lot MKBK6872V) **Purity** 99%	2,503.2 µg/mL	+/- 25.9197 µg/mL +/- 141.9813 µg/mL +/- 145.2285 µg/mL	Gravimetric Unstressed Stressed
4	1,3-Butadiene **CAS #** 106-99-0.SEC (Lot 24033) **Purity** 99%	2,508.9 µg/mL	+/- 20.6969 µg/mL +/- 141.4379 µg/mL +/- 144.7121 µg/mL	Gravimetric Unstressed Stressed
5	Bromomethane (methyl bromide) **CAS #** 74-83-9.SEC (Lot Q119-46) **Purity** 99%	2,502.6 µg/mL	+/- 26.2540 µg/mL +/- 142.0076 µg/mL +/- 145.2526 µg/mL	Gravimetric Unstressed Stressed
6	Chloroethane (ethyl chloride) **CAS #** 75-00-3.SEC (Lot 00004202) **Purity** 99%	2,510.6 µg/mL	+/- 24.9094 µg/mL +/- 142.2038 µg/mL +/- 145.4650 µg/mL	Gravimetric Unstressed Stressed
7	Dichlorofluoromethane (CFC-21) **CAS #** 75-43-4.SEC (Lot SHBC0858V) **Purity** 99%	2,510.9 µg/mL	+/- 25.6719 µg/mL +/- 142.3575 µg/mL +/- 145.6160 µg/mL	Gravimetric Unstressed Stressed

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOA8260GAS2ND_00211

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722.SEC **Lot No.:** A0128832

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500 ug/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8.SEC (Lot 23586) **Purity** 99%	2,505.9 µg/mL	+/- 22.3986 µg/mL +/- 141.5312 µg/mL +/- 144.7955 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3.SEC (Lot 18343) **Purity** 99%	2,503.7 µg/mL	+/- 24.8413 µg/mL +/- 141.8153 µg/mL +/- 145.0675 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4.SEC (Lot MKBK6872V) **Purity** 99%	2,503.2 µg/mL	+/- 25.9197 µg/mL +/- 141.9813 µg/mL +/- 145.2285 µg/mL	Gravimetric Unstressed Stressed
4	1,3-Butadiene **CAS #** 106-99-0.SEC (Lot 24033) **Purity** 99%	2,508.9 µg/mL	+/- 20.6969 µg/mL +/- 141.4379 µg/mL +/- 144.7121 µg/mL	Gravimetric Unstressed Stressed
5	Bromomethane (methyl bromide) **CAS #** 74-83-9.SEC (Lot Q119-46) **Purity** 99%	2,502.6 µg/mL	+/- 26.2540 µg/mL +/- 142.0076 µg/mL +/- 145.2526 µg/mL	Gravimetric Unstressed Stressed
6	Chloroethane (ethyl chloride) **CAS #** 75-00-3.SEC (Lot 00004202) **Purity** 99%	2,510.6 µg/mL	+/- 24.9094 µg/mL +/- 142.2038 µg/mL +/- 145.4650 µg/mL	Gravimetric Unstressed Stressed
7	Dichlorofluoromethane (CFC-21) **CAS #** 75-43-4.SEC (Lot SHBC0858V) **Purity** 99%	2,510.9 µg/mL	+/- 25.6719 µg/mL +/- 142.3575 µg/mL +/- 145.6160 µg/mL	Gravimetric Unstressed Stressed

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOA8260INTRES_00123

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568718 **Lot No.:** A0113246

Description : 8260 Internal Standard 2014

8260 Internal Standard 2014 250-5,000 ug/ml, P&T Methanol, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L., K=2)		
1	tert-Butyl-d9-alcohol **CAS #** 25725-11-5 **Purity** 99%	(Lot I201P18)	5,000.4	µg/mL	+/- 29.0712 +/- 106.0450 +/- 106.5155	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone-d5 **CAS #** 24313-50-6 **Purity** 99%	(Lot M276P24)	1,250.2	µg/mL	+/- 7.2688 +/- 26.5135 +/- 26.6311	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Fluorobenzene **CAS #** 462-06-6 **Purity** 99%	(Lot BCBK8171V)	250.2	µg/mL	+/- 1.4580 +/- 5.3070 +/- 5.3305	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	1,4-Dioxane-d8 **CAS #** 17647-74-4 **Purity** 98%	(Lot I-19073)	5,000.6	µg/mL	+/- 29.0727 +/- 106.0502 +/- 106.5208	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Chlorobenzene-d5 **CAS #** 3114-55-4 **Purity** 99%	(Lot PR-23926)	250.4	µg/mL	+/- 1.4592 +/- 5.3113 +/- 5.3348	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 **Purity** 99%	(Lot PR-18488)	250.0	µg/mL	+/- 1.4569 +/- 5.3028 +/- 5.3263	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Reagent

VOA8260INTRES_00135

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568718 **Lot No.:** A0124343

Description : 8260 Internal Standard 2014

8260 Internal Standard 2014 250-5,000 ug/ml, P&T Methanol, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	tert-Butyl-d9-alcohol		5,050.0 µg/mL	+/- 29.3596	µg/mL	Gravimetric
	CAS # 25725-11-5	(Lot I-201)		+/- 108.1207	µg/mL	Unstressed
	Purity 99%			+/- 111.2640	µg/mL	Stressed
2	2-Butanone-d5		1,262.5 µg/mL	+/- 7.3403	µg/mL	Gravimetric
	CAS # 24313-50-6	(Lot M-276)		+/- 27.0303	µg/mL	Unstressed
	Purity 99%			+/- 27.8161	µg/mL	Stressed
3	Fluorobenzene		251.6 µg/mL	+/- 1.4664	µg/mL	Gravimetric
	CAS # 462-06-6	(Lot BCBK8171V)		+/- 5.3884	µg/mL	Unstressed
	Purity 99%			+/- 5.5450	µg/mL	Stressed
4	1,4-Dioxane-d8		5,048.8 µg/mL	+/- 29.3526	µg/mL	Gravimetric
	CAS # 17647-74-4	(Lot I-19942)		+/- 108.0950	µg/mL	Unstressed
	Purity 99%			+/- 111.2375	µg/mL	Stressed
5	Chlorobenzene-d5		251.5 µg/mL	+/- 1.4654	µg/mL	Gravimetric
	CAS # 3114-55-4	(Lot PR-23926)		+/- 5.3849	µg/mL	Unstressed
	Purity 99%			+/- 5.5413	µg/mL	Stressed
6	1,4-Dichlorobenzene-d4		252.5 µg/mL	+/- 1.4714	µg/mL	Gravimetric
	CAS # 3855-82-1	(Lot PR-18488)		+/- 5.4070	µg/mL	Unstressed
	Purity 99%			+/- 5.5641	µg/mL	Stressed

Reagent

VOA8260KET1ST_00099

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721 **Lot No.:** A0123890

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500 µg/ml, P&T Methanol/Water (90:10), 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)	
1	Acetone **CAS #** 67-64-1 (Lot SHBH0922V) **Purity** 99%	12,517.5 µg/mL	+/- 72.7778 µg/mL +/- 755.2362 µg/mL +/- 757.0293 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** 78-93-3 (Lot SHBF2461V) **Purity** 99%	12,521.8 µg/mL	+/- 72.8025 µg/mL +/- 755.4927 µg/mL +/- 757.2863 µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** 108-10-1 (Lot SHBG3630V) **Purity** 99%	12,519.8 µg/mL	+/- 72.7909 µg/mL +/- 755.3720 µg/mL +/- 757.1654 µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** 591-78-6 (Lot MKBW0198V) **Purity** 99%	12,508.5 µg/mL	+/- 72.7255 µg/mL +/- 754.6932 µg/mL +/- 756.4850 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Reagent

VOA8260KET1ST_00100

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721 **Lot No.:** A0123890

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500 µg/ml, P&T Methanol/Water (90:10), 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L. K=2)	
1	Acetone **CAS #** 67-64-1 **Purity** 99%	(Lot SHBH0922V)	12,517.5 µg/mL	+/- 72.7778 µg/mL +/- 755.2362 µg/mL +/- 757.0293 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** 78-93-3 **Purity** 99%	(Lot SHBF2461V)	12,521.8 µg/mL	+/- 72.8025 µg/mL +/- 755.4927 µg/mL +/- 757.2863 µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** 108-10-1 **Purity** 99%	(Lot SHBG3630V)	12,519.8 µg/mL	+/- 72.7909 µg/mL +/- 755.3720 µg/mL +/- 757.1654 µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** 591-78-6 **Purity** 99%	(Lot MKBW0198V)	12,508.5 µg/mL	+/- 72.7255 µg/mL +/- 754.6932 µg/mL +/- 756.4850 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Reagent

VOA8260KET1ST_00102

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721 **Lot No.:** A0123890

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500 µg/ml, P&T Methanol/Water (90:10), 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	Acetone		12,517.5	µg/mL	+/- 72.7778	µg/mL	Gravimetric
	CAS # 67-64-1	(Lot SHBH0922V)			+/- 755.2362	µg/mL	Unstressed
	Purity 99%				+/- 757.0293	µg/mL	Stressed
2	2-Butanone (MEK)		12,521.8	µg/mL	+/- 72.8025	µg/mL	Gravimetric
	CAS # 78-93-3	(Lot SHBF2461V)			+/- 755.4927	µg/mL	Unstressed
	Purity 99%				+/- 757.2863	µg/mL	Stressed
3	4-Methyl-2-pentanone (MIBK)		12,519.8	µg/mL	+/- 72.7909	µg/mL	Gravimetric
	CAS # 108-10-1	(Lot SHBG3630V)			+/- 755.3720	µg/mL	Unstressed
	Purity 99%				+/- 757.1654	µg/mL	Stressed
4	2-Hexanone		12,508.5	µg/mL	+/- 72.7255	µg/mL	Gravimetric
	CAS # 591-78-6	(Lot MKBW0198V)			+/- 754.6932	µg/mL	Unstressed
	Purity 99%				+/- 756.4850	µg/mL	Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Reagent

VOA8260MEGA1_00065

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992 **Lot No.:** A0123711

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1250-62500 µg/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Diethyl ether (ethyl ether) **CAS #** 60-29-7 (Lot SHBG1462V) **Purity** 99%	2,501.3 µg/mL	+/- 14.5425 µg/mL +/- 150.9115 µg/mL +/- 151.2698 µg/mL	Gravimetric Unstressed Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113) **CAS #** 76-13-1 (Lot 00009482) **Purity** 99%	2,505.1 µg/mL	+/- 14.5650 µg/mL +/- 151.1453 µg/mL +/- 151.5041 µg/mL	Gravimetric Unstressed Stressed
3	1,1-dichloroethene **CAS #** 75-35-4 (Lot SHBG8609V) **Purity** 99%	2,511.5 µg/mL	+/- 14.6021 µg/mL +/- 151.5299 µg/mL +/- 151.8897 µg/mL	Gravimetric Unstressed Stressed
4	tert-Butanol (TBA) **CAS #** 75-65-0 (Lot SHBF0688V) **Purity** 99%	25,001.8 µg/mL	+/- 145.3547 µg/mL +/- 1,508.4656 µg/mL +/- 1,512.0470 µg/mL	Gravimetric Unstressed Stressed
5	Methyl acetate **CAS #** 79-20-9 (Lot SHBG4345V) **Purity** 99%	5,000.5 µg/mL	+/- 29.0733 µg/mL +/- 301.7023 µg/mL +/- 302.4186 µg/mL	Gravimetric Unstressed Stressed
6	Iodomethane (methyl iodide) **CAS #** 74-88-4 (Lot SHBF2149V) **Purity** 99%	2,502.9 µg/mL	+/- 14.5519 µg/mL +/- 151.0095 µg/mL +/- 151.3681 µg/mL	Gravimetric Unstressed Stressed
7	Allyl chloride (3-chloropropene) **CAS #** 107-05-1 (Lot SHBF8133V) **Purity** 99%	2,517.1 µg/mL	+/- 14.6348 µg/mL +/- 151.8693 µg/mL +/- 152.2299 µg/mL	Gravimetric Unstressed Stressed

8	Methylene chloride (dichloromethane) **CAS #** 75-09-2 **Purity** 99%	(Lot SHBH2578V)	2,502.1	µg/mL	+/- 14.5476 +/- 150.9643 +/- 151.3227	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	Carbon disulfide **CAS #** 75-15-0 **Purity** 99%	(Lot S20A856)	2,501.4	µg/mL	+/- 14.5432 +/- 150.9190 +/- 151.2773	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	Acrylonitrile **CAS #** 107-13-1 **Purity** 99%	(Lot T07B2030)	25,001.3	µg/mL	+/- 145.3518 +/- 1,508.4355 +/- 1,512.0167	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	Methyl-tert-butyl ether (MTBE) **CAS #** 1634-04-4 **Purity** 99%	(Lot SHBG2655V)	2,505.3	µg/mL	+/- 14.5657 +/- 151.1528 +/- 151.5117	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	cis-1,2-Dichloroethene **CAS #** 156-59-2 **Purity** 98%	(Lot MKBV2831V)	2,500.5	µg/mL	+/- 14.5379 +/- 150.8644 +/- 151.2226	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	n-Hexane (C6) **CAS #** 110-54-3 **Purity** 99%	(Lot SHBG2674V)	2,503.8	µg/mL	+/- 14.5570 +/- 151.0623 +/- 151.4210	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	1,1-Dichloroethane **CAS #** 75-34-3 **Purity** 99%	(Lot 00008621)	2,500.4	µg/mL	+/- 14.5374 +/- 150.8587 +/- 151.2169	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	2,2-Dichloropropane **CAS #** 594-20-7 **Purity** 98%	(Lot BCBR0622V)	2,501.0	µg/mL	+/- 14.5408 +/- 150.8940 +/- 151.2522	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	trans-1,2-Dichloroethene **CAS #** 156-60-5 **Purity** 99%	(Lot 09431AEV)	2,503.8	µg/mL	+/- 14.5570 +/- 151.0623 +/- 151.4210	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	Isobutanol (2-Methyl-1-propanol) **CAS #** 78-83-1 **Purity** 99%	(Lot SHBG8201V)	62,512.5	µg/mL	+/- 363.4341 +/- 3,771.6543 +/- 3,780.6088	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	chloroform **CAS #** 67-66-3 **Purity** 99%	(Lot MKBV2089V)	2,501.9	µg/mL	+/- 14.5461 +/- 150.9492 +/- 151.3076	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	Bromochloromethane **CAS #** 74-97-5 **Purity** 99%	(Lot 00004559)	2,503.3	µg/mL	+/- 14.5541 +/- 151.0322 +/- 151.3907	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	Tetrahydrofuran **CAS #** 109-99-9 **Purity** 99%	(Lot SHBG2910V)	5,001.3	µg/mL	+/- 29.0777 +/- 301.7476 +/- 302.4640	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
21	1,1,1-trichloroethane **CAS #** 71-55-6 **Purity** 99%	(Lot B15W12061)	2,500.3	µg/mL	+/- 14.5367 +/- 150.8512 +/- 151.2093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
22	Cyclohexane **CAS #** 110-82-7 **Purity** 99%	(Lot MKBX4768V)	2,502.0	µg/mL	+/- 14.5468 +/- 150.9567 +/- 151.3151	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
23	1,1-Dichloropropene **CAS #** 563-58-6 **Purity** 99%	(Lot 160727JLM)	2,500.5	µg/mL	+/- 14.5381 +/- 150.8662 +/- 151.2244	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

24	carbon tetrachloride **CAS #** 56-23-5 **Purity** 99%	(Lot SHBG1763V)	2,503.3	µg/mL	+/- 14.5541 +/- 151.0322 +/- 151.3907	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	n-Heptane (C7) **CAS #** 142-82-5 **Purity** 99%	(Lot SHBG6171V)	2.505.5	µg/mL	+/- 14.5672 +/- 151.1679 +/- 151.5268	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	1,2-Dichloroethane **CAS #** 107-06-2 **Purity** 99%	(Lot SHBF9313V)	2,504.8	µg/mL	+/- 14.5628 +/- 151.1227 +/- 151.4815	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	Benzene **CAS #** 71-43-2 **Purity** 99%	(Lot SHBH2056V)	2,506.9	µg/mL	+/- 14.5752 +/- 151.2509 +/- 151.6100	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	Trichloroethene **CAS #** 79-01-6 **Purity** 99%	(Lot SHBH1955V)	2.502.4	µg/mL	+/- 14.5490 +/- 150.9794 +/- 151.3378	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	Methylcyclohexane **CAS #** 108-87-2 **Purity** 98%	(Lot SHBG0634V)	2.500.3	µg/mL	+/- 14.5372 +/- 150.8570 +/- 151.2152	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	1,2-Dichloropropane **CAS #** 78-87-5 **Purity** 99%	(Lot 01113D0V)	2,503.0	µg/mL	+/- 14.5527 +/- 151.0171 +/- 151.3756	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	1,4-Dioxane **CAS #** 123-91-1 **Purity** 99%	(Lot SHBH2584V)	50,011.4	µg/mL	+/- 290.7552 +/- 3,017.4064 +/- 3,024.5702	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	Dibromomethane **CAS #** 74-95-3 **Purity** 98%	(Lot 10183283)	2.501.9	µg/mL	+/- 14.5465 +/- 150.9531 +/- 151.3115	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	cis-1,3-Dichloropropene **CAS #** 10061-01-5 **Purity** 99%	(Lot 22622)	2,501.0	µg/mL	+/- 14.5410 +/- 150.8964 +/- 151.2547	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	Toluene **CAS #** 108-88-3 **Purity** 99%	(Lot SHBH1932V)	2,504.3	µg/mL	+/- 14.5599 +/- 151.0925 +/- 151.4512	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	Ethyl methacrylate **CAS #** 97-63-2 **Purity** 99%	(Lot SHBD9190V)	2,506.9	µg/mL	+/- 14.5752 +/- 151.2509 +/- 151.6100	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	trans-1,3-Dichloropropene **CAS #** 10061-02-6 **Purity** 99%	(Lot C584177)	2.503.6	µg/mL	+/- 14.5563 +/- 151.0548 +/- 151.4134	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	1,1,2-Trichloroethane **CAS #** 79-00-5 **Purity** 99%	(Lot FGB01)	2,501.0	µg/mL	+/- 14.5410 +/- 150.8964 +/- 151.2547	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	1,3-Dichloropropane **CAS #** 142-28-9 **Purity** 99%	(Lot BCBG2162V)	2.503.5	µg/mL	+/- 14.5556 +/- 151.0472 +/- 151.4059	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	Tetrachloroethene **CAS #** 127-18-4 **Purity** 99%	(Lot SHBD9374V)	2.500.9	µg/mL	+/- 14.5403 +/- 150.8889 +/- 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

40	dibromochloromethane **CAS #** 124-48-1 **Purity** 98%	(Lot MKBW3597V)	2,500.2	µg/mL	+/- 14.5365 +/- 150.8497 +/- 151.2078	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	1,2-Dibromoethane (EDB) **CAS #** 106-93-4 **Purity** 99%	(Lot BCBH3877V)	2,501.3	µg/mL	+/- 14.5425 +/- 150.9115 +/- 151.2698	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	Chlorobenzene **CAS #** 108-90-7 **Purity** 99%	(Lot SHBF0505V)	2,500.1	µg/mL	+/- 14.5359 +/- 150.8436 +/- 151.2017	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	m-Xylene **CAS #** 108-38-3 **Purity** 99%	(Lot SHBG4347V)	1,250.3	µg/mL	+/- 7.2691 +/- 75.4331 +/- 75.6122	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	p-Xylene **CAS #** 106-42-3 **Purity** 99%	(Lot SHBG3928V)	1,251.3	µg/mL	+/- 7.2749 +/- 75.4935 +/- 75.6727	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	Ethylbenzene **CAS #** 100-41-4 **Purity** 99%	(Lot SHBG5920V)	2,503.3	µg/mL	+/- 14.5541 +/- 151.0322 +/- 151.3907	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	1,1,1,2-Tetrachloroethane **CAS #** 630-20-6 **Purity** 99%	(Lot MKBS3769V)	2,500.3	µg/mL	+/- 14.5367 +/- 150.8512 +/- 151.2093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	o-Xylene **CAS #** 95-47-6 **Purity** 99%	(Lot SHBH3432V)	2,504.9	µg/mL	+/- 14.5636 +/- 151.1302 +/- 151.4890	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Styrene **CAS #** 100-42-5 **Purity** 99%	(Lot MKBS7097V)	2,506.3	µg/mL	+/- 14.5716 +/- 151.2132 +/- 151.5722	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	Isopropylbenzene (cumene) **CAS #** 98-82-8 **Purity** 99%	(Lot 10185056)	2,501.6	µg/mL	+/- 14.5447 +/- 150.9341 +/- 151.2925	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	bromoform **CAS #** 75-25-2 **Purity** 99%	(Lot SHBD8459V)	2,502.9	µg/mL	+/- 14.5519 +/- 151.0095 +/- 151.3681	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	bromodichloromethane **CAS #** 75-27-4 **Purity** 97%	(Lot MKBW5506V)	2,506.8	µg/mL	+/- 14.5750 +/- 151.2490 +/- 151.6081	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5 **Purity** 99%	(Lot CFA4D)	2,501.3	µg/mL	+/- 14.5425 +/- 150.9115 +/- 151.2698	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	1,2,3-Trichloropropane **CAS #** 96-18-4 **Purity** 99%	(Lot BCBH8722V)	2,508.5	µg/mL	+/- 14.5846 +/- 151.3489 +/- 151.7082	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	trans-1,4-dichloro-2-butene **CAS #** 110-57-6 **Purity** 95%	(Lot MKBP6041V)	2,500.8	µg/mL	+/- 14.5396 +/- 150.8817 +/- 151.2399	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	n-Propylbenzene **CAS #** 103-65-1 **Purity** 99%	(Lot MKBJ0332V)	2,501.9	µg/mL	+/- 14.5461 +/- 150.9492 +/- 151.3076	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	Bromobenzene		2,507.0	µg/mL	+/-	14.5759	µg/mL	Gravimetric
	CAS # 108-86-1	(Lot MKBD4032V)			+/-	151.2584	µg/mL	Unstressed
	Purity 99%				+/-	151.6175	µg/mL	Stressed
57	1,3,5-Trimethylbenzene		2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS # 108-67-8	(Lot BCBQ2165V)			+/-	150.9040	µg/mL	Unstressed
	Purity 99%				+/-	151.2622	µg/mL	Stressed
58	2-Chlorotoluene		2,500.6	µg/mL	+/-	14.5388	µg/mL	Gravimetric
	CAS # 95-49-8	(Lot MKBW5554V)			+/-	150.8738	µg/mL	Unstressed
	Purity 99%				+/-	151.2320	µg/mL	Stressed
59	4-Chlorotoluene		2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS # 106-43-4	(Lot MKBL7753V)			+/-	150.9115	µg/mL	Unstressed
	Purity 99%				+/-	151.2698	µg/mL	Stressed
60	tert-Butylbenzene		2,507.0	µg/mL	+/-	14.5759	µg/mL	Gravimetric
	CAS # 98-06-6	(Lot S52237V)			+/-	151.2584	µg/mL	Unstressed
	Purity 99%				+/-	151.6175	µg/mL	Stressed
61	1,2,4-Trimethylbenzene		2,500.8	µg/mL	+/-	14.5401	µg/mL	Gravimetric
	CAS # 95-63-6	(Lot MKBJ6229V)			+/-	150.8866	µg/mL	Unstressed
	Purity 98%				+/-	151.2448	µg/mL	Stressed
62	sec-Butylbenzene		2,505.4	µg/mL	+/-	14.5665	µg/mL	Gravimetric
	CAS # 135-98-8	(Lot MKBR9260V)			+/-	151.1604	µg/mL	Unstressed
	Purity 99%				+/-	151.5193	µg/mL	Stressed
63	p-Isopropyltoluene (p-Cymene)		2,503.8	µg/mL	+/-	14.5570	µg/mL	Gravimetric
	CAS # 99-87-6	(Lot MKBS2604V)			+/-	151.0623	µg/mL	Unstressed
	Purity 99%				+/-	151.4210	µg/mL	Stressed
64	1,3-Dichlorobenzene		2,503.9	µg/mL	+/-	14.5577	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	151.0699	µg/mL	Unstressed
	Purity 99%				+/-	151.4285	µg/mL	Stressed
65	1,4-Dichlorobenzene		2,509.9	µg/mL	+/-	14.5926	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS1350V)			+/-	151.4319	µg/mL	Unstressed
	Purity 99%				+/-	151.7914	µg/mL	Stressed
66	n-Butylbenzene		2,503.3	µg/mL	+/-	14.5541	µg/mL	Gravimetric
	CAS # 104-51-8	(Lot 09418JJV)			+/-	151.0322	µg/mL	Unstressed
	Purity 99%				+/-	151.3907	µg/mL	Stressed
67	1,2-Dichlorobenzene		2,503.8	µg/mL	+/-	14.5570	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBD7331V)			+/-	151.0623	µg/mL	Unstressed
	Purity 99%				+/-	151.4210	µg/mL	Stressed
68	1,2-Dibromo-3-chloropropane		2,505.0	µg/mL	+/-	14.5643	µg/mL	Gravimetric
	CAS # 96-12-8	(Lot FBL01)			+/-	151.1378	µg/mL	Unstressed
	Purity 99%				+/-	151.4966	µg/mL	Stressed
69	1,2,4-Trichlorobenzene		2,505.3	µg/mL	+/-	14.5657	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/-	151.1528	µg/mL	Unstressed
	Purity 99%				+/-	151.5117	µg/mL	Stressed
70	Hexachlorobutadiene		2,506.5	µg/mL	+/-	14.5728	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	151.2266	µg/mL	Unstressed
	Purity 98%				+/-	151.5856	µg/mL	Stressed
71	Naphthalene		2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	150.8889	µg/mL	Unstressed
	Purity 99%				+/-	151.2471	µg/mL	Stressed

72	1,2,3-Trichlorobenzene		2,511.1	µg/mL	+/-	14.5999	µg/mL	Gravimetric
	CAS # 87-61-6	(Lot 12912PFV)			+/-	151.5073	µg/mL	Unstressed
	Purity 99%				+/-	151.8670	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

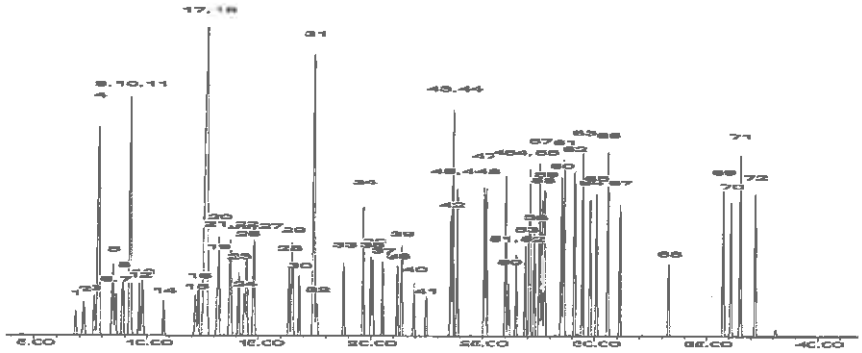
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician **Date Mixed:** 22-Dec-2016 **Balance:** B251644995

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 04-Jan-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

VOA8260MEGA2_00062

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992.sec **Lot No.:** A0123775

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1250-62500 µg/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Diethyl ether (ethyl ether) **CAS #** 60-29-7.SEC (Lot F23X068) **Purity** 98%	2,501.2 µg/mL	+/- 14.5422 µg/mL +/- 150.9088 µg/mL +/- 151.2671 µg/mL	Gravimetric Unstressed Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113) **CAS #** 76-13-1.SEC (Lot 18342) **Purity** 99%	2,501.1 µg/mL	+/- 14.5418 µg/mL +/- 150.9040 µg/mL +/- 151.2622 µg/mL	Gravimetric Unstressed Stressed
3	1,1-Dichloroethene **CAS #** 75-35-4.SEC (Lot 2767000) **Purity** 99%	2,500.5 µg/mL	+/- 14.5381 µg/mL +/- 150.8662 µg/mL +/- 151.2244 µg/mL	Gravimetric Unstressed Stressed
4	tert-Butanol (TBA) **CAS #** 75-65-0.SEC (Lot XYXDO) **Purity** 98%	25,003.1 µg/mL	+/- 145.3626 µg/mL +/- 1,508.5475 µg/mL +/- 1,512.1291 µg/mL	Gravimetric Unstressed Stressed
5	Methyl acetate **CAS #** 79-20-9.SEC (Lot YDGVD) **Purity** 99%	5,000.4 µg/mL	+/- 29.0726 µg/mL +/- 301.6948 µg/mL +/- 302.4111 µg/mL	Gravimetric Unstressed Stressed
6	Iodomethane (methyl iodide) **CAS #** 74-88-4.SEC (Lot Y25A027) **Purity** 99%	2,500.4 µg/mL	+/- 14.5374 µg/mL +/- 150.8587 µg/mL +/- 151.2169 µg/mL	Gravimetric Unstressed Stressed
7	Allyl chloride (3-chloropropene) **CAS #** 107-05-1.SEC (Lot VEBOC) **Purity** 98%	2,500.1 µg/mL	+/- 14.5358 µg/mL +/- 150.8423 µg/mL +/- 151.2004 µg/mL	Gravimetric Unstressed Stressed

8	Methylene chloride (dichloromethane)		2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS # 75-09-2.SEC	(Lot FGM02)			+/-	150.8813	µg/mL	Unstressed
	Purity 99%				+/-	151.2395	µg/mL	Stressed
9	Carbon disulfide		2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS # 75-15-0.SEC	(Lot MKBL1376V)			+/-	150.8889	µg/mL	Unstressed
	Purity 99%				+/-	151.2471	µg/mL	Stressed
10	Acrylonitrile		25,000.9	µg/mL	+/-	145.3496	µg/mL	Gravimetric
	CAS # 107-13-1.SEC	(Lot UERIL)			+/-	1,508.4128	µg/mL	Unstressed
	Purity 99%				+/-	1,511.9941	µg/mL	Stressed
11	Methyl-tert-butyl ether (MTBE)		2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
	CAS # 1634-04-4.SEC	(Lot ZAQTA-MS)			+/-	150.8361	µg/mL	Unstressed
	Purity 99%				+/-	151.1942	µg/mL	Stressed
12	cis-1,2-Dichloroethene		2,500.7	µg/mL	+/-	14.5394	µg/mL	Gravimetric
	CAS # 156-59-2.SEC	(Lot HGC01-BLKT)			+/-	150.8792	µg/mL	Unstressed
	Purity 98%				+/-	151.2374	µg/mL	Stressed
13	n-Hexane (C6)		2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS # 110-54-3.SEC	(Lot 10188491)			+/-	150.9266	µg/mL	Unstressed
	Purity 99%				+/-	151.2849	µg/mL	Stressed
14	1,1-Dichloroethane		2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
	CAS # 75-34-3.SEC	(Lot 5379000)			+/-	150.8512	µg/mL	Unstressed
	Purity 99%				+/-	151.2093	µg/mL	Stressed
15	2,2-Dichloropropane		2,500.1	µg/mL	+/-	14.5358	µg/mL	Gravimetric
	CAS # 594-20-7.SEC	(Lot I7E8E)			+/-	150.8423	µg/mL	Unstressed
	Purity 98%				+/-	151.2004	µg/mL	Stressed
16	trans-1,2-Dichloroethene		2,500.2	µg/mL	+/-	14.5362	µg/mL	Gravimetric
	CAS # 156-60-5.SEC	(Lot TS5UB)			+/-	150.8466	µg/mL	Unstressed
	Purity 97%				+/-	151.2048	µg/mL	Stressed
17	Isobutanol (2-Methyl-1-propanol)		62,506.9	µg/mL	+/-	363.4014	µg/mL	Gravimetric
	CAS # 78-83-1.SEC	(Lot 83NHH)			+/-	3,771.3149	µg/mL	Unstressed
	Purity 99%				+/-	3,780.2687	µg/mL	Stressed
18	Chloroform		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 67-66-3.SEC	(Lot 1297547)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
19	Bromochloromethane		2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS # 74-97-5.SEC	(Lot 5670200)			+/-	150.9040	µg/mL	Unstressed
	Purity 99%				+/-	151.2622	µg/mL	Stressed
20	Tetrahydrofuran		5,002.3	µg/mL	+/-	29.0835	µg/mL	Gravimetric
	CAS # 109-99-9.SEC	(Lot K3V7J-SJ)			+/-	301.8079	µg/mL	Unstressed
	Purity 99%				+/-	302.5245	µg/mL	Stressed
21	1,1,1-Trichloroethane		2,500.7	µg/mL	+/-	14.5394	µg/mL	Gravimetric
	CAS # 71-55-6.SEC	(Lot CS160712)			+/-	150.8792	µg/mL	Unstressed
	Purity 98%				+/-	151.2374	µg/mL	Stressed
22	Cyclohexane		2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS # 110-82-7.SEC	(Lot YADRA)			+/-	150.8964	µg/mL	Unstressed
	Purity 99%				+/-	151.2547	µg/mL	Stressed
23	1,1-Dichloropropene		2,501.3	µg/mL	+/-	14.5427	µg/mL	Gravimetric
	CAS # 563-58-6.SEC	(Lot 5221100)			+/-	150.9133	µg/mL	Unstressed
	Purity 96%				+/-	151.2716	µg/mL	Stressed

24	Carbon tetrachloride		2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 56-23-5.SEC	(Lot 11466)			+/-	150.8662	µg/mL	Unstressed
	Purity 99%				+/-	151.2244	µg/mL	Stressed
25	n-Heptane (C7)		2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 142-82-5.SEC	(Lot OGM01)			+/-	150.8662	µg/mL	Unstressed
	Purity 99%				+/-	151.2244	µg/mL	Stressed
26	1,2-Dichloroethane		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 107-06-2.SEC	(Lot FO6PK)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
27	Benzene		2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS # 71-43-2.SEC	(Lot B28Y008)			+/-	150.9266	µg/mL	Unstressed
	Purity 99%				+/-	151.2849	µg/mL	Stressed
28	Trichloroethene		2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS # 79-01-6.SEC	(Lot H04X050)			+/-	150.8964	µg/mL	Unstressed
	Purity 99%				+/-	151.2547	µg/mL	Stressed
29	Methylcyclohexane		2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS # 108-87-2.SEC	(Lot 24MSD-CD)			+/-	150.8889	µg/mL	Unstressed
	Purity 99%				+/-	151.2471	µg/mL	Stressed
30	1,2-Dichloropropane		2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS # 78-87-5.SEC	(Lot OGG01)			+/-	150.9040	µg/mL	Unstressed
	Purity 99%				+/-	151.2622	µg/mL	Stressed
31	1,4-Dioxane		50,007.1	µg/mL	+/-	290.7305	µg/mL	Gravimetric
	CAS # 123-91-1.SEC	(Lot MUFZH)			+/-	3,017.1500	µg/mL	Unstressed
	Purity 99%				+/-	3,024.3132	µg/mL	Stressed
32	Dibromomethane		2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
	CAS # 74-95-3.SEC	(Lot FGI01-OICH)			+/-	150.9341	µg/mL	Unstressed
	Purity 99%				+/-	151.2925	µg/mL	Stressed
33	cis-1,3-Dichloropropene		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 10061-01-5.SEC	(Lot 487OA)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
34	Toluene		2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
	CAS # 108-88-3.SEC	(Lot YND2B-BD)			+/-	150.8361	µg/mL	Unstressed
	Purity 99%				+/-	151.1942	µg/mL	Stressed
35	Ethyl methacrylate		2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 97-63-2.SEC	(Lot MLWYK-LS)			+/-	150.8662	µg/mL	Unstressed
	Purity 99%				+/-	151.2244	µg/mL	Stressed
36	trans-1,3-Dichloropropene		2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 10061-02-6.SEC	(Lot ZDMSL)			+/-	150.8662	µg/mL	Unstressed
	Purity 99%				+/-	151.2244	µg/mL	Stressed
37	1,1,2-Trichloroethane		2,500.8	µg/mL	+/-	14.5401	µg/mL	Gravimetric
	CAS # 79-00-5.SEC	(Lot 5034600)			+/-	150.8866	µg/mL	Unstressed
	Purity 98%				+/-	151.2448	µg/mL	Stressed
38	1,3-Dichloropropane		2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 142-28-9.SEC	(Lot AGN01-EFPC)			+/-	150.8662	µg/mL	Unstressed
	Purity 99%				+/-	151.2244	µg/mL	Stressed
39	Tetrachloroethene		2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS # 127-18-4.SEC	(Lot F09W014)			+/-	150.9115	µg/mL	Unstressed
	Purity 99%				+/-	151.2698	µg/mL	Stressed

40	Dibromochloromethane **CAS #** 124-48-1.SEC **Purity** 97%	(Lot 10181507)	2,500.4	µg/mL	+/- +/- +/-	14.5376 150.8613 151.2194	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	1,2-Dibromoethane (EDB) **CAS #** 106-93-4.SEC **Purity** 99%	(Lot 3505900)	2,500.5	µg/mL	+/- +/- +/-	14.5381 150.8662 151.2244	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	Chlorobenzene **CAS #** 108-90-7.SEC **Purity** 99%	(Lot 1161936)	2,501.0	µg/mL	+/- +/- +/-	14.5410 150.8964 151.2547	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	m-Xylene **CAS #** 108-38-3.SEC **Purity** 99%	(Lot OUKMG-GB)	1,250.9	µg/mL	+/- +/- +/-	7.2727 75.4708 75.6500	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	p-Xylene **CAS #** 106-42-3.SEC **Purity** 99%	(Lot GM01)	1,250.5	µg/mL	+/- +/- +/-	7.2705 75.4482 75.6273	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	Ethylbenzene **CAS #** 100-41-4.SEC **Purity** 99%	(Lot PI4SE)	2,500.9	µg/mL	+/- +/- +/-	14.5403 150.8889 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	1,1,1,2-Tetrachloroethane **CAS #** 630-20-6.SEC **Purity** 99%	(Lot GC01)	2,501.1	µg/mL	+/- +/- +/-	14.5418 150.9040 151.2622	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	o-Xylene **CAS #** 95-47-6.SEC **Purity** 99%	(Lot FGL01-KTPK)	2,500.9	µg/mL	+/- +/- +/-	14.5403 150.8889 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Styrene **CAS #** 100-42-5.SEC **Purity** 99%	(Lot OFIOL-IA)	2,500.4	µg/mL	+/- +/- +/-	14.5374 150.8587 151.2169	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	Isopropylbenzene (cumene) **CAS #** 98-82-8.SEC **Purity** 99%	(Lot 2PHXG-IH)	2,500.5	µg/mL	+/- +/- +/-	14.5381 150.8662 151.2244	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	Bromoform **CAS #** 75-25-2.SEC **Purity** 99%	(Lot 5139000)	2,502.3	µg/mL	+/- +/- +/-	14.5483 150.9718 151.3303	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	Bromodichloromethane **CAS #** 75-27-4.SEC **Purity** 98%	(Lot 13780)	2,500.1	µg/mL	+/- +/- +/-	14.5358 150.8423 151.2004	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5.SEC **Purity** 99%	(Lot CFA4D-AQ)	2,501.3	µg/mL	+/- +/- +/-	14.5425 150.9115 151.2698	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	1,2,3-Trichloropropane **CAS #** 96-18-4.SEC **Purity** 98%	(Lot OGI01)	2,500.1	µg/mL	+/- +/- +/-	14.5358 150.8423 151.2004	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	trans-1,4-Dichloro-2-butene **CAS #** 110-57-6.SEC **Purity** 98%	(Lot 100700-3)	2,501.0	µg/mL	+/- +/- +/-	14.5408 150.8940 151.2522	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	n-Propylbenzene **CAS #** 103-65-1.SEC **Purity** 99%	(Lot T2HFC-IT)	2,500.0	µg/mL	+/- +/- +/-	14.5352 150.8361 151.1942	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	Bromobenzene		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 108-86-1.SEC	(Lot 2FUHG-EM)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
57	1,3,5-Trimethylbenzene		2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
	CAS # 108-67-8.SEC	(Lot TOOOF)			+/-	150.8512	µg/mL	Unstressed
	Purity 99%				+/-	151.2093	µg/mL	Stressed
58	2-Chlorotoluene		2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS # 95-49-8.SEC	(Lot SW8QG-AO)			+/-	150.8889	µg/mL	Unstressed
	Purity 99%				+/-	151.2471	µg/mL	Stressed
59	4-Chlorotoluene		2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 106-43-4.SEC	(Lot P4XHJ-AO)			+/-	150.8662	µg/mL	Unstressed
	Purity 99%				+/-	151.2244	µg/mL	Stressed
60	tert-Butylbenzene		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 98-06-6.SEC	(Lot OGN01-CAI)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
61	1,2,4-Trimethylbenzene		2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
	CAS # 95-63-6.SEC	(Lot SC7LO-QA)			+/-	150.8587	µg/mL	Unstressed
	Purity 99%				+/-	151.2169	µg/mL	Stressed
62	sec-Butylbenzene		2,501.4	µg/mL	+/-	14.5432	µg/mL	Gravimetric
	CAS # 135-98-8.SEC	(Lot OGN01-IMA)			+/-	150.9190	µg/mL	Unstressed
	Purity 99%				+/-	151.2773	µg/mL	Stressed
63	4-Isopropyltoluene (p-cymene)		2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS # 99-87-6.SEC	(Lot 5221800)			+/-	150.9115	µg/mL	Unstressed
	Purity 99%				+/-	151.2698	µg/mL	Stressed
64	1,3-Dichlorobenzene		2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS # 541-73-1.SEC	(Lot FMDFD)			+/-	150.8889	µg/mL	Unstressed
	Purity 99%				+/-	151.2471	µg/mL	Stressed
65	1,4-Dichlorobenzene		2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS # 106-46-7.SEC	(Lot 4Y5DC)			+/-	150.8813	µg/mL	Unstressed
	Purity 99%				+/-	151.2395	µg/mL	Stressed
66	n-Butylbenzene		2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS # 104-51-8.SEC	(Lot OGN01-PNP)			+/-	150.8813	µg/mL	Unstressed
	Purity 99%				+/-	151.2395	µg/mL	Stressed
67	1,2-Dichlorobenzene		2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS # 95-50-1.SEC	(Lot R6QDM)			+/-	150.8964	µg/mL	Unstressed
	Purity 99%				+/-	151.2547	µg/mL	Stressed
68	1,2-Dibromo-3-chloropropane		2,501.5	µg/mL	+/-	14.5436	µg/mL	Gravimetric
	CAS # 96-12-8.SEC	(Lot LC00408V)			+/-	150.9236	µg/mL	Unstressed
	Purity 98%				+/-	151.2819	µg/mL	Stressed
69	1,2,4-Trichlorobenzene		2,502.5	µg/mL	+/-	14.5498	µg/mL	Gravimetric
	CAS # 120-82-1.SEC	(Lot 3LYYC)			+/-	150.9869	µg/mL	Unstressed
	Purity 99%				+/-	151.3454	µg/mL	Stressed
70	Hexachlorobutadiene		2,501.4	µg/mL	+/-	14.5433	µg/mL	Gravimetric
	CAS # 87-68-3.SEC	(Lot 5526800)			+/-	150.9198	µg/mL	Unstressed
	Purity 97%				+/-	151.2781	µg/mL	Stressed
71	Naphthalene		2,501.8	µg/mL	+/-	14.5454	µg/mL	Gravimetric
	CAS # 91-20-3.SEC	(Lot SKZ5N)			+/-	150.9417	µg/mL	Unstressed
	Purity 99%				+/-	151.3000	µg/mL	Stressed

72	1,2,3-Trichlorobenzene		2,500.7 µg/mL	+/-	14.5394	µg/mL	Gravimetric
	CAS # 87-61-6.SEC	(Lot A0043055)		+/-	150.8792	µg/mL	Unstressed
	Purity 98%			+/-	151.2374	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

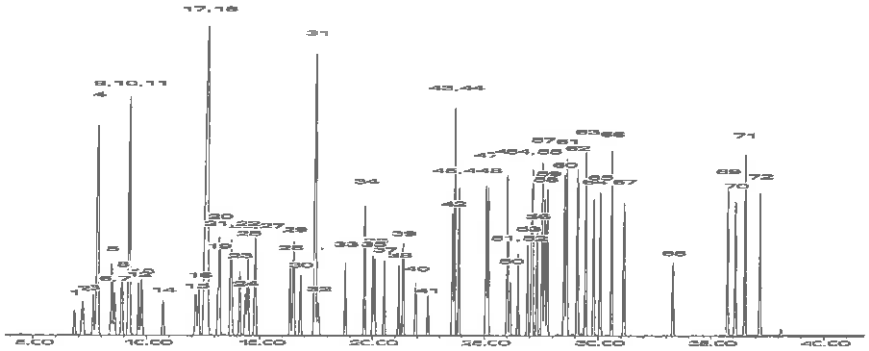
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael J Maye

Date Mixed: 28-Dec-2016 **Balance:** 1127510105

Jennifer J Pollino

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 04-Jan-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567650 **Lot No.:** A0114901

Description : 8260 Surrogate Standard

8260 Surrogate Standard 2,500 ug/ml, P&T Methanol, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : October 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)	
1	Dibromofluoromethane **CAS #** 1868-53-7 (Lot 022012) **Purity** 99%	2,509.4 µg/mL	+/- 14.5899 µg/mL +/- 140.6996 µg/mL +/- 143.9918 µg/mL	Gravimetric Unstressed Stressed
2	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 (Lot PR-25433) **Purity** 98%	2,509.0 µg/mL	+/- 14.5875 µg/mL +/- 140.6769 µg/mL +/- 143.9686 µg/mL	Gravimetric Unstressed Stressed
3	Toluene-d8 **CAS #** 2037-26-5 (Lot PR-26282) **Purity** 99%	2,507.0 µg/mL	+/- 14.5759 µg/mL +/- 140.5650 µg/mL +/- 143.8540 µg/mL	Gravimetric Unstressed Stressed
4	1-Bromo-4-fluorobenzene (BFB) **CAS #** 460-00-4 (Lot 20401KOV) **Purity** 99%	2,503.6 µg/mL	+/- 14.5561 µg/mL +/- 140.3744 µg/mL +/- 143.6590 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOA8260SURRES_00122

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567650 **Lot No.:** A0114901

Description : 8260 Surrogate Standard

8260 Surrogate Standard 2,500 ug/ml, P&T Methanol, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : October 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)	
1	Dibromofluoromethane **CAS #** 1868-53-7 (Lot 022012) **Purity** 99%	2,509.4 µg/mL	+/- 14.5899 µg/mL +/- 140.6996 µg/mL +/- 143.9918 µg/mL	Gravimetric Unstressed Stressed
2	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 (Lot PR-25433) **Purity** 98%	2,509.0 µg/mL	+/- 14.5875 µg/mL +/- 140.6769 µg/mL +/- 143.9686 µg/mL	Gravimetric Unstressed Stressed
3	Toluene-d8 **CAS #** 2037-26-5 (Lot PR-26282) **Purity** 99%	2,507.0 µg/mL	+/- 14.5759 µg/mL +/- 140.5650 µg/mL +/- 143.8540 µg/mL	Gravimetric Unstressed Stressed
4	1-Bromo-4-fluorobenzene (BFB) **CAS #** 460-00-4 (Lot 20401KOV) **Purity** 99%	2,503.6 µg/mL	+/- 14.5561 µg/mL +/- 140.3744 µg/mL +/- 143.6590 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOA8260VARES_00082

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569724 **Lot No.:** A0124520

Description : 8260 List 1 / Std #6 Vinyl Acetate (2015)

8260 List 1 / Std #6 Vinyl Acetate (2015) 5000 ug/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2017 **Storage:** 0°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Vinyl acetate	5,027.0 µg/mL	+/- 29.5013	µg/mL	Gravimetric
	CAS # 108-05-4 (Lot STBD7333V)		+/- 303.3277	µg/mL	Unstressed
	Purity 99%		+/- 304.0477	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods. Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Reagent

VOA8260VARES_00083

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569724 **Lot No.:** A0124520

Description : 8260 List 1 / Std #6 Vinyl Acetate (2015)

8260 List 1 / Std #6 Vinyl Acetate (2015) 5000 ug/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2017 **Storage:** 0°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	Vinyl acetate		5,027.0	µg/mL	+/- 29.5013	µg/mL	Gravimetric
	CAS # 108-05-4	(Lot STBD7333V)			+/- 303.3277	µg/mL	Unstressed
	Purity 99%				+/- 304.0477	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods. Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Reagent

VOAACRORES_00115

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568720 **Lot No.:** A0125560

Description : 8260 List 1/Std #5 Acrolein High

8260 List 1/Std #5 Acrolein High 19,750 µg/mL, Water, 1 mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2017 **Storage:** 0°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	Acrolein		19,779.0	µg/mL	+/- 115.8104	µg/mL	Gravimetric
	CAS # 107-02-8	(Lot 170123JLM)			+/- 634.1769	µg/mL	Unstressed
	Purity 99%				+/- 737.1613	µg/mL	Stressed

Solvent: Water
CAS # 7732-18-5
Purity 99%

Reagent

VOABFBRES_00056

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30067 **Lot No.:** A0122647

Description : 4-Bromofluorobenzene Standard

4-Bromofluorobenzene Standard 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-4-fluorobenzene (BFB)	2,524.0 µg/mL	+/- 14.8122	µg/mL	Gravimetric
	CAS # 460-00-4 (Lot 20401KOV)		+/- 141.5325	µg/mL	Unstressed
	Purity 99%		+/- 144.8435	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOABFBRES_00058

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30067 **Lot No.:** A0122647

Description : 4-Bromofluorobenzene Standard

4-Bromofluorobenzene Standard 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-4-fluorobenzene (BFB)	2,524.0 µg/mL	+/- 14.8122	µg/mL	Gravimetric
	CAS # 460-00-4 (Lot 20401KOV)		+/- 141.5325	µg/mL	Unstressed
	Purity 99%		+/- 144.8435	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOACEVERES_00127

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

2406027
28
29
30

Catalog No. : 569723 **Lot No.:** A0123891

Description : 8260 List 1 / Std #4 2-CEVE (2015)

8260 List 1 / Std #4 2-CEVE (2015) 2,500 ug/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Chloroethyl vinyl ether	2,503.5 µg/mL	+/- 14.5556 µg/mL	Gravimetric
	CAS # 110-75-8 (Lot MKBS6526V)		+/- 53.6004 µg/mL	Unstressed
	Purity 98%		+/- 55.1587 µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:

Degradation of tetrachloroethylene to pentachloroethane may occur if solutions containing 2-chloroethyl vinyl ether are combined with solutions that contain tetrachloroethylene.

Reagent

VOARESEE1ST_00045

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

2396751

Catalog No. : 568363-FL **Lot No.:** A0120234

Description : Custom EE Standard

Custom EE Standard 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	3-Chlorobenzotrifluoride **CAS #** 98-15-7 **Purity** 99%	(Lot 21324DO)	5,025.0 µg/mL	+/- 29.4895 µg/mL +/- 281.7753 µg/mL +/- 288.3671 µg/mL		Gravimetric Unstressed Stressed
2	4-Chlorobenzotrifluoride **CAS #** 98-56-6 **Purity** 99%	(Lot 08507BO)	5,031.0 µg/mL	+/- 29.5247 µg/mL +/- 282.1117 µg/mL +/- 288.7115 µg/mL		Gravimetric Unstressed Stressed
3	2-Chlorobenzotrifluoride **CAS #** 88-16-4 **Purity** 99%	(Lot I0316DQ)	5,011.0 µg/mL	+/- 29.4074 µg/mL +/- 280.9902 µg/mL +/- 287.5637 µg/mL		Gravimetric Unstressed Stressed
4	3-Chlorotoluene **CAS #** 108-41-8 **Purity** 99%	(Lot 13528LX)	5,046.0 µg/mL	+/- 29.6128 µg/mL +/- 282.9528 µg/mL +/- 289.5723 µg/mL		Gravimetric Unstressed Stressed
5	2,4-Dichlorobenzotrifluoride **CAS #** 320-60-5 **Purity** 99%	(Lot MKBL3552V)	5,018.0 µg/mL	+/- 29.4484 µg/mL +/- 281.3828 µg/mL +/- 287.9654 µg/mL		Gravimetric Unstressed Stressed
6	3,4-Dichlorobenzotrifluoride **CAS #** 328-84-7 **Purity** 99%	(Lot 11105EJV)	5,031.0 µg/mL	+/- 29.5247 µg/mL +/- 282.1117 µg/mL +/- 288.7115 µg/mL		Gravimetric Unstressed Stressed
7	2,5-Dichlorobenzotrifluoride **CAS #** 320-50-3 **Purity** 99%	(Lot 04415DSV)	5,047.0 µg/mL	+/- 29.6186 µg/mL +/- 283.0089 µg/mL +/- 289.6296 µg/mL		Gravimetric Unstressed Stressed

Reagent

WHdCaCO3P_00009

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CERTIFICATE OF ANALYSIS

Description: CALCIUM CARBONATE STANDARD 1mL = 1mg CaCO3 (0.01M)

Catalog Number: LC12700
Lot Number: G101-27

Mfg Date: 04/18/2017
Expiration Date: 04/18/2019

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, colorless solution	Pass Test
Molarity	0.0100M +/- 0.0001M	0.0100M
Concentration mg CaCO3/mL	1.000 +/- 0.010mg CaCO3/mL	1.000mg CaCO3/mL
Traceable to NIST	Calcium Carbonate	915b

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

Submitted By: Greg Albright, Chemist Supervisor

Greg Albright

An ISO9001:2008 certified company. Registration # 0306-01

05/04/2017 1:56:31 PM

Form #17.13 07/28/2016

2342086
ID: WHdCaCO3P_00009
Exp:04/18/19 Prpd:CAK Opn:05/08/17
1000 ppm Calcium Carbonat

Reagent

WNH31000P_00025

LabChem
performance through chemistry
Jackson's Pointe Commerce Park - Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063
Ph: 412-826-5230 | Fax: 724-473-0647 | www.labchem.com

CERTIFICATE OF ANALYSIS

Description: AMMONIA (as NITROGEN) STANDARD, 1000ppm (1mL = 1mg N)

Catalog Number: LC17940
Lot Number: F334-08

Mfg Date: 12/01/2016
Expiration Date: 12/01/2018

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, colorless solution	Pass Test
Concentration ppm N	1000ppm +/- 10ppm	993ppm
Concentration mg N/mL	1.000 +/- 0.010 mg N/mL	0.993 mg N/mL
Traceable to NIST	Potassium Chloride	999b

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

Submitted By: Greg Albright, Chemist Supervisor

Greg Albright

An ISO9001:2008 certified company. Registration # 0306-01

12/09/2016 12:25:33 PM

Form #17.13 07/28/2016

2182281
ID: WNH31000P_00025
Exp:12/01/16 Prpd:CAK Opn:12/13/16
1000 ppm ammonia stock st

2182285
ID: WunNH31000P_00020
Exp:12/01/16 Prpd:CAK Opn:12/13/16
1000 ppm ammonia stock st

Reagent

WNH31000S_00015

LabChem
performance through chemistry
Jackson's Pointe Commerce Park - Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063
Ph: 412-826-5230 | Fax: 724-473-0647 | www.labchem.com

CERTIFICATE OF ANALYSIS

Description: AMMONIA (as NITROGEN) STANDARD, 1000ppm (1mL = 1mg N)

Catalog Number: LC17940
Lot Number: F302-20

Mfg Date: 11/02/2016
Expiration Date: 11/02/2018

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, colorless solution	Pass Test
Concentration ppm N	1000ppm +/- 10ppm	1001 ppm
Concentration mg N/mL	1.000 +/- 0.010 mg N/mL	1.001 mg N/mL
Traceable to NIST	Potassium Chloride	999b

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

Submitted By: Greg Albright, Chemist Supervisor

Greg Albright

An ISO9001:2008 certified company. Registration # 0306-01

01/04/2017 3:20:34 PM

Form #17.13 07/28/2016

2206312
ID: WNH31000S_00015
Exp:11/02/18 Prpd:CAK Opn:01/06/17
1000 ppm ammonia secondar

Reagent

WpHBuffer7CCV_00022

RICCA CHEMICAL COMPANY®

Arlington, TX 76012
Pocomoke City, MD 21851
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)

Lot Number: 4707D98 **Product Number:** 1551

Manufacture Date: JUL 20, 2017
Expiration Date: JUL 2019

The certified value for this product is confirmed in independent testing by a second qualified chemist.
The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

°C	0	5	10	15	20	25	30	35	40	45	50
pH	7.12	7.09	7.06	7.04	7.02	7.00	6.99	6.98	6.98	6.97	6.97

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Phosphate Dibasic	7558-79-4	ACS
Sodium Hydroxide	1310-73-2	
Potassium Dihydrogen Phosphate	7778-77-0	ACS
Yellow Dye	Proprietary	
Preservative	Proprietary	

2499831
ID: WpHBuffer7CCV_00022
Exp:07/31/19 Prpd:RMA Opn:09/18/17
pH Buffer 7 LCS

Test	Specification	Result	NIST SRM#
Appearance	Yellow liquid	Passed	
pH at 25°C	6.990-7.010	7.002	186 & 191
pH at 25°C Uncertainty	0.01	0.01	

Specification	Reference
Commercial Buffer Solutions	ASTM (D 1293 B)
Buffer A	ASTM (D 5464)
Buffer A	ASTM (D 5128)

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (L-A-B Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution.
Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1551-16	500 mL natural poly	24 months
1551-16CS	12 x 500 mL natural poly	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Jim Gibbs (07/20/2017)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

LABORATORY ACCREDITATION BUREAU a division of A-S-B
ACCREDITED ISO/IEC 17025
Certificate # L2387.02 Testing

Reagent

WpHBuffer7P_00015

LabChem
performance through chemistry
Jackson's Pointe Commerce Park - Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063
Ph: 412-826-5230 | Fax: 724-473-0647 | www.labchem.com

2310504
ID: WpHBuffer7P_00015
Exp:01/03/19 Prpd:MTW Opn:04/12/17
pH Buffer 7

CERTIFICATE OF ANALYSIS

Description: BUFFER SOLUTION pH 7.0 Yellow

Catalog Number: LC12380
Lot Number: F364-05

Mfg Date: 01/03/2017
Expiration Date: 01/03/2019

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, yellow solution	Pass Test
pH @ 25 degrees C	pH 7.00 +/- 0.01	7.00
Traceable to NIST SRMs		186g, 187e

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

Submitted By: Greg Albright, Chemist Supervisor

An ISO9001:2008 certified company. Registration # 0306-01

02/13/2017 3:01:18 PM

Form #17.13 07/28/2016

Page 1 of 1

Reagent

WResPSP_00050

KXW
8-7-17

phenova™ | A Phenomenex Company
Certified Reference Materials

2452926
ID: WResPSP_00050
Exp:09/30/19 Prpd:JWS Opn:08/14/17
Phenova Residue LCS

info@phenova.com • www.phenova.com • 1-866-942-2978

WP Solids — Lot #8171-09

TNI Analyte Code	Analyte	Certified Value mg/L	Acceptance Limits mg/L	Acceptance Limits %
1955	Total Dissolved Solids (TDS)	355	310 - 400	87.3 - 113
1960	Total Suspended Solids (TSS)	81.0	66.1 - 90.2	81.6 - 111
1950	Total Solids (TS)	436	391 - 481	89.7 - 110

Certified Values = "100% true concentration" of each analyte as determined from gravimetric and volumetric measurements made during standard manufacture.

Acceptance Limits = Generated based on the criteria established by The NELAC Institute (TNI) Fields of Proficiency Testing tables using regression equations and/or fixed percentage limits, historical data and other criteria distributed by accrediting agencies as applicable. Please note that regression based acceptance criteria are based on the Assigned Value and may have different criteria at different concentrations.

Solvent = Deionized Water

Store at 20-25°C.

Expiration Date: 09/19

Catalog #QC-SOL-WP

Preparation Instructions: The WP Solids standard is provided as a ready-to-use standard that does not require dilution prior to use. Shake adequately to homogenize the standard before removing an aliquot for analysis. Analyze by your normal procedures.

Note: It is strongly recommended that you analyze for TSS prior to removing aliquots for other analyses from the Solids bottle.

Approved by: AFL

Reviewed by: CJ

Date: 11/16

Date: 11/16

Reagent

WTOC1000SP_00018

RICCA CHEMICAL COMPANY®

Arlington, TX 76012
Pocomoke City, MD 21851
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Organic Carbon Standard, 1000 ppm C

Lot Number: 2701C46 **Product Number:** 1847

Manufacture Date: JAN 25, 2017
Expiration Date: JAN 2018

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Phosphoric Acid	7664-38-2	ACS
Potassium Acid Phthalate	877-24-7	ACS Acidimetric

Test	Specification	Result
Appearance	Colorless liquid	Passed
Carbon (C)	995-1005 ppm	1000 ppm

Specification	Reference
Organic Carbon Stock Solution	APHA (5310 B)
Potassium Hydrogen Phthalate, Stock Solution	EPA (SW-846) (9060)
Potassium Hydrogen Phthalate, Stock Solution, 1000 mg Carbon/liter	EPA (415.1)
Organic Carbon Solution, Standard (1 mL = 1 mg C)	ASTM (D 2579)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1847-32	1 L amber glass	12 months
1847-16	500 mL amber glass	12 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Katie Schnur (01/25/2017)
Quality Control Manager

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

WTurb1000L3_00008

Certificate of Analysis

AMCO CLEAR TURBIDITY STANDARD, 1000 NTU
Item #: 8030
Lot #: C795251

2288129
ID: WTurb1000L3_00008
Exp:03/31/18 Prpd:RSK Opn:03/21/17
1000 NTU Turbidity Standa

ISO 9001:2008 Manufacture of Chemical Products Certificate Number 1348 Issue No. 6 ISO 9001:2008 Stockist, Distributor, and Manufacturer of Fine Chemicals Certificate Number S1340 Issue No. 6 ISOIEC 17025 "General Requirements for the Competence of Testing and Calibration" Chemical Testing – Accredited A2LA Certificate Number 3336.01

Certified Values:

Specifications (Max Limits or as Specified)	Certified Value
Turbidity 1000 NTU	1000 NTU
Absorbance at 455 nm (10mm pathlength)	1.6399
Lot Number of Baseline Material	C793966

Certificate Prepared By: Stephen Bailey — Signature on file.

Certifying Officer: Rachel Edelstein, Department Manager In-Spec & Amco Clear — Signature on file.

Certification Date: Mar 07, 2017
Expiration Date: MARCH 2018

Not for direct use in food, cosmetics, finished pharmaceuticals or drug products. Supplier is not responsible for compliance with FDA Current Good Manufacturing Practice (cGMP) requirements, including without limitation those for finished drug products in 21 C.F.R Parts 210 and 211. Consult warranty limitations at www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html
For resale by GFS authorized distributors only.

Reagent

WTurbCCV40P_00005

Certificate of Analysis

AMCO CLEAR TURBIDITY STANDARD, 40 NTU
Item #: 8017
Lot #: C795518

2288130
ID: WTurbCCV40P_00005
Exp:03/31/18 Prpd:RSK Opn:03/21/17
40 NTU Turbidity Standard

03-31-17

ISO 9001:2008 Manufacture of Chemical Products Certificate Number 1348 Issue No. 6ISO 9001:2008 Stockist, Distributor, and Manufacturer of Fine Chemicals Certificate Number S1348 Issue No. 6 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration" Chemical Testing – Accredited A2LA Certificate Number 3336.01

Certified Values:

Specifications (Max Limits or as Specified)	Certified Value
Turbidity 40 NTU +/- 0.4	40 NTU
Absorbance at 455nm (50mm pathlength)	0.2387
Lot Number of Baseline Material	C793966

Certificate Prepared By: Sasikala Sellathurai — Signature on file.

Certifying Officer: Rachel Edelstein, Department Manager In-Spec & Amco Clear — Signature on file.

Certification Date: Mar 14, 2017
Expiration Date: MARCH 2018

Not for direct use in food, cosmetics, finished pharmaceuticals or drug products. Supplier is not responsible for compliance with FDA Current Good Manufacturing Practice (cGMP) requirements, including without limitation those for finished drug products in 21 C.F.R Parts 210 and 211. Consult warranty limitations at www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html
For resale by GFS authorized distributors only.

Reagent

WTurbICVCCV2_00006

Certificate of Analysis

AMCO CLEAR TURBIDITY STANDARD, 10 NTU

Item #: 8014

Lot #: C691450

2198123

RSK 12-24-16
Rec: 12-22-16

ID: WTurbICVCCV2_00006
Exp:12/31/17 Prpd:RSK Opn:12/24/16
Turbidity 10 std for ICV

Certified Values:

GFS CHEMICALS®

ISO 9001:2008 Manufacture of Chemical Products Certificate Number 1348 Issue No. 6ISO 9001:2008 Stockist, Distributor, and Manufacturer of Fine Chemicals Certificate Number S1348 Issue No. 6 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration" Chemical Testing – Accredited A2LA Certificate Number 3336.01

Specifications (Max Limits or as Specified)	Certified Value
Turbidity 10 NTU +/- 0.1	10 NTU
Absorbance at 455nm (100mm pathlength)	0.1133
Lot Number of Baseline Material	C690658

Certificate Prepared By: Sasikala Sellathurai — Signature on file.

Certifying Officer: Rachel Edelstein, Department Manager In-Spec & Amco Clear — Signature on file.

Certification Date: Sep 27, 2016
Expiration Date: DEC 2017

Not for direct use in food, cosmetics, finished pharmaceuticals or drug products. Supplier is not responsible for compliance with FDA Current Good Manufacturing Practice (cGMP) requirements, including without limitation those for finished drug products in 21 C.F.R Parts 210 and 211. Consult warranty limitations at www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html
For resale by GFS authorized distributors only.

Method 8260C Low Level

Volatile Organic Compounds (GC/MS) by Method 8260C Low Level

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-624 ID: 0.18(mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
HD-SPBA-CW-22-0/1-0	180-70792-1	102	90	84	94
HD-SPBA-CW-22-0/1-0 DL	180-70792-1 DL	103	112	100	93
HD-SPBA-CW-22-0/1-0	180-70792-2	102	116	97	90
HD-QC3-0/1-2	180-70792-3	101	90	85	96
	MB 180-224560/6	94	89	88	97
	MB 180-224674/6	98	107	99	94
	LCS 180-224560/4	108	97	115	114
	LCS 180-224674/4	98	100	119	109

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	73-120
DCA = 1,2-Dichloroethane-d4 (Surr)	65-121
TOL = Toluene-d8 (Surr)	73-120
BFB = 4-Bromofluorobenzene (Surr)	80-120

Column to be used to flag recovery values

FORM II 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 6100104.D

Lab ID: LCS 180-224560/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chloromethane	10.0	8.70	87	49-135	
Vinyl chloride	10.0	8.70	87	52-136	
Bromomethane	10.0	8.82	88	37-150	
Chloroethane	10.0	9.59	96	44-139	
1,1-Dichloroethene	10.0	9.60	96	64-131	
Acetone	20.0	19.3	97	24-150	
Carbon disulfide	10.0	10.8	108	20-150	
Methylene Chloride	10.0	9.59	96	66-123	
trans-1,2-Dichloroethene	10.0	9.76	98	70-123	
Methyl tert-butyl ether	10.0	10.0	100	66-130	
1,1-Dichloroethane	10.0	10.3	103	66-122	
cis-1,2-Dichloroethene	10.0	9.60	96	73-120	
Bromochloromethane	10.0	10.3	103	73-122	
2-Butanone (MEK)	20.0	19.3	96	37-150	
Chloroform	10.0	10.2	102	72-123	
1,1,1-Trichloroethane	10.0	11.1	111	66-129	
Carbon tetrachloride	10.0	12.8	128	58-145	
Benzene	10.0	10.2	102	75-123	
1,2-Dichloroethane	10.0	10.7	107	63-130	
Trichloroethene	10.0	9.68	97	74-121	
1,2-Dichloropropane	10.0	10.7	107	67-119	
Bromodichloromethane	10.0	11.2	112	62-127	
cis-1,3-Dichloropropene	10.0	11.6	116	61-127	
4-Methyl-2-pentanone (MIBK)	20.0	18.6	93	41-135	
Toluene	10.0	10.2	102	76-129	
trans-1,3-Dichloropropene	10.0	11.5	115	61-136	
1,1,2-Trichloroethane	10.0	10.5	105	74-126	
Tetrachloroethene	10.0	9.31	93	76-128	
2-Hexanone	20.0	21.5	108	37-150	
Dibromochloromethane	10.0	13.3	133	63-131	*
1,2-Dibromoethane (EDB)	10.0	9.70	97	76-128	
Chlorobenzene	10.0	10.4	104	79-124	
1,1,1,2-Tetrachloroethane	10.0	12.5	125	70-130	
Ethylbenzene	10.0	9.92	99	77-124	
Xylenes, Total	20.0	19.7	99	76-124	
Styrene	10.0	10.3	103	80-125	
Bromoform	10.0	12.4	124	54-136	
1,1,2,2-Tetrachloroethane	10.0	9.40	94	72-128	
Acrylonitrile	100	93.5	93	60-130	
1,4-Dioxane	200	238	119	26-150	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 51002D04.D

Lab ID: LCS 180-224674/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chloromethane	10.0	11.6	116	49-135	
Vinyl chloride	10.0	11.0	110	52-136	
Bromomethane	10.0	11.7	117	37-150	
Chloroethane	10.0	11.3	113	44-139	
1,1-Dichloroethene	10.0	11.2	112	64-131	
Acetone	20.0	20.5	102	24-150	
Carbon disulfide	10.0	10.7	107	20-150	
Methylene Chloride	10.0	9.53	95	66-123	
trans-1,2-Dichloroethene	10.0	10.8	108	70-123	
Methyl tert-butyl ether	10.0	9.05	91	66-130	
1,1-Dichloroethane	10.0	10.1	101	66-122	
cis-1,2-Dichloroethene	10.0	9.61	96	73-120	
Bromochloromethane	10.0	9.38	94	73-122	
2-Butanone (MEK)	20.0	17.8	89	37-150	
Chloroform	10.0	9.66	97	72-123	
1,1,1-Trichloroethane	10.0	10.7	107	66-129	
Carbon tetrachloride	10.0	10.5	105	58-145	
Benzene	10.0	9.67	97	75-123	
1,2-Dichloroethane	10.0	9.24	92	63-130	
Trichloroethene	10.0	9.49	95	74-121	
1,2-Dichloropropane	10.0	9.02	90	67-119	
Bromodichloromethane	10.0	9.09	91	62-127	
cis-1,3-Dichloropropene	10.0	8.88	89	61-127	
4-Methyl-2-pentanone (MIBK)	20.0	20.2	101	41-135	
Toluene	10.0	11.5	115	76-129	
trans-1,3-Dichloropropene	10.0	10.1	101	61-136	
1,1,2-Trichloroethane	10.0	10.7	107	74-126	
Tetrachloroethene	10.0	11.1	111	76-128	
2-Hexanone	20.0	18.7	94	37-150	
Dibromochloromethane	10.0	10.1	101	63-131	
1,2-Dibromoethane (EDB)	10.0	9.92	99	76-128	
Chlorobenzene	10.0	10.4	104	79-124	
1,1,1,2-Tetrachloroethane	10.0	11.1	111	70-130	
Ethylbenzene	10.0	10.5	105	77-124	
Xylenes, Total	20.0	21.0	105	76-124	
Styrene	10.0	10.1	101	80-125	
Bromoform	10.0	9.56	96	54-136	
1,1,2,2-Tetrachloroethane	10.0	10.4	104	72-128	
Acrylonitrile	100	99.4	99	60-130	
1,4-Dioxane	200	201	101	26-150	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab File ID: 6100106.D Lab Sample ID: MB 180-224560/6

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: CHHP6 Date Analyzed: 10/02/2017 02:22

GC Column: DB-624 ID: 0.18(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 180-224560/4	6100104.D	10/02/2017 01:22
HD-QC3-0/1-2	180-70792-3	6100125.D	10/02/2017 10:24
HD-SPBA-CW-22-0/1-0	180-70792-1	6100126.D	10/02/2017 10:48

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab File ID: 51002D06.D Lab Sample ID: MB 180-224674/6

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: CHHP5 Date Analyzed: 10/03/2017 01:25

GC Column: DB-624 ID: 0.18(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 180-224674/4	51002D04.D	10/03/2017 00:27
HD-SPBA-CW-22-0/1-0 DL	180-70792-1 DL	51002D21.D	10/03/2017 07:40
HD-SPBA-CW-22-0/1-0	180-70792-2	51002D22.D	10/03/2017 08:04

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab File ID: 50727D01.D BFB Injection Date: 07/27/2017

Instrument ID: CHHP5 BFB Injection Time: 00:22

Analysis Batch No.: 218218

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	16.0	
75	30.0 - 60.0 % of mass 95	47.0	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.9	
173	Less than 2.0 % of mass 174	0.4	(0.5) 1
174	50.0 - 120.00 % of mass 95	75.4	
175	5.0 - 9.0 % of mass 174	5.4	(7.2) 1
176	95.0 - 101.0 % of mass 174	74.0	(98.2) 1
177	5.0 - 9.0 % of mass 176	4.8	(6.5) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 180-218218/2	50727D02.D	07/27/2017	00:51
	IC 180-218218/3	50727D03.D	07/27/2017	01:15
	ICIS 180-218218/4	50727D04.D	07/27/2017	01:39
	IC 180-218218/5	50727D05.D	07/27/2017	02:02
	IC 180-218218/6	50727D06.D	07/27/2017	02:26
	IC 180-218218/8	50727D08.D	07/27/2017	03:13
	IC 180-218218/10	50727D10.D	07/27/2017	04:00
	IC 180-218218/11	50727D11.D	07/27/2017	04:24

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab File ID: 51002D01.D BFB Injection Date: 10/02/2017

Instrument ID: CHHP5 BFB Injection Time: 21:30

Analysis Batch No.: 224674

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	18.9	
75	30.0 - 60.0 % of mass 95	46.8	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.6	
173	Less than 2.0 % of mass 174	1.1	(1.5) 1
174	50.0 - 120.00 % of mass 95	77.5	
175	5.0 - 9.0 % of mass 174	6.4	(8.3) 1
176	95.0 - 101.0 % of mass 174	76.3	(98.5) 1
177	5.0 - 9.0 % of mass 176	4.9	(6.4) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 180-224674/2	51002D02.D	10/02/2017	23:26
	LCS 180-224674/4	51002D04.D	10/03/2017	00:27
	MB 180-224674/6	51002D06.D	10/03/2017	01:25
HD-SPBA-CW-22-0/1-0 DL	180-70792-1 DL	51002D21.D	10/03/2017	07:40
HD-SPBA-CW-22-0/1-0	180-70792-2	51002D22.D	10/03/2017	08:04

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab File ID: 60724D01.D BFB Injection Date: 07/24/2017

Instrument ID: CHHP6 BFB Injection Time: 04:58

Analysis Batch No.: 217861

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.3	
75	30.0 - 60.0 % of mass 95	52.6	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.7	
173	Less than 2.0 % of mass 174	0.3	(0.4) 1
174	50.0 - 120.00 % of mass 95	68.6	
175	5.0 - 9.0 % of mass 174	4.4	(6.4) 1
176	95.0 - 101.0 % of mass 174	68.1	(99.3) 1
177	5.0 - 9.0 % of mass 176	4.9	(7.1) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 180-217861/3	60724D03.D	07/24/2017	06:39
	IC 180-217861/4	60724D04.D	07/24/2017	07:03
	ICIS 180-217861/5	60724D05.D	07/24/2017	07:27
	IC 180-217861/6	60724D06.D	07/24/2017	07:52
	IC 180-217861/7	60724D07.D	07/24/2017	08:16
	IC 180-217861/8	60724D08.D	07/24/2017	08:40
	IC 180-217861/9	60724D09.D	07/24/2017	09:04
	IC 180-217861/10	60724D10.D	07/24/2017	09:28

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab File ID: 6100101.D BFB Injection Date: 10/01/2017

Instrument ID: CHHP6 BFB Injection Time: 22:54

Analysis Batch No.: 224560

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	19.8	
75	30.0 - 60.0 % of mass 95	54.8	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.1	
173	Less than 2.0 % of mass 174	0.3	(0.4) 1
174	50.0 - 120.00 % of mass 95	71.7	
175	5.0 - 9.0 % of mass 174	5.7	(8.0) 1
176	95.0 - 101.0 % of mass 174	68.6	(95.7) 1
177	5.0 - 9.0 % of mass 176	4.8	(7.0) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 180-224560/2	6100102.D	10/02/2017	00:09
	LCS 180-224560/4	6100104.D	10/02/2017	01:22
	MB 180-224560/6	6100106.D	10/02/2017	02:22
HD-QC3-0/1-2	180-70792-3	6100125.D	10/02/2017	10:24
HD-SPBA-CW-22-0/1-0	180-70792-1	6100126.D	10/02/2017	10:48

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Sample No.: CCVIS 180-224674/2 Date Analyzed: 10/02/2017 23:26

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 51002D02.D Heated Purge: (Y/N) N

Calibration ID: 35038

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		188011	4.36	408772	7.34	80130	10.43
UPPER LIMIT		376022	4.86	817544	7.84	160260	10.93
LOWER LIMIT		94006	3.86	204386	6.84	40065	9.93
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-224674/4		186146	4.36	391761	7.34	79428	10.43
MB 180-224674/6		213117	4.36	421426	7.34	91594	10.43
180-70792-1 DL	HD-SPBA-CW-22-0/1-0 DL	185413	4.35	381644	7.34	84832	10.43
180-70792-2	HD-SPBA-CW-22-0/1-0	176905	4.35	371038	7.34	85701	10.43

TBAd9 = TBA-d9 (IS)
FB = Fluorobenzene (IS)
CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Sample No.: CCVIS 180-224674/2 Date Analyzed: 10/02/2017 23:26

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 51002D02.D Heated Purge: (Y/N) N

Calibration ID: 35038

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		117436	12.77				
UPPER LIMIT		234872	13.27				
LOWER LIMIT		58718	12.27				
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-224674/4		113213	12.77				
MB 180-224674/6		134108	12.77				
180-70792-1 DL	HD-SPBA-CW-22-0/1-0 DL	115290	12.77				
180-70792-2	HD-SPBA-CW-22-0/1-0	111498	12.77				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Sample No.: CCVIS 180-224560/2 Date Analyzed: 10/02/2017 00:09

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 6100102.D Heated Purge: (Y/N) N

Calibration ID: 35029

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		199237	3.97	517308	7.04	117673	10.17
UPPER LIMIT		398474	4.47	1034616	7.54	235346	10.67
LOWER LIMIT		99619	3.47	258654	6.54	58837	9.67
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-224560/4		182230	3.96	417795	7.04	102230	10.17
MB 180-224560/6		161135	3.95	393187	7.05	118340	10.17
180-70792-3	HD-QC3-0/1-2	117244	3.95	351264	7.05	112696	10.17
180-70792-1	HD-SPBA-CW-22-0/1-0	115761	3.95	349001	7.05	119654	10.17

TBAd9 = TBA-d9 (IS)
FB = Fluorobenzene (IS)
CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Sample No.: CCVIS 180-224560/2 Date Analyzed: 10/02/2017 00:09

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 6100102.D Heated Purge: (Y/N) N

Calibration ID: 35029

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		189489	12.51				
UPPER LIMIT		378978	13.01				
LOWER LIMIT		94745	12.01				
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-224560/4		160112	12.51				
MB 180-224560/6		188567	12.51				
180-70792-3	HD-QC3-0/1-2	175443	12.51				
180-70792-1	HD-SPBA-CW-22-0/1-0	184091	12.51				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: HD-SPBA-CW-22-0/1-0 | Lab Sample ID: 180-70792-1

Matrix: Water | Lab File ID: 6100126.D

Analysis Method: 8260C | Date Collected: 09/27/2017 09:40

Sample wt/vol: 5(mL) | Date Analyzed: 10/02/2017 10:48

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224560 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	1.0	U	1.0	0.38
75-01-4	Vinyl chloride	1.0	U	1.0	0.17
74-83-9	Bromomethane	1.0	U ^c	1.0	0.59
75-00-3	Chloroethane	1.0	U	1.0	0.58
75-35-4	1,1-Dichloroethene	0.46	J	1.0	0.32
67-64-1	Acetone	5.0	U	5.0	3.1
75-15-0	Carbon disulfide	1.0	U	1.0	0.53
75-09-2	Methylene Chloride	1.0	U	1.0	0.94
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.20
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.34
156-59-2	cis-1,2-Dichloroethene	2.5		1.0	0.30
74-97-5	Bromochloromethane	1.0	U	1.0	0.36
78-93-3	2-Butanone (MEK)	5.0	U	5.0	2.6
67-66-3	Chloroform	0.34	J	1.0	0.27
71-55-6	1,1,1-Trichloroethane	1.0	U ^c	1.0	0.27
56-23-5	Carbon tetrachloride	1.0	U ^c	1.0	0.56
71-43-2	Benzene	1.0	U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.24
79-01-6	*Trichloroethene*	*270*	*E*	*1.0*	*0.20*
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.35
75-27-4	Bromodichloromethane	1.0	U	1.0	0.57
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.32
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.2
108-88-3	Toluene	1.0	U	1.0	0.16
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.22
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.31
127-18-4	*Tetrachloroethene*	*270*	*E*	*1.0*	*0.24*
591-78-6	2-Hexanone	5.0	U	5.0	2.0
124-48-1	Dibromochloromethane	1.0	U ^c *	1.0	0.44
106-93-4	1,2-Dibromoethane (EDB)	1.0	U	1.0	0.51
108-90-7	Chlorobenzene	1.0	U	1.0	0.15
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U ^c	1.0	0.49
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
1330-20-7	Xylenes, Total	2.0	U	2.0	0.27

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Client Sample ID: HD-SPBA-CW-22-0/1-0 Lab Sample ID: 180-70792-1

Matrix: Water Lab File ID: 6100126.D

Analysis Method: 8260C Date Collected: 09/27/2017 09:40

Sample wt/vol: 5(mL) Date Analyzed: 10/02/2017 10:48

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 224560 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
100-42-5	Styrene	1.0	U	1.0	0.22
75-25-2	Bromoform	1.0	U ^c	1.0	0.76
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.37
107-13-1	Acrylonitrile	20	U	20	3.3
123-91-1	1,4-Dioxane	200	U	200	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	90		65-121
2037-26-5	Toluene-d8 (Surr)	84		73-120
460-00-4	4-Bromofluorobenzene (Surr)	94		80-120
1868-53-7	Dibromofluoromethane (Surr)	102		73-120

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100126.D
Lims ID: 180-70792-D-1
Client ID: HD-SPBA-CW-22-0/1-0
Sample Type: Client
Inject. Date: 02-Oct-2017 10:48:30 ALS Bottle#: 35 Worklist Smp#: 26
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0018668-026
Misc. Info.: 180-70792-D-1
Operator ID: 034635 Instrument ID: CHHP6

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 02-Oct-2017 22:14:59 Calib Date: 28-Sep-2017 15:13:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170928-18631.b\60928P06.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK020

First Level Reviewer: bungardf Date: 02-Oct-2017 22:14:18

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.952	3.952	0.000	91	115761	1000.0	
* 2 Fluorobenzene (IS)	96	7.049	7.042	0.007	98	349001	50.0	
* 3 Chlorobenzene-d5	119	10.169	10.169	0.000	89	119654	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.512	12.511	0.001	97	184091	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.313	6.310	0.003	93	92303	50.9	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.684	6.687	-0.003	70	116078	44.8	
$ 7 Toluene-d8 (Surr)	98	8.716	8.706	0.010	93	408664	42.1	
$ 8 4-Bromofluorobenzene (Surr	95	11.350	11.353	-0.003	83	194695	47.1	
12 Chloromethane	50		1.625				ND	
13 Vinyl chloride	62		1.753				ND	
15 Bromomethane	94		2.051				ND	
16 Chloroethane	64		2.185				ND	
22 1,1-Dichloroethene	96	3.094	3.098	-0.004	51	4207	2.32	
24 Acetone	43		3.171				ND	
26 Carbon disulfide	76		3.347				ND	
31 Methylene Chloride	84		3.828				ND	
33 Acrylonitrile	53		4.217				ND	
34 trans-1,2-Dichloroethene	96		4.259				ND	
35 Methyl tert-butyl ether	73		4.272				ND	
37 1,1-Dichloroethane	63		4.916				ND	
43 cis-1,2-Dichloroethene	96	5.686	5.683	0.003	76	30272	12.6	
44 2-Butanone (MEK)	43		5.695				ND	
48 Chlorobromomethane	128		5.975				ND	
50 Chloroform	83	6.130	6.127	0.003	36	6112	1.69	
51 1,1,1-Trichloroethane	97		6.279				ND	
53 Carbon tetrachloride	117		6.456				ND	
56 Benzene	78	6.702	6.693	0.009	43	2317	0.2880	
57 1,2-Dichloroethane	62		6.772				ND	
61 Trichloroethene	130	7.444	7.441	0.003	93	2622853	1342.0	E
64 1,2-Dichloropropane	63		7.715				ND	
65 1,4-Dioxane	88		7.794				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
68 Dichlorobromomethane	83		8.001				ND	
71 cis-1,3-Dichloropropene	75		8.451				ND	
72 4-Methyl-2-pentanone (MIBK	43		8.609				ND	
73 Toluene	91	8.770	8.779	-0.009	46	4245	0.3600	
74 trans-1,3-Dichloropropene	75		9.029				ND	
76 1,1,2-Trichloroethane	97		9.230				ND	
77 Tetrachloroethene	164	9.293	9.297	-0.004	87	2805086	1328.8	E
79 2-Hexanone	43		9.449				ND	
81 Chlorodibromomethane	129		9.595				ND	
82 Ethylene Dibromide	107		9.704				ND	
84 Chlorobenzene	112		10.197				ND	
86 1,1,1,2-Tetrachloroethane	131		10.294				ND	
87 Ethylbenzene	106		10.300				ND	
88 m-Xylene & p-Xylene	106		10.434				ND	
89 o-Xylene	106		10.811				ND	
90 Styrene	104		10.836				ND	
91 Bromoform	173		11.012				ND	
96 1,1,2,2-Tetrachloroethane	83		11.493				ND	
S 131 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Reagents:

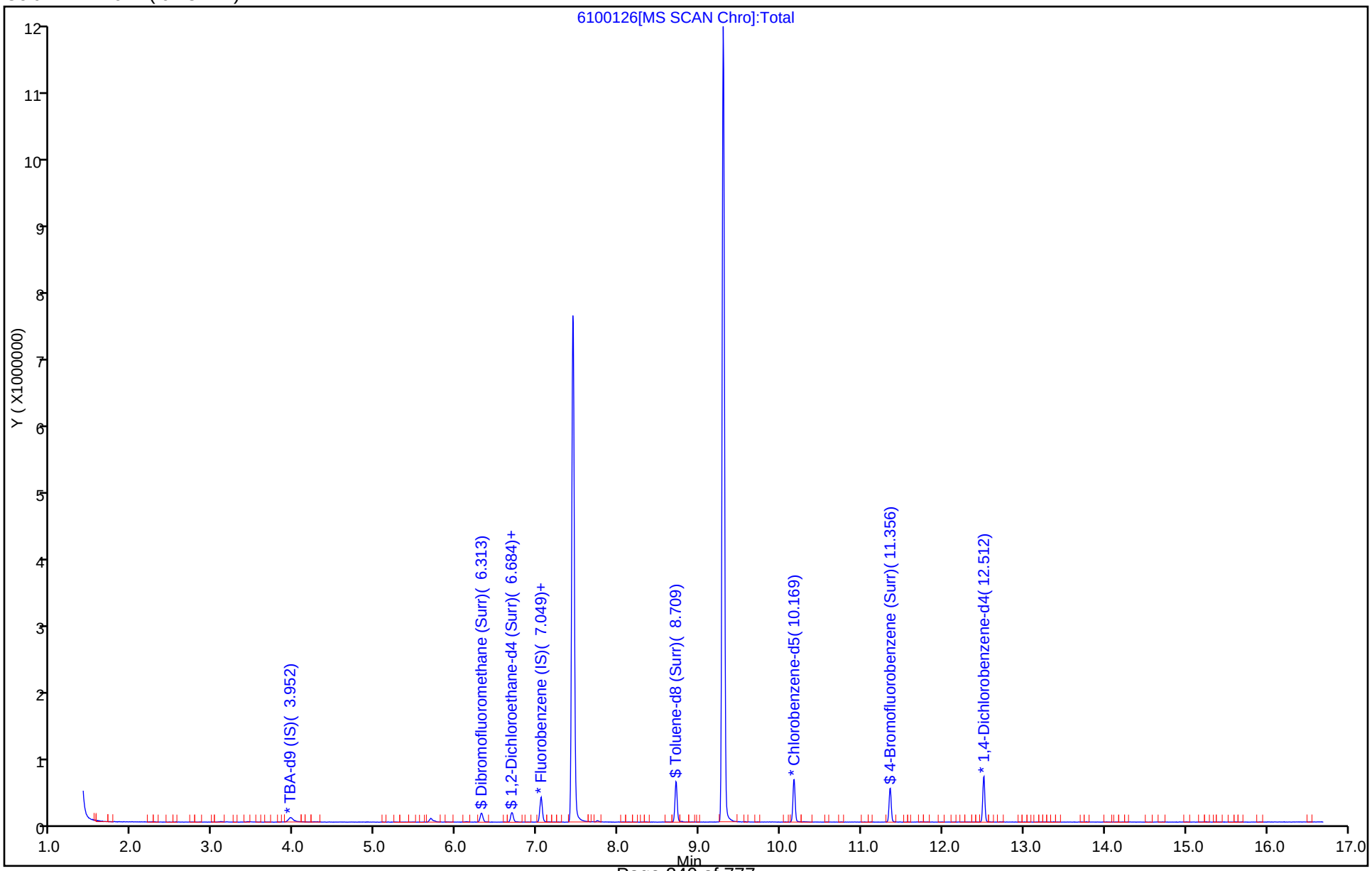
VOA8260INT_00074	Amount Added:	2.00	Units: uL	Run Reagent
VOA8260SURR_00073	Amount Added:	2.00	Units: uL	Run Reagent

Report Date: 02-Oct-2017 22:19:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100126.D				
Injection Date:	02-Oct-2017 10:48:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	180-70792-D-1	Lab Sample ID:	180-70792-1	Worklist Smp#:	26
Client ID:	HD-SPBA-CW-22-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	35
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Recovery Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100126.D
Lims ID: 180-70792-D-1
Client ID: HD-SPBA-CW-22-0/1-0
Sample Type: Client
Inject. Date: 02-Oct-2017 10:48:30 ALS Bottle#: 35 Worklist Smp#: 26
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0018668-026
Misc. Info.: 180-70792-D-1
Operator ID: 034635 Instrument ID: CHHP6

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 02-Oct-2017 22:14:59 Calib Date: 28-Sep-2017 15:13:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170928-18631.b\60928P06.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK020

First Level Reviewer: bungardf Date: 02-Oct-2017 22:14:18

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	50.9	101.79
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	44.8	89.57
$ 7 Toluene-d8 (Surr)	50.0	42.1	84.26
$ 8 4-Bromofluorobenzene (Surr)	50.0	47.1	94.25

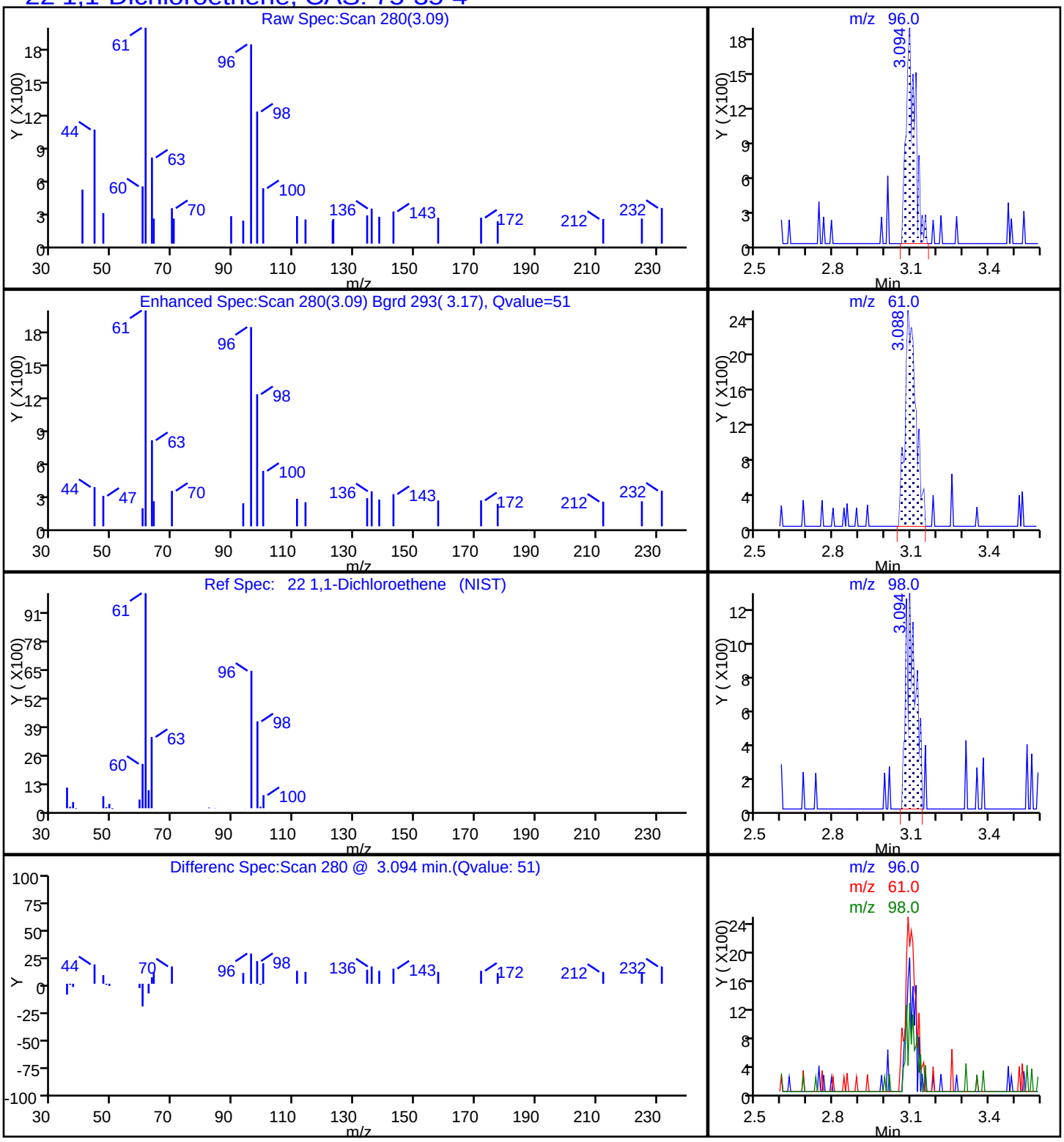
Report Date: 02-Oct-2017 22:19:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100126.D

Injection Date:	02-Oct-2017 10:48:30	Instrument ID:	CHHP6		
Lims ID:	180-70792-D-1	Lab Sample ID:	180-70792-1		
Client ID:	HD-SPBA-CW-22-0/1-0				
Operator ID:	034635	ALS Bottle#:	35	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

22 1,1-Dichloroethene, CAS: 75-35-4



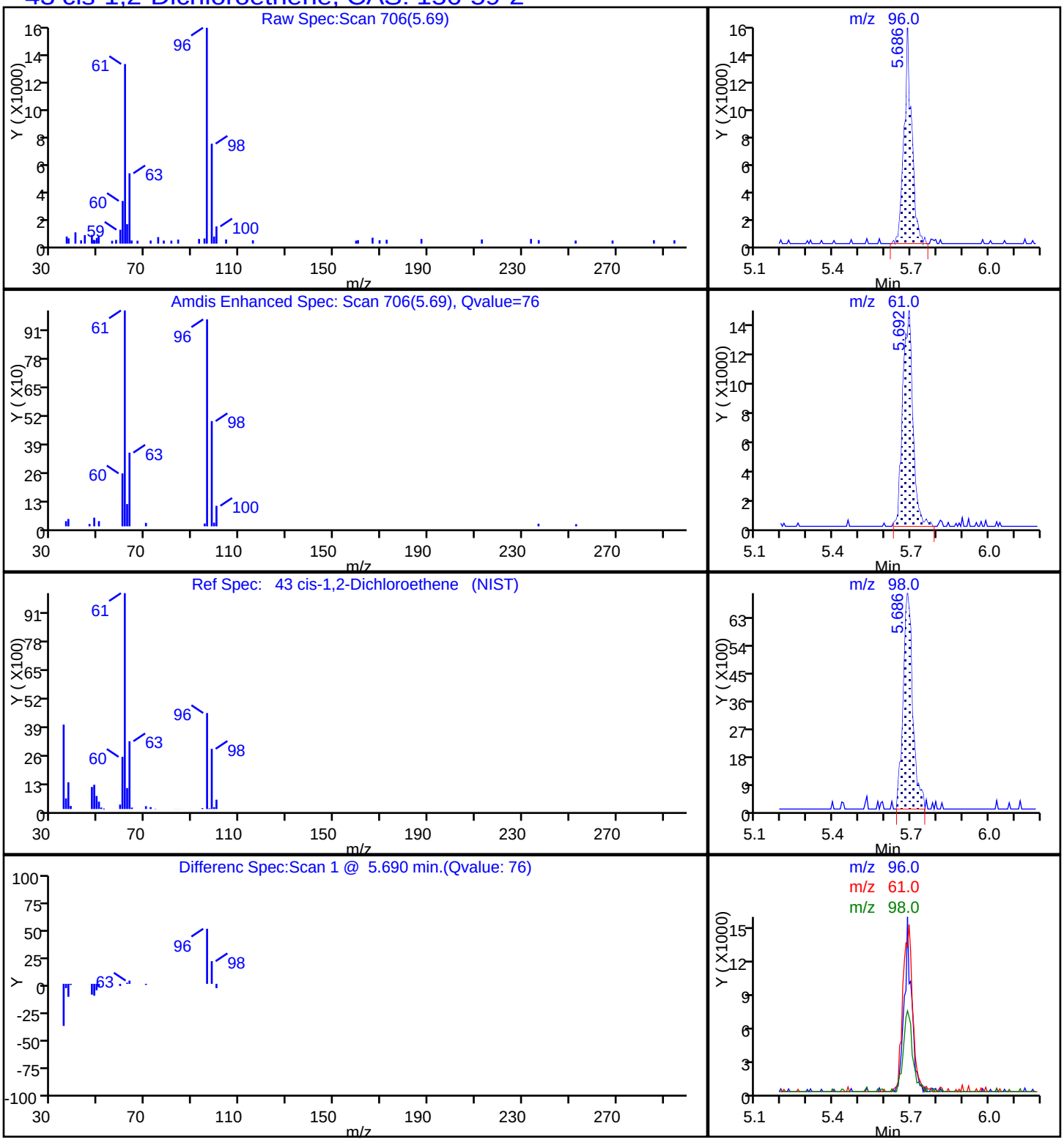
Report Date: 02-Oct-2017 22:19:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100126.D

Injection Date:	02-Oct-2017 10:48:30	Instrument ID:	CHHP6		
Lims ID:	180-70792-D-1	Lab Sample ID:	180-70792-1		
Client ID:	HD-SPBA-CW-22-0/1-0				
Operator ID:	034635	ALS Bottle#:	35	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

43 cis-1,2-Dichloroethene, CAS: 156-59-2



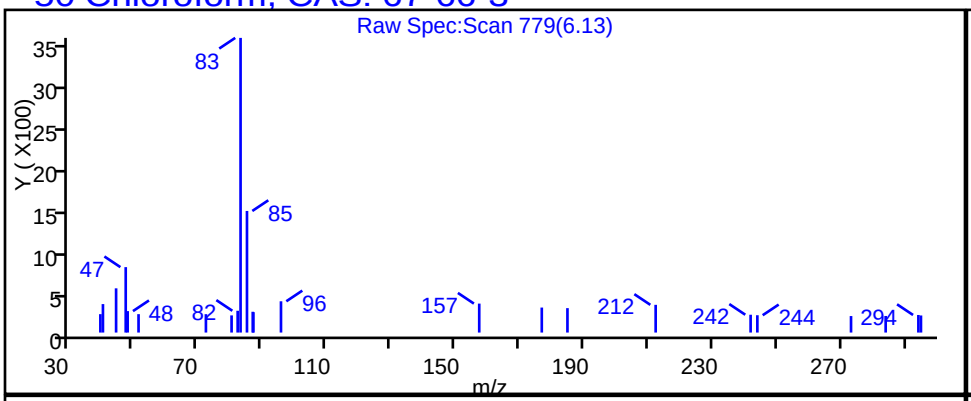
Report Date: 02-Oct-2017 22:19:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

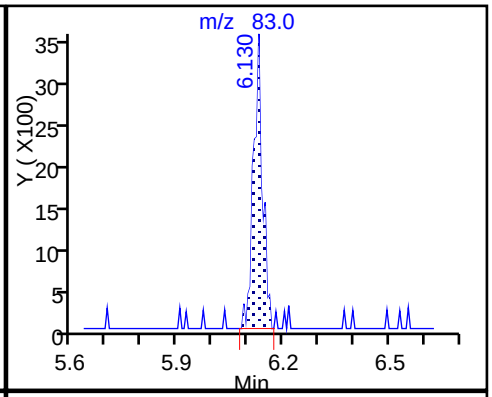
TestAmerica Pittsburgh

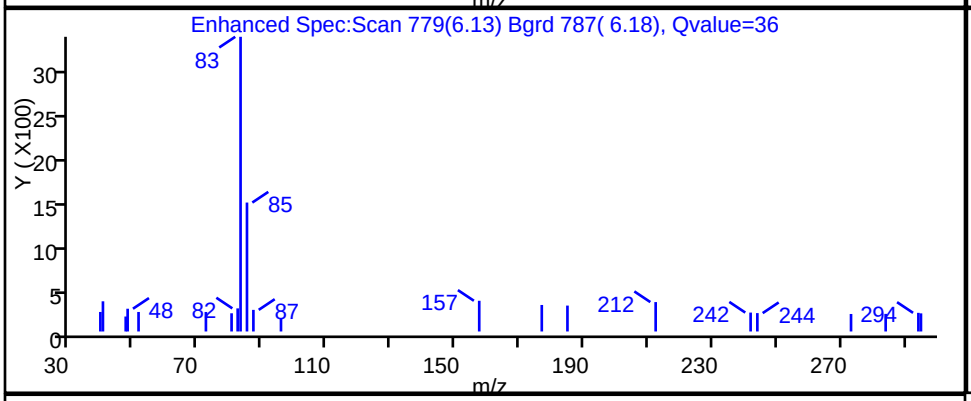
Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100126.D

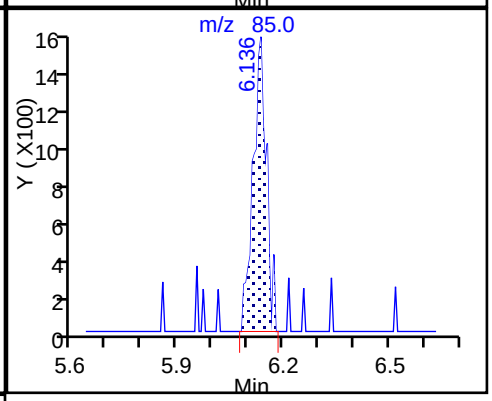
Injection Date:	02-Oct-2017 10:48:30	Instrument ID:	CHHP6		
Lims ID:	180-70792-D-1	Lab Sample ID:	180-70792-1		
Client ID:	HD-SPBA-CW-22-0/1-0				
Operator ID:	034635	ALS Bottle#:	35	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

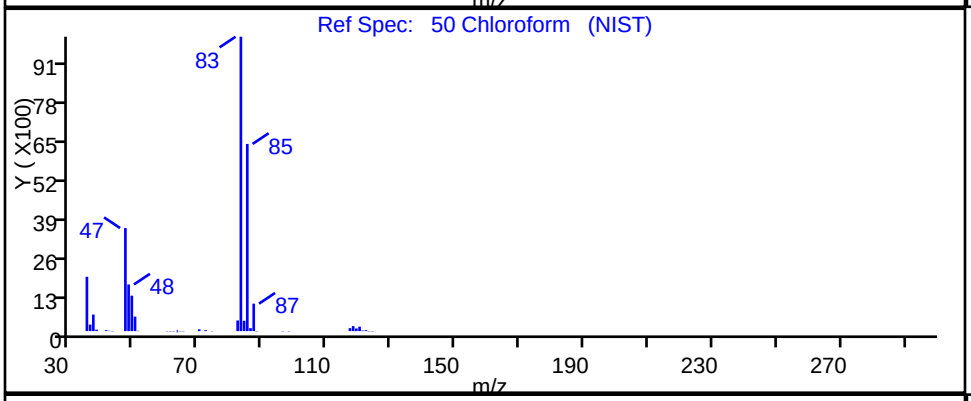
50 Chloroform, CAS: 67-66-3

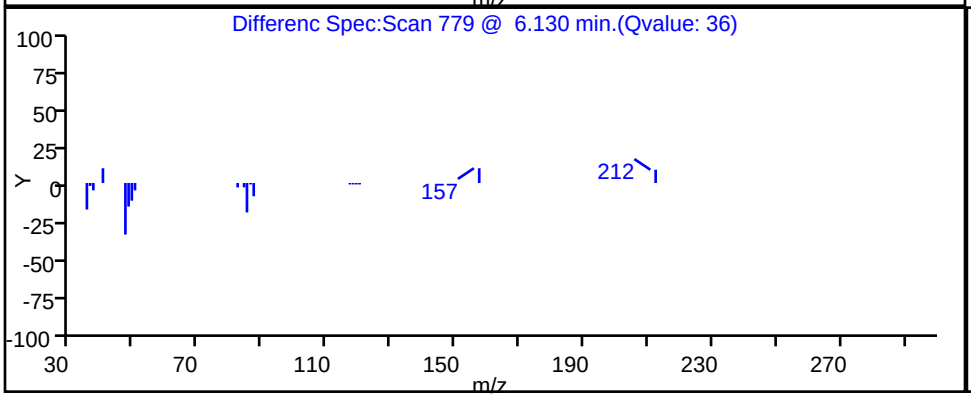


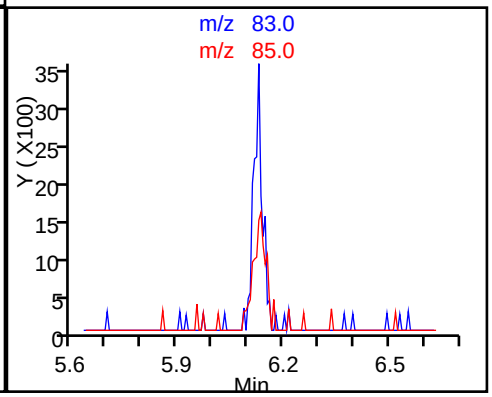












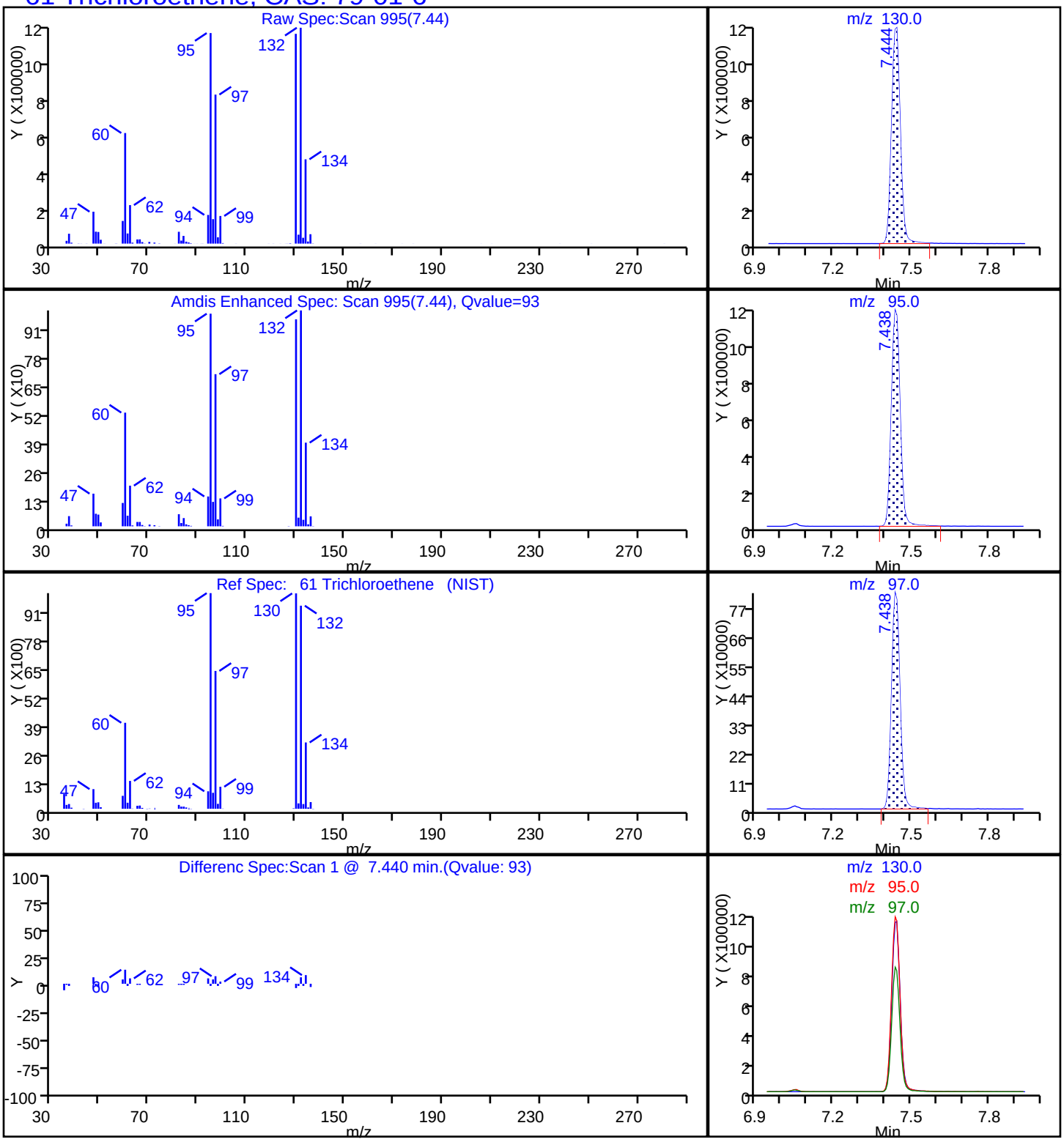
Report Date: 02-Oct-2017 22:19:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100126.D

Injection Date:	02-Oct-2017 10:48:30	Instrument ID:	CHHP6		
Lims ID:	180-70792-D-1	Lab Sample ID:	180-70792-1		
Client ID:	HD-SPBA-CW-22-0/1-0				
Operator ID:	034635	ALS Bottle#:	35	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

61 Trichloroethene, CAS: 79-01-6



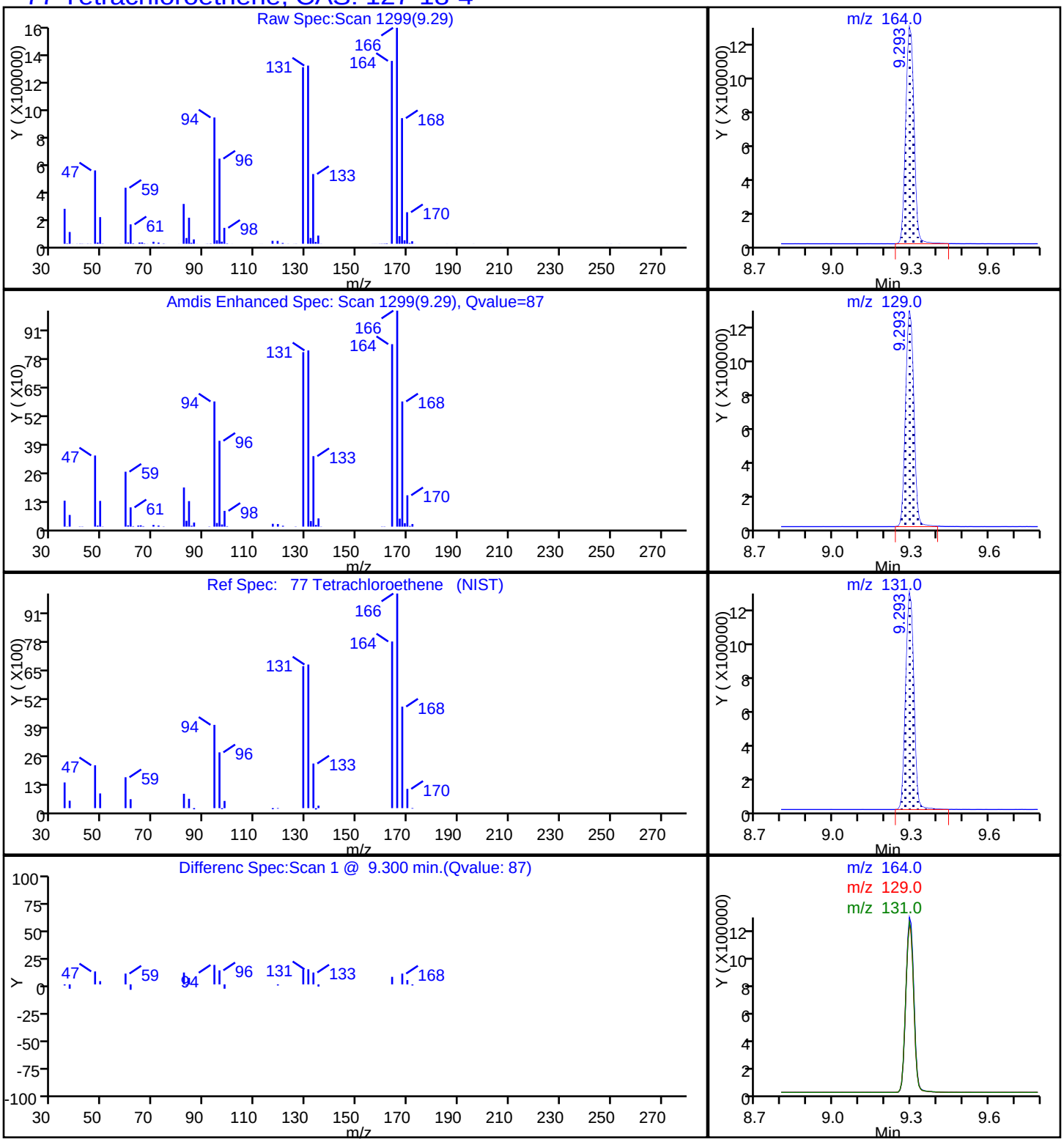
Report Date: 02-Oct-2017 22:19:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100126.D

Injection Date:	02-Oct-2017 10:48:30	Instrument ID:	CHHP6		
Lims ID:	180-70792-D-1	Lab Sample ID:	180-70792-1		
Client ID:	HD-SPBA-CW-22-0/1-0				
Operator ID:	034635	ALS Bottle#:	35	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

77 Tetrachloroethene, CAS: 127-18-4



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: HD-SPBA-CW-22-0/1-0 DL | Lab Sample ID: 180-70792-1 DL

Matrix: Water | Lab File ID: 51002D21.D

Analysis Method: 8260C | Date Collected: 09/27/2017 09:40

Sample wt/vol: 5(mL) | Date Analyzed: 10/03/2017 07:40

Soil Aliquot Vol: | Dilution Factor: 12.5

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224674 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	13	U	13	4.8
75-01-4	Vinyl chloride	13	U	13	2.1
74-83-9	Bromomethane	13	U	13	7.3
75-00-3	Chloroethane	13	U	13	7.2
75-35-4	1,1-Dichloroethene	13	U	13	4.0
67-64-1	Acetone	63	U	63	39
75-15-0	Carbon disulfide	13	U	13	6.6
75-09-2	Methylene Chloride	13	U	13	12
156-60-5	trans-1,2-Dichloroethene	13	U	13	2.5
1634-04-4	Methyl tert-butyl ether	13	U	13	2.4
75-34-3	1,1-Dichloroethane	13	U	13	4.2
156-59-2	cis-1,2-Dichloroethene	13	U	13	3.8
74-97-5	Bromochloromethane	13	U	13	4.5
78-93-3	2-Butanone (MEK)	63	U	63	32
67-66-3	Chloroform	13	U	13	3.3
71-55-6	1,1,1-Trichloroethane	13	U	13	3.4
56-23-5	Carbon tetrachloride	13	U	13	7.0
71-43-2	Benzene	13	U	13	2.3
107-06-2	1,2-Dichloroethane	13	U	13	3.0
79-01-6	Trichloroethene	140		13	2.5
78-87-5	1,2-Dichloropropane	13	U	13	4.3
75-27-4	Bromodichloromethane	13	U	13	7.1
10061-01-5	cis-1,3-Dichloropropene	13	U	13	4.0
108-10-1	4-Methyl-2-pentanone (MIBK)	63	U	63	27
108-88-3	Toluene	13	U	13	2.0
10061-02-6	trans-1,3-Dichloropropene	13	U	13	2.8
79-00-5	1,1,2-Trichloroethane	13	U	13	3.8
127-18-4	Tetrachloroethene	200		13	3.1
591-78-6	2-Hexanone	63	U	63	25
124-48-1	Dibromochloromethane	13	U	13	5.5
106-93-4	1,2-Dibromoethane (EDB)	13	U	13	6.4
108-90-7	Chlorobenzene	13	U	13	1.8
630-20-6	1,1,1,2-Tetrachloroethane	13	U	13	6.2
100-41-4	Ethylbenzene	13	U	13	3.2
1330-20-7	Xylenes, Total	25	U	25	3.4
100-42-5	Styrene	13	U	13	2.7

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: HD-SPBA-CW-22-0/1-0 DL | Lab Sample ID: 180-70792-1 DL

Matrix: Water | Lab File ID: 51002D21.D

Analysis Method: 8260C | Date Collected: 09/27/2017 09:40

Sample wt/vol: 5(mL) | Date Analyzed: 10/03/2017 07:40

Soil Aliquot Vol: | Dilution Factor: 12.5

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224674 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	*Bromoform*	*13*	*U*	*13*	*9.5*
79-34-5	*1,1,2,2-Tetrachloroethane*	*13*	*U*	*13*	*4.6*
107-13-1	*Acrylonitrile*	*250*	*U*	*250*	*42*
123-91-1	*1,4-Dioxane*	*2500*	*U*	*2500*	*200*

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	112		65-121
2037-26-5	Toluene-d8 (Surr)	100		73-120
460-00-4	4-Bromofluorobenzene (Surr)	93		80-120
1868-53-7	Dibromofluoromethane (Surr)	103		73-120

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D21.D
Lims ID: 180-70792-F-1
Client ID: HD-SPBA-CW-22-0/1-0
Sample Type: Client
Inject. Date: 03-Oct-2017 07:40:30 ALS Bottle#: 21 Worklist Smp#: 21
Purge Vol: 5.000 mL Dil. Factor: 12.5000
Sample Info: 180-0018689-021
Misc. Info.: 180-70792-F-1
Operator ID: 034635 Instrument ID: CHHP5

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 03-Oct-2017 21:01:20 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: bungardf Date: 03-Oct-2017 20:58:10

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.353	4.353	0.000	0	185413	1000.0	
* 2 Fluorobenzene (IS)	96	7.340	7.334	0.006	99	381644	50.0	
* 3 Chlorobenzene-d5	119	10.430	10.430	0.000	85	84832	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.772	12.772	0.000	96	115290	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.616	6.615	0.001	93	94791	51.6	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.987	6.986	0.001	0	125096	55.9	
$ 7 Toluene-d8 (Surr)	98	8.982	8.981	0.001	93	338935	50.2	
$ 8 4-Bromofluorobenzene (Surr	95	11.610	11.609	0.001	83	113804	46.7	
12 Chloromethane	50		1.815				ND	
13 Vinyl chloride	62		1.955				ND	
15 Bromomethane	94		2.296				ND	
16 Chloroethane	64		2.448				ND	
22 1,1-Dichloroethene	96		3.415				ND	
24 Acetone	43		3.518				ND	
26 Carbon disulfide	76		3.701				ND	
31 Methylene Chloride	84		4.224				ND	
33 Acrylonitrile	53		4.601				ND	
34 trans-1,2-Dichloroethene	96		4.638				ND	
35 Methyl tert-butyl ether	73		4.656				ND	
37 1,1-Dichloroethane	63		5.258				ND	
45 cis-1,2-Dichloroethene	96	6.026	6.007	0.019	1	885	0.3635	M
46 2-Butanone (MEK)	43		6.019				ND	
49 Chlorobromomethane	128		6.286				ND	
52 Chloroform	83	6.439	6.432	0.007	1	943	0.2551	M
53 1,1,1-Trichloroethane	97		6.591				ND	
56 Carbon tetrachloride	117		6.761				ND	
58 Benzene	78		6.992				ND	
59 1,2-Dichloroethane	62		7.071				ND	
64 Trichloroethene	130	7.723	7.722	0.001	98	131643	56.4	
67 1,2-Dichloropropane	63		7.996				ND	
70 1,4-Dioxane	88		8.075				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
71 Dichlorobromomethane	83		8.276				ND	
74 cis-1,3-Dichloropropene	75		8.720				ND	
75 4-Methyl-2-pentanone (MIBK	43		8.872				ND	
76 Toluene	91		9.042				ND	
77 trans-1,3-Dichloropropene	75		9.292				ND	
79 1,1,2-Trichloroethane	97		9.486				ND	
80 Tetrachloroethene	164	9.560	9.559	0.001	96	128150	79.4	
82 2-Hexanone	43		9.705				ND	
84 Chlorodibromomethane	129		9.857				ND	
85 Ethylene Dibromide	107		9.967				ND	
87 Chlorobenzene	112		10.460				ND	
89 1,1,1,2-Tetrachloroethane	131		10.551				ND	
90 Ethylbenzene	106		10.557				ND	
91 m-Xylene & p-Xylene	106		10.691				ND	
92 o-Xylene	106		11.068				ND	
93 Styrene	104		11.092				ND	
94 Bromoform	173		11.275				ND	
99 1,1,2,2-Tetrachloroethane	83		11.749				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

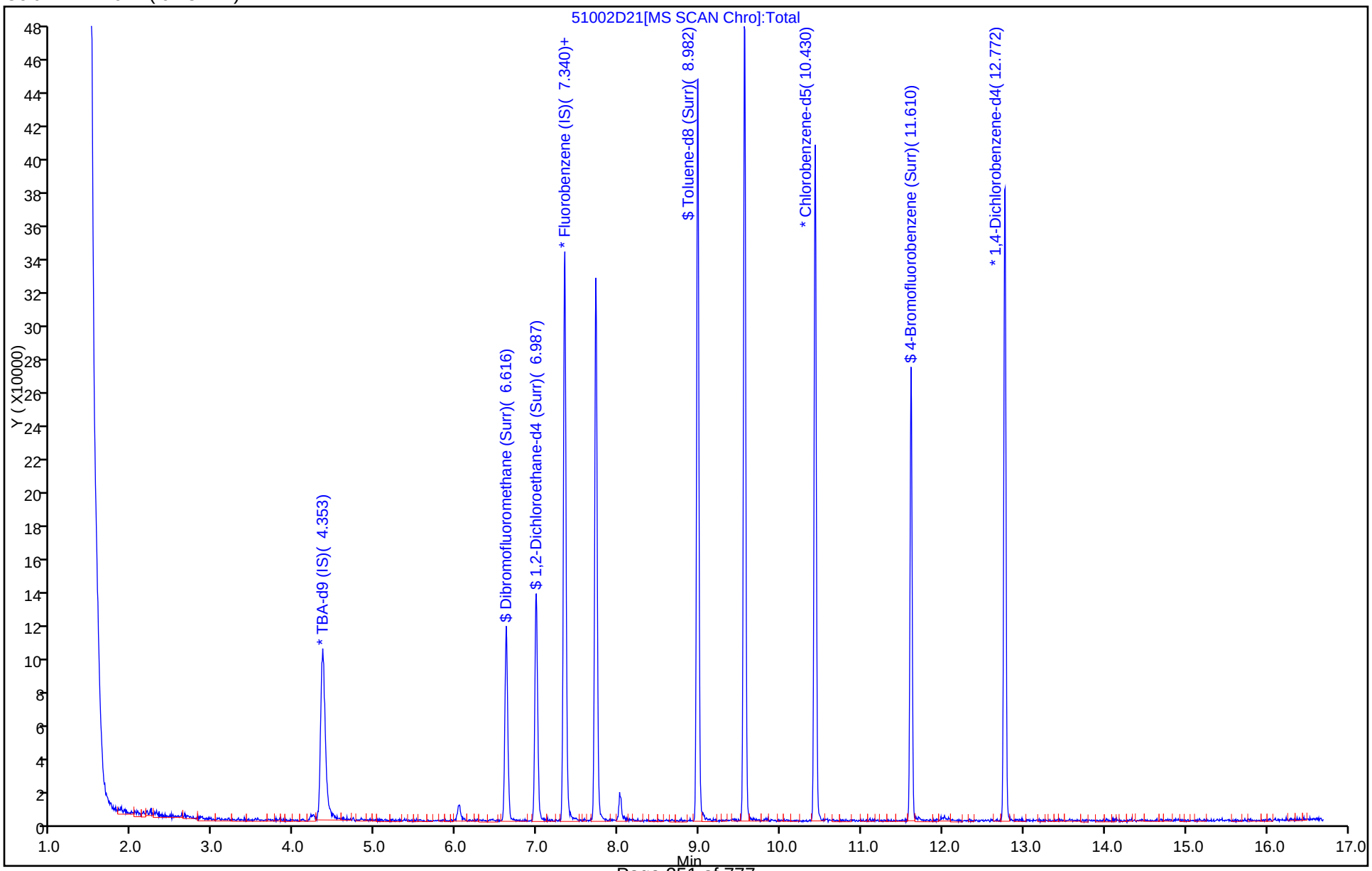
VOA8260INT_00074	Amount Added:	2.00	Units: uL	Run Reagent
VOA8260SURR_00073	Amount Added:	2.00	Units: uL	Run Reagent

Report Date: 03-Oct-2017 21:01:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D21.D				
Injection Date:	03-Oct-2017 07:40:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	180-70792-F-1	Lab Sample ID:	180-70792-1	Worklist Smp#:	21
Client ID:	HD-SPBA-CW-22-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	12.5000	ALS Bottle#:	21
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Recovery Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D21.D
Lims ID: 180-70792-F-1
Client ID: HD-SPBA-CW-22-0/1-0
Sample Type: Client
Inject. Date: 03-Oct-2017 07:40:30 ALS Bottle#: 21 Worklist Smp#: 21
Purge Vol: 5.000 mL Dil. Factor: 12.5000
Sample Info: 180-0018689-021
Misc. Info.: 180-70792-F-1
Operator ID: 034635 Instrument ID: CHHP5

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 03-Oct-2017 21:01:20 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: bungardf Date: 03-Oct-2017 20:58:10

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	51.6	103.24
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	55.9	111.71
$ 7 Toluene-d8 (Surr)	50.0	50.2	100.40
$ 8 4-Bromofluorobenzene (Surr)	50.0	46.7	93.34

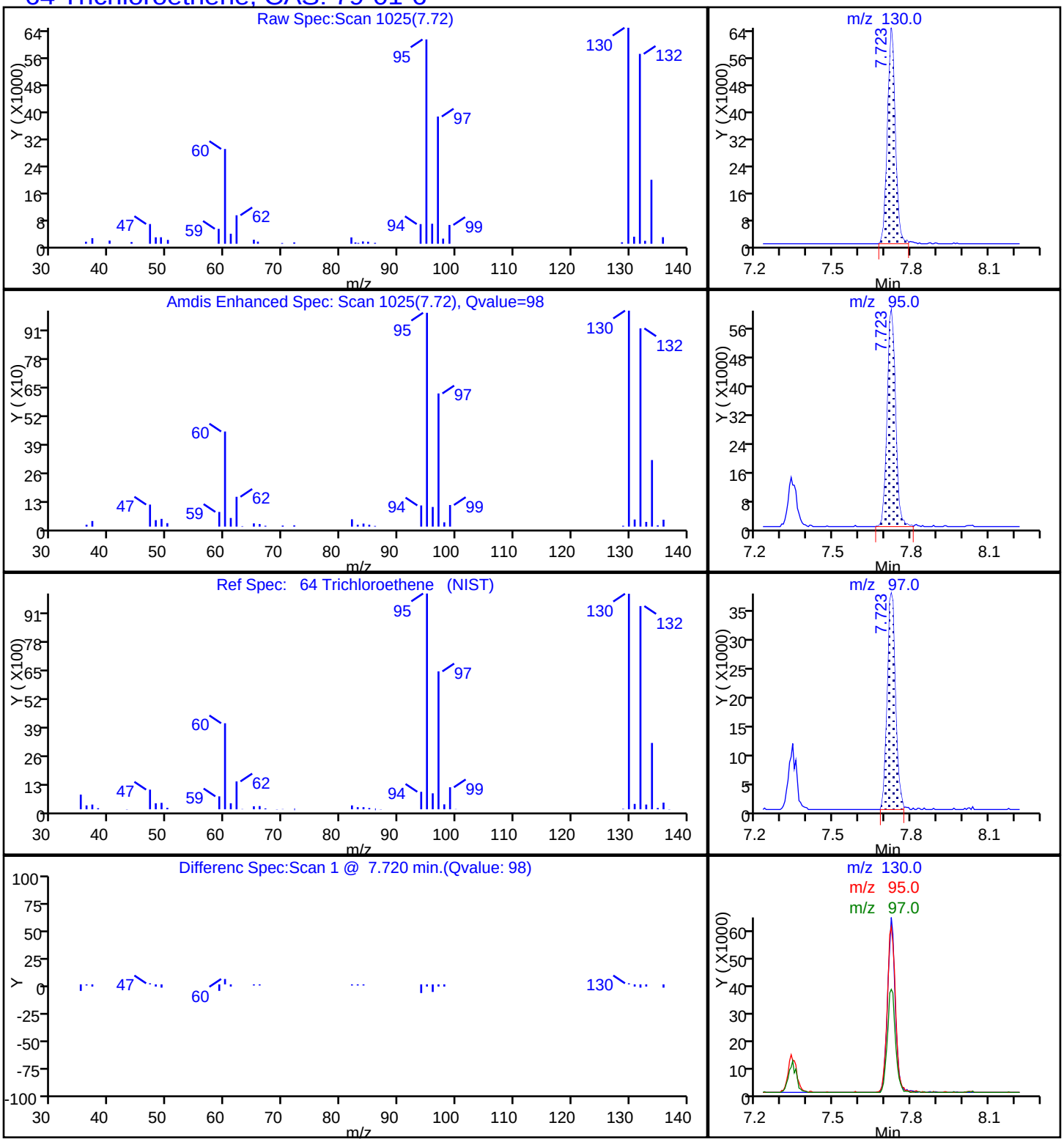
Report Date: 03-Oct-2017 21:01:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D21.D

Injection Date:	03-Oct-2017 07:40:30	Instrument ID:	CHHP5		
Lims ID:	180-70792-F-1	Lab Sample ID:	180-70792-1		
Client ID:	HD-SPBA-CW-22-0/1-0				
Operator ID:	034635	ALS Bottle#:	21	Worklist Smp#:	21
Purge Vol:	5.000 mL	Dil. Factor:	12.5000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

64 Trichloroethene, CAS: 79-01-6

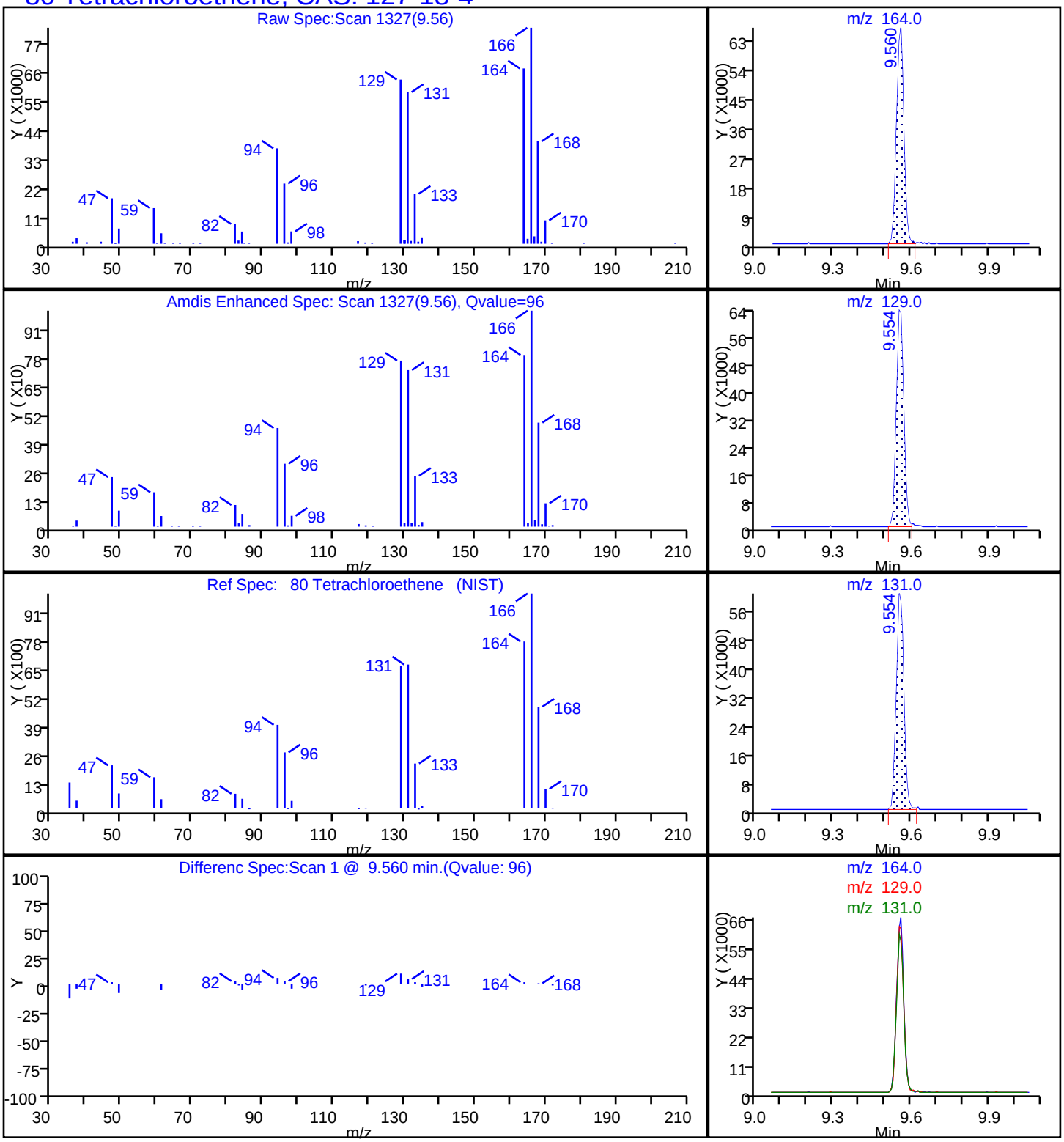


Report Date: 03-Oct-2017 21:01:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D21.D				
Injection Date:	03-Oct-2017 07:40:30	Instrument ID:	CHHP5		
Lims ID:	180-70792-F-1	Lab Sample ID:	180-70792-1		
Client ID:	HD-SPBA-CW-22-0/1-0				
Operator ID:	034635	ALS Bottle#:	21	Worklist Smp#:	21
Purge Vol:	5.000 mL	Dil. Factor:	12.5000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

80 Tetrachloroethene, CAS: 127-18-4



TestAmerica Pittsburgh

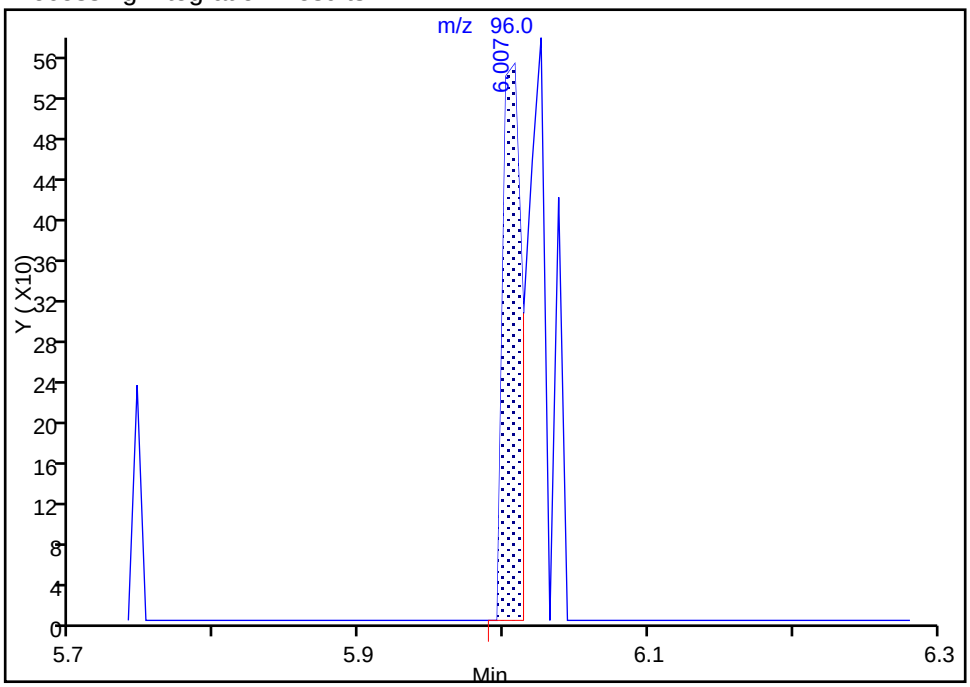
Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D21.D				
Injection Date:	03-Oct-2017 07:40:30	Instrument ID:	CHHP5		
Lims ID:	180-70792-F-1	Lab Sample ID:	180-70792-1		
Client ID:	HD-SPBA-CW-22-0/1-0				
Operator ID:	034635	ALS Bottle#:	21	Worklist Smp#:	21
Purge Vol:	5.000 mL	Dil. Factor:	12.5000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

45 cis-1,2-Dichloroethene, CAS: 156-59-2

Signal: 1

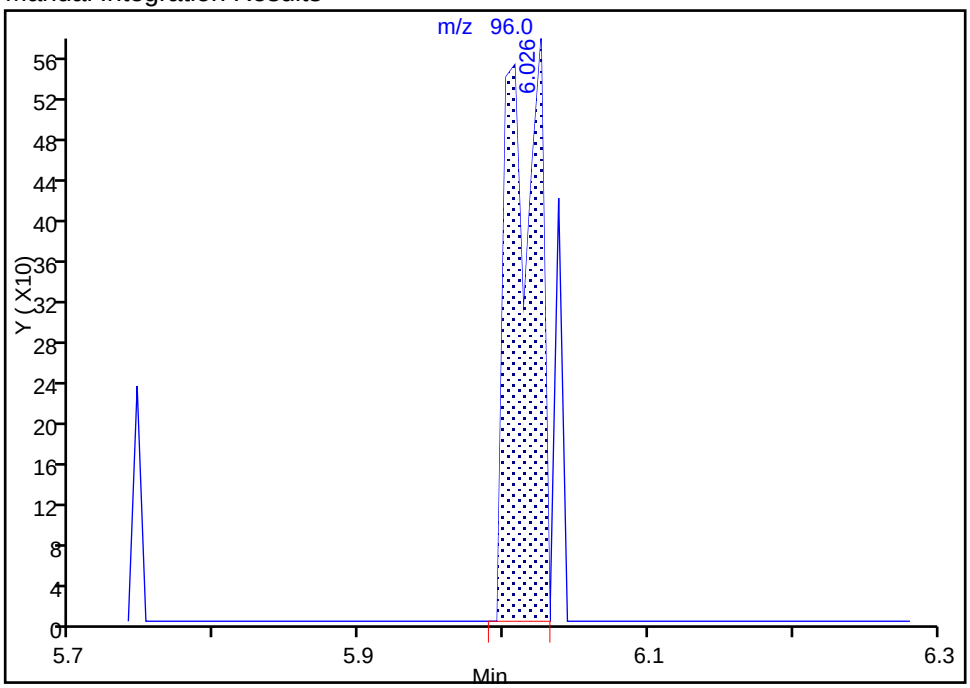
Processing Integration Results

RT: 6.01
Area: 508
Amount: 0.208626
Amount Units: ng



Manual Integration Results

RT: 6.03
Area: 885
Amount: 0.363453
Amount Units: ng



Reviewer: bungardf, 03-Oct-2017 20:57:25
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

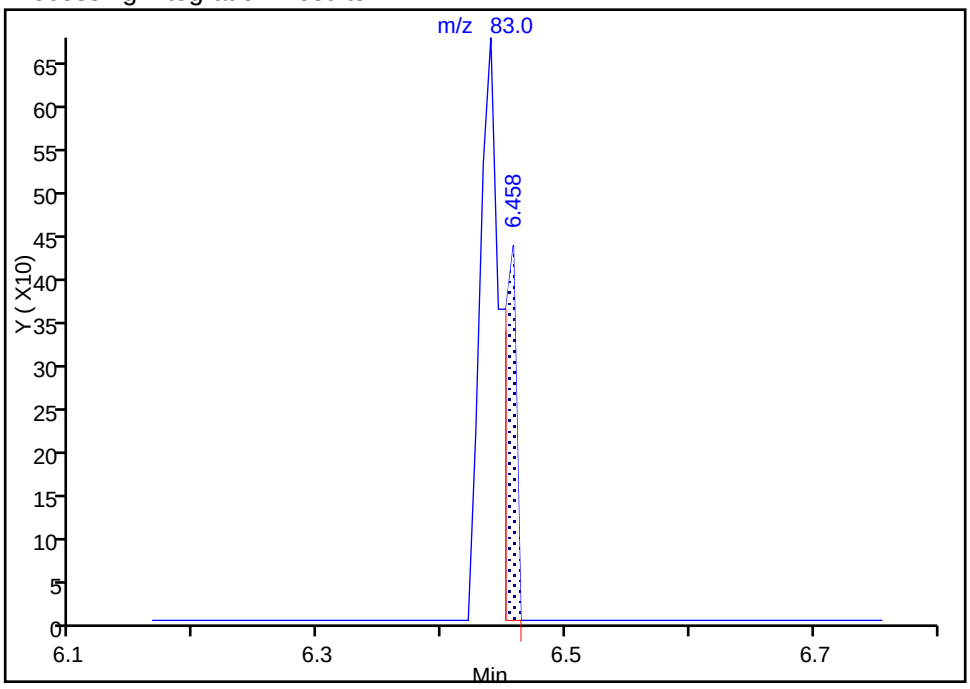
Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D21.D				
Injection Date:	03-Oct-2017 07:40:30	Instrument ID:	CHHP5		
Lims ID:	180-70792-F-1	Lab Sample ID:	180-70792-1		
Client ID:	HD-SPBA-CW-22-0/1-0				
Operator ID:	034635	ALS Bottle#:	21	Worklist Smp#:	21
Purge Vol:	5.000 mL	Dil. Factor:	12.5000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

52 Chloroform, CAS: 67-66-3

Signal: 1

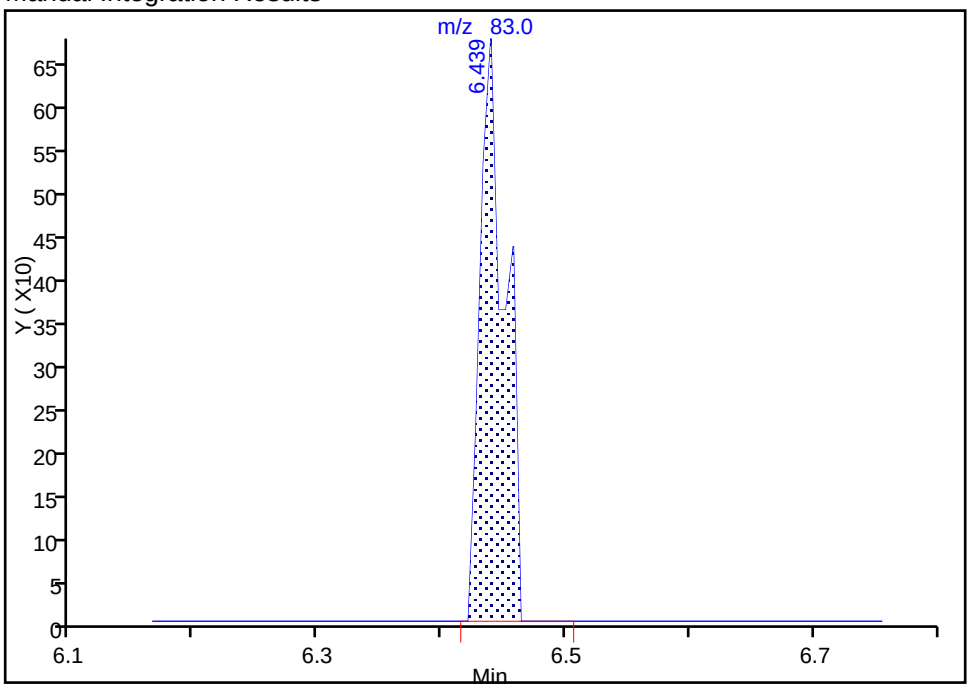
Processing Integration Results

RT: 6.46
Area: 291
Amount: 0.078723
Amount Units: ng



Manual Integration Results

RT: 6.44
Area: 943
Amount: 0.255107
Amount Units: ng



Reviewer: bungardf, 03-Oct-2017 20:57:42

Audit Action: Manually Integrated Audit Reason: Poor chromatography

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: HD-SPBA-CW-22-0/1-0 | Lab Sample ID: 180-70792-2

Matrix: Water | Lab File ID: 51002D22.D

Analysis Method: 8260C | Date Collected: 09/28/2017 09:40

Sample wt/vol: 5(mL) | Date Analyzed: 10/03/2017 08:04

Soil Aliquot Vol: | Dilution Factor: 12.5

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224674 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	13	U	13	4.8
75-01-4	Vinyl chloride	13	U	13	2.1
74-83-9	Bromomethane	13	U	13	7.3
75-00-3	Chloroethane	13	U	13	7.2
75-35-4	1,1-Dichloroethene	13	U	13	4.0
67-64-1	Acetone	63	U	63	39
75-15-0	Carbon disulfide	13	U	13	6.6
75-09-2	Methylene Chloride	13	U	13	12
156-60-5	trans-1,2-Dichloroethene	13	U	13	2.5
1634-04-4	Methyl tert-butyl ether	13	U	13	2.4
75-34-3	1,1-Dichloroethane	13	U	13	4.2
156-59-2	cis-1,2-Dichloroethene	13	U	13	3.8
74-97-5	Bromochloromethane	13	U	13	4.5
78-93-3	2-Butanone (MEK)	63	U	63	32
67-66-3	Chloroform	13	U	13	3.3
71-55-6	1,1,1-Trichloroethane	13	U	13	3.4
56-23-5	Carbon tetrachloride	13	U	13	7.0
71-43-2	Benzene	13	U	13	2.3
107-06-2	1,2-Dichloroethane	13	U	13	3.0
79-01-6	Trichloroethene	170		13	2.5
78-87-5	1,2-Dichloropropane	13	U	13	4.3
75-27-4	Bromodichloromethane	13	U	13	7.1
10061-01-5	cis-1,3-Dichloropropene	13	U	13	4.0
108-10-1	4-Methyl-2-pentanone (MIBK)	63	U	63	27
108-88-3	Toluene	13	U	13	2.0
10061-02-6	trans-1,3-Dichloropropene	13	U	13	2.8
79-00-5	1,1,2-Trichloroethane	13	U	13	3.8
127-18-4	Tetrachloroethene	240		13	3.1
591-78-6	2-Hexanone	63	U	63	25
124-48-1	Dibromochloromethane	13	U	13	5.5
106-93-4	1,2-Dibromoethane (EDB)	13	U	13	6.4
108-90-7	Chlorobenzene	13	U	13	1.8
630-20-6	1,1,1,2-Tetrachloroethane	13	U	13	6.2
100-41-4	Ethylbenzene	13	U	13	3.2
1330-20-7	Xylenes, Total	25	U	25	3.4
100-42-5	Styrene	13	U	13	2.7

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: HD-SPBA-CW-22-0/1-0 | Lab Sample ID: 180-70792-2

Matrix: Water | Lab File ID: 51002D22.D

Analysis Method: 8260C | Date Collected: 09/28/2017 09:40

Sample wt/vol: 5(mL) | Date Analyzed: 10/03/2017 08:04

Soil Aliquot Vol: | Dilution Factor: 12.5

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224674 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	13	U	13	9.5
79-34-5	1,1,2,2-Tetrachloroethane	13	U	13	4.6
107-13-1	Acrylonitrile	250	U	250	42
123-91-1	1,4-Dioxane	2500	U	2500	200

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	116		65-121
2037-26-5	Toluene-d8 (Surr)	97		73-120
460-00-4	4-Bromofluorobenzene (Surr)	90		80-120
1868-53-7	Dibromofluoromethane (Surr)	102		73-120

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D22.D
Lims ID: 180-70792-K-2
Client ID: HD-SPBA-CW-22-0/1-0
Sample Type: Client
Inject. Date: 03-Oct-2017 08:04:30 ALS Bottle#: 22 Worklist Smp#: 22
Purge Vol: 5.000 mL Dil. Factor: 12.5000
Sample Info: 180-0018689-022
Misc. Info.: 180-70792-K-2
Operator ID: 034635 Instrument ID: CHHP5

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 03-Oct-2017 21:01:20 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: bungardf Date: 03-Oct-2017 20:58:43

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.347	4.353	-0.006	0	176905	1000.0	
* 2 Fluorobenzene (IS)	96	7.340	7.334	0.006	99	371038	50.0	
* 3 Chlorobenzene-d5	119	10.430	10.430	0.000	86	85701	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.772	12.772	0.000	97	111498	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.616	6.615	0.001	92	91143	51.1	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.987	6.986	0.001	0	125886	57.8	
$ 7 Toluene-d8 (Surr)	98	8.976	8.981	-0.005	93	330187	48.4	
$ 8 4-Bromofluorobenzene (Surr	95	11.610	11.609	0.001	85	111003	45.1	
12 Chloromethane	50		1.815				ND	
13 Vinyl chloride	62		1.955				ND	
15 Bromomethane	94		2.296				ND	
16 Chloroethane	64		2.448				ND	
22 1,1-Dichloroethene	96		3.415				ND	
24 Acetone	43		3.518				ND	
26 Carbon disulfide	76		3.701				ND	
31 Methylene Chloride	84		4.224				ND	
33 Acrylonitrile	53		4.601				ND	
34 trans-1,2-Dichloroethene	96		4.638				ND	
35 Methyl tert-butyl ether	73		4.656				ND	
37 1,1-Dichloroethane	63		5.258				ND	
45 cis-1,2-Dichloroethene	96		6.007				ND	
46 2-Butanone (MEK)	43		6.019				ND	
49 Chlorobromomethane	128		6.286				ND	
52 Chloroform	83	6.433	6.432	0.001	1	726	0.2020	
53 1,1,1-Trichloroethane	97		6.591				ND	
56 Carbon tetrachloride	117		6.761				ND	
58 Benzene	78		6.992				ND	
59 1,2-Dichloroethane	62		7.071				ND	
64 Trichloroethene	130	7.723	7.722	0.001	99	155560	68.5	
67 1,2-Dichloropropane	63		7.996				ND	
70 1,4-Dioxane	88		8.075				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
71 Dichlorobromomethane	83		8.276				ND	
74 cis-1,3-Dichloropropene	75		8.720				ND	
75 4-Methyl-2-pentanone (MIBK	43		8.872				ND	
76 Toluene	91		9.042				ND	
77 trans-1,3-Dichloropropene	75		9.292				ND	
79 1,1,2-Trichloroethane	97		9.486				ND	
80 Tetrachloroethene	164	9.554	9.559	-0.005	97	153646	94.3	
82 2-Hexanone	43		9.705				ND	
84 Chlorodibromomethane	129		9.857				ND	
85 Ethylene Dibromide	107		9.967				ND	
87 Chlorobenzene	112		10.460				ND	
89 1,1,1,2-Tetrachloroethane	131		10.551				ND	
90 Ethylbenzene	106		10.557				ND	
91 m-Xylene & p-Xylene	106		10.691				ND	
92 o-Xylene	106		11.068				ND	
93 Styrene	104		11.092				ND	
94 Bromoform	173		11.275				ND	
99 1,1,2,2-Tetrachloroethane	83		11.749				ND	
S 133 Xylenes, Total	106		1.000				ND	

Reagents:

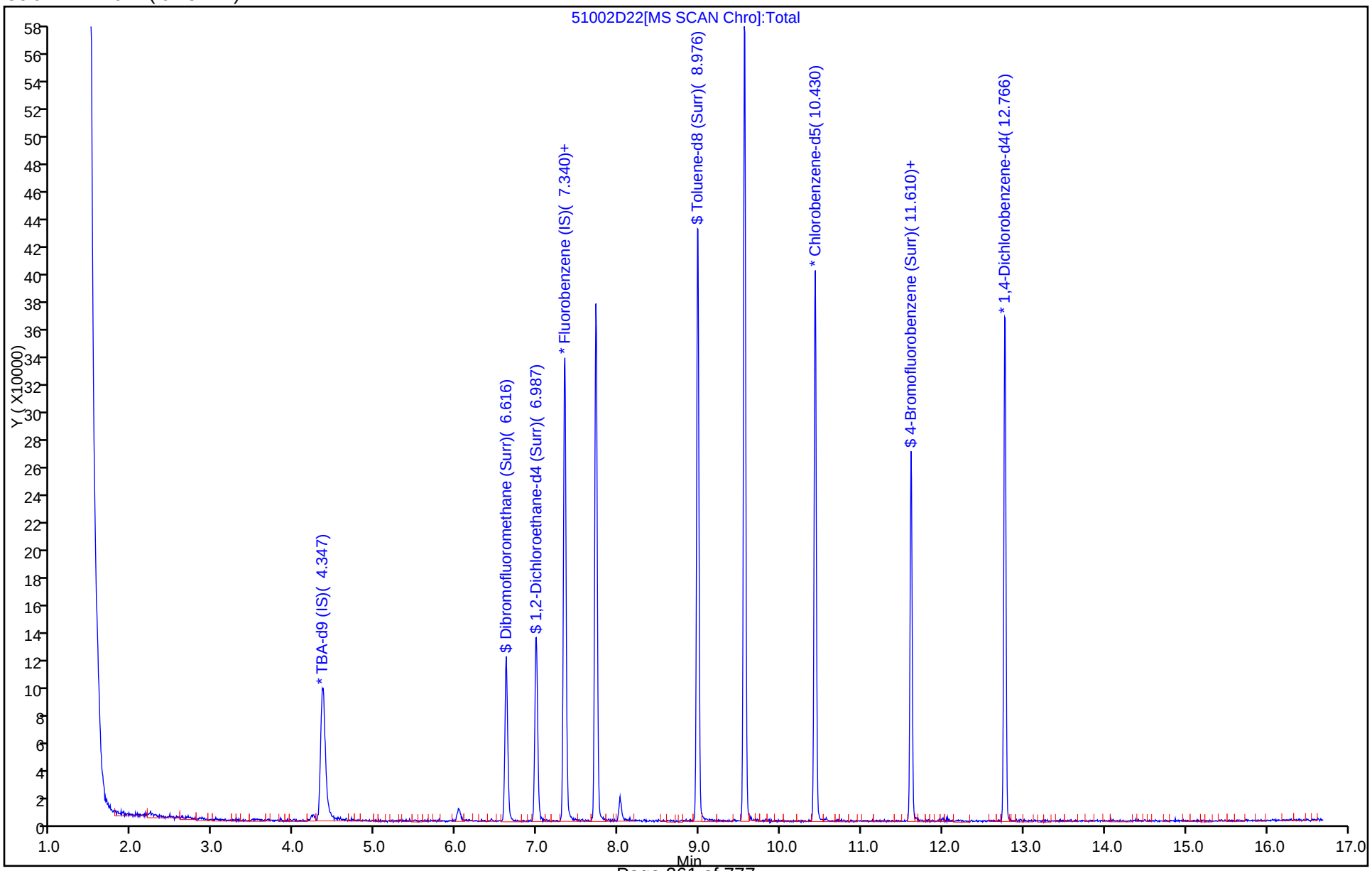
VOA8260INT_00074	Amount Added:	2.00	Units: uL	Run Reagent
VOA8260SURR_00073	Amount Added:	2.00	Units: uL	Run Reagent

Report Date: 03-Oct-2017 21:01:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D22.D				
Injection Date:	03-Oct-2017 08:04:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	180-70792-K-2	Lab Sample ID:	180-70792-2	Worklist Smp#:	22
Client ID:	HD-SPBA-CW-22-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	12.5000	ALS Bottle#:	22
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Recovery Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D22.D
Lims ID: 180-70792-K-2
Client ID: HD-SPBA-CW-22-0/1-0
Sample Type: Client
Inject. Date: 03-Oct-2017 08:04:30 ALS Bottle#: 22 Worklist Smp#: 22
Purge Vol: 5.000 mL Dil. Factor: 12.5000
Sample Info: 180-0018689-022
Misc. Info.: 180-70792-K-2
Operator ID: 034635 Instrument ID: CHHP5

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 03-Oct-2017 21:01:20 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: bungardf Date: 03-Oct-2017 20:58:43

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	51.1	102.11
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	57.8	115.63
$ 7 Toluene-d8 (Surr)	50.0	48.4	96.82
$ 8 4-Bromofluorobenzene (Surr)	50.0	45.1	90.12

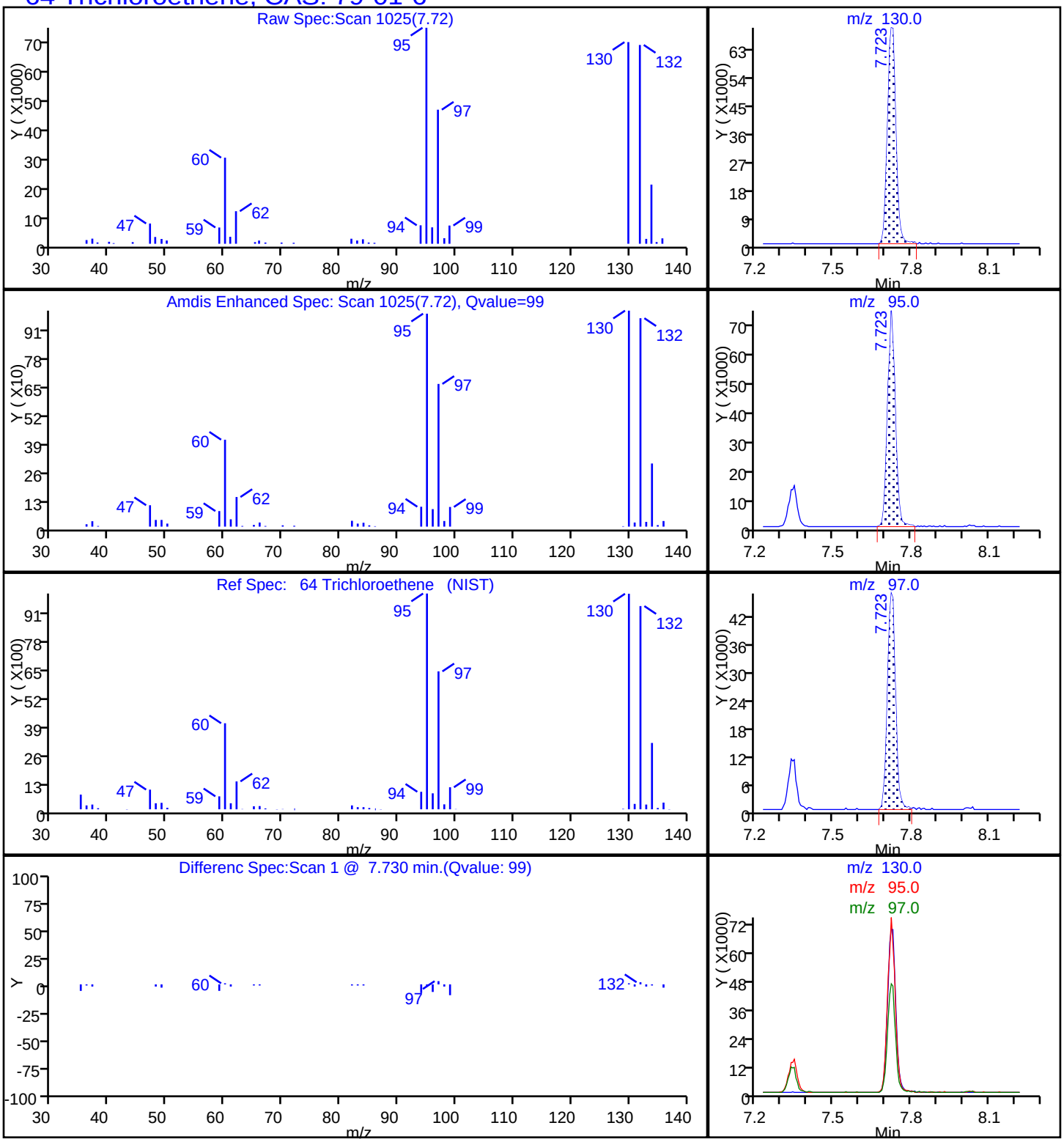
Report Date: 03-Oct-2017 21:02:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D22.D

Injection Date:	03-Oct-2017 08:04:30	Instrument ID:	CHHP5		
Lims ID:	180-70792-K-2	Lab Sample ID:	180-70792-2		
Client ID:	HD-SPBA-CW-22-0/1-0				
Operator ID:	034635	ALS Bottle#:	22	Worklist Smp#:	22
Purge Vol:	5.000 mL	Dil. Factor:	12.5000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

64 Trichloroethene, CAS: 79-01-6



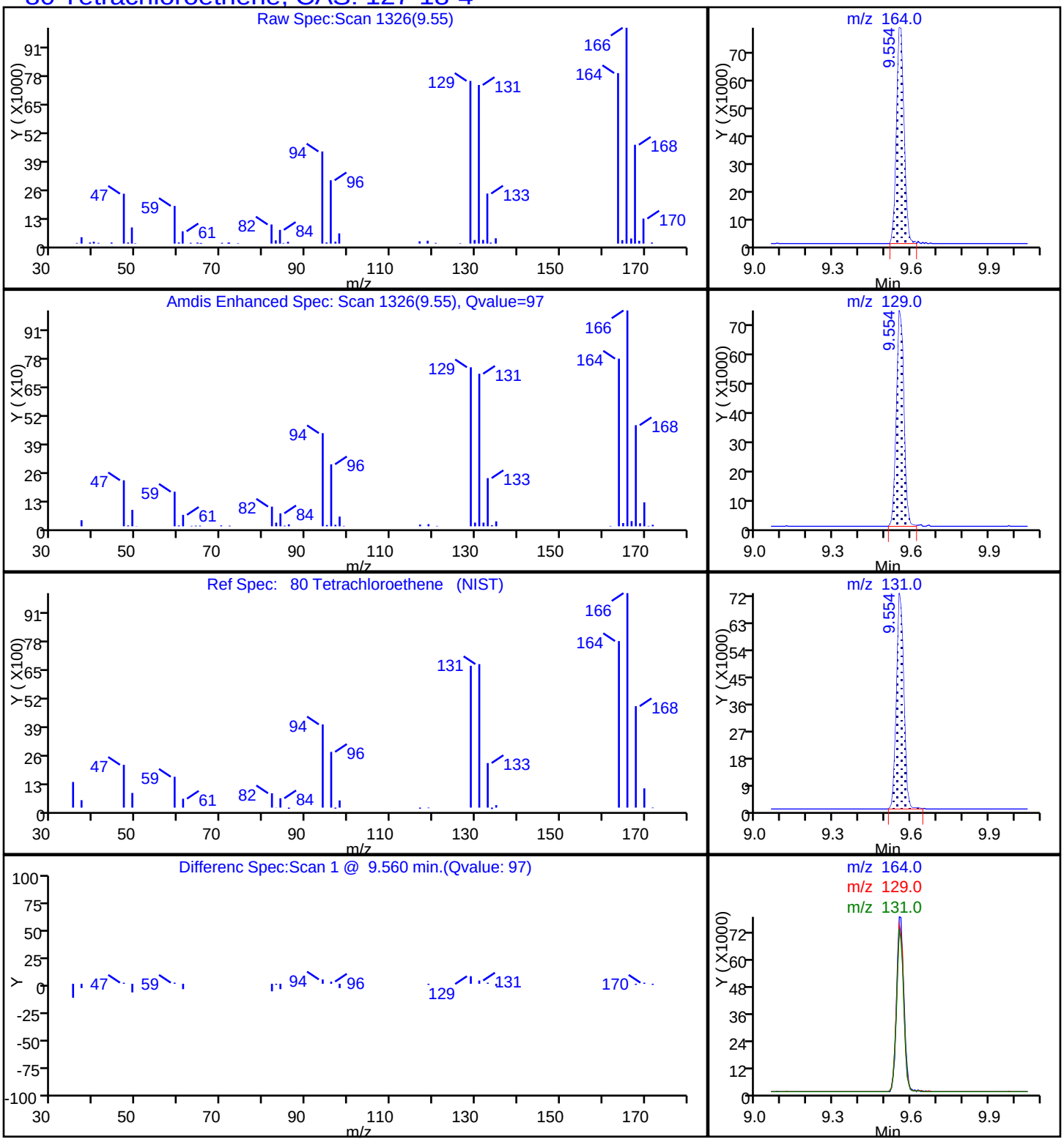
Report Date: 03-Oct-2017 21:02:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D22.D

Injection Date:	03-Oct-2017 08:04:30	Instrument ID:	CHHP5		
Lims ID:	180-70792-K-2	Lab Sample ID:	180-70792-2		
Client ID:	HD-SPBA-CW-22-0/1-0				
Operator ID:	034635	ALS Bottle#:	22	Worklist Smp#:	22
Purge Vol:	5.000 mL	Dil. Factor:	12.5000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

80 Tetrachloroethene, CAS: 127-18-4



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: HD-QC3-0/1-2 | Lab Sample ID: 180-70792-3

Matrix: Water | Lab File ID: 6100125.D

Analysis Method: 8260C | Date Collected: 09/27/2017 12:00

Sample wt/vol: 5(mL) | Date Analyzed: 10/02/2017 10:24

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224560 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	1.0	U	1.0	0.38
75-01-4	Vinyl chloride	1.0	U	1.0	0.17
74-83-9	Bromomethane	1.0	U ^c	1.0	0.59
75-00-3	Chloroethane	1.0	U	1.0	0.58
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.32
67-64-1	Acetone	5.0	U	5.0	3.1
75-15-0	Carbon disulfide	1.0	U	1.0	0.53
75-09-2	Methylene Chloride	1.0	U	1.0	0.94
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.20
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.34
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.30
74-97-5	Bromochloromethane	1.0	U	1.0	0.36
78-93-3	2-Butanone (MEK)	5.0	U	5.0	2.6
67-66-3	Chloroform	1.0	U	1.0	0.27
71-55-6	1,1,1-Trichloroethane	1.0	U ^c	1.0	0.27
56-23-5	Carbon tetrachloride	1.0	U ^c	1.0	0.56
71-43-2	Benzene	1.0	U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.24
79-01-6	Trichloroethene	1.0	U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.35
75-27-4	Bromodichloromethane	1.0	U	1.0	0.57
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.32
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.2
108-88-3	Toluene	1.0	U	1.0	0.16
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.22
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.31
127-18-4	Tetrachloroethene	1.0	U	1.0	0.24
591-78-6	2-Hexanone	5.0	U	5.0	2.0
124-48-1	Dibromochloromethane	1.0	U ^c *	1.0	0.44
106-93-4	1,2-Dibromoethane (EDB)	1.0	U	1.0	0.51
108-90-7	Chlorobenzene	1.0	U	1.0	0.15
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U ^c	1.0	0.49
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
1330-20-7	Xylenes, Total	2.0	U	2.0	0.27

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: HD-QC3-0/1-2 | Lab Sample ID: 180-70792-3

Matrix: Water | Lab File ID: 6100125.D

Analysis Method: 8260C | Date Collected: 09/27/2017 12:00

Sample wt/vol: 5(mL) | Date Analyzed: 10/02/2017 10:24

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224560 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
100-42-5	Styrene	1.0	U	1.0	0.22
75-25-2	Bromoform	1.0	U ^c	1.0	0.76
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.37
107-13-1	Acrylonitrile	20	U	20	3.3
123-91-1	1,4-Dioxane	200	U	200	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	90		65-121
2037-26-5	Toluene-d8 (Surr)	85		73-120
460-00-4	4-Bromofluorobenzene (Surr)	96		80-120
1868-53-7	Dibromofluoromethane (Surr)	101		73-120

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100125.D
Lims ID: 180-70792-B-3
Client ID: HD-QC3-0/1-2
Sample Type: Client
Inject. Date: 02-Oct-2017 10:24:30 ALS Bottle#: 34 Worklist Smp#: 25
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0018668-025
Misc. Info.: 180-70792-B-3
Operator ID: 034635 Instrument ID: CHHP6

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 02-Oct-2017 22:14:59 Calib Date: 28-Sep-2017 15:13:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170928-18631.b\60928P06.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK020

First Level Reviewer: bungardf Date: 02-Oct-2017 22:12:32

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.952	3.952	0.000	96	117244	1000.0	
* 2 Fluorobenzene (IS)	96	7.048	7.042	0.006	98	351264	50.0	
* 3 Chlorobenzene-d5	119	10.169	10.169	0.000	89	112696	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.505	12.511	-0.006	97	175443	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.312	6.310	0.002	92	92286	50.6	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.683	6.687	-0.004	70	116936	44.8	
$ 7 Toluene-d8 (Surr)	98	8.715	8.706	0.009	94	387281	42.4	
$ 8 4-Bromofluorobenzene (Surr	95	11.350	11.353	-0.003	82	185999	47.8	
12 Chloromethane	50		1.625				ND	
13 Vinyl chloride	62		1.753				ND	
15 Bromomethane	94		2.051				ND	
16 Chloroethane	64		2.185				ND	
22 1,1-Dichloroethene	96		3.098				ND	
24 Acetone	43	3.161	3.171	-0.010	66	6815	9.04	M
26 Carbon disulfide	76		3.347				ND	
31 Methylene Chloride	84	3.843	3.828	0.014	85	8110	3.35	
33 Acrylonitrile	53		4.217				ND	
34 trans-1,2-Dichloroethene	96		4.259				ND	
35 Methyl tert-butyl ether	73		4.272				ND	
37 1,1-Dichloroethane	63		4.916				ND	
43 cis-1,2-Dichloroethene	96		5.683				ND	
44 2-Butanone (MEK)	43		5.695				ND	
48 Chlorobromomethane	128		5.975				ND	
50 Chloroform	83		6.127				ND	
51 1,1,1-Trichloroethane	97		6.279				ND	
53 Carbon tetrachloride	117		6.456				ND	
56 Benzene	78		6.693				ND	
57 1,2-Dichloroethane	62		6.772				ND	
61 Trichloroethene	130		7.441				ND	
64 1,2-Dichloropropane	63		7.715				ND	
65 1,4-Dioxane	88		7.794				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
68 Dichlorobromomethane	83		8.001				ND	
71 cis-1,3-Dichloropropene	75		8.451				ND	
72 4-Methyl-2-pentanone (MIBK	43		8.609				ND	
73 Toluene	91		8.779				ND	
74 trans-1,3-Dichloropropene	75		9.029				ND	
76 1,1,2-Trichloroethane	97		9.230				ND	
77 Tetrachloroethene	164		9.297				ND	
79 2-Hexanone	43		9.449				ND	
81 Chlorodibromomethane	129		9.595				ND	
82 Ethylene Dibromide	107		9.704				ND	
84 Chlorobenzene	112		10.197				ND	
86 1,1,1,2-Tetrachloroethane	131		10.294				ND	
87 Ethylbenzene	106		10.300				ND	
88 m-Xylene & p-Xylene	106		10.434				ND	
89 o-Xylene	106		10.811				ND	
90 Styrene	104		10.836				ND	
91 Bromoform	173		11.012				ND	
96 1,1,2,2-Tetrachloroethane	83		11.493				ND	
S 131 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

VOA8260INT_00074	Amount Added:	2.00	Units: uL	Run Reagent
VOA8260SURR_00073	Amount Added:	2.00	Units: uL	Run Reagent

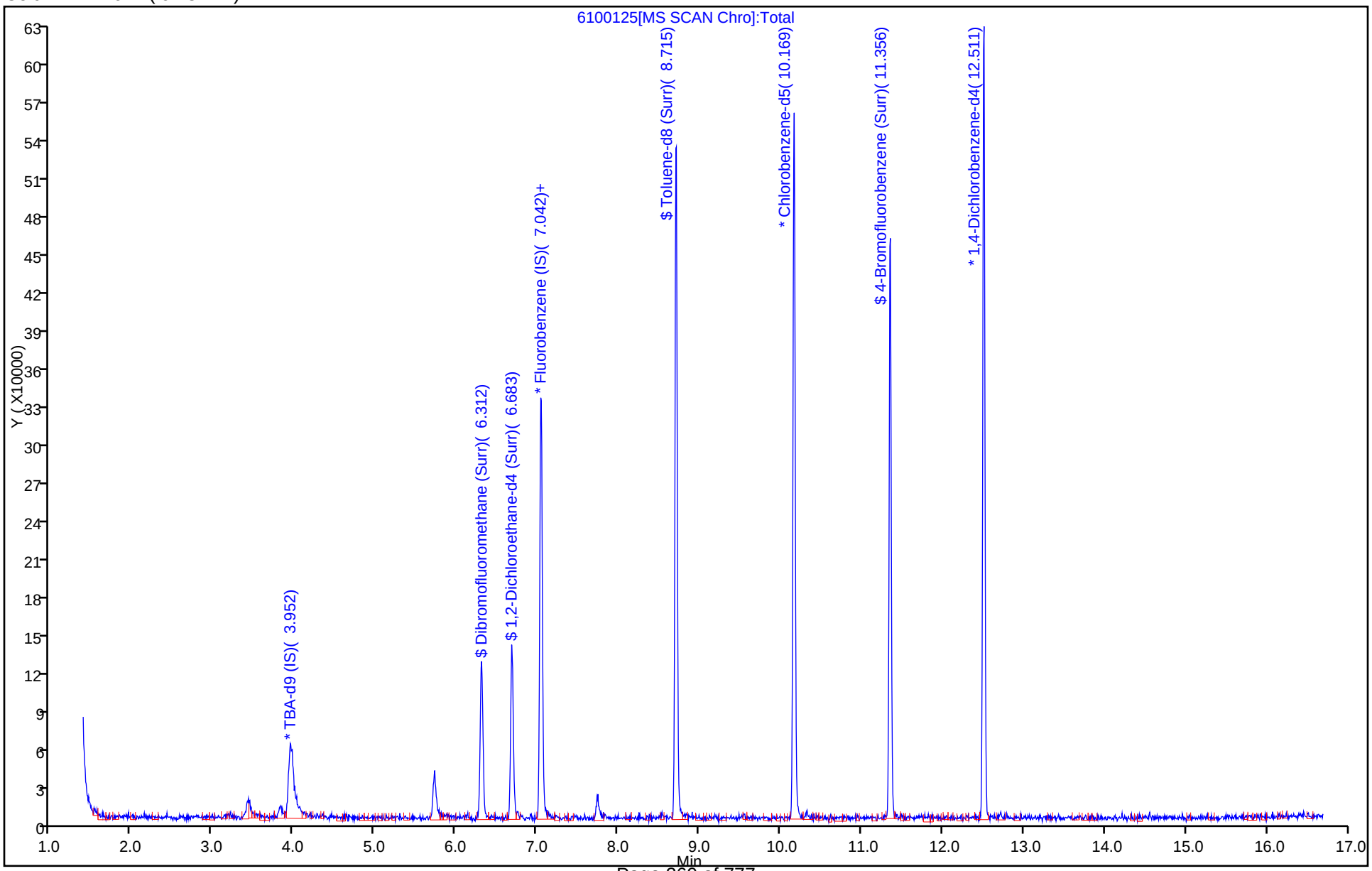
Report Date: 02-Oct-2017 22:19:07 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100125.D

Injection Date:	02-Oct-2017 10:24:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	180-70792-B-3	Lab Sample ID:	180-70792-3	Worklist Smp#:	25
Client ID:	HD-QC3-0/1-2				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	34
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Recovery Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100125.D
Lims ID: 180-70792-B-3
Client ID: HD-QC3-0/1-2
Sample Type: Client
Inject. Date: 02-Oct-2017 10:24:30 ALS Bottle#: 34 Worklist Smp#: 25
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0018668-025
Misc. Info.: 180-70792-B-3
Operator ID: 034635 Instrument ID: CHHP6

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 02-Oct-2017 22:14:59 Calib Date: 28-Sep-2017 15:13:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170928-18631.b\60928P06.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK020

First Level Reviewer: bungardf Date: 02-Oct-2017 22:12:32

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	50.6	101.12
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	44.8	89.65
$ 7 Toluene-d8 (Surr)	50.0	42.4	84.82
$ 8 4-Bromofluorobenzene (Surr)	50.0	47.8	95.60

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

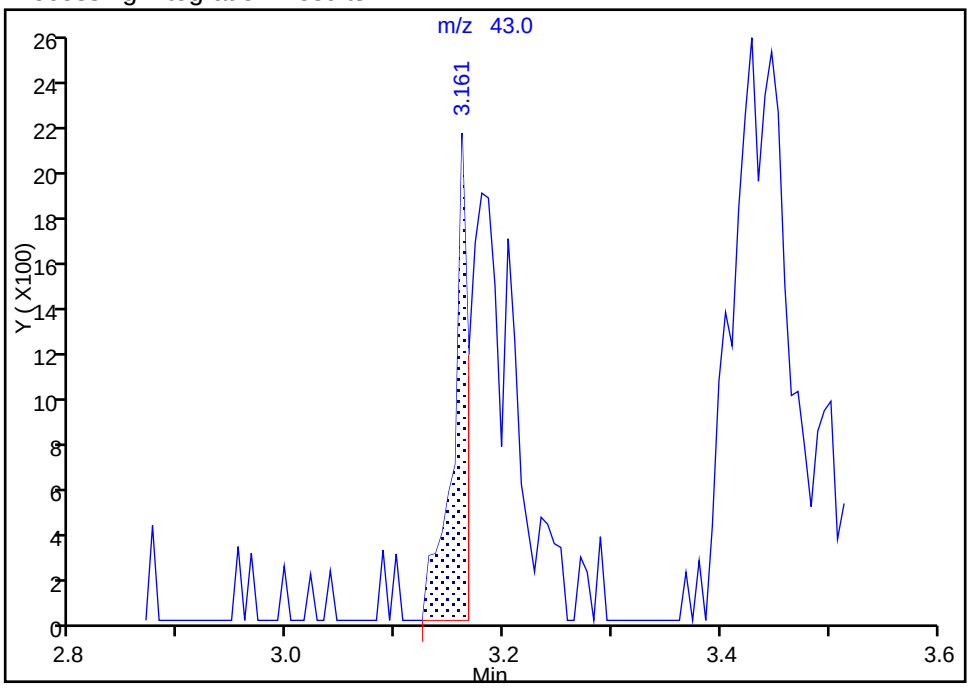
Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100125.D				
Injection Date:	02-Oct-2017 10:24:30	Instrument ID:	CHHP6		
Lims ID:	180-70792-B-3	Lab Sample ID:	180-70792-3		
Client ID:	HD-QC3-0/1-2				
Operator ID:	034635	ALS Bottle#:	34	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

24 Acetone, CAS: 67-64-1

Signal: 1

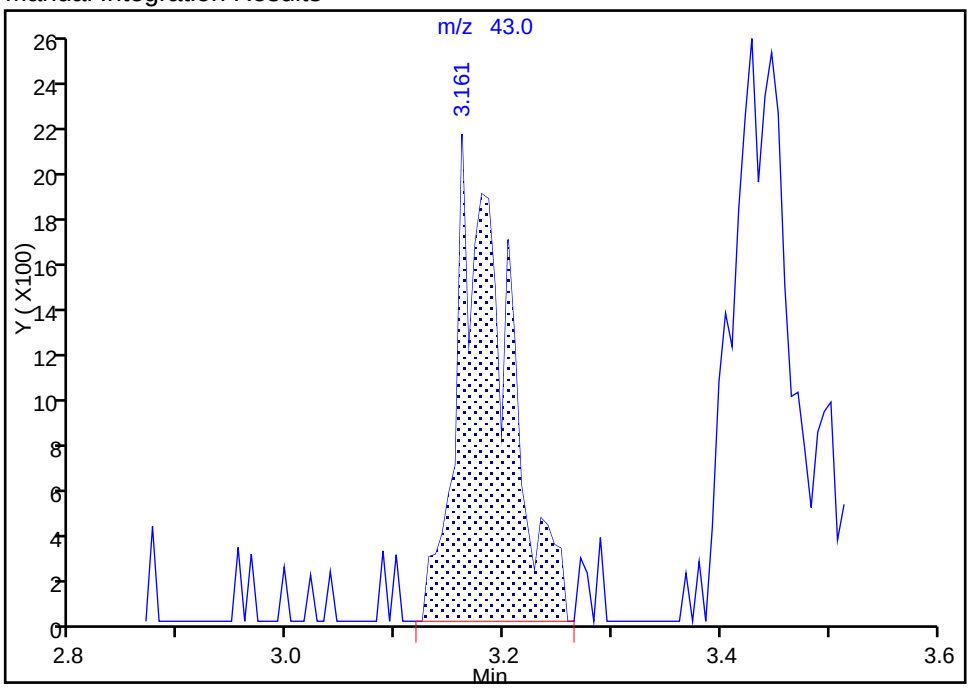
Processing Integration Results

RT: 3.16
Area: 2000
Amount: 2.654014
Amount Units: ng



Manual Integration Results

RT: 3.16
Area: 6815
Amount: 9.043553
Amount Units: ng



Reviewer: bungardf, 02-Oct-2017 22:12:07

Audit Action: Manually Integrated Audit Reason: Poor chromatography

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-218218/2	50727D02.D
Level 2	IC 180-218218/3	50727D03.D
Level 3	ICIS 180-218218/4	50727D04.D
Level 4	IC 180-218218/5	50727D05.D
Level 5	IC 180-218218/6	50727D06.D
Level 6	IC 180-218218/10	50727D10.D
Level 7	IC 180-218218/8	50727D08.D
Level 8	IC 180-218218/11	50727D11.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3099 0.3034	0.3143 0.2538	0.2964 0.2820	0.2910	0.2753	Ave		0.2907			0.1000	6.9		20.0			
Chloromethane	0.3638 0.2790	0.2935 0.2586	0.2871 0.2672	0.2979	0.2905	Ave		0.2922			0.1000	10.9		20.0			
Vinyl chloride	0.3612 0.2960	0.3073 0.2570	0.3014 0.2855	0.2838	0.2802	Ave		0.2965			0.1000	10.2		20.0			
1,3-Butadiene	0.3317 0.2714	0.2771 0.2281	0.2660 0.2684	0.2619	0.2505	Ave		0.2694			0.0100	10.9		20.0			
Bromomethane	0.1274 0.1338	0.1569 0.1290	0.1507 0.1244	0.1438	0.1556	Ave		0.1402			0.0500	9.4		20.0			
Chloroethane	0.1972 0.1593	0.1757 0.1437	0.1605 0.1363	0.1653	0.1659	Ave		0.1630			0.0500	11.5		20.0			
Trichlorofluoromethane	0.4130 0.3605	0.3896 0.3164	0.3801 0.3348	0.3631	0.3573	Ave		0.3643			0.1000	8.4		20.0			
Ethyl ether	0.2690 0.2226	0.2473 0.2272	0.2344 0.2016	0.2419	0.2520	Ave		0.2370			0.0100	8.6		20.0			
Acrolein	0.0588 0.0564	0.0546 0.0639	0.0629 0.0550	0.0633	0.0629	Ave		0.0597			0.0100	6.7		20.0			
1,1-Dichloroethene	0.2633 0.2529	0.2525 0.2180	0.2438 0.2452	0.2449	0.2377	Ave		0.2448			0.1000	5.4		20.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.3346 0.2678	0.2745 0.2382	0.2615 0.2547	0.2644	0.2534	Ave		0.2686			0.1000	10.7		20.0			
Acetone	0.1396 0.1048	0.1447 0.1163	0.1388 0.1038	0.1460	0.1519	Ave		0.1308			0.0500	14.8		20.0			
Iodomethane	0.4213 0.3803	0.3860 0.3716	0.3712 0.3619	0.3906	0.3928	Ave		0.3845			0.0100	4.8		20.0			
Carbon disulfide	0.5698 +++++	0.4896 0.5397	0.4946 0.6108	0.5168	0.5392	Ave		0.5372			0.1000	8.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.1501 0.1710	0.1485 0.1632	0.1541 0.1645	0.1561	0.1579	Ave		0.1582			0.0100	4.8		20.0			
Methyl acetate	0.2888 0.2364	0.2463 0.2614	0.2631 0.2382	0.2688	0.2686	Ave		0.2589			0.1000	6.8		20.0			
Methylene Chloride	0.4748 0.2821	0.3152 0.2910	0.3044 0.2676	0.3112	0.3108	Lin2	0.9532	0.2841			0.1000				0.9980		0.9900
tert-Butyl alcohol	1.3346 1.2872	1.1570 1.0277	1.1638 1.2343	1.1314	1.1253	Ave		1.1826			0.0100	8.3		20.0			
Acrylonitrile	0.1353 0.1106	0.1251 0.1245	0.1313 0.1150	0.1320	0.1333	Ave		0.1259			0.0100	7.1		20.0			
trans-1,2-Dichloroethene	0.3167 0.2789	0.2730 0.2547	0.2727 0.2653	0.2850	0.2851	Ave		0.2789			0.1000	6.6		20.0			
Methyl tert-butyl ether	0.7081 0.7482	0.7314 0.7800	0.7230 0.7142	0.7872	0.7909	Ave		0.7479			0.1000	4.5		20.0			
Hexane	0.4597 0.3561	0.3588 0.3156	0.3449 0.3625	0.3424	0.3242	Ave		0.3580			0.0100	12.4		20.0			
1,1-Dichloroethane	0.5228 0.4797	0.4979 0.4638	0.4852 0.4528	0.4864	0.4910	Ave		0.4850			0.2000	4.4		20.0			
Vinyl acetate	0.5018 0.5003	0.4274 0.5345	0.4556 0.5012	0.5130	0.5116	Ave		0.4932			0.0100	7.0		20.0			
2,2-Dichloropropane	0.0696 0.0640	0.0591 0.0559	0.0577 0.0619	0.0627	0.0632	Ave		0.0617			0.0100	6.9		20.0			
cis-1,2-Dichloroethene	0.3297 0.3143	0.3194 0.3060	0.3200 0.2963	0.3326	0.3338	Ave		0.3190			0.1000	4.1		20.0			
2-Butanone (MEK)	0.1854 0.1607	0.1969 0.1772	0.1989 0.1584	0.2064	0.2051	Ave		0.1861			0.0500	10.2		20.0			
Bromochloromethane	0.1517 0.1366	0.1414 0.1398	0.1402 0.1299	0.1453	0.1494	Ave		0.1418			0.0100	4.9		20.0			
Tetrahydrofuran	0.1371 0.0928	0.0982 0.1088	0.1088 0.1003	0.1130	0.1079	Ave		0.1084			0.0100	12.4		20.0			
Chloroform	0.5466 0.4636	0.4996 0.4621	0.4713 0.4342	0.4992	0.4977	Ave		0.4843			0.2000	7.0		20.0			
1,1,1-Trichloroethane	0.3786 0.3800	0.3677 0.3465	0.3637 0.3610	0.3661	0.3690	Ave		0.3666			0.1000	2.9		20.0			
Cyclohexane	0.4979 0.4744	0.4616 0.4108	0.4435 0.4590	0.4424	0.4292	Ave		0.4524			0.1000	6.0		20.0			
Carbon tetrachloride	0.3181 0.3198	0.2990 0.2880	0.3018 0.3038	0.3054	0.3047	Ave		0.3051			0.1000	3.3		20.0			
1,1-Dichloropropene	0.4064 0.4059	0.4083 0.3679	0.3990 0.3876	0.4006	0.3928	Ave		0.3961			0.0100	3.4		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Isobutyl alcohol	0.0097 0.0085	0.0091 0.0105	0.0102 0.0094	0.0111	0.0112	Ave		0.0099		*	0.0100	9.6		20.0			
Benzene	1.3787 1.1520	1.2628 1.1081	1.2398 1.0692	1.2590	1.2563	Ave		1.2157			0.5000	8.2		20.0			
1,2-Dichloroethane	0.3884 0.3320	0.3554 0.3421	0.3528 0.3189	0.3753	0.3703	Ave		0.3544			0.1000	6.5		20.0			
n-Heptane	0.3037 0.2967	0.3011 0.2552	0.2860 0.3036	0.2755	0.2684	Ave		0.2863			0.0100	6.4		20.0			
Trichloroethene	0.3229 0.3036	0.3087 0.2884	0.3052 0.2920	0.3101	0.3167	Ave		0.3059			0.2000	3.8		20.0			
Methylcyclohexane	0.4727 0.4875	0.4672 0.4232	0.4697 0.4715	0.4601	0.4491	Ave		0.4626			0.1000	4.2		20.0			
1,2-Dichloropropane	0.3012 0.2794	0.2779 0.2782	0.2782 0.2612	0.2913	0.2975	Ave		0.2831			0.1000	4.6		20.0			
1,4-Dioxane	0.0022 0.0027	0.0028 0.0030	0.0031 0.0031	0.0030	0.0032	Ave		0.0029		*	0.0100	11.4		20.0			
Dibromomethane	0.1595 0.1606	0.1708 0.1667	0.1638 0.1549	0.1734	0.1774	Ave		0.1659			0.0100	4.6		20.0			
Bromodichloromethane	0.3001 0.3336	0.3125 0.3351	0.3169 0.3110	0.3438	0.3519	Ave		0.3256			0.2000	5.6		20.0			
2-Chloroethyl vinyl ether	0.1669 0.2025	0.1917 0.2176	0.2032 0.2031	0.2200	0.2248	Ave		0.2037			0.0100	9.1		20.0			
cis-1,3-Dichloropropene	0.3596 0.4128	0.3596 0.4158	0.3786 0.3959	0.4116	0.4298	Ave		0.3955			0.2000	6.8		20.0			
4-Methyl-2-pentanone (MIBK)	1.3560 1.1652	1.2491 1.2232	1.3592 1.1532	1.3610	1.3926	Ave		1.2824			0.1000	7.5		20.0			
Toluene	6.1005 4.5990	5.6903 4.2081	5.2159 4.0277	5.0185	5.0243	Ave		4.9855			0.4000	14.1		20.0			
trans-1,3-Dichloropropene	1.2257 1.4397	1.2796 1.4086	1.2851 1.3247	1.3956	1.4937	Ave		1.3566			0.1000	6.8		20.0			
Ethyl methacrylate	1.3604 1.6673	1.5623 1.6591	1.6724 1.5738	1.7698	1.8222	Ave		1.6359			0.0100	8.7		20.0			
1,1,2-Trichloroethane	1.2522 0.9633	1.0992 0.9427	1.0403 0.8887	1.0530	1.0694	Ave		1.0386			0.1000	10.8		20.0			
Tetrachloroethene	1.1481 0.9182	1.0929 0.8058	0.9505 0.8459	0.9238	0.9211	Ave		0.9508			0.2000	12.2		20.0			
1,3-Dichloropropane	2.2370 1.7852	2.0694 1.7532	1.9307 1.6348	1.9958	1.9532	Ave		1.9199			0.0100	10.0		20.0			
2-Hexanone	0.9818 0.8998	0.9941 0.9190	1.0485 0.8780	1.0518	1.0958	Ave		0.9836			0.1000	8.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Dibromochloromethane	0.7989 0.9016	0.8620 0.8947	0.8650 0.8322	0.9093	0.9598	Ave		0.8779			0.1000	5.7		20.0			
1,2-Dibromoethane (EDB)	1.1425 1.0146	1.0956 1.0059	1.0726 0.9575	1.1227	1.1100	Ave		1.0652			0.1000	6.1		20.0			
3-Chlorobenzotrifluoride	2.1508 1.6103	1.7646 1.4397	1.6777 1.5967	1.7670	1.7382	Ave		1.7181			0.0100	12.0		20.0			
Chlorobenzene	4.0368 3.0317	3.5186 2.8231	3.2468 2.6869	3.3119	3.3091	Ave		3.2456			0.5000	13.0		20.0			
4-Chlorobenzotrifluoride	1.8614 1.5230	1.6468 1.3432	1.5641 1.5178	1.6419	1.5859	Ave		1.5855			0.0100	9.3		20.0			
1,1,1,2-Tetrachloroethane	1.0682 1.0211	1.0658 0.9781	1.0366 0.9303	1.0666	1.0896	Ave		1.0321			0.0100	5.2		20.0			
Ethylbenzene	1.9199 1.7723	1.9530 1.6113	1.8804 1.6150	1.8616	1.8815	Ave		1.8119			0.1000	7.3		20.0			
m-Xylene & p-Xylene	2.1686 2.2054	2.4439 2.0173	2.3106 1.9980	2.2675	2.3006	Ave		2.2140			0.1000	6.8		20.0			
o-Xylene	2.1421 2.0826	2.2379 1.9206	2.1746 1.8793	2.2085	2.2321	Ave		2.1097			0.3000	6.6		20.0			
Styrene	3.6332 3.4371	3.9143 3.2595	3.7554 3.0478	3.7413	3.7778	Ave		3.5708			0.3000	8.3		20.0			
Bromoform	0.5105 0.5727	0.4852 0.5813	0.5106 0.5484	0.5622	0.5938	Ave		0.5456			0.1000	7.2		20.0			
2-Chlorobenzotrifluoride	1.7885 1.5489	1.7322 1.4506	1.6281 1.5406	1.7502	1.7146	Ave		1.6442			0.0100	7.4		20.0			
Isopropylbenzene	5.5110 4.9386	5.7732 4.4163	5.4683 4.3345	5.4199	5.3367	Ave		5.1498			0.1000	10.3		20.0			
Bromobenzene	0.9987 0.9743	0.9872 0.9390	0.9377 0.9146	0.9980	1.0140	Ave		0.9704			0.0100	3.7		20.0			
1,1,2,2-Tetrachloroethane	1.7609 1.4046	1.6228 1.4415	1.5952 1.3351	1.5862	1.5551	Ave		1.5377			0.3000	8.9		20.0			
trans-1,4-Dichloro-2-butene	0.2598 0.2949	0.2743 0.2979	0.2825 0.3083	0.3195	0.3037	Ave		0.2926			0.0100	6.6		20.0			
1,2,3-Trichloropropane	0.4104 0.3768	0.3859 0.3949	0.4160 0.3815	0.4181	0.4204	Ave		0.4005			0.0100	4.4		20.0			
N-Propylbenzene	1.0871 1.1604	1.1279 1.0214	1.1341 1.0987	1.1152	1.1268	Ave		1.1089			0.0100	3.8		20.0			
2-Chlorotoluene	0.9007 0.9835	0.9855 0.9238	0.9604 0.9321	0.9790	1.0033	Ave		0.9585			0.0100	3.7		20.0			
3-Chlorotoluene	1.0064 1.0049	1.0309 0.9798	1.0614 1.0388	1.1086	1.1105	Ave		1.0427			0.0100	4.6		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,3,5-Trimethylbenzene	3.0303 3.1789	3.4364 2.8871	3.3130 2.9071	3.3121	3.3198	Ave		3.1731			0.0100	6.6		20.0			
4-Chlorotoluene	1.0553 1.0614	1.0524 0.9741	1.0341 0.9970	1.0305	1.0761	Ave		1.0351			0.0100	3.3		20.0			
tert-Butylbenzene	2.5746 2.7227	2.8017 2.3880	2.7530 2.5138	2.7587	2.7116	Ave		2.6530			0.0100	5.5		20.0			
1,2,4-Trimethylbenzene	3.1254 3.2212	3.4166 2.9826	3.3711 2.9395	3.3815	3.3664	Ave		3.2255			0.0100	5.9		20.0			
3,4-Dichlorobenzotrifluoride	0.9400 0.7764	0.7679 0.7160	0.7941 0.8232	0.8410	0.8065	Ave		0.8081			0.0100	8.1		20.0			
sec-Butylbenzene	3.7533 3.7112	3.9865 3.2645	3.8932 3.4225	3.8001	3.7790	Ave		3.7013			0.0100	6.5		20.0			
1,3-Dichlorobenzene	1.8909 1.6927	1.7949 1.6042	1.7488 1.5884	1.7678	1.7840	Ave		1.7340			0.6000	5.8		20.0			
4-Isopropyltoluene	2.9547 3.1220	3.2883 2.7812	3.2665 2.8873	3.2019	3.1605	Ave		3.0828			0.0100	6.0		20.0			
1,4-Dichlorobenzene	1.9782 1.7336	1.8319 1.6481	1.8074 1.6177	1.8136	1.8124	Ave		1.7804			0.5000	6.4		20.0			
2,4-Dichlorobenzotrifluoride	0.7762 0.7410	0.7684 0.6560	0.7174 0.7931	0.7890	0.7781	Ave		0.7524			0.0100	6.2		20.0			
2,5-Dichlorobenzotrifluoride	0.8709 0.7991	0.7991 0.7661	0.8033 0.8193	0.8304	0.8133	Ave		0.8127			0.0100	3.7		20.0			
n-Butylbenzene	2.4429 2.5807	2.6260 2.2815	2.6042 2.4382	2.5661	2.5760	Ave		2.5144			0.0100	4.7		20.0			
1,2-Dichlorobenzene	1.8724 1.5966	1.7261 1.5319	1.6636 1.4748	1.6744	1.6818	Ave		1.6527			0.4000	7.4		20.0			
1,2-Dibromo-3-Chloropropane	0.1676 0.1857	0.1676 0.2001	0.1774 0.1873	0.1829	0.1992	Ave		0.1835			0.0500	6.8		20.0			
2,4- & 2,5- & 2,6- Dichlorotoluene	0.9836 1.0182	1.0277 0.9802	1.0819 1.0447	1.1339	1.1166	Ave		1.0483			0.0100	5.5		20.0			
2,3- & 3,4- Dichlorotoluene	0.9469 1.0658	1.0253 1.0486	1.0886 1.1261	1.1868	1.1843	Ave		1.0841			0.0100	7.5		20.0			
1,2,4-Trichlorobenzene	0.7563 0.7556	0.7184 0.7286	0.7717 0.7766	0.7671	0.7765	Ave		0.7563			0.2000	2.9		20.0			
Hexachlorobutadiene	0.2941 0.2697	0.2848 0.2377	0.2809 0.2898	0.2829	0.2739	Ave		0.2767			0.0100	6.4		20.0			
Naphthalene	2.0979 2.6004	2.2731 2.6494	2.6660 2.6327	2.8062	2.8819	Ave		2.5759			0.0100	10.2		20.0			
1,2,3-Trichlorobenzene	0.7106 0.6701	0.6788 0.6564	0.6707 0.7130	0.7070	0.7206	Ave		0.6909			0.0100	3.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
2,4,5-Trichlorotoluene	0.3224 0.3475	0.2818 0.3346	0.3064 +++++	0.3498	0.3564	Ave		0.3284			0.0100	8.2		20.0			
2,3,6-Trichlorotoluene	0.2545 0.3128	0.2731 0.3131	0.3085 +++++	0.3418	0.3347	Ave		0.3055			0.0100	10.3		20.0			
Dibromofluoromethane (Surr)	0.2565 0.2365	0.2433 0.2326	0.2366 0.2242	0.2475	0.2474	Ave		0.2406				4.2		20.0			
1,2-Dichloroethane-d4 (Surr)	0.3401 0.2693	0.3050 0.2801	0.2948 0.2619	0.3004	0.2957	Ave		0.2934				8.3		20.0			
Toluene-d8 (Surr)	5.1161 3.6702	4.5030 3.3148	4.0781 3.3147	3.9154	3.9228	Ave		3.9794				15.2		20.0			
4-Bromofluorobenzene (Surr)	1.6317 1.3781	1.5302 1.3139	1.4390 1.2793	1.4518	1.4735	Ave		1.4372				8.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-218218/2	50727D02.D
Level 2	IC 180-218218/3	50727D03.D
Level 3	ICIS 180-218218/4	50727D04.D
Level 4	IC 180-218218/5	50727D05.D
Level 5	IC 180-218218/6	50727D06.D
Level 6	IC 180-218218/10	50727D10.D
Level 7	IC 180-218218/8	50727D08.D
Level 8	IC 180-218218/11	50727D11.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	16788 647803	84559 569791	159957 857078	226899	286388	5.00 175	25.0 200	50.0 250	75.0	100
Chloromethane	FB	Ave	19706 595751	78965 580608	154943 811941	232300	302276	5.00 175	25.0 200	50.0 250	75.0	100
Vinyl chloride	FB	Ave	19568 632153	82670 577090	162634 867536	221295	291558	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Butadiene	FB	Ave	17968 579584	74553 512032	143576 815610	204212	260580	5.00 175	25.0 200	50.0 250	75.0	100
Bromomethane	FB	Ave	6901 285707	42224 289712	81346 377950	112119	161865	5.00 175	25.0 200	50.0 250	75.0	100
Chloroethane	FB	Ave	10685 340168	47273 322589	86601 414342	128899	172552	5.00 175	25.0 200	50.0 250	75.0	100
Trichlorofluoromethane	FB	Ave	22371 769762	104824 710415	205127 1017488	283194	371684	5.00 175	25.0 200	50.0 250	75.0	100
Ethyl ether	FB	Ave	14571 475422	66542 510033	126496 612640	188662	262150	5.00 175	25.0 200	50.0 250	75.0	100
Acrolein	FB	Ave	63695 154738	73476 179414	101829 183852	115103	130923	100 225	125 250	150 275	175	200
1,1-Dichloroethene	FB	Ave	14263 540044	67928 489503	131576 745282	190985	247279	5.00 175	25.0 200	50.0 250	75.0	100
1,1,2-Trichloro-1,2,2-trifluoroethane	FB	Ave	18126 571742	73846 534815	141127 774058	206212	263603	5.00 175	25.0 200	50.0 250	75.0	100
Acetone	FB	Ave	37823 447756	77890 522287	149782 630881	227784	316026	25.0 350	50.0 400	100 500	150	200
Iodomethane	FB	Ave	22822 811997	103869 834240	200342 1099819	304618	408622	5.00 175	25.0 200	50.0 250	75.0	100
Carbon disulfide	FB	Ave	30868 +++++	131730 1211678	266935 1856339	403056	561008	5.00 +++++	25.0 200	50.0 250	75.0	100
Allyl chloride	FB	Ave	8133 365237	39946 366340	83167 500032	121734	164305	5.00 175	25.0 200	50.0 250	75.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Methyl acetate	FB	Ave	31286 1009713	132543 1173609	283974 1447736	419273	558912	10.0 350	50.0 400	100 500	150	200
Methylene Chloride	FB	Lin2	25720 602402	84822 653341	164284 813282	242665	323324	5.00 175	25.0 200	50.0 250	75.0	100
tert-Butyl alcohol	TBAd9	Ave	16447 524619	64738 519054	139891 568135	204334	283777	50.0 1750	250 2000	500 2500	750	1000
Acrylonitrile	FB	Ave	73302 2362587	336508 2794353	708552 3495451	1029651	1387354	50.0 1750	250 2000	500 2500	750	1000
trans-1,2-Dichloroethene	FB	Ave	17158 595572	73445 571864	147191 806194	222245	296608	5.00 175	25.0 200	50.0 250	75.0	100
Methyl tert-butyl ether	FB	Ave	38357 1597553	196780 1751345	390184 2170401	613933	822838	5.00 175	25.0 200	50.0 250	75.0	100
Hexane	FB	Ave	24902 760411	96542 708650	186124 1101558	266987	337300	5.00 175	25.0 200	50.0 250	75.0	100
1,1-Dichloroethane	FB	Ave	28319 1024340	133976 1041269	261874 1376176	379320	510811	5.00 175	25.0 200	50.0 250	75.0	100
Vinyl acetate	FB	Ave	27185 1068205	115000 1200052	245879 1523056	400099	532250	5.00 175	25.0 200	50.0 250	75.0	100
2,2-Dichloropropane	FB	Ave	3769 136605	15889 125406	31118 188250	48893	65750	5.00 175	25.0 200	50.0 250	75.0	100
cis-1,2-Dichloroethene	FB	Ave	17858 671208	85931 687049	172690 900432	259385	347303	5.00 175	25.0 200	50.0 250	75.0	100
2-Butanone (MEK)	FB	Ave	50216 686266	105960 795793	214731 962704	321867	426755	25.0 350	50.0 400	100 500	150	200
Bromochloromethane	FB	Ave	8216 291754	38047 313977	75687 394763	113290	155416	5.00 175	25.0 200	50.0 250	75.0	100
Tetrahydrofuran	FB	Ave	14858 396477	52866 488432	117485 609910	176266	224432	10.0 350	50.0 400	100 500	150	200
Chloroform	FB	Ave	29608 989929	134431 1037446	254354 1319564	389323	517765	5.00 175	25.0 200	50.0 250	75.0	100
1,1,1-Trichloroethane	FB	Ave	20508 811476	98927 777880	196286 1097196	285488	383868	5.00 175	25.0 200	50.0 250	75.0	100
Cyclohexane	FB	Ave	26974 1012965	124196 922281	239333 1394833	345041	446560	5.00 175	25.0 200	50.0 250	75.0	100
Carbon tetrachloride	FB	Ave	17231 682784	80446 646700	162849 923177	238173	317033	5.00 175	25.0 200	50.0 250	75.0	100
1,1-Dichloropropene	FB	Ave	22014 866715	109851 825970	215336 1178056	312373	408627	5.00 175	25.0 200	50.0 250	75.0	100
Isobutyl alcohol	FB	Ave	13122 452876	61305 587752	136973 715201	216532	290317	125 4375	625 5000	1250 6250	1875	2500
Benzene	FB	Ave	74686 2459963	339765 2487856	669098 3249284	981851	1307056	5.00 175	25.0 200	50.0 250	75.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	21038 708898	95627 767974	190422 969148	292683	385206	5.00 175	25.0 200	50.0 250	75.0	100
n-Heptane	FB	Ave	16453 633483	81002 573064	154370 922592	214813	279216	5.00 175	25.0 200	50.0 250	75.0	100
Trichloroethene	FB	Ave	17490 648262	83072 647404	164695 887332	241861	329499	5.00 175	25.0 200	50.0 250	75.0	100
Methylcyclohexane	FB	Ave	25605 1041060	125697 950167	253511 1432791	358781	467268	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichloropropane	FB	Ave	16316 596512	74777 624637	150135 793667	227133	309491	5.00 175	25.0 200	50.0 250	75.0	100
1,4-Dioxane	FB	Ave	2333 115916	15162 135844	33209 187034	46920	65688	100 3500	500 4000	1000 5000	1500	2000
Dibromomethane	FB	Ave	8641 342853	45949 374289	88395 470836	135198	184529	5.00 175	25.0 200	50.0 250	75.0	100
Bromodichloromethane	FB	Ave	16257 712434	84070 752352	171049 945026	268080	366097	5.00 175	25.0 200	50.0 250	75.0	100
2-Chloroethyl vinyl ether	FB	Ave	18086 864836	103158 977190	219328 1234429	343066	467677	10.0 350	50.0 400	100 500	150	200
cis-1,3-Dichloropropene	FB	Ave	19479 881560	96744 933591	204344 1203144	320956	447138	5.00 175	25.0 200	50.0 250	75.0	100
4-Methyl-2-pentanone (MIBK)	CBNZ d5	Ave	79892 1265241	154465 1476808	361112 1863520	542662	738839	25.0 350	50.0 400	100 500	150	200
Toluene	CBNZ d5	Ave	71883 2496911	351840 2540251	692901 3254284	1000479	1332783	5.00 175	25.0 200	50.0 250	75.0	100
trans-1,3-Dichloropropene	CBNZ d5	Ave	14443 781619	79122 850338	170710 1070347	278226	396221	5.00 175	25.0 200	50.0 250	75.0	100
Ethyl methacrylate	CBNZ d5	Ave	16030 905216	96602 1001550	222171 1271580	352819	483364	5.00 175	25.0 200	50.0 250	75.0	100
1,1,2-Trichloroethane	CBNZ d5	Ave	14755 523017	67966 569083	138196 718069	209928	283688	5.00 175	25.0 200	50.0 250	75.0	100
Tetrachloroethene	CBNZ d5	Ave	13528 498519	67579 486427	126273 683462	184171	244346	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Dichloropropane	CBNZ d5	Ave	26359 969241	127957 1058308	256477 1320887	397870	518120	5.00 175	25.0 200	50.0 250	75.0	100
2-Hexanone	CBNZ d5	Ave	57842 977068	122936 1109580	278579 1418811	419354	581383	25.0 350	50.0 400	100 500	150	200
Dibromochloromethane	CBNZ d5	Ave	9414 489506	53302 540065	114911 672369	181267	254603	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dibromoethane (EDB)	CBNZ d5	Ave	13462 550826	67745 607203	142489 773664	223815	294438	5.00 175	25.0 200	50.0 250	75.0	100
3-Chlorobenzotrifluoride	CBNZ d5	Ave	25343 874266	109109 869071	222871 1290067	352260	461082	5.00 175	25.0 200	50.0 250	75.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Chlorobenzene	CBNZ d5	Ave	47566 1645967	217561 1704167	431311 2170926	660247	877804	5.00 175	25.0 200	50.0 250	75.0	100
4-Chlorobenzotrifluoride	CBNZ d5	Ave	21933 826850	101825 810848	207774 1226371	327327	420704	5.00 175	25.0 200	50.0 250	75.0	100
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	12587 554351	65901 590452	137710 751692	212641	289044	5.00 175	25.0 200	50.0 250	75.0	100
Ethylbenzene	CBNZ d5	Ave	22622 962208	120759 972676	249792 1304914	371119	499116	5.00 175	25.0 200	50.0 250	75.0	100
m-Xylene & p-Xylene	CBNZ d5	Ave	25553 1197380	151114 1217768	306948 1614353	452043	610286	5.00 175	25.0 200	50.0 250	75.0	100
o-Xylene	CBNZ d5	Ave	25240 1130677	138375 1159372	288885 1518391	440285	592117	5.00 175	25.0 200	50.0 250	75.0	100
Styrene	CBNZ d5	Ave	42810 1866053	242031 1967591	498873 2462559	745860	1002147	5.00 175	25.0 200	50.0 250	75.0	100
Bromoform	CBNZ d5	Ave	6015 310948	30000 350923	67829 443094	112077	157509	5.00 175	25.0 200	50.0 250	75.0	100
2-Chlorobenzotrifluoride	CBNZ d5	Ave	21074 840920	107103 875687	216286 1244752	348911	454842	5.00 175	25.0 200	50.0 250	75.0	100
Isopropylbenzene	CBNZ d5	Ave	64937 2681266	356966 2665903	726432 3502176	1080505	1415676	5.00 175	25.0 200	50.0 250	75.0	100
Bromobenzene	DCBd 4	Ave	16032 659984	83376 711710	163748 889999	261052	348475	5.00 175	25.0 200	50.0 250	75.0	100
1,1,2,2-Tetrachloroethane	CBNZ d5	Ave	20749 762601	100341 870164	211912 1078742	316221	412534	5.00 175	25.0 200	50.0 250	75.0	100
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	4170 199800	23168 225821	49334 299994	83561	104361	5.00 175	25.0 200	50.0 250	75.0	100
1,2,3-Trichloropropane	DCBd 4	Ave	6588 255265	32588 299299	72643 371250	109372	144469	5.00 175	25.0 200	50.0 250	75.0	100
N-Propylbenzene	DCBd 4	Ave	17451 786064	95261 774184	198029 1069171	291693	387234	5.00 175	25.0 200	50.0 250	75.0	100
2-Chlorotoluene	DCBd 4	Ave	14458 666236	83234 700158	167713 907016	256066	344800	5.00 175	25.0 200	50.0 250	75.0	100
3-Chlorotoluene	DCBd 4	Ave	16155 680717	87067 742625	185343 1010916	289960	381649	5.00 175	25.0 200	50.0 250	75.0	100
1,3,5-Trimethylbenzene	DCBd 4	Ave	48645 2153457	290219 2188229	578518 2828999	866332	1140888	5.00 175	25.0 200	50.0 250	75.0	100
4-Chlorotoluene	DCBd 4	Ave	16940 719035	88877 738280	180584 970169	269544	369832	5.00 175	25.0 200	50.0 250	75.0	100
tert-Butylbenzene	DCBd 4	Ave	41329 1844417	236619 1809964	480729 2446270	721573	931884	5.00 175	25.0 200	50.0 250	75.0	100
1,2,4-Trimethylbenzene	DCBd 4	Ave	50171 2182090	288545 2260604	588662 2860516	884487	1156912	5.00 175	25.0 200	50.0 250	75.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
3,4-Dichlorobenzotrifluoride	DCBd 4	Ave	15090 525922	64854 542681	138659 801099	219982	277157	5.00 175	25.0 200	50.0 250	75.0	100
sec-Butylbenzene	DCBd 4	Ave	60251 2514051	336681 2474312	679839 3330508	993968	1298722	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Dichlorobenzene	DCBd 4	Ave	30355 1146674	151590 1215884	305374 1545747	462404	613101	5.00 175	25.0 200	50.0 250	75.0	100
4-Isopropyltoluene	DCBd 4	Ave	47431 2114911	277710 2107989	570403 2809716	837492	1086140	5.00 175	25.0 200	50.0 250	75.0	100
1,4-Dichlorobenzene	DCBd 4	Ave	31756 1174377	154714 1249173	315614 1574222	474362	622850	5.00 175	25.0 200	50.0 250	75.0	100
2,4-Dichlorobenzotrifluoride	DCBd 4	Ave	12460 501975	64892 497225	125268 771761	206368	267418	5.00 175	25.0 200	50.0 250	75.0	100
2,5-Dichlorobenzotrifluoride	DCBd 4	Ave	13980 541324	67486 580659	140272 797256	217211	279514	5.00 175	25.0 200	50.0 250	75.0	100
n-Butylbenzene	DCBd 4	Ave	39215 1748217	221777 1729209	454742 2372703	671190	885288	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichlorobenzene	DCBd 4	Ave	30057 1081541	145778 1161072	290492 1435184	437966	577962	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	2690 125814	14158 151695	30986 182290	47827	68470	5.00 175	25.0 200	50.0 250	75.0	100
2,4- & 2,5- & 2,6- Dichlorotoluene	DCBd 4	Ave	47367 2069215	260387 2228710	566788 3049908	889724	1151252	15.0 525	75.0 600	150 750	225	300
2,3- & 3,4- Dichlorotoluene	DCBd 4	Ave	30402 1443949	173187 1589536	380181 2191624	620870	814032	10.0 350	50.0 400	100 500	150	200
1,2,4-Trichlorobenzene	DCBd 4	Ave	12140 511830	60672 552245	134753 755690	200638	266863	5.00 175	25.0 200	50.0 250	75.0	100
Hexachlorobutadiene	DCBd 4	Ave	4721 182711	24054 180140	49048 282046	73984	94134	5.00 175	25.0 200	50.0 250	75.0	100
Naphthalene	DCBd 4	Ave	33677 1761559	191971 2008065	465533 2561966	733996	990398	5.00 175	25.0 200	50.0 250	75.0	100
1,2,3-Trichlorobenzene	DCBd 4	Ave	11407 453926	57325 497473	117120 693791	184932	247660	5.00 175	25.0 200	50.0 250	75.0	100
2,4,5-Trichlorotoluene	DCBd 4	Ave	5175 235417	23799 253594	53498 +++++	91488	122498	5.00 175	25.0 200	50.0 +++++	75.0	100
2,3,6-Trichlorotoluene	DCBd 4	Ave	4086 211883	23065 237299	53869 +++++	89402	115009	5.00 175	25.0 200	50.0 +++++	75.0	100
Dibromofluoromethane (Surr)	FB	Ave	13893 505019	65453 522323	127700 681339	193042	257355	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichloroethane-d4 (Surr)	FB	Ave	18421 575099	82071 628942	159071 795993	234269	307676	5.00 175	25.0 200	50.0 250	75.0	100
Toluene-d8 (Surr)	CBNZ d5	Ave	60283 1992609	278432 2000995	541748 2678162	780569	1040595	5.00 175	25.0 200	50.0 250	75.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
4-Bromofluorobenzene (Surr)	CBNZ d5	Ave	19227 748217	94618 793129	191158 1033645	289432	390879	5.00 175	25.0 200	50.0 250	75.0	100

Curve Type Legend:

Ave = Average ISTD
Lin2 = Linear 1/conc^2 ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-218218/2	50727D02.D
Level 2	IC 180-218218/3	50727D03.D
Level 3	ICIS 180-218218/4	50727D04.D
Level 4	IC 180-218218/5	50727D05.D
Level 5	IC 180-218218/6	50727D06.D
Level 6	IC 180-218218/10	50727D10.D
Level 7	IC 180-218218/8	50727D08.D
Level 8	IC 180-218218/11	50727D11.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Dichlorodifluoromethane	6.6 -12.7	8.1 -3.0	1.9	0.1	-5.3	4.3	50 30	30 30	30	30	30	30
Chloromethane	24.5 -11.5	0.4 -8.6	-1.7	1.9	-0.6	-4.5	50 30	30 30	30	30	30	30
Vinyl chloride	21.8 -13.3	3.6 -3.7	1.6	-4.3	-5.5	-0.2	50 30	30 30	30	30	30	30
1,3-Butadiene	23.1 -15.3	2.9 -0.4	-1.2	-2.8	-7.0	0.8	50 30	30 30	30	30	30	30
Bromomethane	-9.1 -8.0	11.9 -11.3	7.5	2.5	11.0	-4.6	50 30	30 30	30	30	30	30
Chloroethane	21.0 -11.8	7.8 -16.3	-1.5	1.4	1.8	-2.3	50 30	30 30	30	30	30	30
Trichlorofluoromethane	13.3 -13.2	6.9 -8.1	4.3	-0.3	-1.9	-1.1	50 30	30 30	30	30	30	30
Ethyl ether	13.5 -4.1	4.4 -14.9	-1.1	2.1	6.3	-6.1	50 30	30 30	30	30	30	30
Acrolein	-1.6 7.0	-8.5 -7.9	5.3	5.9	5.4	-5.6	50 30	30 30	30	30	30	30
1,1-Dichloroethene	7.6 -10.9	3.1 0.2	-0.4	0.0	-2.9	3.3	50 30	30 30	30	30	30	30
1,1,2-Trichloro-1,2,2-trifluoroethane	24.6 -11.3	2.2 -5.2	-2.7	-1.6	-5.7	-0.3	50 30	30 30	30	30	30	30
Acetone	6.8 -11.0	10.7 -20.6	6.1	11.7	16.2	-19.8	50 30	30 30	30	30	30	30
Iodomethane	9.6 -3.4	0.4 -5.9	-3.4	1.6	2.2	-1.1	50 30	30 30	30	30	30	30
Carbon disulfide	6.1 0.5	-8.9 13.7	-7.9	-3.8	0.4	+++++	50 30	30 30	30	30	30	
Allyl chloride	-5.1 3.1	-6.1 4.0	-2.6	-1.3	-0.2	8.1	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Methyl acetate	11.5 0.9	-4.9 -8.0	1.6	3.8	3.7	-8.7	50 30	30 30	30	30	30	30
Methylene Chloride	0.0 0.7	-2.5 -7.2	0.4	5.0	6.0	-2.6	50 30	30 30	30	30	30	30
tert-Butyl alcohol	12.8 -13.1	-2.2 4.4	-1.6	-4.3	-4.9	8.8	50 30	30 30	30	30	30	30
Acrylonitrile	7.5 -1.1	-0.7 -8.6	4.3	4.9	5.9	-12.1	50 30	30 30	30	30	30	30
trans-1,2-Dichloroethene	13.6 -8.7	-2.1 -4.9	-2.2	2.2	2.2	0.0	50 30	30 30	30	30	30	30
Methyl tert-butyl ether	-5.3 4.3	-2.2 -4.5	-3.3	5.3	5.8	0.0	50 30	30 30	30	30	30	30
Hexane	28.4 -11.8	0.2 1.2	-3.7	-4.4	-9.4	-0.5	50 30	30 30	30	30	30	30
1,1-Dichloroethane	7.8 -4.4	2.7 -6.6	0.1	0.3	1.2	-1.1	50 30	30 30	30	30	30	30
Vinyl acetate	1.8 8.4	-13.3 1.6	-7.6	4.0	3.7	1.4	50 30	30 30	30	30	30	30
2,2-Dichloropropane	12.7 -9.5	-4.4 0.3	-6.6	1.5	2.4	3.6	50 30	30 30	30	30	30	30
cis-1,2-Dichloroethene	3.3 -4.1	0.1 -7.1	0.3	4.3	4.6	-1.5	50 30	30 30	30	30	30	30
2-Butanone (MEK)	-0.4 -4.8	5.8 -14.9	6.9	10.9	10.2	-13.7	50 30	30 30	30	30	30	30
Bromochloromethane	7.0 -1.4	-0.3 -8.4	-1.1	2.5	5.4	-3.6	50 30	30 30	30	30	30	30
Tetrahydrofuran	26.5 0.4	-9.4 -7.4	0.4	4.3	-0.5	-14.3	50 30	30 30	30	30	30	30
Chloroform	12.9 -4.6	3.2 -10.3	-2.7	3.1	2.8	-4.3	50 30	30 30	30	30	30	30
1,1,1-Trichloroethane	3.3 -5.5	0.3 -1.5	-0.8	-0.1	0.7	3.7	50 30	30 30	30	30	30	30
Cyclohexane	10.1 -9.2	2.0 1.5	-2.0	-2.2	-5.1	4.9	50 30	30 30	30	30	30	30
Carbon tetrachloride	4.3 -5.6	-2.0 -0.4	-1.1	0.1	-0.1	4.8	50 30	30 30	30	30	30	30
1,1-Dichloropropene	2.6 -7.1	3.1 -2.1	0.7	1.1	-0.8	2.5	50 30	30 30	30	30	30	30
Isobutyl alcohol	-2.6 5.2	-8.4 -5.4	2.0	11.6	12.2	-14.7	50 30	30 30	30	30	30	30
Benzene	13.4 -8.9	3.9 -12.1	2.0	3.6	3.3	-5.2	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
1,2-Dichloroethane	9.6 -3.5	0.3 -10.0	-0.4	5.9	4.5	-6.3	50 30	30 30	30	30	30	30
n-Heptane	6.1 -10.8	5.2 6.0	-0.1	-3.8	-6.2	3.6	50 30	30 30	30	30	30	30
Trichloroethene	5.5 -5.8	0.9 -4.6	-0.3	1.4	3.5	-0.8	50 30	30 30	30	30	30	30
Methylcyclohexane	2.2 -8.5	1.0 1.9	1.5	-0.6	-2.9	5.4	50 30	30 30	30	30	30	30
1,2-Dichloropropane	6.4 -1.7	-1.8 -7.7	-1.7	2.9	5.1	-1.3	50 30	30 30	30	30	30	30
1,4-Dioxane	-25.2 5.1	-2.1 6.9	6.9	4.5	9.7	-5.7	50 30	30 30	30	30	30	30
Dibromomethane	-3.8 0.5	3.0 -6.6	-1.3	4.5	6.9	-3.2	50 30	30 30	30	30	30	30
Bromodichloromethane	-7.8 2.9	-4.0 -4.5	-2.7	5.6	8.1	2.5	50 30	30 30	30	30	30	30
2-Chloroethyl vinyl ether	-18.1 6.8	-5.9 -0.3	-0.3	8.0	10.3	-0.6	50 30	30 30	30	30	30	30
cis-1,3-Dichloropropene	-9.1 5.1	-9.1 0.1	-4.3	4.1	8.7	4.4	50 30	30 30	30	30	30	30
4-Methyl-2-pentanone (MIBK)	5.7 -4.6	-2.6 -10.1	6.0	6.1	8.6	-9.1	50 30	30 30	30	30	30	30
Toluene	22.4 -15.6	14.1 -19.2	4.6	0.7	0.8	-7.8	50 30	30 30	30	30	30	30
trans-1,3-Dichloropropene	-9.6 3.8	-5.7 -2.3	-5.3	2.9	10.1	6.1	50 30	30 30	30	30	30	30
Ethyl methacrylate	-16.8 1.4	-4.5 -3.8	2.2	8.2	11.4	1.9	50 30	30 30	30	30	30	30
1,1,2-Trichloroethane	20.6 -9.2	5.8 -14.4	0.2	1.4	3.0	-7.2	50 30	30 30	30	30	30	30
Tetrachloroethene	20.7 -15.3	14.9 -11.0	0.0	-2.8	-3.1	-3.4	50 30	30 30	30	30	30	30
1,3-Dichloropropane	16.5 -8.7	7.8 -14.8	0.6	4.0	1.7	-7.0	50 30	30 30	30	30	30	30
2-Hexanone	-0.2 -6.6	1.1 -10.7	6.6	6.9	11.4	-8.5	50 30	30 30	30	30	30	30
Dibromochloromethane	-9.0 1.9	-1.8 -5.2	-1.5	3.6	9.3	2.7	50 30	30 30	30	30	30	30
1,2-Dibromoethane (EDB)	7.3 -5.6	2.9 -10.1	0.7	5.4	4.2	-4.8	50 30	30 30	30	30	30	30
3-Chlorobenzotrifluoride	25.2 -16.2	2.7 -7.1	-2.4	2.8	1.2	-6.3	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Chlorobenzene	24.4 -13.0	8.4 -17.2	0.0	2.0	2.0	-6.6	50 30	30 30	30	30	30	30
4-Chlorobenzotrifluoride	17.4 -15.3	3.9 -4.3	-1.4	3.6	0.0	-3.9	50 30	30 30	30	30	30	30
1,1,1,2-Tetrachloroethane	3.5 -5.2	3.3 -9.9	0.4	3.4	5.6	-1.1	50 30	30 30	30	30	30	30
Ethylbenzene	6.0 -11.1	7.8 -10.9	3.8	2.7	3.8	-2.2	50 30	30 30	30	30	30	30
m-Xylene & p-Xylene	-2.1 -8.9	10.4 -9.8	4.4	2.4	3.9	-0.4	50 30	30 30	30	30	30	30
o-Xylene	1.5 -9.0	6.1 -10.9	3.1	4.7	5.8	-1.3	50 30	30 30	30	30	30	30
Styrene	1.7 -8.7	9.6 -14.6	5.2	4.8	5.8	-3.7	50 30	30 30	30	30	30	30
Bromoform	-6.4 6.6	-11.1 0.5	-6.4	3.0	8.8	5.0	50 30	30 30	30	30	30	30
2-Chlorobenzotrifluoride	8.8 -11.8	5.3 -6.3	-1.0	6.4	4.3	-5.8	50 30	30 30	30	30	30	30
Isopropylbenzene	7.0 -14.2	12.1 -15.8	6.2	5.2	3.6	-4.1	50 30	30 30	30	30	30	30
Bromobenzene	2.9 -3.2	1.7 -5.8	-3.4	2.8	4.5	0.4	50 30	30 30	30	30	30	30
1,1,2,2-Tetrachloroethane	14.5 -6.3	5.5 -13.2	3.7	3.2	1.1	-8.7	50 30	30 30	30	30	30	30
trans-1,4-Dichloro-2-butene	-11.2 1.8	-6.3 5.4	-3.4	9.2	3.8	0.8	50 30	30 30	30	30	30	30
1,2,3-Trichloropropane	2.5 -1.4	-3.7 -4.7	3.9	4.4	5.0	-5.9	50 30	30 30	30	30	30	30
N-Propylbenzene	-2.0 -7.9	1.7 -0.9	2.3	0.6	1.6	4.6	50 30	30 30	30	30	30	30
2-Chlorotoluene	-6.0 -3.6	2.8 -2.8	0.2	2.1	4.7	2.6	50 30	30 30	30	30	30	30
3-Chlorotoluene	-3.5 -6.0	-1.1 -0.4	1.8	6.3	6.5	-3.6	50 30	30 30	30	30	30	30
1,3,5-Trimethylbenzene	-4.5 -9.0	8.3 -8.4	4.4	4.4	4.6	0.2	50 30	30 30	30	30	30	30
4-Chlorotoluene	1.9 -5.9	1.7 -3.7	-0.1	-0.4	4.0	2.5	50 30	30 30	30	30	30	30
tert-Butylbenzene	-3.0 -10.0	5.6 -5.2	3.8	4.0	2.2	2.6	50 30	30 30	30	30	30	30
1,2,4-Trimethylbenzene	-3.1 -7.5	5.9 -8.9	4.5	4.8	4.4	-0.1	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
3,4-Dichlorobenzotrifluoride	16.3 -11.4	-5.0 1.9	-1.7	4.1	-0.2	-3.9	50 30	30 30	30	30	30	30
sec-Butylbenzene	1.4 -11.8	7.7 -7.5	5.2	2.7	2.1	0.3	50 30	30 30	30	30	30	30
1,3-Dichlorobenzene	9.1 -7.5	3.5 -8.4	0.9	2.0	2.9	-2.4	50 30	30 30	30	30	30	30
4-Isopropyltoluene	-4.2 -9.8	6.7 -6.3	6.0	3.9	2.5	1.3	50 30	30 30	30	30	30	30
1,4-Dichlorobenzene	11.1 -7.4	2.9 -9.1	1.5	1.9	1.8	-2.6	50 30	30 30	30	30	30	30
2,4-Dichlorobenzotrifluoride	3.2 -12.8	2.1 5.4	-4.7	4.9	3.4	-1.5	50 30	30 30	30	30	30	30
2,5-Dichlorobenzotrifluoride	7.2 -5.7	-1.7 0.8	-1.2	2.2	0.1	-1.7	50 30	30 30	30	30	30	30
n-Butylbenzene	-2.8 -9.3	4.4 -3.0	3.6	2.1	2.4	2.6	50 30	30 30	30	30	30	30
1,2-Dichlorobenzene	13.3 -7.3	4.4 -10.8	0.7	1.3	1.8	-3.4	50 30	30 30	30	30	30	30
1,2-Dibromo-3-Chloropropane	-8.7 9.1	-8.6 2.1	-3.3	-0.3	8.6	1.2	50 30	30 30	30	30	30	30
2,4- & 2,5- & 2,6- Dichlorotoluene	-6.2 -6.5	-2.0 -0.3	3.2	8.2	6.5	-2.9	50 30	30 30	30	30	30	30
2,3- & 3,4- Dichlorotoluene	-12.6 -3.3	-5.4 3.9	0.4	9.5	9.3	-1.7	50 30	30 30	30	30	30	30
1,2,4-Trichlorobenzene	0.0 -3.7	-5.0 2.7	2.0	1.4	2.7	-0.1	50 30	30 30	30	30	30	30
Hexachlorobutadiene	6.3 -14.1	2.9 4.7	1.5	2.2	-1.0	-2.5	50 30	30 30	30	30	30	30
Naphthalene	-18.6 2.9	-11.8 2.2	3.5	8.9	11.9	1.0	50 30	30 30	30	30	30	30
1,2,3-Trichlorobenzene	2.9 -5.0	-1.8 3.2	-2.9	2.3	4.3	-3.0	50 30	30 30	30	30	30	30
2,4,5-Trichlorotoluene	-1.8 1.9	-14.2 +++++	-6.7	6.5	8.5	5.8	50 30	30	30	30	30	30
2,3,6-Trichlorotoluene	-16.7 2.5	-10.6 +++++	1.0	11.9	9.5	2.4	50 30	30	30	30	30	30
Dibromofluoromethane (Surr)	6.6 -3.3	1.1 -6.8	-1.6	2.9	2.8	-1.7	50 30	30 30	30	30	30	30
1,2-Dichloroethane-d4 (Surr)	15.9 -4.5	4.0 -10.7	0.5	2.4	0.8	-8.2	50 30	30 30	30	30	30	30
Toluene-d8 (Surr)	28.6 -16.7	13.2 -16.7	2.5	-1.6	-1.4	-7.8	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 218218

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2017 00:51 Calibration End Date: 07/27/2017 04:24 Calibration ID: 35038

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
4-Bromofluorobenzene (Surr)	13.5 -8.6	6.5 -11.0	0.1	1.0	2.5	-4.1	50 30	30 30	30	30	30	30

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D02.D
Lims ID: IC VSTD1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 27-Jul-2017 00:51:30 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017756-002
Misc. Info.: IC VSTD1
Operator ID: 034635 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub12

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 28-Jul-2017 01:04:45 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK029

First Level Reviewer: bungardf Date: 27-Jul-2017 03:08:26

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.317	4.323	-0.006	0	246479	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.298	7.298	0.000	99	541701	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.406	10.406	0.000	85	117831	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.773	12.773	0.000	96	160528	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.574	6.574	0.000	90	13893	5.00	5.33	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.951	6.945	0.006	0	18421	5.00	5.79	
$ 7 Toluene-d8 (Surr)	98	8.946	8.946	0.000	92	60283	5.00	6.43	
$ 8 4-Bromofluorobenzene (Surr	95	11.599	11.599	0.000	87	19227	5.00	5.68	
11 Dichlorodifluoromethane	85	1.665	1.646	0.018	68	16788	5.00	5.33	
12 Chloromethane	50	1.804	1.804	0.000	97	19706	5.00	6.22	
13 Vinyl chloride	62	1.932	1.944	-0.012	95	19568	5.00	6.09	
14 Butadiene	39	1.963	1.969	-0.005	95	17968	5.00	6.16	
15 Bromomethane	94	2.273	2.254	0.019	90	6901	5.00	4.54	
16 Chloroethane	64	2.419	2.419	0.000	89	10685	5.00	6.05	
17 Dichlorofluoromethane	67	2.699	2.699	0.000	97	26531	5.00	5.94	
18 Trichlorofluoromethane	101	2.760	2.741	0.019	45	22371	5.00	5.67	M
20 Ethyl ether	59	3.076	3.076	0.000	88	14571	5.00	5.67	
21 Acrolein	56	3.252	3.252	0.000	99	63695	100.0	98.4	
22 1,1-Dichloroethene	96	3.368	3.368	0.000	77	14263	5.00	5.38	
23 1,1,2-Trichloro-1,2,2-trif	101	3.441	3.441	0.000	74	18126	5.00	6.23	
24 Acetone	43	3.483	3.477	0.006	99	37823	25.0	26.7	
25 Iodomethane	142	3.569	3.562	0.007	95	22822	5.00	5.48	
26 Carbon disulfide	76	3.654	3.648	0.006	98	30868	5.00	5.30	
28 3-Chloro-1-propene	76	3.940	3.946	-0.006	90	8133	5.00	4.75	
30 Methyl acetate	43	3.970	3.976	-0.006	95	31286	10.0	11.2	
31 Methylene Chloride	84	4.177	4.165	0.012	84	25720	5.00	5.00	
32 2-Methyl-2-propanol	59	4.432	4.451	-0.019	92	16447	50.0	56.4	
33 Acrylonitrile	53	4.554	4.554	0.000	98	73302	50.0	53.7	
34 trans-1,2-Dichloroethene	96	4.591	4.584	0.007	74	17158	5.00	5.68	
35 Methyl tert-butyl ether	73	4.603	4.603	0.000	84	38357	5.00	4.73	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.004	4.998	0.006	89	24902	5.00	6.42	
37 1,1-Dichloroethane	63	5.211	5.217	-0.006	96	28319	5.00	5.39	
38 Vinyl acetate	43	5.272	5.272	0.000	97	27185	5.00	5.09	
44 2,2-Dichloropropane	97	5.947	5.959	-0.012	46	3769	5.00	5.63	
45 cis-1,2-Dichloroethene	96	5.953	5.965	-0.012	79	17858	5.00	5.17	
46 2-Butanone (MEK)	43	5.984	5.978	0.006	98	50216	25.0	24.9	
49 Chlorobromomethane	128	6.245	6.245	0.000	93	8216	5.00	5.35	
51 Tetrahydrofuran	42	6.264	6.263	0.001	93	14858	10.0	12.7	
52 Chloroform	83	6.391	6.391	0.000	91	29608	5.00	5.64	
53 1,1,1-Trichloroethane	97	6.556	6.549	0.007	97	20508	5.00	5.16	
54 Cyclohexane	56	6.616	6.622	-0.006	87	26974	5.00	5.50	
56 Carbon tetrachloride	117	6.726	6.726	0.000	88	17231	5.00	5.21	
55 1,1-Dichloropropene	75	6.738	6.738	0.000	96	22014	5.00	5.13	
57 Isobutyl alcohol	41	6.951	6.945	0.006	43	13122	125.0	121.7	
58 Benzene	78	6.951	6.951	0.000	96	74686	5.00	5.67	
59 1,2-Dichloroethane	62	7.030	7.030	0.000	97	21038	5.00	5.48	
62 n-Heptane	43	7.316	7.316	0.000	56	16453	5.00	5.30	
64 Trichloroethene	130	7.681	7.687	-0.006	95	17490	5.00	5.28	
66 Methylcyclohexane	83	7.918	7.918	0.000	86	25605	5.00	5.11	
67 1,2-Dichloropropane	63	7.955	7.961	-0.006	93	16316	5.00	5.32	
68 Dibromomethane	93	8.046	8.046	0.000	90	8641	5.00	4.81	
70 1,4-Dioxane	88	8.040	8.052	-0.012	5	2333	100.0	74.8	
71 Dichlorobromomethane	83	8.241	8.241	0.000	99	16257	5.00	4.61	
73 2-Chloroethyl vinyl ether	63	8.551	8.545	0.006	92	18086	10.0	8.19	
74 cis-1,3-Dichloropropene	75	8.691	8.685	0.006	95	19479	5.00	4.55	
75 4-Methyl-2-pentanone (MIBK	43	8.843	8.843	0.000	96	79892	25.0	26.4	
76 Toluene	91	9.019	9.019	0.000	98	71883	5.00	6.12	
77 trans-1,3-Dichloropropene	75	9.263	9.269	-0.006	92	14443	5.00	4.52	
78 Ethyl methacrylate	69	9.330	9.330	0.000	90	16030	5.00	4.16	
79 1,1,2-Trichloroethane	97	9.457	9.457	0.000	89	14755	5.00	6.03	
80 Tetrachloroethene	164	9.530	9.530	0.000	95	13528	5.00	6.04	
81 1,3-Dichloropropane	76	9.616	9.615	0.001	90	26359	5.00	5.83	
82 2-Hexanone	43	9.683	9.682	0.000	98	57842	25.0	25.0	
84 Chlorodibromomethane	129	9.835	9.834	0.001	92	9414	5.00	4.55	
85 Ethylene Dibromide	107	9.944	9.944	0.000	98	13462	5.00	5.36	
86 3-Chlorobenzotrifluoride	180	10.413	10.412	0.001	90	25343	5.00	6.26	
87 Chlorobenzene	112	10.437	10.437	0.000	94	47566	5.00	6.22	
88 4-Chlorobenzotrifluoride	180	10.498	10.498	0.000	96	21933	5.00	5.87	
89 1,1,1,2-Tetrachloroethane	131	10.528	10.528	0.000	88	12587	5.00	5.18	
90 Ethylbenzene	106	10.534	10.534	0.000	98	22622	5.00	5.30	
91 m-Xylene & p-Xylene	106	10.668	10.668	0.000	0	25553	5.00	4.90	
92 o-Xylene	106	11.051	11.051	0.000	95	25240	5.00	5.08	
93 Styrene	104	11.076	11.069	0.007	93	42810	5.00	5.09	
94 Bromoform	173	11.252	11.252	0.000	92	6015	5.00	4.68	
96 2-Chlorobenzotrifluoride	180	11.325	11.325	0.000	96	21074	5.00	5.44	
97 Isopropylbenzene	105	11.422	11.422	0.000	96	64937	5.00	5.35	
100 Bromobenzene	156	11.739	11.739	0.000	93	16032	5.00	5.15	
99 1,1,2,2-Tetrachloroethane	83	11.739	11.745	-0.006	77	20749	5.00	5.73	
102 trans-1,4-Dichloro-2-buten	53	11.787	11.775	0.012	75	4170	5.00	4.44	
101 1,2,3-Trichloropropane	110	11.800	11.793	0.007	85	6588	5.00	5.12	
103 N-Propylbenzene	120	11.842	11.842	0.000	99	17451	5.00	4.90	
104 2-Chlorotoluene	126	11.927	11.927	0.000	96	14458	5.00	4.70	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 3-Chlorotoluene	126	11.994	11.994	0.000	96	16155	5.00	4.83	
106 1,3,5-Trimethylbenzene	105	12.031	12.031	0.000	95	48645	5.00	4.78	
107 4-Chlorotoluene	126	12.061	12.055	0.006	96	16940	5.00	5.10	
108 tert-Butylbenzene	119	12.347	12.347	0.000	93	41329	5.00	4.85	
110 1,2,4-Trimethylbenzene	105	12.408	12.408	0.000	97	50171	5.00	4.84	
111 1,2-dichloro-4-(trifluorom	214	12.457	12.456	0.001	95	15090	5.00	5.82	
112 sec-Butylbenzene	105	12.572	12.572	0.000	94	60251	5.00	5.07	
113 1,3-Dichlorobenzene	146	12.694	12.688	0.006	96	30355	5.00	5.45	
114 4-Isopropyltoluene	119	12.736	12.730	0.006	97	47431	5.00	4.79	
115 1,4-Dichlorobenzene	146	12.797	12.797	0.000	95	31756	5.00	5.56	
116 2,4-Dichloro-1-(triflourom	214	12.840	12.828	0.012	94	12460	5.00	5.16	
118 2,5-Dichlorobenzotrifluori	214	12.882	12.870	0.012	0	13980	5.00	5.36	
120 n-Butylbenzene	91	13.156	13.150	0.006	96	39215	5.00	4.86	
121 1,2-Dichlorobenzene	146	13.162	13.156	0.006	85	30057	5.00	5.66	
122 1,2-Dibromo-3-Chloropropan	75	13.977	13.971	0.006	81	2690	5.00	4.57	
123 2,4- & 2,5- & 2,6- Dichlor	125	14.130	14.117	0.013	0	47367	15.0	14.1	
125 2,3- & 3,4- Dichlorotoluen	125	14.561	14.555	0.006	0	30402	10.0	8.74	
126 1,2,4-Trichlorobenzene	180	14.847	14.829	0.018	92	12140	5.00	5.00	
127 Hexachlorobutadiene	225	15.012	14.993	0.019	91	4721	5.00	5.31	
128 Naphthalene	128	15.127	15.103	0.024	96	33677	5.00	4.07	
129 1,2,3-Trichlorobenzene	180	15.371	15.346	0.025	95	11407	5.00	5.14	
131 2,4,5-Trichlorotoluene	159	16.240	16.198	0.042	0	5175	5.00	4.91	
130 2,3,6-Trichlorotoluene	159	16.338	16.307	0.031	88	4086	5.00	4.17	
149 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 133 Xylenes, Total	106				0		10.0	9.97	
S 134 1,2-Dichloroethene, Total	96				0		10.0	10.8	
S 135 1,3-Dichloropropene, Total	1				0		10.0	9.06	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	0.20	Units: uL
VOA8260VOAPRI_00263	Amount Added:	0.20	Units: uL
voaWAcro1stRe_00016	Amount Added:	4.00	Units: uL
voaWVA1stRest_00017	Amount Added:	0.20	Units: uL
voaWEEmix1stR_00009	Amount Added:	0.20	Units: uL
voaW2clev1stR_00013	Amount Added:	0.20	Units: uL
voaWKetmix1st_00004	Amount Added:	0.80	Units: uL

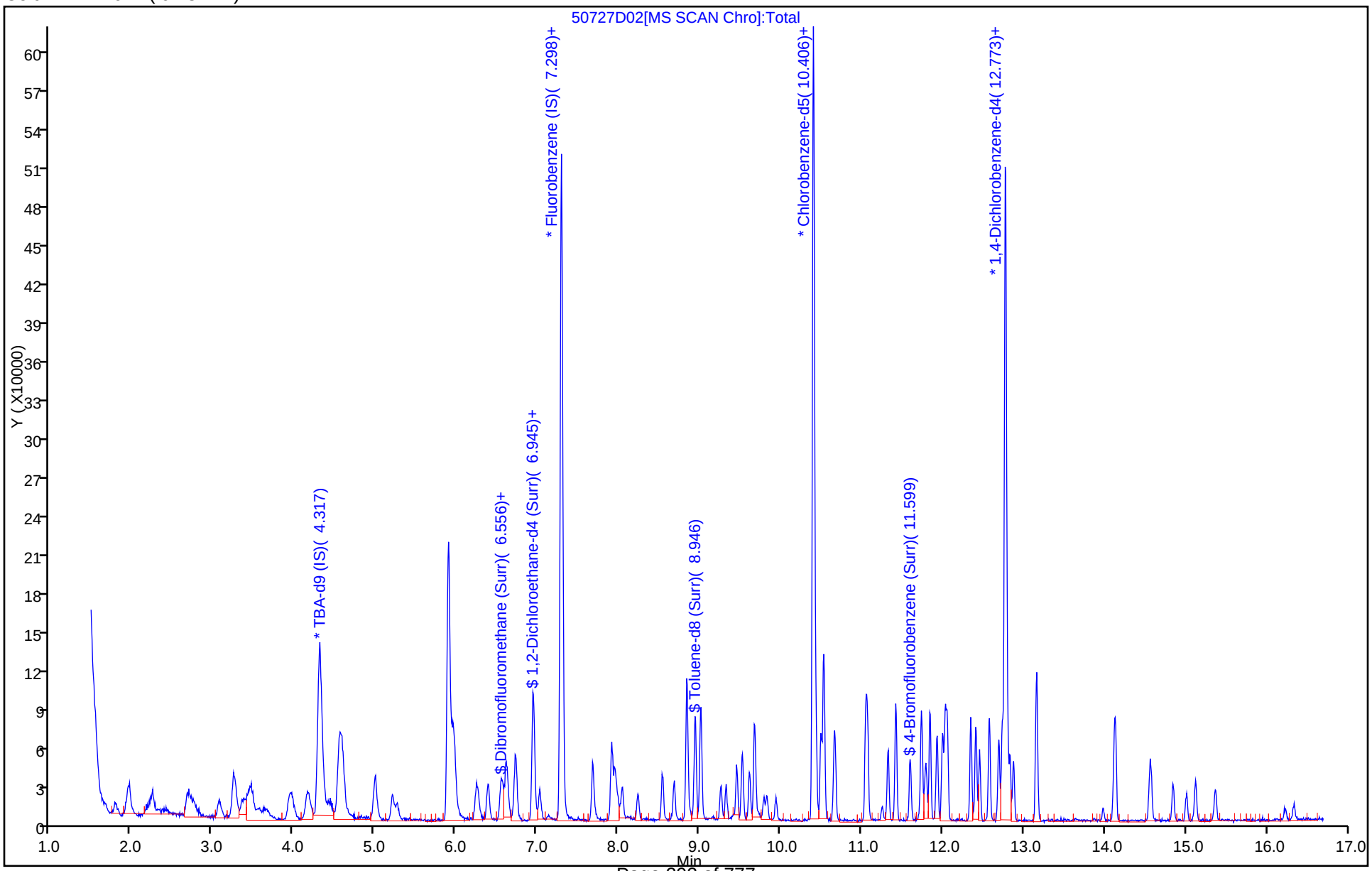
Report Date: 28-Jul-2017 01:04:45 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D02.D

Injection Date:	27-Jul-2017 00:51:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	IC VSTD1			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

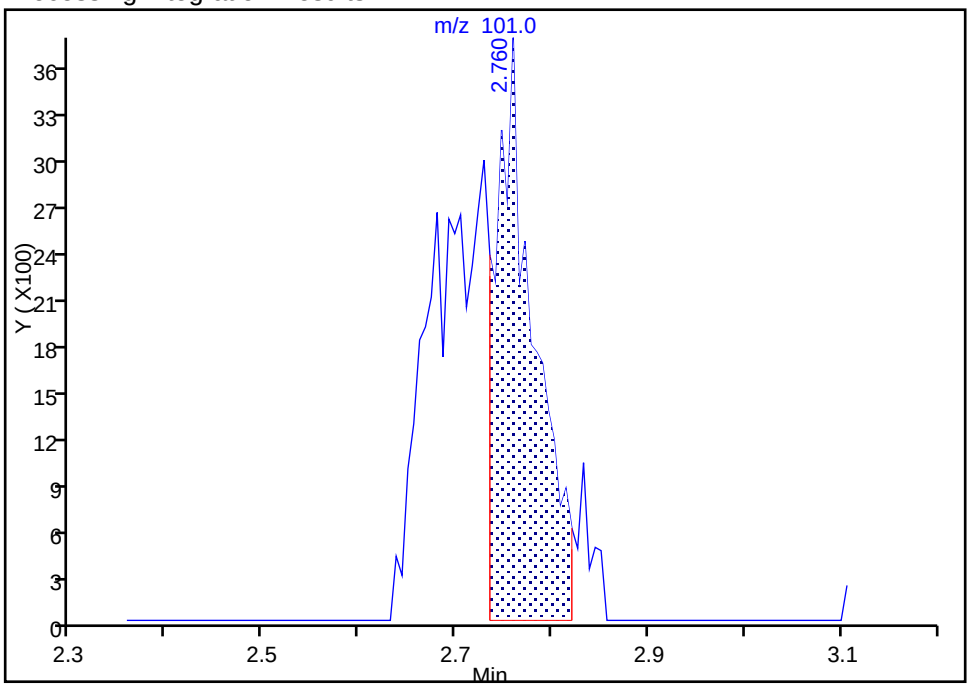
Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D02.D				
Injection Date:	27-Jul-2017 00:51:30	Instrument ID:	CHHP5		
Lims ID:	IC VSTD1				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

18 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

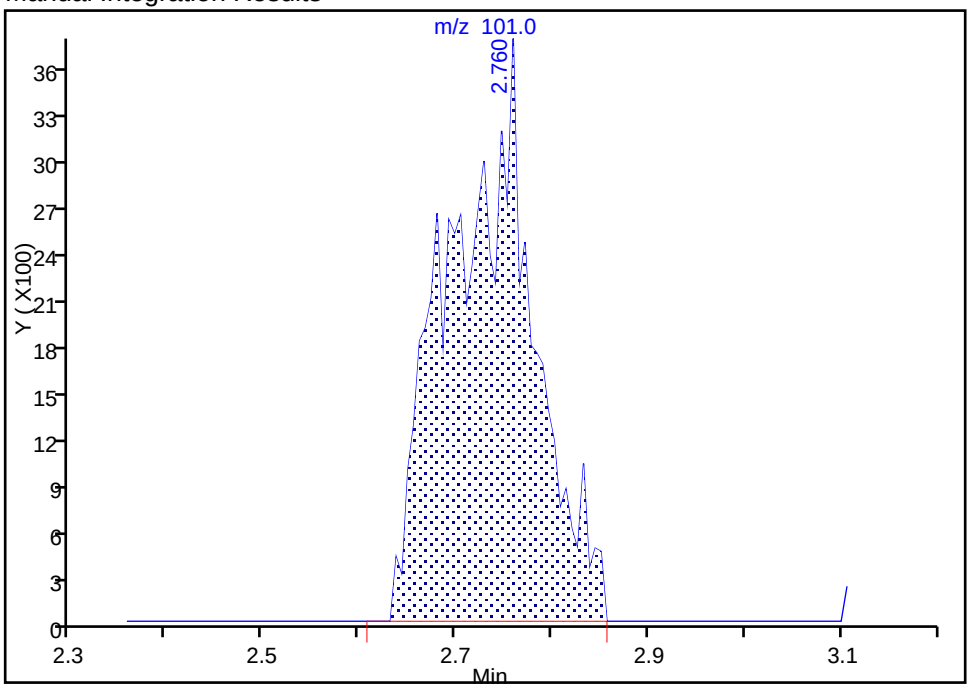
Processing Integration Results

RT: 2.76
Area: 10302
Amount: 3.465076
Amount Units: ng



Manual Integration Results

RT: 2.76
Area: 22371
Amount: 5.667373
Amount Units: ng



Reviewer: bungardf, 27-Jul-2017 03:06:53

Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D03.D
Lims ID: IC VSTD5
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 27-Jul-2017 01:15:30 ALS Bottle#: 3 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017756-003
Misc. Info.: IC VSTD5
Operator ID: 034635 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub12

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 28-Jul-2017 01:04:47 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK029

First Level Reviewer: bungardf Date: 27-Jul-2017 03:14:46

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.319	4.323	-0.004	0	223811	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.299	7.298	0.001	98	538128	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.408	10.406	0.002	85	123664	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.775	12.773	0.002	94	168910	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.576	6.574	0.002	94	65453	25.0	25.3	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.947	6.945	0.002	0	82071	25.0	26.0	
$ 7 Toluene-d8 (Surr)	98	8.948	8.946	0.002	92	278432	25.0	28.3	
$ 8 4-Bromofluorobenzene (Surr	95	11.600	11.599	0.001	87	94618	25.0	26.6	
11 Dichlorodifluoromethane	85	1.648	1.646	0.002	100	84559	25.0	27.0	
12 Chloromethane	50	1.794	1.804	-0.010	99	78965	25.0	25.1	
13 Vinyl chloride	62	1.946	1.944	0.002	98	82670	25.0	25.9	
14 Butadiene	39	1.964	1.969	-0.004	92	74553	25.0	25.7	
15 Bromomethane	94	2.262	2.254	0.008	91	42224	25.0	28.0	
16 Chloroethane	64	2.421	2.419	0.001	98	47273	25.0	26.9	
17 Dichlorofluoromethane	67	2.700	2.699	0.001	97	119855	25.0	27.0	
18 Trichlorofluoromethane	101	2.749	2.741	0.008	94	104824	25.0	26.7	M
20 Ethyl ether	59	3.084	3.076	0.008	87	66542	25.0	26.1	
21 Acrolein	56	3.266	3.252	0.014	98	73476	125.0	114.3	
22 1,1-Dichloroethene	96	3.376	3.368	0.008	96	67928	25.0	25.8	
23 1,1,2-Trichloro-1,2,2-trif	101	3.436	3.441	-0.005	93	73846	25.0	25.5	
24 Acetone	43	3.479	3.477	0.002	96	77890	50.0	55.3	
25 Iodomethane	142	3.570	3.562	0.008	98	103869	25.0	25.1	
26 Carbon disulfide	76	3.649	3.648	0.001	99	131730	25.0	22.8	
28 3-Chloro-1-propene	76	3.954	3.946	0.008	92	39946	25.0	23.5	
30 Methyl acetate	43	3.978	3.976	0.002	97	132543	50.0	47.6	
31 Methylene Chloride	84	4.166	4.165	0.001	88	84822	25.0	24.4	
32 2-Methyl-2-propanol	59	4.446	4.451	-0.005	92	64738	250.0	244.6	
33 Acrylonitrile	53	4.562	4.554	0.008	100	336508	250.0	248.3	
34 trans-1,2-Dichloroethene	96	4.580	4.584	-0.004	98	73445	25.0	24.5	
35 Methyl tert-butyl ether	73	4.604	4.603	0.001	96	196780	25.0	24.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.006	4.998	0.008	92	96542	25.0	25.1	
37 1,1-Dichloroethane	63	5.219	5.217	0.002	96	133976	25.0	25.7	
38 Vinyl acetate	43	5.268	5.272	-0.004	97	115000	25.0	21.7	
44 2,2-Dichloropropane	97	5.961	5.959	0.002	57	15889	25.0	23.9	
45 cis-1,2-Dichloroethene	96	5.961	5.965	-0.004	81	85931	25.0	25.0	
46 2-Butanone (MEK)	43	5.985	5.978	0.007	93	105960	50.0	52.9	
49 Chlorobromomethane	128	6.253	6.245	0.008	94	38047	25.0	24.9	
51 Tetrahydrofuran	42	6.271	6.263	0.008	86	52866	50.0	45.3	
52 Chloroform	83	6.393	6.391	0.002	93	134431	25.0	25.8	
53 1,1,1-Trichloroethane	97	6.557	6.549	0.008	98	98927	25.0	25.1	
54 Cyclohexane	56	6.618	6.622	-0.004	89	124196	25.0	25.5	
56 Carbon tetrachloride	117	6.722	6.726	-0.004	95	80446	25.0	24.5	
55 1,1-Dichloropropene	75	6.746	6.738	0.008	98	109851	25.0	25.8	
57 Isobutyl alcohol	41	6.947	6.945	0.002	82	61305	625.0	572.5	
58 Benzene	78	6.953	6.951	0.002	97	339765	25.0	26.0	
59 1,2-Dichloroethane	62	7.032	7.030	0.002	97	95627	25.0	25.1	
62 n-Heptane	43	7.318	7.316	0.002	90	81002	25.0	26.3	
64 Trichloroethene	130	7.689	7.687	0.002	98	83072	25.0	25.2	
66 Methylcyclohexane	83	7.920	7.918	0.002	86	125697	25.0	25.2	
67 1,2-Dichloropropane	63	7.963	7.961	0.002	94	74777	25.0	24.5	
68 Dibromomethane	93	8.048	8.046	0.002	95	45949	25.0	25.7	
70 1,4-Dioxane	88	8.048	8.052	-0.004	38	15162	500.0	489.4	M
71 Dichlorobromomethane	83	8.242	8.241	0.001	98	84070	25.0	24.0	
73 2-Chloroethyl vinyl ether	63	8.547	8.545	0.002	95	103158	50.0	47.0	
74 cis-1,3-Dichloropropene	75	8.686	8.685	0.001	96	96744	25.0	22.7	
75 4-Methyl-2-pentanone (MIBK	43	8.845	8.843	0.002	95	154465	50.0	48.7	
76 Toluene	91	9.015	9.019	-0.004	98	351840	25.0	28.5	
77 trans-1,3-Dichloropropene	75	9.270	9.269	0.001	92	79122	25.0	23.6	
78 Ethyl methacrylate	69	9.325	9.330	-0.005	88	96602	25.0	23.9	
79 1,1,2-Trichloroethane	97	9.465	9.457	0.008	90	67966	25.0	26.5	
80 Tetrachloroethene	164	9.532	9.530	0.002	97	67579	25.0	28.7	
81 1,3-Dichloropropane	76	9.617	9.615	0.002	89	127957	25.0	26.9	
82 2-Hexanone	43	9.678	9.682	-0.004	95	122936	50.0	50.5	
84 Chlorodibromomethane	129	9.836	9.834	0.002	89	53302	25.0	24.5	
85 Ethylene Dibromide	107	9.946	9.944	0.002	100	67745	25.0	25.7	
86 3-Chlorobenzotrifluoride	180	10.408	10.412	-0.004	95	109109	25.0	25.7	
87 Chlorobenzene	112	10.432	10.437	-0.005	95	217561	25.0	27.1	
88 4-Chlorobenzotrifluoride	180	10.499	10.498	0.001	95	101825	25.0	26.0	
89 1,1,1,2-Tetrachloroethane	131	10.530	10.528	0.002	92	65901	25.0	25.8	
90 Ethylbenzene	106	10.536	10.534	0.002	98	120759	25.0	26.9	
91 m-Xylene & p-Xylene	106	10.670	10.668	0.002	0	151114	25.0	27.6	
92 o-Xylene	106	11.053	11.051	0.002	96	138375	25.0	26.5	
93 Styrene	104	11.071	11.069	0.002	95	242031	25.0	27.4	
94 Bromoform	173	11.254	11.252	0.002	97	30000	25.0	22.2	
96 2-Chlorobenzotrifluoride	180	11.327	11.325	0.002	97	107103	25.0	26.3	
97 Isopropylbenzene	105	11.424	11.422	0.002	96	356966	25.0	28.0	
100 Bromobenzene	156	11.734	11.739	-0.005	95	83376	25.0	25.4	
99 1,1,2,2-Tetrachloroethane	83	11.740	11.745	-0.005	94	100341	25.0	26.4	
102 trans-1,4-Dichloro-2-buten	53	11.777	11.775	0.002	77	23168	25.0	23.4	
101 1,2,3-Trichloropropane	110	11.789	11.793	-0.004	86	32588	25.0	24.1	
103 N-Propylbenzene	120	11.838	11.842	-0.004	99	95261	25.0	25.4	
104 2-Chlorotoluene	126	11.929	11.927	0.002	96	83234	25.0	25.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 3-Chlorotoluene	126	11.996	11.994	0.002	96	87067	25.0	24.7	
106 1,3,5-Trimethylbenzene	105	12.026	12.031	-0.005	95	290219	25.0	27.1	
107 4-Chlorotoluene	126	12.057	12.055	0.002	96	88877	25.0	25.4	
108 tert-Butylbenzene	119	12.349	12.347	0.002	93	236619	25.0	26.4	
110 1,2,4-Trimethylbenzene	105	12.410	12.408	0.002	97	288545	25.0	26.5	
111 1,2-dichloro-4-(trifluorom	214	12.452	12.456	-0.004	96	64854	25.0	23.8	
112 sec-Butylbenzene	105	12.574	12.572	0.002	94	336681	25.0	26.9	
113 1,3-Dichlorobenzene	146	12.689	12.688	0.001	97	151590	25.0	25.9	
114 4-Isopropyltoluene	119	12.732	12.730	0.002	97	277710	25.0	26.7	
115 1,4-Dichlorobenzene	146	12.799	12.797	0.002	95	154714	25.0	25.7	
116 2,4-Dichloro-1-(triflourom	214	12.829	12.828	0.001	96	64892	25.0	25.5	
118 2,5-Dichlorobenzotrifluori	214	12.872	12.870	0.002	0	67486	25.0	24.6	
120 n-Butylbenzene	91	13.152	13.150	0.002	98	221777	25.0	26.1	
121 1,2-Dichlorobenzene	146	13.158	13.156	0.002	98	145778	25.0	26.1	
122 1,2-Dibromo-3-Chloropropan	75	13.973	13.971	0.002	83	14158	25.0	22.8	
123 2,4- & 2,5- & 2,6- Dichlor	125	14.119	14.117	0.002	0	260387	75.0	73.5	
125 2,3- & 3,4- Dichlorotoluen	125	14.557	14.555	0.002	0	173187	50.0	47.3	
126 1,2,4-Trichlorobenzene	180	14.837	14.829	0.008	94	60672	25.0	23.7	
127 Hexachlorobutadiene	225	14.995	14.993	0.002	98	24054	25.0	25.7	
128 Naphthalene	128	15.111	15.103	0.008	97	191971	25.0	22.1	
129 1,2,3-Trichlorobenzene	180	15.348	15.346	0.002	95	57325	25.0	24.6	
131 2,4,5-Trichlorotoluene	159	16.200	16.198	0.002	0	23799	25.0	21.5	
130 2,3,6-Trichlorotoluene	159	16.309	16.307	0.002	95	23065	25.0	22.3	
149 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 134 1,2-Dichloroethene, Total	96				0		50.0	49.5	
S 133 Xylenes, Total	106				0		50.0	54.1	
S 135 1,3-Dichloropropene, Total	1				0		50.0	46.3	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

VOA8260VOAPRI_00263	Amount Added:	1.00	Units: uL
voaW2clev1stR_00013	Amount Added:	1.00	Units: uL
voaWAcro1stRe_00016	Amount Added:	5.00	Units: uL
voaWVA1stRest_00017	Amount Added:	1.00	Units: uL
voaWEEmix1stR_00009	Amount Added:	1.00	Units: uL
VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	1.00	Units: uL
voaWKetmix1st_00004	Amount Added:	1.00	Units: uL

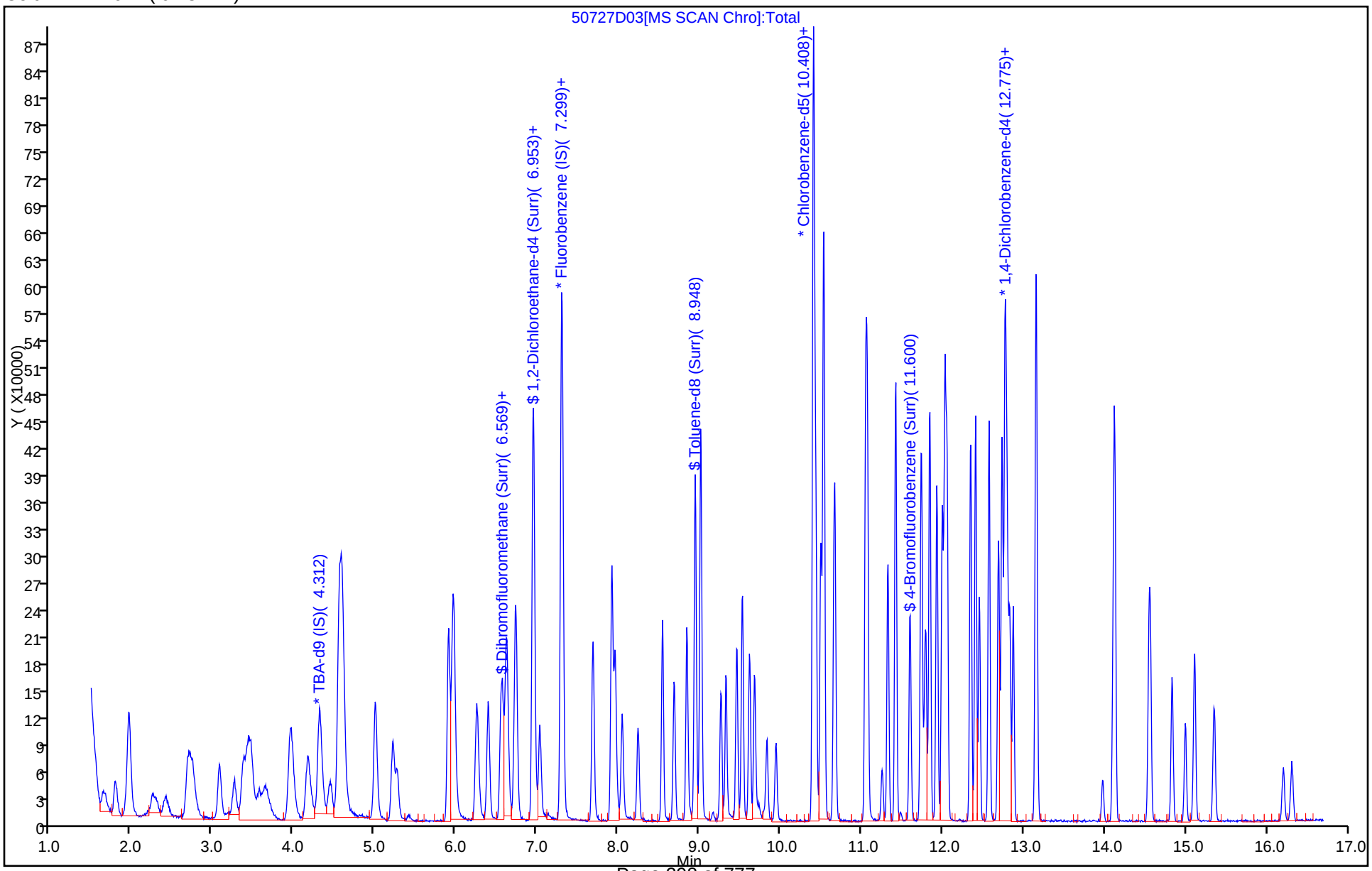
Report Date: 28-Jul-2017 01:04:48 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D03.D

Injection Date:	27-Jul-2017 01:15:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	IC VSTD5			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

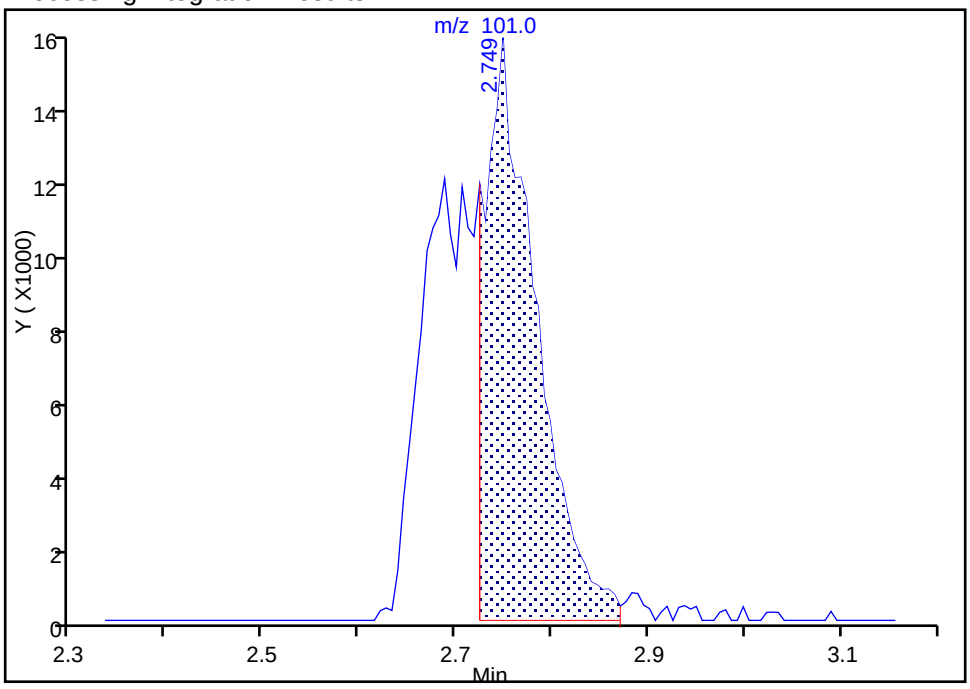
Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D03.D				
Injection Date:	27-Jul-2017 01:15:30	Instrument ID:	CHHP5		
Lims ID:	IC VSTD5				
Client ID:					
Operator ID:	034635	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

18 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

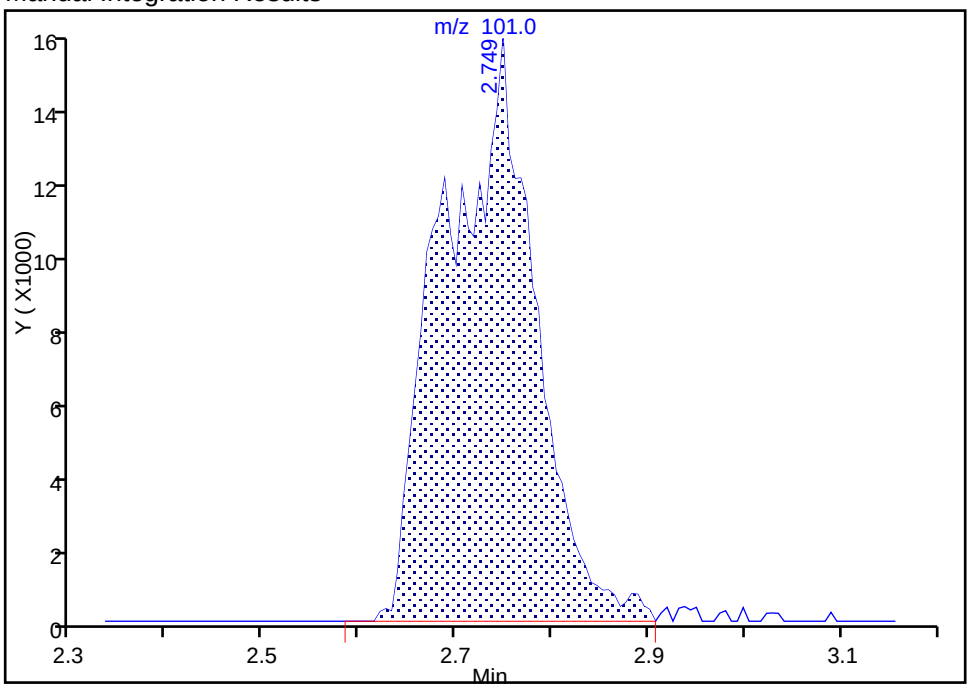
Processing Integration Results

RT: 2.75
Area: 59636
Amount: 17.371088
Amount Units: ng



Manual Integration Results

RT: 2.75
Area: 104824
Amount: 26.731985
Amount Units: ng



Reviewer: bungardf, 27-Jul-2017 03:13:52

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

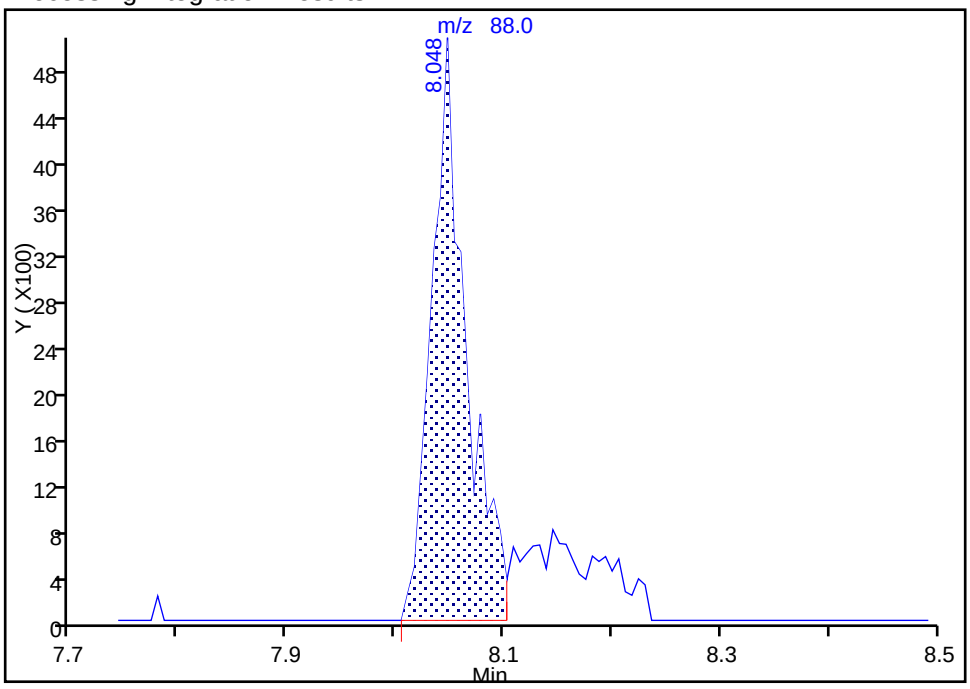
Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D03.D
Injection Date: 27-Jul-2017 01:15:30 Instrument ID: CHHP5
Lims ID: IC VSTD5
Client ID:
Operator ID: 034635 ALS Bottle#: 3 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

70 1,4-Dioxane, CAS: 123-91-1

Signal: 1

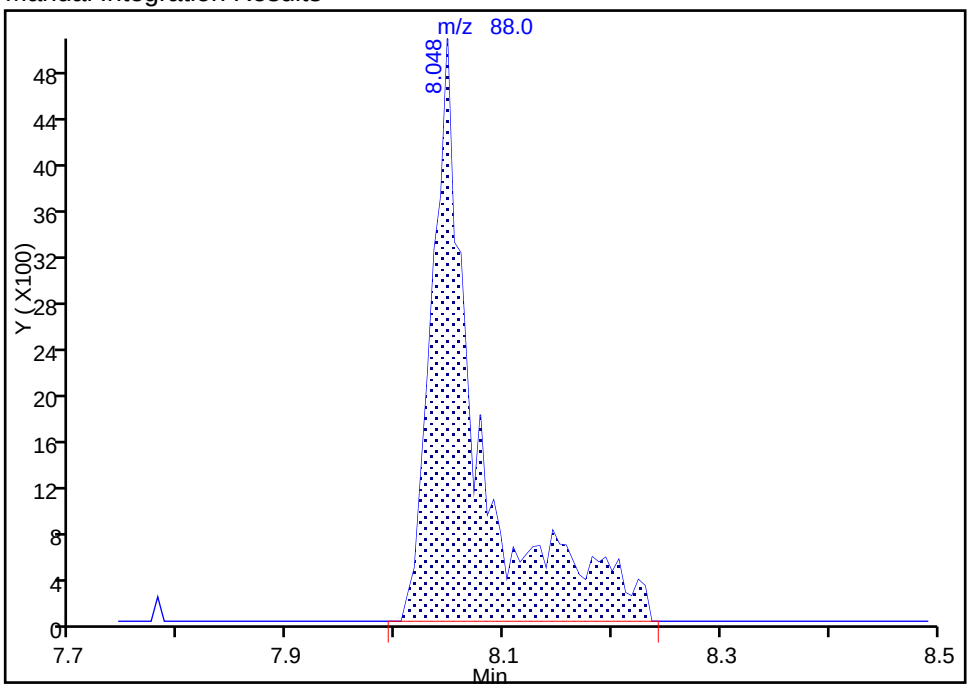
Processing Integration Results

RT: 8.05
Area: 11273
Amount: 403.3803
Amount Units: ng



Manual Integration Results

RT: 8.05
Area: 15162
Amount: 489.3788
Amount Units: ng



Reviewer: bungardf, 27-Jul-2017 03:14:22
Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D04.D
Lims ID: ICIS VSTD10
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 27-Jul-2017 01:39:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017756-004
Misc. Info.: ICIS VSTD10
Operator ID: 034635 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub12

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 28-Jul-2017 01:04:50 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK029

First Level Reviewer: bungardf Date: 27-Jul-2017 03:16:02

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.328	4.328	0.000	0	240414	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.297	7.297	0.000	99	539679	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.405	10.405	0.000	86	132843	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.772	12.772	0.000	94	174621	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.573	6.573	0.000	94	127700	50.0	49.2	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.944	6.944	0.000	0	159071	50.0	50.2	
$ 7 Toluene-d8 (Surr)	98	8.951	8.951	0.000	92	541748	50.0	51.2	
$ 8 4-Bromofluorobenzene (Surr	95	11.598	11.598	0.000	87	191158	50.0	50.1	
11 Dichlorodifluoromethane	85	1.663	1.663	0.000	99	159957	50.0	51.0	
12 Chloromethane	50	1.797	1.797	0.000	99	154943	50.0	49.1	
13 Vinyl chloride	62	1.955	1.955	0.000	98	162634	50.0	50.8	
14 Butadiene	39	1.968	1.968	0.000	94	143576	50.0	49.4	
15 Bromomethane	94	2.272	2.272	0.000	89	81346	50.0	53.8	
16 Chloroethane	64	2.424	2.424	0.000	98	86601	50.0	49.2	
17 Dichlorofluoromethane	67	2.710	2.710	0.000	96	224450	50.0	50.4	
18 Trichlorofluoromethane	101	2.746	2.746	0.000	97	205127	50.0	52.2	M
20 Ethyl ether	59	3.087	3.087	0.000	89	126496	50.0	49.4	
21 Acrolein	56	3.269	3.269	0.000	99	101829	150.0	158.0	
22 1,1-Dichloroethene	96	3.373	3.373	0.000	83	131576	50.0	49.8	
23 1,1,2-Trichloro-1,2,2-trif	101	3.440	3.440	0.000	91	141127	50.0	48.7	
24 Acetone	43	3.482	3.482	0.000	100	149782	100.0	106.1	
25 Iodomethane	142	3.580	3.580	0.000	99	200342	50.0	48.3	
26 Carbon disulfide	76	3.659	3.659	0.000	98	266935	50.0	46.0	
28 3-Chloro-1-propene	76	3.951	3.951	0.000	92	83167	50.0	48.7	
30 Methyl acetate	43	3.975	3.975	0.000	97	283974	100.0	101.6	
31 Methylene Chloride	84	4.170	4.170	0.000	90	164284	50.0	50.2	
32 2-Methyl-2-propanol	59	4.450	4.450	0.000	93	139891	500.0	492.0	
33 Acrylonitrile	53	4.559	4.559	0.000	99	708552	500.0	521.4	
34 trans-1,2-Dichloroethene	96	4.584	4.584	0.000	97	147191	50.0	48.9	
35 Methyl tert-butyl ether	73	4.608	4.608	0.000	96	390184	50.0	48.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.003	5.003	0.000	93	186124	50.0	48.2	
37 1,1-Dichloroethane	63	5.222	5.222	0.000	96	261874	50.0	50.0	
38 Vinyl acetate	43	5.271	5.271	0.000	97	245879	50.0	46.2	
44 2,2-Dichloropropane	97	5.958	5.958	0.000	72	31118	50.0	46.7	
45 cis-1,2-Dichloroethene	96	5.971	5.971	0.000	79	172690	50.0	50.2	
46 2-Butanone (MEK)	43	5.977	5.977	0.000	98	214731	100.0	106.9	
49 Chlorobromomethane	128	6.250	6.250	0.000	95	75687	50.0	49.5	
51 Tetrahydrofuran	42	6.269	6.269	0.000	89	117485	100.0	100.4	
52 Chloroform	83	6.396	6.396	0.000	92	254354	50.0	48.7	
53 1,1,1-Trichloroethane	97	6.555	6.555	0.000	98	196286	50.0	49.6	
54 Cyclohexane	56	6.621	6.621	0.000	89	239333	50.0	49.0	
56 Carbon tetrachloride	117	6.719	6.719	0.000	97	162849	50.0	49.5	
55 1,1-Dichloropropene	75	6.743	6.743	0.000	97	215336	50.0	50.4	
57 Isobutyl alcohol	41	6.950	6.950	0.000	84	136973	1250.0	1275.5	
58 Benzene	78	6.950	6.950	0.000	97	669098	50.0	51.0	
59 1,2-Dichloroethane	62	7.035	7.035	0.000	97	190422	50.0	49.8	
62 n-Heptane	43	7.315	7.315	0.000	86	154370	50.0	50.0	
64 Trichloroethene	130	7.692	7.692	0.000	98	164695	50.0	49.9	
66 Methylcyclohexane	83	7.917	7.917	0.000	86	253511	50.0	50.8	
67 1,2-Dichloropropane	63	7.960	7.960	0.000	94	150135	50.0	49.1	
68 Dibromomethane	93	8.045	8.045	0.000	95	88395	50.0	49.4	
70 1,4-Dioxane	88	8.051	8.051	0.000	40	33209	1000.0	1068.8	M
71 Dichlorobromomethane	83	8.246	8.246	0.000	99	171049	50.0	48.7	
73 2-Chloroethyl vinyl ether	63	8.544	8.544	0.000	92	219328	100.0	99.7	
74 cis-1,3-Dichloropropene	75	8.690	8.690	0.000	95	204344	50.0	47.9	
75 4-Methyl-2-pentanone (MIBK	43	8.848	8.848	0.000	96	361112	100.0	106.0	
76 Toluene	91	9.018	9.018	0.000	99	692901	50.0	52.3	
77 trans-1,3-Dichloropropene	75	9.268	9.268	0.000	93	170710	50.0	47.4	
78 Ethyl methacrylate	69	9.329	9.329	0.000	88	222171	50.0	51.1	
79 1,1,2-Trichloroethane	97	9.456	9.456	0.000	90	138196	50.0	50.1	
80 Tetrachloroethene	164	9.535	9.535	0.000	97	126273	50.0	50.0	
81 1,3-Dichloropropane	76	9.621	9.621	0.000	89	256477	50.0	50.3	
82 2-Hexanone	43	9.681	9.681	0.000	94	278579	100.0	106.6	
84 Chlorodibromomethane	129	9.834	9.834	0.000	90	114911	50.0	49.3	
85 Ethylene Dibromide	107	9.943	9.943	0.000	98	142489	50.0	50.3	
86 3-Chlorobenzotrifluoride	180	10.411	10.411	0.000	93	222871	50.0	48.8	
87 Chlorobenzene	112	10.436	10.436	0.000	95	431311	50.0	50.0	
88 4-Chlorobenzotrifluoride	180	10.497	10.497	0.000	96	207774	50.0	49.3	
89 1,1,1,2-Tetrachloroethane	131	10.533	10.533	0.000	94	137710	50.0	50.2	
90 Ethylbenzene	106	10.533	10.533	0.000	98	249792	50.0	51.9	
91 m-Xylene & p-Xylene	106	10.667	10.667	0.000	0	306948	50.0	52.2	
92 o-Xylene	106	11.050	11.050	0.000	96	288885	50.0	51.5	
93 Styrene	104	11.068	11.068	0.000	95	498873	50.0	52.6	
94 Bromoform	173	11.257	11.257	0.000	96	67829	50.0	46.8	
96 2-Chlorobenzotrifluoride	180	11.324	11.324	0.000	97	216286	50.0	49.5	
97 Isopropylbenzene	105	11.421	11.421	0.000	95	726432	50.0	53.1	
100 Bromobenzene	156	11.738	11.738	0.000	94	163748	50.0	48.3	
99 1,1,2,2-Tetrachloroethane	83	11.738	11.738	0.000	95	211912	50.0	51.9	
102 trans-1,4-Dichloro-2-buten	53	11.780	11.780	0.000	83	49334	50.0	48.3	
101 1,2,3-Trichloropropane	110	11.792	11.792	0.000	85	72643	50.0	51.9	
103 N-Propylbenzene	120	11.841	11.841	0.000	98	198029	50.0	51.1	
104 2-Chlorotoluene	126	11.926	11.926	0.000	97	167713	50.0	50.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 3-Chlorotoluene	126	11.999	11.999	0.000	96	185343	50.0	50.9	
106 1,3,5-Trimethylbenzene	105	12.030	12.030	0.000	94	578518	50.0	52.2	
107 4-Chlorotoluene	126	12.054	12.054	0.000	96	180584	50.0	50.0	
108 tert-Butylbenzene	119	12.346	12.346	0.000	93	480729	50.0	51.9	
110 1,2,4-Trimethylbenzene	105	12.407	12.407	0.000	97	588662	50.0	52.3	
111 1,2-dichloro-4-(trifluorom	214	12.456	12.456	0.000	97	138659	50.0	49.1	
112 sec-Butylbenzene	105	12.571	12.571	0.000	94	679839	50.0	52.6	
113 1,3-Dichlorobenzene	146	12.687	12.687	0.000	97	305374	50.0	50.4	
114 4-Isopropyltoluene	119	12.735	12.735	0.000	97	570403	50.0	53.0	
115 1,4-Dichlorobenzene	146	12.796	12.796	0.000	95	315614	50.0	50.8	
116 2,4-Dichloro-1-(triflourom	214	12.827	12.827	0.000	95	125268	50.0	47.7	
118 2,5-Dichlorobenzotrifluori	214	12.875	12.875	0.000	0	140272	50.0	49.4	
120 n-Butylbenzene	91	13.149	13.149	0.000	98	454742	50.0	51.8	
121 1,2-Dichlorobenzene	146	13.161	13.161	0.000	98	290492	50.0	50.3	
122 1,2-Dibromo-3-Chloropropan	75	13.976	13.976	0.000	85	30986	50.0	48.4	
123 2,4- & 2,5- & 2,6- Dichlor	125	14.122	14.122	0.000	0	566788	150.0	154.8	
125 2,3- & 3,4- Dichlorotoluen	125	14.554	14.554	0.000	0	380181	100.0	100.4	
126 1,2,4-Trichlorobenzene	180	14.834	14.834	0.000	93	134753	50.0	51.0	
127 Hexachlorobutadiene	225	14.992	14.992	0.000	97	49048	50.0	50.8	
128 Naphthalene	128	15.108	15.108	0.000	97	465533	50.0	51.7	
129 1,2,3-Trichlorobenzene	180	15.351	15.351	0.000	95	117120	50.0	48.5	
131 2,4,5-Trichlorotoluene	159	16.203	16.203	0.000	0	53498	50.0	46.6	
130 2,3,6-Trichlorotoluene	159	16.312	16.312	0.000	97	53869	50.0	50.5	
149 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 133 Xylenes, Total	106				0		100.0	103.7	
S 134 1,2-Dichloroethene, Total	96				0		100.0	99.0	
S 135 1,3-Dichloropropene, Total	1				0		100.0	95.2	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	2.00	Units: uL
VOA8260VOAPRI_00263	Amount Added:	2.00	Units: uL
voaW2clev1stR_00013	Amount Added:	2.00	Units: uL
voaWAcro1stRe_00016	Amount Added:	6.00	Units: uL
voaWVA1stRest_00017	Amount Added:	2.00	Units: uL
voaWEEmix1stR_00009	Amount Added:	2.00	Units: uL
voaWKetmix1st_00004	Amount Added:	2.00	Units: uL

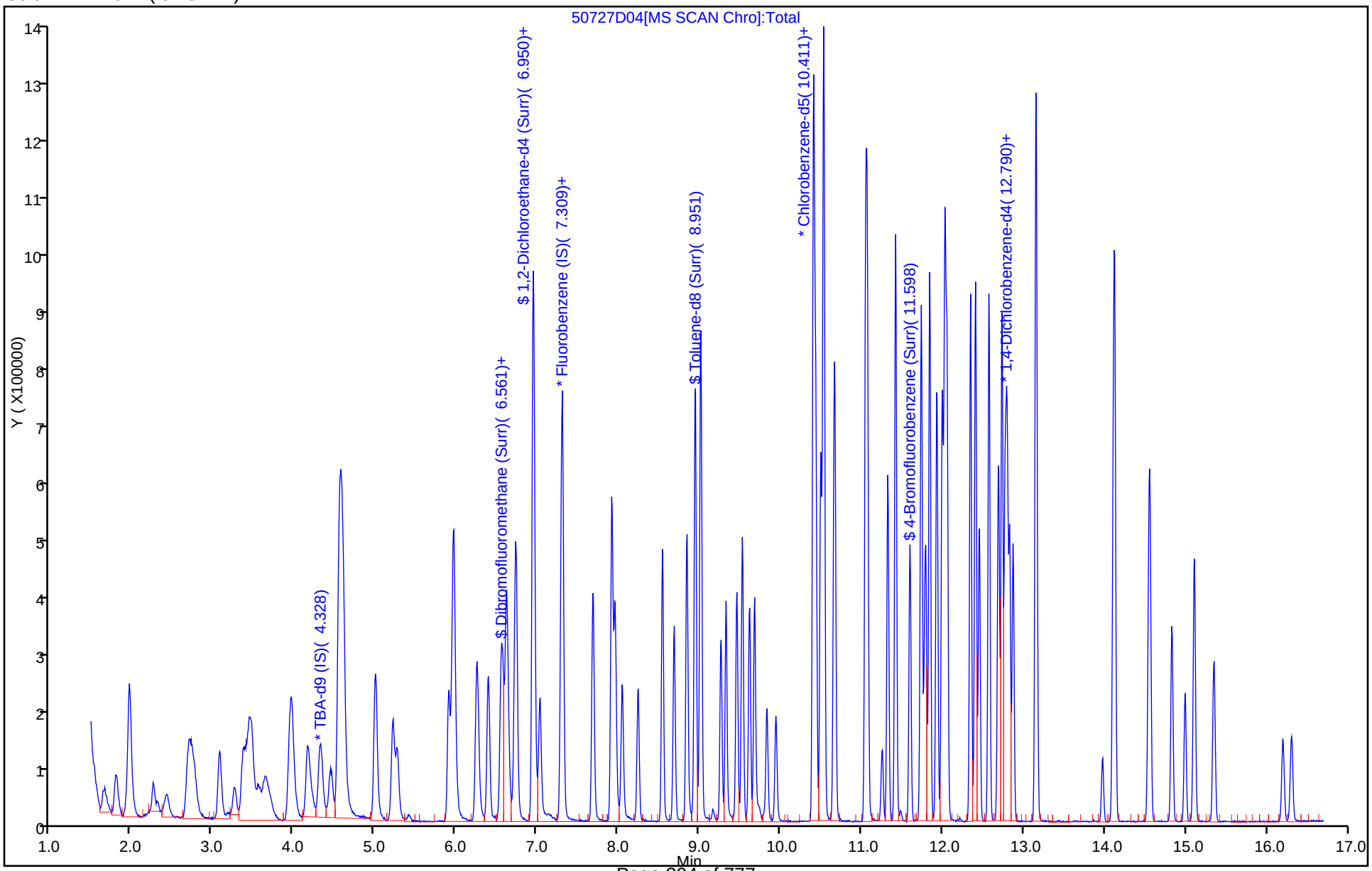
Report Date: 28-Jul-2017 01:04:50 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D04.D

Injection Date:	27-Jul-2017 01:39:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	ICIS VSTD10			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

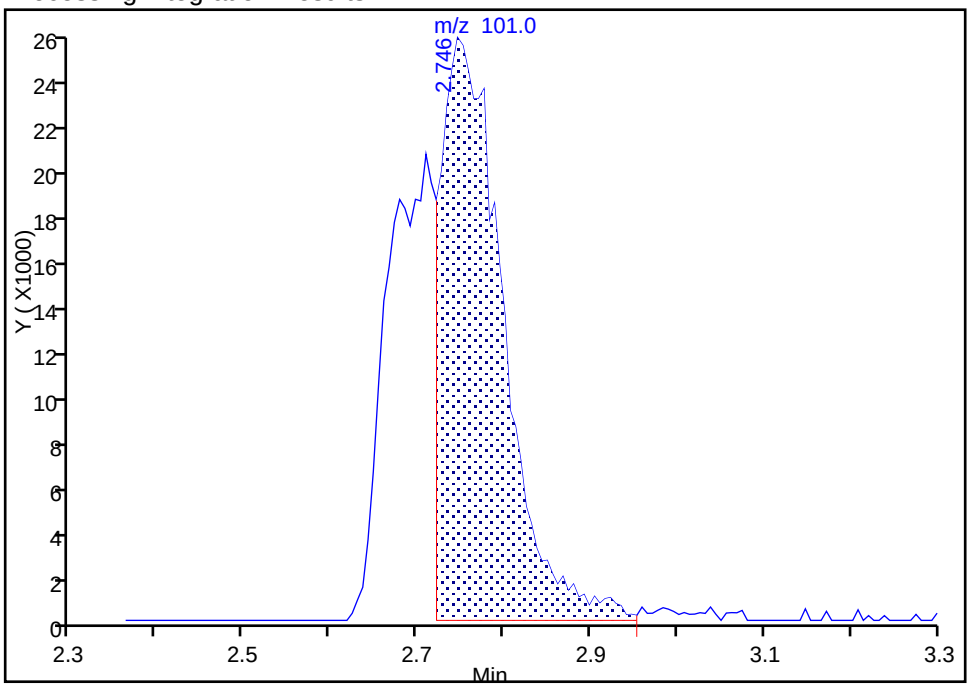
Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D04.D
Injection Date: 27-Jul-2017 01:39:30 Instrument ID: CHHP5
Lims ID: ICIS VSTD10
Client ID:
Operator ID: 034635 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

18 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

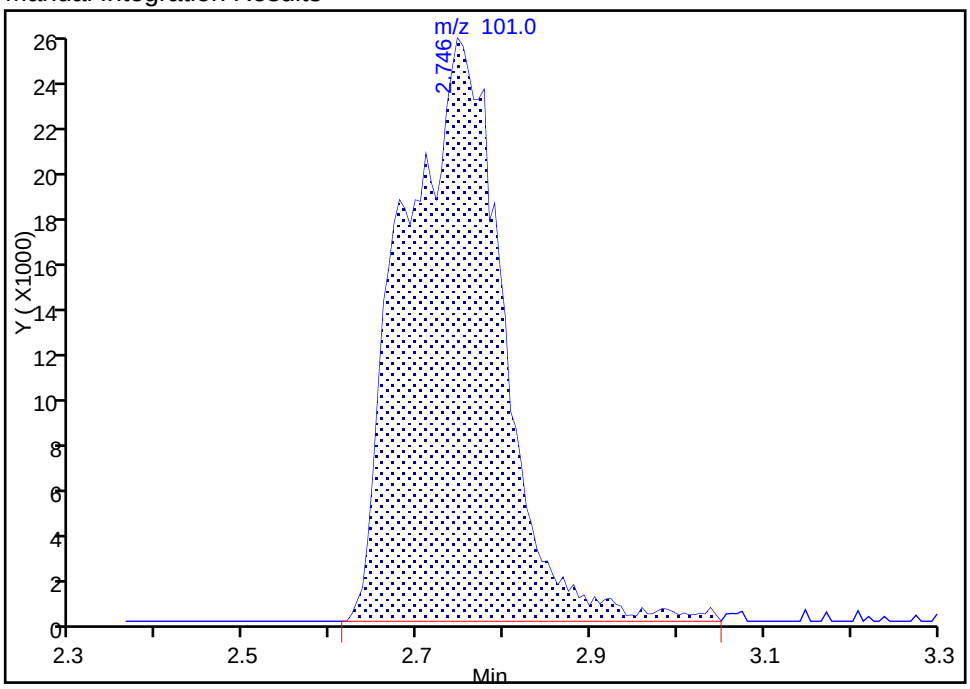
Processing Integration Results

RT: 2.75
Area: 129465
Amount: 34.020484
Amount Units: ng



Manual Integration Results

RT: 2.75
Area: 205127
Amount: 52.160696
Amount Units: ng



Reviewer: bungardf, 27-Jul-2017 03:15:11
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

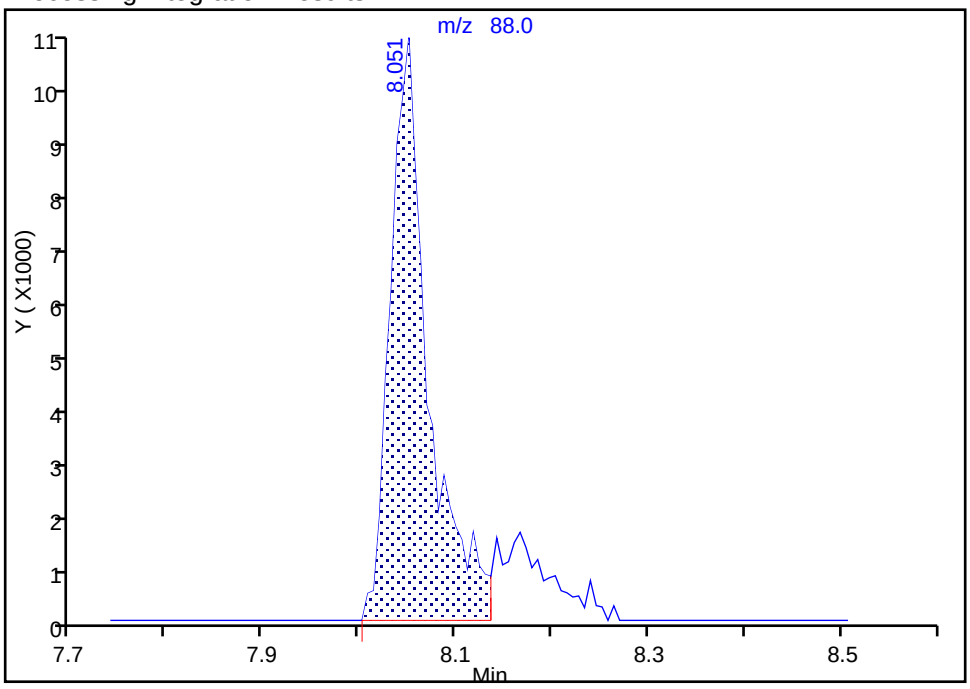
Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D04.D
Injection Date: 27-Jul-2017 01:39:30 Instrument ID: CHHP5
Lims ID: ICIS VSTD10
Client ID:
Operator ID: 034635 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

70 1,4-Dioxane, CAS: 123-91-1

Signal: 1

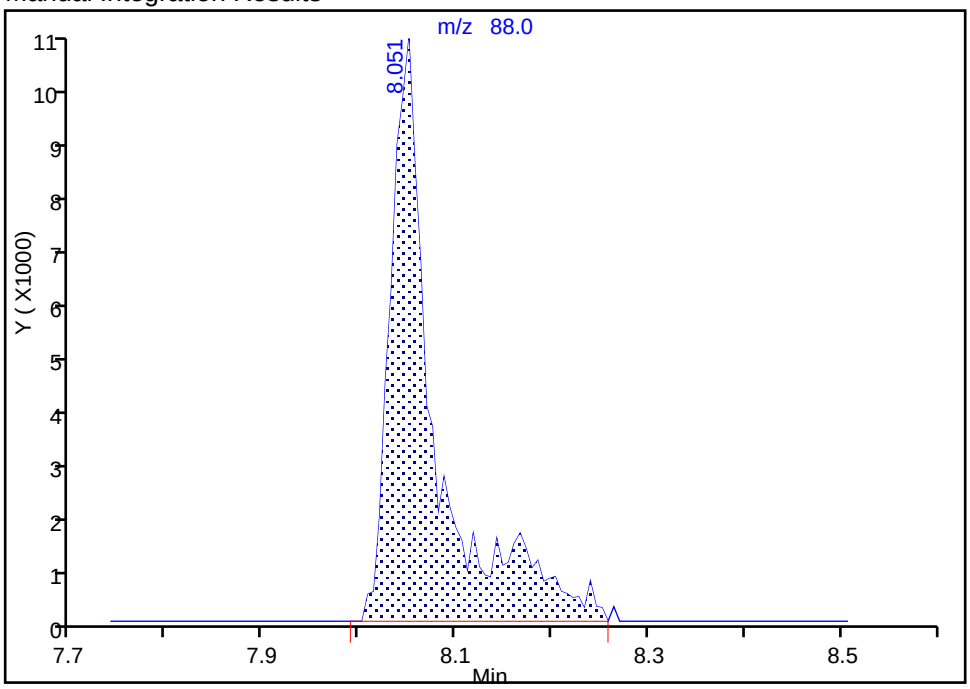
Processing Integration Results

RT: 8.05
Area: 27736
Amount: 937.4398
Amount Units: ng



Manual Integration Results

RT: 8.05
Area: 33209
Amount: 1068.7953
Amount Units: ng



Reviewer: bungardf, 27-Jul-2017 03:15:41
Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D05.D
Lims ID: IC VSTD15
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 27-Jul-2017 02:02:30 ALS Bottle#: 5 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017756-005
Misc. Info.: IC VSTD15
Operator ID: 034635 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub12

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 28-Jul-2017 01:04:55 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK029

First Level Reviewer: bungardf Date: 27-Jul-2017 03:16:54

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.323	4.323	0.000	0	240814	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.298	7.298	0.000	98	519897	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.406	10.406	0.000	84	132905	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.773	12.773	0.000	91	174376	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.574	6.574	0.000	93	193042	75.0	77.2	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.945	6.945	0.000	0	234269	75.0	76.8	
$ 7 Toluene-d8 (Surr)	98	8.946	8.946	0.000	92	780569	75.0	73.8	
$ 8 4-Bromofluorobenzene (Surr	95	11.599	11.599	0.000	88	289432	75.0	75.8	
11 Dichlorodifluoromethane	85	1.646	1.646	0.000	98	226899	75.0	75.1	
12 Chloromethane	50	1.804	1.804	0.000	99	232300	75.0	76.5	
13 Vinyl chloride	62	1.944	1.944	0.000	98	221295	75.0	71.8	
14 Butadiene	39	1.969	1.969	0.000	96	204212	75.0	72.9	
15 Bromomethane	94	2.254	2.254	0.000	90	112119	75.0	76.9	
16 Chloroethane	64	2.419	2.419	0.000	99	128899	75.0	76.1	
17 Dichlorofluoromethane	67	2.699	2.699	0.000	97	327021	75.0	76.3	
18 Trichlorofluoromethane	101	2.741	2.741	0.000	94	283194	75.0	74.8	
20 Ethyl ether	59	3.076	3.076	0.000	87	188662	75.0	76.6	
21 Acrolein	56	3.252	3.252	0.000	99	115103	175.0	185.4	
22 1,1-Dichloroethene	96	3.368	3.368	0.000	97	190985	75.0	75.0	
23 1,1,2-Trichloro-1,2,2-trif	101	3.441	3.441	0.000	92	206212	75.0	73.8	
24 Acetone	43	3.477	3.477	0.000	100	227784	150.0	167.5	
25 Iodomethane	142	3.562	3.562	0.000	96	304618	75.0	76.2	
26 Carbon disulfide	76	3.648	3.648	0.000	98	403056	75.0	72.2	
28 3-Chloro-1-propene	76	3.946	3.946	0.000	92	121734	75.0	74.0	
30 Methyl acetate	43	3.976	3.976	0.000	97	419273	150.0	155.7	
31 Methylene Chloride	84	4.165	4.165	0.000	87	242665	75.0	78.8	
32 2-Methyl-2-propanol	59	4.451	4.451	0.000	95	204334	750.0	717.5	
33 Acrylonitrile	53	4.554	4.554	0.000	98	1029651	750.0	786.5	
34 trans-1,2-Dichloroethene	96	4.584	4.584	0.000	97	222245	75.0	76.6	
35 Methyl tert-butyl ether	73	4.603	4.603	0.000	95	613933	75.0	78.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	4.998	4.998	0.000	93	266987	75.0	71.7	
37 1,1-Dichloroethane	63	5.217	5.217	0.000	96	379320	75.0	75.2	
38 Vinyl acetate	43	5.272	5.272	0.000	97	400099	75.0	78.0	
44 2,2-Dichloropropane	97	5.959	5.959	0.000	93	48893	75.0	76.2	
45 cis-1,2-Dichloroethene	96	5.965	5.965	0.000	79	259385	75.0	78.2	
46 2-Butanone (MEK)	43	5.978	5.978	0.000	98	321867	150.0	166.3	
49 Chlorobromomethane	128	6.245	6.245	0.000	94	113290	75.0	76.8	
51 Tetrahydrofuran	42	6.263	6.263	0.000	87	176266	150.0	156.4	
52 Chloroform	83	6.391	6.391	0.000	93	389323	75.0	77.3	
53 1,1,1-Trichloroethane	97	6.549	6.549	0.000	98	285488	75.0	74.9	
54 Cyclohexane	56	6.622	6.622	0.000	88	345041	75.0	73.4	
56 Carbon tetrachloride	117	6.726	6.726	0.000	97	238173	75.0	75.1	
55 1,1-Dichloropropene	75	6.738	6.738	0.000	98	312373	75.0	75.9	
57 Isobutyl alcohol	41	6.945	6.945	0.000	61	216532	1875.0	2093.1	
58 Benzene	78	6.951	6.951	0.000	97	981851	75.0	77.7	
59 1,2-Dichloroethane	62	7.030	7.030	0.000	98	292683	75.0	79.4	
62 n-Heptane	43	7.316	7.316	0.000	88	214813	75.0	72.2	
64 Trichloroethene	130	7.687	7.687	0.000	98	241861	75.0	76.0	
66 Methylcyclohexane	83	7.918	7.918	0.000	86	358781	75.0	74.6	
67 1,2-Dichloropropane	63	7.961	7.961	0.000	96	227133	75.0	77.2	
68 Dibromomethane	93	8.046	8.046	0.000	95	135198	75.0	78.4	
70 1,4-Dioxane	88	8.052	8.052	0.000	38	46920	1500.0	1567.5	
71 Dichlorobromomethane	83	8.241	8.241	0.000	99	268080	75.0	79.2	
73 2-Chloroethyl vinyl ether	63	8.545	8.545	0.000	92	343066	150.0	162.0	
74 cis-1,3-Dichloropropene	75	8.685	8.685	0.000	96	320956	75.0	78.1	
75 4-Methyl-2-pentanone (MIBK	43	8.843	8.843	0.000	95	542662	150.0	159.2	
76 Toluene	91	9.019	9.019	0.000	99	1000479	75.0	75.5	
77 trans-1,3-Dichloropropene	75	9.269	9.269	0.000	93	278226	75.0	77.2	
78 Ethyl methacrylate	69	9.330	9.330	0.000	87	352819	75.0	81.1	
79 1,1,2-Trichloroethane	97	9.457	9.457	0.000	91	209928	75.0	76.0	
80 Tetrachloroethene	164	9.530	9.530	0.000	97	184171	75.0	72.9	
81 1,3-Dichloropropane	76	9.615	9.615	0.000	88	397870	75.0	78.0	
82 2-Hexanone	43	9.682	9.682	0.000	93	419354	150.0	160.4	
84 Chlorodibromomethane	129	9.834	9.834	0.000	91	181267	75.0	77.7	
85 Ethylene Dibromide	107	9.944	9.944	0.000	97	223815	75.0	79.0	
86 3-Chlorobenzotrifluoride	180	10.412	10.412	0.000	93	352260	75.0	77.1	
87 Chlorobenzene	112	10.437	10.437	0.000	94	660247	75.0	76.5	
88 4-Chlorobenzotrifluoride	180	10.498	10.498	0.000	96	327327	75.0	77.7	
89 1,1,1,2-Tetrachloroethane	131	10.528	10.528	0.000	92	212641	75.0	77.5	
90 Ethylbenzene	106	10.534	10.534	0.000	98	371119	75.0	77.1	
91 m-Xylene & p-Xylene	106	10.668	10.668	0.000	0	452043	75.0	76.8	
92 o-Xylene	106	11.051	11.051	0.000	95	440285	75.0	78.5	
93 Styrene	104	11.069	11.069	0.000	94	745860	75.0	78.6	
94 Bromoform	173	11.252	11.252	0.000	96	112077	75.0	77.3	
96 2-Chlorobenzotrifluoride	180	11.325	11.325	0.000	97	348911	75.0	79.8	
97 Isopropylbenzene	105	11.422	11.422	0.000	96	1080505	75.0	78.9	
100 Bromobenzene	156	11.739	11.739	0.000	95	261052	75.0	77.1	
99 1,1,2,2-Tetrachloroethane	83	11.745	11.745	0.000	95	316221	75.0	77.4	
102 trans-1,4-Dichloro-2-buten	53	11.775	11.775	0.000	82	83561	75.0	81.9	
101 1,2,3-Trichloropropane	110	11.793	11.793	0.000	85	109372	75.0	78.3	
103 N-Propylbenzene	120	11.842	11.842	0.000	98	291693	75.0	75.4	
104 2-Chlorotoluene	126	11.927	11.927	0.000	97	256066	75.0	76.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 3-Chlorotoluene	126	11.994	11.994	0.000	97	289960	75.0	79.7	
106 1,3,5-Trimethylbenzene	105	12.031	12.031	0.000	94	866332	75.0	78.3	
107 4-Chlorotoluene	126	12.055	12.055	0.000	96	269544	75.0	74.7	
108 tert-Butylbenzene	119	12.347	12.347	0.000	93	721573	75.0	78.0	
110 1,2,4-Trimethylbenzene	105	12.408	12.408	0.000	97	884487	75.0	78.6	
111 1,2-dichloro-4-(trifluorom	214	12.456	12.456	0.000	97	219982	75.0	78.1	
112 sec-Butylbenzene	105	12.572	12.572	0.000	94	993968	75.0	77.0	
113 1,3-Dichlorobenzene	146	12.688	12.688	0.000	97	462404	75.0	76.5	
114 4-Isopropyltoluene	119	12.730	12.730	0.000	96	837492	75.0	77.9	
115 1,4-Dichlorobenzene	146	12.797	12.797	0.000	96	474362	75.0	76.4	
116 2,4-Dichloro-1-(triflourom	214	12.828	12.828	0.000	94	206368	75.0	78.6	
118 2,5-Dichlorobenzotrifluori	214	12.870	12.870	0.000	0	217211	75.0	76.6	
120 n-Butylbenzene	91	13.150	13.150	0.000	98	671190	75.0	76.5	
121 1,2-Dichlorobenzene	146	13.156	13.156	0.000	98	437966	75.0	76.0	
122 1,2-Dibromo-3-Chloropropan	75	13.971	13.971	0.000	83	47827	75.0	74.7	
123 2,4- & 2,5- & 2,6- Dichlor	125	14.117	14.117	0.000	0	889724	225.0	243.4	
125 2,3- & 3,4- Dichlorotoluen	125	14.555	14.555	0.000	0	620870	150.0	164.2	
126 1,2,4-Trichlorobenzene	180	14.829	14.829	0.000	94	200638	75.0	76.1	
127 Hexachlorobutadiene	225	14.993	14.993	0.000	98	73984	75.0	76.7	
128 Naphthalene	128	15.103	15.103	0.000	97	733996	75.0	81.7	
129 1,2,3-Trichlorobenzene	180	15.346	15.346	0.000	96	184932	75.0	76.8	
131 2,4,5-Trichlorotoluene	159	16.198	16.198	0.000	0	91488	75.0	79.9	
130 2,3,6-Trichlorotoluene	159	16.307	16.307	0.000	98	89402	75.0	83.9	
149 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 134 1,2-Dichloroethene, Total	96				0		150.0	154.8	
S 133 Xylenes, Total	106				0		150.0	155.3	
S 135 1,3-Dichloropropene, Total	1				0		150.0	155.2	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	3.00	Units: uL
VOA8260VOAPRI_00263	Amount Added:	3.00	Units: uL
voaW2clev1stR_00013	Amount Added:	3.00	Units: uL
voaWAcro1stRe_00016	Amount Added:	7.00	Units: uL
voaWVA1stRest_00017	Amount Added:	3.00	Units: uL
voaWEEmix1stR_00009	Amount Added:	3.00	Units: uL
voaWKetmix1st_00004	Amount Added:	3.00	Units: uL

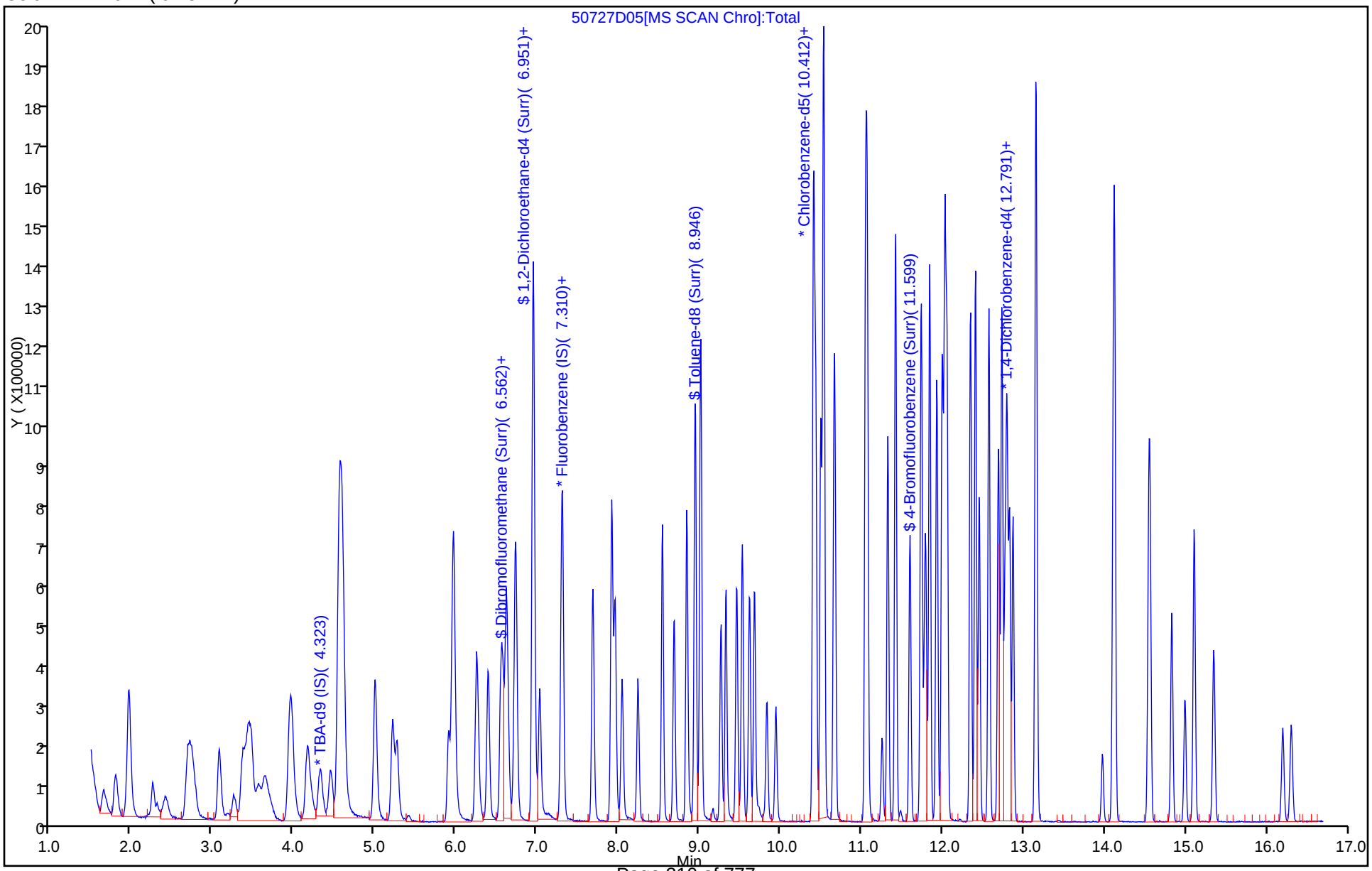
Report Date: 28-Jul-2017 01:04:56 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D05.D

Injection Date:	27-Jul-2017 02:02:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	IC VSTD15			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D06.D
Lims ID: IC VSTD20
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 27-Jul-2017 02:26:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017756-006
Misc. Info.: IC VSTD20
Operator ID: 034635 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub12

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 28-Jul-2017 01:04:58 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK029

First Level Reviewer: bungardf Date: 27-Jul-2017 03:06:29

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.316	4.323	-0.007	0	252187	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.297	7.298	-0.001	98	520193	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.406	10.406	0.000	85	132635	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.772	12.773	-0.001	95	171832	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.573	6.574	-0.001	93	257355	100.0	102.8	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.944	6.945	-0.001	0	307676	100.0	100.8	
$ 7 Toluene-d8 (Surr)	98	8.945	8.946	-0.001	92	1040595	100.0	98.6	
$ 8 4-Bromofluorobenzene (Surr	95	11.598	11.599	-0.001	87	390879	100.0	102.5	
11 Dichlorodifluoromethane	85	1.651	1.646	0.005	99	286388	100.0	94.7	
12 Chloromethane	50	1.797	1.804	-0.007	99	302276	100.0	99.4	
13 Vinyl chloride	62	1.949	1.944	0.005	98	291558	100.0	94.5	
14 Butadiene	39	1.962	1.969	-0.006	92	260580	100.0	93.0	
15 Bromomethane	94	2.260	2.254	0.006	90	161865	100.0	111.0	
16 Chloroethane	64	2.412	2.419	-0.007	99	172552	100.0	101.8	
17 Dichlorofluoromethane	67	2.710	2.699	0.011	97	436022	100.0	101.7	
18 Trichlorofluoromethane	101	2.734	2.741	-0.007	96	371684	100.0	98.1	
20 Ethyl ether	59	3.081	3.076	0.005	89	262150	100.0	106.3	
21 Acrolein	56	3.264	3.252	0.012	99	130923	200.0	210.7	
22 1,1-Dichloroethene	96	3.373	3.368	0.005	98	247279	100.0	97.1	
23 1,1,2-Trichloro-1,2,2-trif	101	3.446	3.441	0.005	93	263603	100.0	94.3	
24 Acetone	43	3.476	3.477	-0.001	100	316026	200.0	232.3	
25 Iodomethane	142	3.562	3.562	0.000	98	408622	100.0	102.2	
26 Carbon disulfide	76	3.647	3.648	-0.001	99	561008	100.0	100.4	
28 3-Chloro-1-propene	76	3.951	3.946	0.005	92	164305	100.0	99.8	
30 Methyl acetate	43	3.969	3.976	-0.007	97	558912	200.0	207.5	
31 Methylene Chloride	84	4.164	4.165	-0.001	93	323324	100.0	106.0	
32 2-Methyl-2-propanol	59	4.444	4.451	-0.007	94	283777	1000.0	951.5	
33 Acrylonitrile	53	4.553	4.554	-0.001	99	1387354	1000.0	1059.2	
34 trans-1,2-Dichloroethene	96	4.584	4.584	0.000	98	296608	100.0	102.2	
35 Methyl tert-butyl ether	73	4.602	4.603	-0.001	95	822838	100.0	105.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.003	4.998	0.005	92	337300	100.0	90.6	
37 1,1-Dichloroethane	63	5.210	5.217	-0.007	96	510811	100.0	101.2	
38 Vinyl acetate	43	5.265	5.272	-0.007	97	532250	100.0	103.7	
44 2,2-Dichloropropane	97	5.959	5.959	-0.001	57	65750	100.0	102.4	
45 cis-1,2-Dichloroethene	96	5.965	5.965	0.000	79	347303	100.0	104.6	
46 2-Butanone (MEK)	43	5.983	5.978	0.005	98	426755	200.0	220.4	
49 Chlorobromomethane	128	6.251	6.245	0.005	94	155416	100.0	105.4	
51 Tetrahydrofuran	42	6.263	6.263	0.000	86	224432	200.0	199.0	
52 Chloroform	83	6.390	6.391	-0.001	92	517765	100.0	102.8	
53 1,1,1-Trichloroethane	97	6.555	6.549	0.006	98	383868	100.0	100.7	
54 Cyclohexane	56	6.622	6.622	0.000	89	446560	100.0	94.9	
56 Carbon tetrachloride	117	6.725	6.726	-0.001	96	317033	100.0	99.9	
55 1,1-Dichloropropene	75	6.737	6.738	-0.001	98	408627	100.0	99.2	
58 Benzene	78	6.956	6.951	0.005	97	1307056	100.0	103.3	
57 Isobutyl alcohol	41	6.944	6.945	-0.001	91	290317	2500.0	2804.8	
59 1,2-Dichloroethane	62	7.029	7.030	-0.001	97	385206	100.0	104.5	
62 n-Heptane	43	7.315	7.316	-0.001	89	279216	100.0	93.8	
64 Trichloroethene	130	7.686	7.687	-0.001	98	329499	100.0	103.5	
66 Methylcyclohexane	83	7.917	7.918	-0.001	87	467268	100.0	97.1	
67 1,2-Dichloropropane	63	7.960	7.961	-0.001	96	309491	100.0	105.1	
68 Dibromomethane	93	8.051	8.046	0.005	96	184529	100.0	106.9	
70 1,4-Dioxane	88	8.045	8.052	-0.007	39	65688	2000.0	2193.3	
71 Dichlorobromomethane	83	8.240	8.241	-0.001	99	366097	100.0	108.1	
73 2-Chloroethyl vinyl ether	63	8.544	8.545	-0.001	92	467677	200.0	220.7	
74 cis-1,3-Dichloropropene	75	8.684	8.685	-0.001	96	447138	100.0	108.7	
75 4-Methyl-2-pentanone (MIBK	43	8.842	8.843	-0.001	95	738839	200.0	217.2	
76 Toluene	91	9.018	9.019	-0.001	99	1332783	100.0	100.8	
77 trans-1,3-Dichloropropene	75	9.268	9.269	-0.001	92	396221	100.0	110.1	
78 Ethyl methacrylate	69	9.329	9.330	-0.001	87	483364	100.0	111.4	
79 1,1,2-Trichloroethane	97	9.456	9.457	-0.001	90	283688	100.0	103.0	
80 Tetrachloroethene	164	9.529	9.530	-0.001	97	244346	100.0	96.9	
81 1,3-Dichloropropane	76	9.615	9.615	0.000	89	518120	100.0	101.7	
82 2-Hexanone	43	9.676	9.682	-0.006	94	581383	200.0	222.8	
84 Chlorodibromomethane	129	9.834	9.834	0.000	90	254603	100.0	109.3	
85 Ethylene Dibromide	107	9.943	9.944	-0.001	99	294438	100.0	104.2	
86 3-Chlorobenzotrifluoride	180	10.412	10.412	0.000	94	461082	100.0	101.2	
87 Chlorobenzene	112	10.436	10.437	-0.001	95	877804	100.0	102.0	
88 4-Chlorobenzotrifluoride	180	10.497	10.498	-0.001	96	420704	100.0	100.0	
90 Ethylbenzene	106	10.533	10.534	-0.001	98	499116	100.0	103.8	
89 1,1,1,2-Tetrachloroethane	131	10.527	10.528	-0.001	92	289044	100.0	105.6	
91 m-Xylene & p-Xylene	106	10.667	10.668	-0.001	0	610286	100.0	103.9	
92 o-Xylene	106	11.050	11.051	-0.001	95	592117	100.0	105.8	
93 Styrene	104	11.075	11.069	0.006	94	1002147	100.0	105.8	
94 Bromoform	173	11.251	11.252	-0.001	97	157509	100.0	108.8	
96 2-Chlorobenzotrifluoride	180	11.324	11.325	-0.001	97	454842	100.0	104.3	
97 Isopropylbenzene	105	11.421	11.422	-0.001	96	1415676	100.0	103.6	
99 1,1,2,2-Tetrachloroethane	83	11.738	11.745	-0.007	95	412534	100.0	101.1	
100 Bromobenzene	156	11.738	11.739	-0.001	95	348475	100.0	104.5	
102 trans-1,4-Dichloro-2-buten	53	11.774	11.775	-0.001	82	104361	100.0	103.8	
101 1,2,3-Trichloropropane	110	11.793	11.793	0.000	85	144469	100.0	105.0	
103 N-Propylbenzene	120	11.841	11.842	-0.001	98	387234	100.0	101.6	
104 2-Chlorotoluene	126	11.926	11.927	-0.001	97	344800	100.0	104.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 3-Chlorotoluene	126	11.999	11.994	0.005	96	381649	100.0	106.5	
106 1,3,5-Trimethylbenzene	105	12.030	12.031	-0.001	94	1140888	100.0	104.6	
107 4-Chlorotoluene	126	12.054	12.055	-0.001	96	369832	100.0	104.0	
108 tert-Butylbenzene	119	12.346	12.347	-0.001	93	931884	100.0	102.2	
110 1,2,4-Trimethylbenzene	105	12.407	12.408	-0.001	97	1156912	100.0	104.4	
111 1,2-dichloro-4-(trifluorom	214	12.456	12.456	0.000	97	277157	100.0	99.8	
112 sec-Butylbenzene	105	12.571	12.572	-0.001	94	1298722	100.0	102.1	
113 1,3-Dichlorobenzene	146	12.687	12.688	-0.001	97	613101	100.0	102.9	
114 4-Isopropyltoluene	119	12.729	12.730	-0.001	96	1086140	100.0	102.5	
115 1,4-Dichlorobenzene	146	12.796	12.797	-0.001	94	622850	100.0	101.8	
116 2,4-Dichloro-1-(triflourom	214	12.827	12.828	-0.001	96	267418	100.0	103.4	
118 2,5-Dichlorobenzotrifluori	214	12.869	12.870	-0.001	0	279514	100.0	100.1	
120 n-Butylbenzene	91	13.149	13.150	-0.001	97	885288	100.0	102.4	
121 1,2-Dichlorobenzene	146	13.155	13.156	-0.001	97	577962	100.0	101.8	
122 1,2-Dibromo-3-Chloropropan	75	13.970	13.971	-0.001	85	68470	100.0	108.6	
123 2,4- & 2,5- & 2,6- Dichlor	125	14.116	14.117	-0.001	0	1151252	300.0	319.5	
125 2,3- & 3,4- Dichlorotoluen	125	14.548	14.555	-0.007	0	814032	200.0	218.5	
126 1,2,4-Trichlorobenzene	180	14.828	14.829	-0.001	95	266863	100.0	102.7	
127 Hexachlorobutadiene	225	14.992	14.993	-0.001	97	94134	100.0	99.0	
128 Naphthalene	128	15.102	15.103	-0.001	97	990398	100.0	111.9	
129 1,2,3-Trichlorobenzene	180	15.345	15.346	-0.001	97	247660	100.0	104.3	
131 2,4,5-Trichlorotoluene	159	16.197	16.198	-0.001	0	122498	100.0	108.5	
130 2,3,6-Trichlorotoluene	159	16.306	16.307	-0.001	96	115009	100.0	109.5	
149 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 133 Xylenes, Total	106				0		200.0	209.7	
S 134 1,2-Dichloroethene, Total	96				0		200.0	206.9	
S 135 1,3-Dichloropropene, Total	1				0		200.0	218.8	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	4.00	Units: uL
VOA8260VOAPRI_00263	Amount Added:	4.00	Units: uL
voaW2clev1stR_00013	Amount Added:	4.00	Units: uL
voaWAcro1stRe_00016	Amount Added:	8.00	Units: uL
voaWVA1stRest_00017	Amount Added:	4.00	Units: uL
voaWEEmix1stR_00009	Amount Added:	4.00	Units: uL
voaWKetmix1st_00004	Amount Added:	4.00	Units: uL

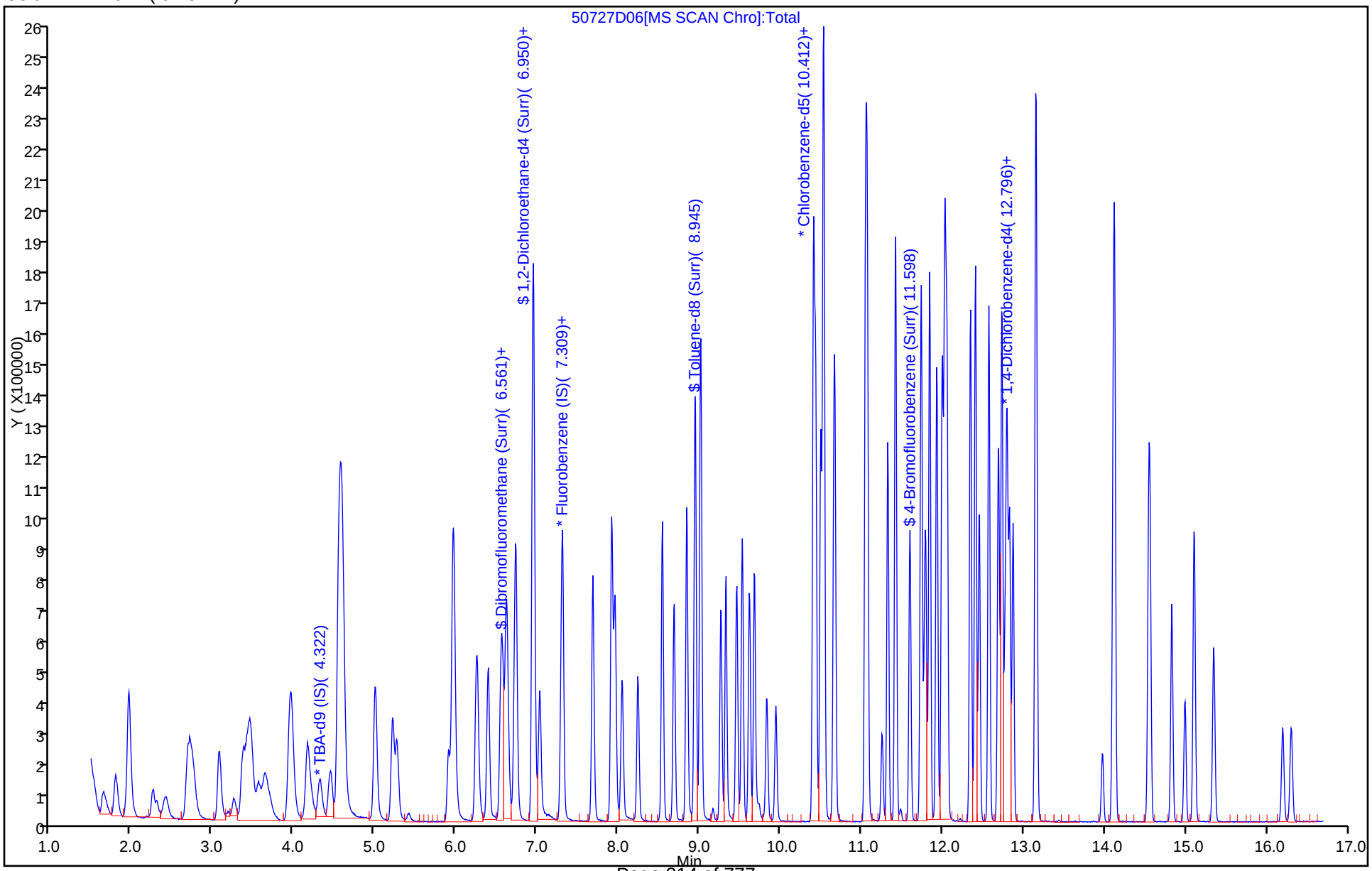
Report Date: 28-Jul-2017 01:04:59 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D06.D

Injection Date:	27-Jul-2017 02:26:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	IC VSTD20			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D08.D
Lims ID: IC VSTD40
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 27-Jul-2017 03:13:30 ALS Bottle#: 8 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017756-008
Misc. Info.: IC VSTD40
Operator ID: 034635 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub12

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 28-Jul-2017 01:05:02 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK029

First Level Reviewer: bungardf Date: 27-Jul-2017 03:34:06

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.337	4.323	0.013	0	252542	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.299	7.298	0.001	99	561296	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.408	10.406	0.002	56	150914	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.768	12.773	-0.005	90	189484	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.575	6.574	0.001	94	522323	200.0	193.4	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.946	6.945	0.001	0	628942	200.0	190.9	
$ 7 Toluene-d8 (Surr)	98	8.948	8.946	0.002	92	2000995	200.0	166.6	
$ 8 4-Bromofluorobenzene (Surr	95	11.594	11.599	-0.005	92	793129	200.0	182.8	
11 Dichlorodifluoromethane	85	1.654	1.646	0.008	99	569791	200.0	174.6	
12 Chloromethane	50	1.812	1.804	0.008	99	580608	200.0	177.0	
13 Vinyl chloride	62	1.958	1.944	0.014	97	577090	200.0	173.4	
14 Butadiene	39	1.970	1.969	0.002	94	512032	200.0	169.3	
15 Bromomethane	94	2.268	2.254	0.014	91	289712	200.0	184.1	
16 Chloroethane	64	2.426	2.419	0.007	99	322589	200.0	176.3	
17 Dichlorofluoromethane	67	2.706	2.699	0.007	97	819020	200.0	177.0	
18 Trichlorofluoromethane	101	2.761	2.741	0.020	97	710415	200.0	173.7	
20 Ethyl ether	59	3.077	3.076	0.001	88	510033	200.0	191.7	
21 Acrolein	56	3.260	3.252	0.008	100	179414	250.0	267.6	
22 1,1-Dichloroethene	96	3.369	3.368	0.001	96	489503	200.0	178.1	
23 1,1,2-Trichloro-1,2,2-trif	101	3.442	3.441	0.001	93	534815	200.0	177.3	
24 Acetone	43	3.485	3.477	0.008	100	522287	400.0	355.8	
25 Iodomethane	142	3.576	3.562	0.014	98	834240	200.0	193.3	
26 Carbon disulfide	76	3.649	3.648	0.001	99	1211678	200.0	200.9	
28 3-Chloro-1-propene	76	3.947	3.946	0.001	92	366340	200.0	206.3	
30 Methyl acetate	43	3.978	3.976	0.002	97	1173609	400.0	403.7	
31 Methylene Chloride	84	4.166	4.165	0.001	88	653341	200.0	201.5	
32 2-Methyl-2-propanol	59	4.464	4.451	0.013	93	519054	2000.0	1737.9	
33 Acrylonitrile	53	4.562	4.554	0.008	99	2794353	2000.0	1977.2	
34 trans-1,2-Dichloroethene	96	4.580	4.584	-0.004	97	571864	200.0	182.6	
35 Methyl tert-butyl ether	73	4.604	4.603	0.001	95	1751345	200.0	208.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.000	4.998	0.002	92	708650	200.0	176.3	
37 1,1-Dichloroethane	63	5.219	5.217	0.002	96	1041269	200.0	191.3	
38 Vinyl acetate	43	5.273	5.272	0.001	97	1200052	200.0	216.8	
44 2,2-Dichloropropane	97	5.961	5.959	0.002	88	125406	200.0	180.9	
45 cis-1,2-Dichloroethene	96	5.967	5.965	0.002	80	687049	200.0	191.8	
46 2-Butanone (MEK)	43	5.979	5.978	0.001	98	795793	400.0	380.9	
49 Chlorobromomethane	128	6.247	6.245	0.002	94	313977	200.0	197.3	
51 Tetrahydrofuran	42	6.265	6.263	0.002	86	488432	400.0	401.4	
52 Chloroform	83	6.393	6.391	0.002	93	1037446	200.0	190.8	
53 1,1,1-Trichloroethane	97	6.551	6.549	0.002	98	777880	200.0	189.0	
54 Cyclohexane	56	6.618	6.622	-0.004	90	922281	200.0	181.6	
56 Carbon tetrachloride	117	6.721	6.726	-0.005	97	646700	200.0	188.8	
55 1,1-Dichloropropene	75	6.739	6.738	0.001	97	825970	200.0	185.8	
57 Isobutyl alcohol	41	6.946	6.945	0.001	51	587752	5000.0	5262.5	
58 Benzene	78	6.952	6.951	0.001	97	2487856	200.0	182.3	
59 1,2-Dichloroethane	62	7.031	7.030	0.001	97	767974	200.0	193.0	
62 n-Heptane	43	7.311	7.316	-0.005	87	573064	200.0	178.3	
64 Trichloroethene	130	7.682	7.687	-0.005	98	647404	200.0	188.5	
66 Methylcyclohexane	83	7.920	7.918	0.002	87	950167	200.0	183.0	
67 1,2-Dichloropropane	63	7.962	7.961	0.001	96	624637	200.0	196.5	
68 Dibromomethane	93	8.047	8.046	0.001	95	374289	200.0	201.0	
70 1,4-Dioxane	88	8.041	8.052	-0.011	39	135844	4000.0	4203.6	
71 Dichlorobromomethane	83	8.242	8.241	0.001	99	752352	200.0	205.8	
73 2-Chloroethyl vinyl ether	63	8.546	8.545	0.001	93	977190	400.0	427.3	
74 cis-1,3-Dichloropropene	75	8.686	8.685	0.001	96	933591	200.0	210.3	
75 4-Methyl-2-pentanone (MIBK	43	8.844	8.843	0.001	95	1476808	400.0	381.5	
76 Toluene	91	9.015	9.019	-0.004	98	2540251	200.0	168.8	
77 trans-1,3-Dichloropropene	75	9.264	9.269	-0.005	92	850338	200.0	207.7	
78 Ethyl methacrylate	69	9.325	9.330	-0.005	88	1001550	200.0	202.8	
79 1,1,2-Trichloroethane	97	9.459	9.457	0.002	91	569083	200.0	181.5	
80 Tetrachloroethene	164	9.532	9.530	0.002	97	486427	200.0	169.5	
81 1,3-Dichloropropane	76	9.617	9.615	0.002	89	1058308	200.0	182.6	
82 2-Hexanone	43	9.678	9.682	-0.004	93	1109580	400.0	373.7	
84 Chlorodibromomethane	129	9.830	9.834	-0.004	89	540065	200.0	203.8	
85 Ethylene Dibromide	107	9.945	9.944	0.001	98	607203	200.0	188.9	
86 3-Chlorobenzotrifluoride	180	10.408	10.412	-0.004	93	869071	200.0	167.6	
87 Chlorobenzene	112	10.432	10.437	-0.005	93	1704167	200.0	174.0	
88 4-Chlorobenzotrifluoride	180	10.499	10.498	0.001	96	810848	200.0	169.4	
89 1,1,1,2-Tetrachloroethane	131	10.529	10.528	0.001	94	590452	200.0	189.5	
90 Ethylbenzene	106	10.536	10.534	0.002	98	972676	200.0	177.9	
91 m-Xylene & p-Xylene	106	10.669	10.668	0.001	0	1217768	200.0	182.2	
92 o-Xylene	106	11.053	11.051	0.002	95	1159372	200.0	182.1	
93 Styrene	104	11.071	11.069	0.002	94	1967591	200.0	182.6	
94 Bromoform	173	11.253	11.252	0.001	96	350923	200.0	213.1	
96 2-Chlorobenzotrifluoride	180	11.326	11.325	0.001	96	875687	200.0	176.5	
97 Isopropylbenzene	105	11.418	11.422	-0.004	96	2665903	200.0	171.5	
100 Bromobenzene	156	11.734	11.739	-0.005	95	711710	200.0	193.5	
99 1,1,2,2-Tetrachloroethane	83	11.740	11.745	-0.005	93	870164	200.0	187.5	
102 trans-1,4-Dichloro-2-buten	53	11.777	11.775	0.002	85	225821	200.0	203.6	
101 1,2,3-Trichloropropane	110	11.795	11.793	0.002	85	299299	200.0	197.2	
103 N-Propylbenzene	120	11.844	11.842	0.002	97	774184	200.0	184.2	
104 2-Chlorotoluene	126	11.929	11.927	0.002	97	700158	200.0	192.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 3-Chlorotoluene	126	11.996	11.994	0.002	96	742625	200.0	187.9	
106 1,3,5-Trimethylbenzene	105	12.026	12.031	-0.005	94	2188229	200.0	182.0	
107 4-Chlorotoluene	126	12.056	12.055	0.001	95	738280	200.0	188.2	
108 tert-Butylbenzene	119	12.342	12.347	-0.005	93	1809964	200.0	180.0	
110 1,2,4-Trimethylbenzene	105	12.403	12.408	-0.005	97	2260604	200.0	184.9	
111 1,2-dichloro-4-(trifluorom	214	12.452	12.456	-0.004	97	542681	200.0	177.2	
112 sec-Butylbenzene	105	12.574	12.572	0.002	95	2474312	200.0	176.4	
113 1,3-Dichlorobenzene	146	12.689	12.688	0.001	97	1215884	200.0	185.0	
114 4-Isopropyltoluene	119	12.732	12.730	0.002	96	2107989	200.0	180.4	
115 1,4-Dichlorobenzene	146	12.799	12.797	0.002	95	1249173	200.0	185.1	
116 2,4-Dichloro-1-(triflourom	214	12.829	12.828	0.001	95	497225	200.0	174.4	
118 2,5-Dichlorobenzotrifluori	214	12.872	12.870	0.002	0	580659	200.0	188.5	
120 n-Butylbenzene	91	13.151	13.150	0.001	96	1729209	200.0	181.5	
121 1,2-Dichlorobenzene	146	13.158	13.156	0.002	97	1161072	200.0	185.4	
122 1,2-Dibromo-3-Chloropropan	75	13.973	13.971	0.002	85	151695	200.0	218.1	
123 2,4- & 2,5- & 2,6- Dichlor	125	14.119	14.117	0.002	0	2228710	600.0	561.0	
125 2,3- & 3,4- Dichlorotoluen	125	14.551	14.555	-0.004	0	1589536	400.0	386.9	
126 1,2,4-Trichlorobenzene	180	14.830	14.829	0.001	94	552245	200.0	192.7	
127 Hexachlorobutadiene	225	14.995	14.993	0.002	98	180140	200.0	171.8	
128 Naphthalene	128	15.104	15.103	0.001	97	2008065	200.0	205.7	
129 1,2,3-Trichlorobenzene	180	15.348	15.346	0.002	96	497473	200.0	190.0	
131 2,4,5-Trichlorotoluene	159	16.199	16.198	0.001	0	253594	200.0	203.8	
130 2,3,6-Trichlorotoluene	159	16.303	16.307	-0.004	97	237299	200.0	205.0	
149 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 134 1,2-Dichloroethene, Total	96				0		400.0	374.5	
S 133 Xylenes, Total	106				0		400.0	364.3	
S 135 1,3-Dichloropropene, Total	1				0		400.0	418.0	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	8.00	Units: uL
VOA8260VOAPRI_00263	Amount Added:	8.00	Units: uL
voaW2clev1stR_00013	Amount Added:	8.00	Units: uL
voaWAcro1stRe_00016	Amount Added:	10.00	Units: uL
voaWVA1stRest_00017	Amount Added:	8.00	Units: uL
voaWEEmix1stR_00009	Amount Added:	8.00	Units: uL
voaWKetmix1st_00004	Amount Added:	8.00	Units: uL

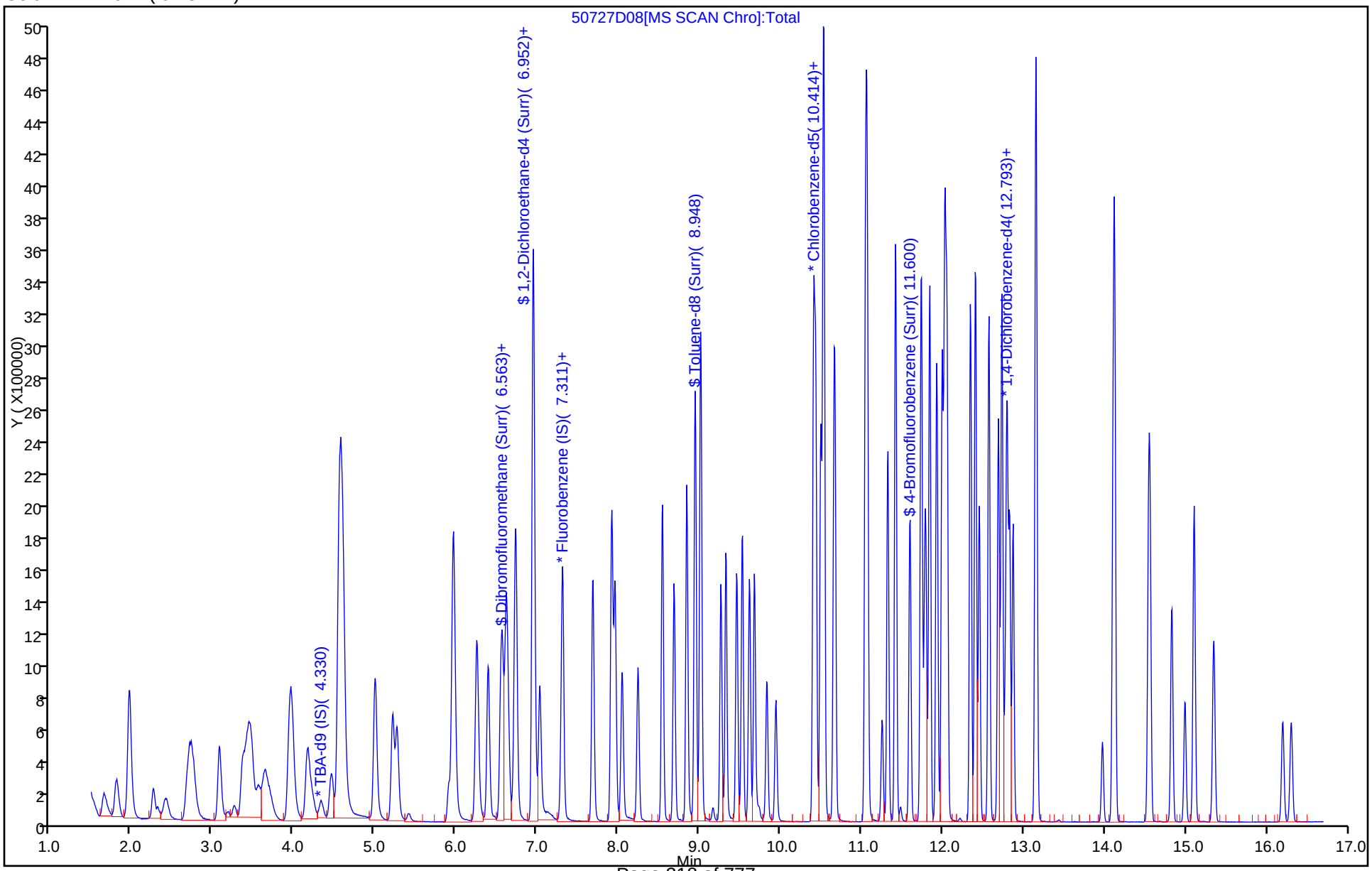
Report Date: 28-Jul-2017 01:05:03 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D08.D

Injection Date:	27-Jul-2017 03:13:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	IC VSTD40			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D10.D
Lims ID: IC VSTD35
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 27-Jul-2017 04:00:30 ALS Bottle#: 10 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017756-010
Misc. Info.: IC VSTD35
Operator ID: 034635 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub12

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 28-Jul-2017 01:05:06 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK029

First Level Reviewer: bungardf Date: 27-Jul-2017 04:42:28

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.328	4.323	0.005	0	232894	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.296	7.298	-0.002	94	610088	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.405	10.406	-0.001	86	155120	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.771	12.773	-0.002	90	193547	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.572	6.574	-0.002	94	505019	175.0	172.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.943	6.945	-0.002	0	575099	175.0	160.6	
$ 7 Toluene-d8 (Surr)	98	8.951	8.946	0.005	92	1992609	175.0	161.4	
$ 8 4-Bromofluorobenzene (Surr	95	11.597	11.599	-0.002	87	748217	175.0	167.8	
11 Dichlorodifluoromethane	85	1.651	1.646	0.005	99	647803	175.0	182.6	
12 Chloromethane	50	1.809	1.804	0.005	99	595751	175.0	167.1	
13 Vinyl chloride	62	1.961	1.944	0.017	98	632153	175.0	174.7	
14 Butadiene	39	1.967	1.969	-0.001	93	579584	175.0	176.3	
15 Bromomethane	94	2.265	2.254	0.011	91	285707	175.0	167.0	
16 Chloroethane	64	2.417	2.419	-0.002	99	340168	175.0	171.1	
17 Dichlorofluoromethane	67	2.703	2.699	0.004	97	845136	175.0	168.0	
18 Trichlorofluoromethane	101	2.746	2.741	0.005	96	769762	175.0	173.1	
20 Ethyl ether	59	3.074	3.076	-0.002	88	475422	175.0	164.4	
21 Acrolein	56	3.269	3.252	0.017	99	154738	225.0	212.3	
22 1,1-Dichloroethene	96	3.372	3.368	0.004	96	540044	175.0	180.8	
23 1,1,2-Trichloro-1,2,2-trif	101	3.452	3.441	0.011	92	571742	175.0	174.4	
24 Acetone	43	3.482	3.477	0.005	99	447756	350.0	280.6	
25 Iodomethane	142	3.561	3.562	-0.001	96	811997	175.0	173.1	
26 Carbon disulfide	76	3.646	3.648	-0.002	99	1310811	175.0	200.0	
28 3-Chloro-1-propene	76	3.944	3.946	-0.002	93	365237	175.0	189.2	
30 Methyl acetate	43	3.975	3.976	-0.001	97	1009713	350.0	319.6	
31 Methylene Chloride	84	4.163	4.165	-0.002	89	602402	175.0	170.4	
32 2-Methyl-2-propanol	59	4.455	4.451	0.004	93	524619	1750.0	1904.7	
33 Acrylonitrile	53	4.553	4.554	-0.001	99	2362587	1750.0	1538.0	
34 trans-1,2-Dichloroethene	96	4.577	4.584	-0.007	98	595572	175.0	175.0	
35 Methyl tert-butyl ether	73	4.601	4.603	-0.002	96	1597553	175.0	175.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	4.997	4.998	-0.001	91	760411	175.0	174.1	
37 1,1-Dichloroethane	63	5.216	5.217	-0.001	96	1024340	175.0	173.1	
38 Vinyl acetate	43	5.270	5.272	-0.002	97	1068205	175.0	177.5	
44 2,2-Dichloropropane	97	5.958	5.959	-0.001	91	136605	175.0	181.3	
45 cis-1,2-Dichloroethene	96	5.964	5.965	-0.001	79	671208	175.0	172.4	
46 2-Butanone (MEK)	43	5.982	5.978	0.004	100	686266	350.0	302.2	
49 Chlorobromomethane	128	6.250	6.245	0.005	95	291754	175.0	168.6	
51 Tetrahydrofuran	42	6.262	6.263	-0.001	87	396477	350.0	299.8	
52 Chloroform	83	6.396	6.391	0.005	92	989929	175.0	167.5	
53 1,1,1-Trichloroethane	97	6.554	6.549	0.005	98	811476	175.0	181.4	
54 Cyclohexane	56	6.621	6.622	-0.001	90	1012965	175.0	183.5	
56 Carbon tetrachloride	117	6.718	6.726	-0.008	97	682784	175.0	183.4	
55 1,1-Dichloropropene	75	6.737	6.738	-0.001	97	866715	175.0	179.4	
57 Isobutyl alcohol	41	6.950	6.945	0.005	91	452876	4375.0	3730.6	
58 Benzene	78	6.956	6.951	0.005	97	2459963	175.0	165.8	
59 1,2-Dichloroethane	62	7.029	7.030	-0.001	97	708898	175.0	163.9	
62 n-Heptane	43	7.315	7.316	-0.001	88	633483	175.0	181.4	
64 Trichloroethene	130	7.686	7.687	-0.001	98	648262	175.0	173.7	
66 Methylcyclohexane	83	7.917	7.918	-0.001	87	1041060	175.0	184.4	
67 1,2-Dichloropropane	63	7.959	7.961	-0.002	95	596512	175.0	172.7	
68 Dibromomethane	93	8.045	8.046	-0.001	96	342853	175.0	169.4	
70 1,4-Dioxane	88	8.045	8.052	-0.007	39	115916	3500.0	3300.1	
71 Dichlorobromomethane	83	8.239	8.241	-0.002	100	712434	175.0	179.3	
73 2-Chloroethyl vinyl ether	63	8.543	8.545	-0.002	92	864836	350.0	347.9	
74 cis-1,3-Dichloropropene	75	8.689	8.685	0.004	96	881560	175.0	182.7	
75 4-Methyl-2-pentanone (MIBK	43	8.841	8.843	-0.002	95	1265241	350.0	318.0	
76 Toluene	91	9.018	9.019	-0.001	98	2496911	175.0	161.4	
77 trans-1,3-Dichloropropene	75	9.267	9.269	-0.002	93	781619	175.0	185.7	
78 Ethyl methacrylate	69	9.328	9.330	-0.002	88	905216	175.0	178.4	
79 1,1,2-Trichloroethane	97	9.462	9.457	0.005	90	523017	175.0	162.3	
80 Tetrachloroethene	164	9.529	9.530	-0.001	97	498519	175.0	169.0	
81 1,3-Dichloropropane	76	9.620	9.615	0.005	89	969241	175.0	162.7	
82 2-Hexanone	43	9.681	9.682	-0.001	94	977068	350.0	320.2	
84 Chlorodibromomethane	129	9.833	9.834	-0.001	90	489506	175.0	179.7	
85 Ethylene Dibromide	107	9.943	9.944	-0.001	99	550826	175.0	166.7	
86 3-Chlorobenzotrifluoride	180	10.411	10.412	-0.001	93	874266	175.0	164.0	
87 Chlorobenzene	112	10.435	10.437	-0.002	94	1645967	175.0	163.5	
88 4-Chlorobenzotrifluoride	180	10.496	10.498	-0.002	95	826850	175.0	168.1	
89 1,1,1,2-Tetrachloroethane	131	10.527	10.528	-0.001	93	554351	175.0	173.1	
90 Ethylbenzene	106	10.533	10.534	-0.001	97	962208	175.0	171.2	
91 m-Xylene & p-Xylene	106	10.667	10.668	-0.001	0	1197380	175.0	174.3	
92 o-Xylene	106	11.050	11.051	-0.001	95	1130677	175.0	172.8	
93 Styrene	104	11.068	11.069	-0.001	94	1866053	175.0	168.4	
94 Bromoform	173	11.257	11.252	0.005	97	310948	175.0	183.7	
96 2-Chlorobenzotrifluoride	180	11.324	11.325	-0.001	96	840920	175.0	164.9	
97 Isopropylbenzene	105	11.421	11.422	-0.001	96	2681266	175.0	167.8	
100 Bromobenzene	156	11.737	11.739	-0.002	95	659984	175.0	175.7	
99 1,1,2,2-Tetrachloroethane	83	11.737	11.745	-0.008	94	762601	175.0	159.9	
102 trans-1,4-Dichloro-2-buten	53	11.774	11.775	-0.001	86	199800	175.0	176.4	
101 1,2,3-Trichloropropane	110	11.792	11.793	-0.001	85	255265	175.0	164.7	
103 N-Propylbenzene	120	11.841	11.842	-0.001	97	786064	175.0	183.1	
104 2-Chlorotoluene	126	11.926	11.927	-0.001	97	666236	175.0	179.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 3-Chlorotoluene	126	11.993	11.994	-0.001	96	680717	175.0	168.7	
106 1,3,5-Trimethylbenzene	105	12.029	12.031	-0.002	94	2153457	175.0	175.3	
107 4-Chlorotoluene	126	12.054	12.055	-0.001	95	719035	175.0	179.5	
108 tert-Butylbenzene	119	12.346	12.347	-0.001	93	1844417	175.0	179.6	
110 1,2,4-Trimethylbenzene	105	12.406	12.408	-0.002	97	2182090	175.0	174.8	
111 1,2-dichloro-4-(trifluorom	214	12.455	12.456	-0.001	97	525922	175.0	168.1	
112 sec-Butylbenzene	105	12.571	12.572	-0.001	94	2514051	175.0	175.5	
113 1,3-Dichlorobenzene	146	12.692	12.688	0.004	96	1146674	175.0	170.8	
114 4-Isopropyltoluene	119	12.729	12.730	-0.001	96	2114911	175.0	177.2	
115 1,4-Dichlorobenzene	146	12.796	12.797	-0.001	95	1174377	175.0	170.4	
116 2,4-Dichloro-1-(triflourom	214	12.826	12.828	-0.002	96	501975	175.0	172.4	
118 2,5-Dichlorobenzotrifluori	214	12.875	12.870	0.005	0	541324	175.0	172.1	
120 n-Butylbenzene	91	13.149	13.150	-0.001	96	1748217	175.0	179.6	
121 1,2-Dichlorobenzene	146	13.161	13.156	0.005	97	1081541	175.0	169.1	
122 1,2-Dibromo-3-Chloropropan	75	13.970	13.971	-0.001	86	125814	175.0	177.1	
123 2,4- & 2,5- & 2,6- Dichlor	125	14.116	14.117	-0.001	0	2069215	525.0	509.9	
125 2,3- & 3,4- Dichlorotoluen	125	14.548	14.555	-0.007	0	1443949	350.0	344.1	
126 1,2,4-Trichlorobenzene	180	14.828	14.829	-0.001	95	511830	175.0	174.8	
127 Hexachlorobutadiene	225	14.992	14.993	-0.001	98	182711	175.0	170.6	
128 Naphthalene	128	15.101	15.103	-0.002	97	1761559	175.0	176.7	
129 1,2,3-Trichlorobenzene	180	15.345	15.346	-0.001	96	453926	175.0	169.7	
131 2,4,5-Trichlorotoluene	159	16.196	16.198	-0.002	0	235417	175.0	185.2	
130 2,3,6-Trichlorotoluene	159	16.306	16.307	-0.001	97	211883	175.0	179.2	
149 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 133 Xylenes, Total	106				0		350.0	347.1	
S 134 1,2-Dichloroethene, Total	96				0		350.0	347.4	
S 135 1,3-Dichloropropene, Total	1				0		350.0	368.4	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260VOAPRI_00263	Amount Added:	7.00	Units: uL
voaWAcro1stRe_00016	Amount Added:	9.00	Units: uL
voaWVA1stRest_00017	Amount Added:	7.00	Units: uL
voaWEEmix1stR_00009	Amount Added:	7.00	Units: uL
voaW2clev1stR_00013	Amount Added:	7.00	Units: uL
voaWKetmix1st_00004	Amount Added:	7.00	Units: uL
VOA8260SURR_00071	Amount Added:	7.00	Units: uL

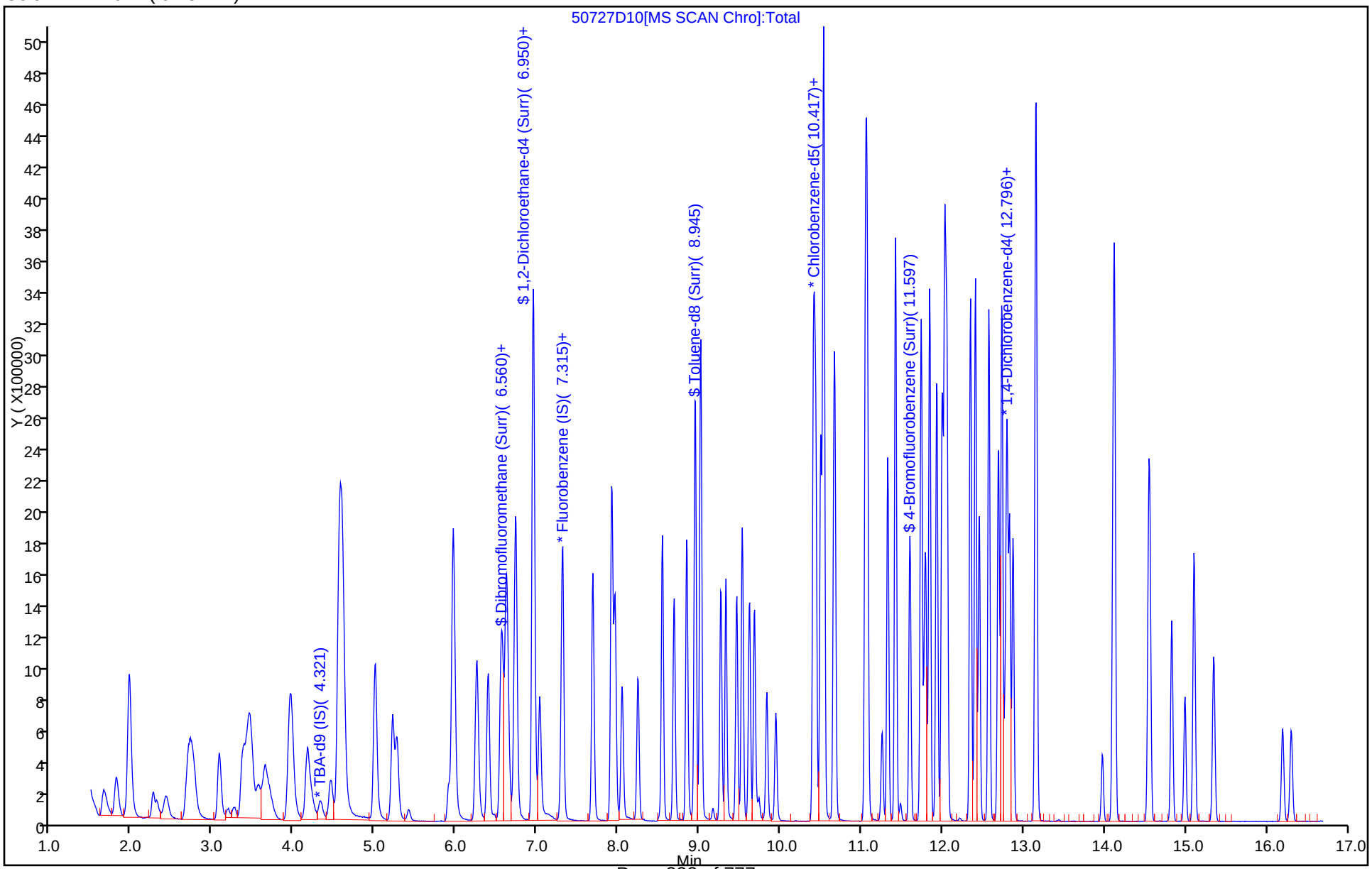
Report Date: 28-Jul-2017 01:05:07 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D10.D

Injection Date:	27-Jul-2017 04:00:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	IC VSTD35			Worklist Smp#:	10
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D
Lims ID: IC VSTD50
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 27-Jul-2017 04:24:30 ALS Bottle#: 11 Worklist Smp#: 11
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017756-011
Misc. Info.: IC VSTD50
Operator ID: 034635 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub12

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 28-Jul-2017 01:05:08 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK029

First Level Reviewer: bungardf Date: 27-Jul-2017 05:09:00

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.341	4.323	0.018	0	184114	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.297	7.298	-0.001	99	607808	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.406	10.406	0.000	85	161595	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.772	12.773	-0.001	89	194624	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.573	6.574	-0.001	94	681339	250.0	233.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.944	6.945	-0.001	0	795993	250.0	223.2	
$ 7 Toluene-d8 (Surr)	98	8.946	8.946	0.000	92	2678162	250.0	208.2	
$ 8 4-Bromofluorobenzene (Surr	95	11.598	11.599	-0.001	87	1033645	250.0	222.5	
11 Dichlorodifluoromethane	85	1.652	1.646	0.006	99	857078	250.0	242.5	
12 Chloromethane	50	1.804	1.804	0.000	99	811941	250.0	228.6	
13 Vinyl chloride	62	1.956	1.944	0.012	98	867536	250.0	240.7	
14 Butadiene	39	1.968	1.969	0.000	94	815610	250.0	249.1	
15 Bromomethane	94	2.266	2.254	0.012	90	377950	250.0	221.8	
16 Chloroethane	64	2.406	2.419	-0.013	99	414342	250.0	209.1	
17 Dichlorofluoromethane	67	2.698	2.699	-0.001	97	1057272	250.0	211.0	
18 Trichlorofluoromethane	101	2.728	2.741	-0.013	97	1017488	250.0	229.7	
20 Ethyl ether	59	3.069	3.076	-0.007	88	612640	250.0	212.6	
21 Acrolein	56	3.264	3.252	0.012	98	183852	275.0	253.2	
22 1,1-Dichloroethene	96	3.367	3.368	-0.001	97	745282	250.0	250.5	
23 1,1,2-Trichloro-1,2,2-trif	101	3.428	3.441	-0.013	92	774058	250.0	237.0	
24 Acetone	43	3.483	3.477	0.006	100	630881	500.0	396.9	
25 Iodomethane	142	3.580	3.562	0.018	97	1099819	250.0	235.3	
26 Carbon disulfide	76	3.647	3.648	-0.001	99	1856339	250.0	284.2	
28 3-Chloro-1-propene	76	3.939	3.946	-0.007	93	500032	250.0	260.0	
30 Methyl acetate	43	3.976	3.976	0.000	97	1447736	500.0	459.9	
31 Methylene Chloride	84	4.164	4.165	-0.001	88	813282	250.0	232.1	
32 2-Methyl-2-propanol	59	4.468	4.451	0.017	94	568135	2500.0	2609.2	
33 Acrylonitrile	53	4.553	4.554	-0.001	98	3495451	2500.0	2284.0	
34 trans-1,2-Dichloroethene	96	4.578	4.584	-0.006	98	806194	250.0	237.8	
35 Methyl tert-butyl ether	73	4.602	4.603	-0.001	96	2170401	250.0	238.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	4.991	4.998	-0.007	92	1101558	250.0	253.1	
37 1,1-Dichloroethane	63	5.210	5.217	-0.007	96	1376176	250.0	233.4	
38 Vinyl acetate	43	5.271	5.272	-0.001	97	1523056	250.0	254.0	
44 2,2-Dichloropropane	97	5.959	5.959	0.000	91	188250	250.0	250.8	
45 cis-1,2-Dichloroethene	96	5.959	5.965	-0.006	79	900432	250.0	232.2	
46 2-Butanone (MEK)	43	5.983	5.978	0.005	98	962704	500.0	425.5	
49 Chlorobromomethane	128	6.245	6.245	0.000	94	394763	250.0	229.0	
51 Tetrahydrofuran	42	6.263	6.263	0.000	87	609910	500.0	462.9	
52 Chloroform	83	6.391	6.391	0.000	92	1319564	250.0	224.1	
53 1,1,1-Trichloroethane	97	6.549	6.549	0.000	98	1097196	250.0	246.2	
54 Cyclohexane	56	6.616	6.622	-0.006	90	1394833	250.0	253.7	
56 Carbon tetrachloride	117	6.719	6.726	-0.007	97	923177	250.0	248.9	
55 1,1-Dichloropropene	75	6.737	6.738	-0.001	96	1178056	250.0	244.7	
57 Isobutyl alcohol	41	6.950	6.945	0.005	68	715201	6250.0	5913.6	
58 Benzene	78	6.950	6.951	-0.001	97	3249284	250.0	219.9	
59 1,2-Dichloroethane	62	7.029	7.030	-0.001	97	969148	250.0	225.0	
62 n-Heptane	43	7.309	7.316	-0.007	89	922592	250.0	265.1	
64 Trichloroethene	130	7.686	7.687	-0.001	98	887332	250.0	238.6	
66 Methylcyclohexane	83	7.918	7.918	0.000	87	1432791	250.0	254.8	
67 1,2-Dichloropropane	63	7.960	7.961	-0.001	95	793667	250.0	230.6	
68 Dibromomethane	93	8.045	8.046	-0.001	97	470836	250.0	233.5	
70 1,4-Dioxane	88	8.039	8.052	-0.013	38	187034	5000.0	5344.8	
71 Dichlorobromomethane	83	8.240	8.241	-0.001	100	945026	250.0	238.8	
73 2-Chloroethyl vinyl ether	63	8.544	8.545	-0.001	92	1234429	500.0	498.5	
74 cis-1,3-Dichloropropene	75	8.684	8.685	-0.001	96	1203144	250.0	250.3	
75 4-Methyl-2-pentanone (MIBK	43	8.842	8.843	-0.001	94	1863520	500.0	449.6	
76 Toluene	91	9.019	9.019	0.000	97	3254284	250.0	202.0	
77 trans-1,3-Dichloropropene	75	9.268	9.269	-0.001	93	1070347	250.0	244.1	
78 Ethyl methacrylate	69	9.329	9.330	-0.001	88	1271580	250.0	240.5	
79 1,1,2-Trichloroethane	97	9.457	9.457	0.000	91	718069	250.0	213.9	
80 Tetrachloroethene	164	9.530	9.530	0.000	97	683462	250.0	222.4	
81 1,3-Dichloropropane	76	9.621	9.615	0.006	89	1320887	250.0	212.9	
82 2-Hexanone	43	9.676	9.682	-0.006	93	1418811	500.0	446.3	
84 Chlorodibromomethane	129	9.834	9.834	0.000	90	672369	250.0	237.0	
85 Ethylene Dibromide	107	9.943	9.944	-0.001	99	773664	250.0	224.7	
86 3-Chlorobenzotrifluoride	180	10.412	10.412	0.000	93	1290067	250.0	232.3	
87 Chlorobenzene	112	10.436	10.437	-0.001	95	2170926	250.0	207.0	
88 4-Chlorobenzotrifluoride	180	10.497	10.498	-0.001	96	1226371	250.0	239.3	
89 1,1,1,2-Tetrachloroethane	131	10.527	10.528	-0.001	94	751692	250.0	225.4	
90 Ethylbenzene	106	10.533	10.534	-0.001	97	1304914	250.0	222.8	
91 m-Xylene & p-Xylene	106	10.667	10.668	-0.001	0	1614353	250.0	225.6	
92 o-Xylene	106	11.051	11.051	0.000	95	1518391	250.0	222.7	
93 Styrene	104	11.069	11.069	0.000	94	2462559	250.0	213.4	
94 Bromoform	173	11.257	11.252	0.005	98	443094	250.0	251.3	
96 2-Chlorobenzotrifluoride	180	11.324	11.325	-0.001	95	1244752	250.0	234.2	
97 Isopropylbenzene	105	11.422	11.422	0.000	96	3502176	250.0	210.4	
100 Bromobenzene	156	11.738	11.739	-0.001	95	889999	250.0	235.6	
99 1,1,2,2-Tetrachloroethane	83	11.738	11.745	-0.007	95	1078742	250.0	217.1	
102 trans-1,4-Dichloro-2-buten	53	11.781	11.775	0.006	84	299994	250.0	263.4	
101 1,2,3-Trichloropropane	110	11.793	11.793	0.000	84	371250	250.0	238.1	
103 N-Propylbenzene	120	11.841	11.842	-0.001	96	1069171	250.0	247.7	
104 2-Chlorotoluene	126	11.927	11.927	0.000	97	907016	250.0	243.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 3-Chlorotoluene	126	11.994	11.994	0.000	96	1010916	250.0	249.1	
106 1,3,5-Trimethylbenzene	105	12.030	12.031	-0.001	95	2828999	250.0	229.0	
107 4-Chlorotoluene	126	12.054	12.055	-0.001	96	970169	250.0	240.8	
108 tert-Butylbenzene	119	12.346	12.347	-0.001	92	2446270	250.0	236.9	
110 1,2,4-Trimethylbenzene	105	12.407	12.408	-0.001	97	2860516	250.0	227.8	
111 1,2-dichloro-4-(trifluorom	214	12.456	12.456	0.000	96	801099	250.0	254.7	
112 sec-Butylbenzene	105	12.571	12.572	-0.001	95	3330508	250.0	231.2	
113 1,3-Dichlorobenzene	146	12.687	12.688	-0.001	96	1545747	250.0	229.0	
114 4-Isopropyltoluene	119	12.730	12.730	0.000	95	2809716	250.0	234.1	
115 1,4-Dichlorobenzene	146	12.797	12.797	0.000	95	1574222	250.0	227.2	
116 2,4-Dichloro-1-(triflourom	214	12.827	12.828	-0.001	94	771761	250.0	263.5	
118 2,5-Dichlorobenzotrifluori	214	12.870	12.870	0.000	0	797256	250.0	252.0	
120 n-Butylbenzene	91	13.149	13.150	-0.001	95	2372703	250.0	242.4	
121 1,2-Dichlorobenzene	146	13.155	13.156	-0.001	96	1435184	250.0	223.1	
122 1,2-Dibromo-3-Chloropropan	75	13.971	13.971	0.000	86	182290	250.0	255.2	
123 2,4- & 2,5- & 2,6- Dichlor	125	14.117	14.117	0.000	0	3049908	750.0	747.4	
125 2,3- & 3,4- Dichlorotoluen	125	14.555	14.555	0.000	0	2191624	500.0	519.4	
126 1,2,4-Trichlorobenzene	180	14.828	14.829	-0.001	95	755690	250.0	256.7	
127 Hexachlorobutadiene	225	14.993	14.993	0.000	98	282046	250.0	261.8	
128 Naphthalene	128	15.102	15.103	-0.001	98	2561966	250.0	255.5	
129 1,2,3-Trichlorobenzene	180	15.346	15.346	0.000	96	693791	250.0	258.0	
131 2,4,5-Trichlorotoluene	159	16.197	16.198	-0.001	0	452516	250.0	354.0	
130 2,3,6-Trichlorotoluene	159	16.301	16.307	-0.006	98	417201	250.0	350.8	
149 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 134 1,2-Dichloroethene, Total	96				0		500.0	470.0	
S 133 Xylenes, Total	106				0		500.0	448.3	
S 135 1,3-Dichloropropene, Total	1				0		500.0	494.4	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

VOA8260VOAPRI_00263	Amount Added:	10.00	Units: uL
voaWAcro1stRe_00016	Amount Added:	11.00	Units: uL
voaWVA1stRest_00017	Amount Added:	10.00	Units: uL
voaWEEmix1stR_00009	Amount Added:	10.00	Units: uL
voaW2clev1stR_00013	Amount Added:	10.00	Units: uL
voaWKetmix1st_00004	Amount Added:	10.00	Units: uL
VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	10.00	Units: uL

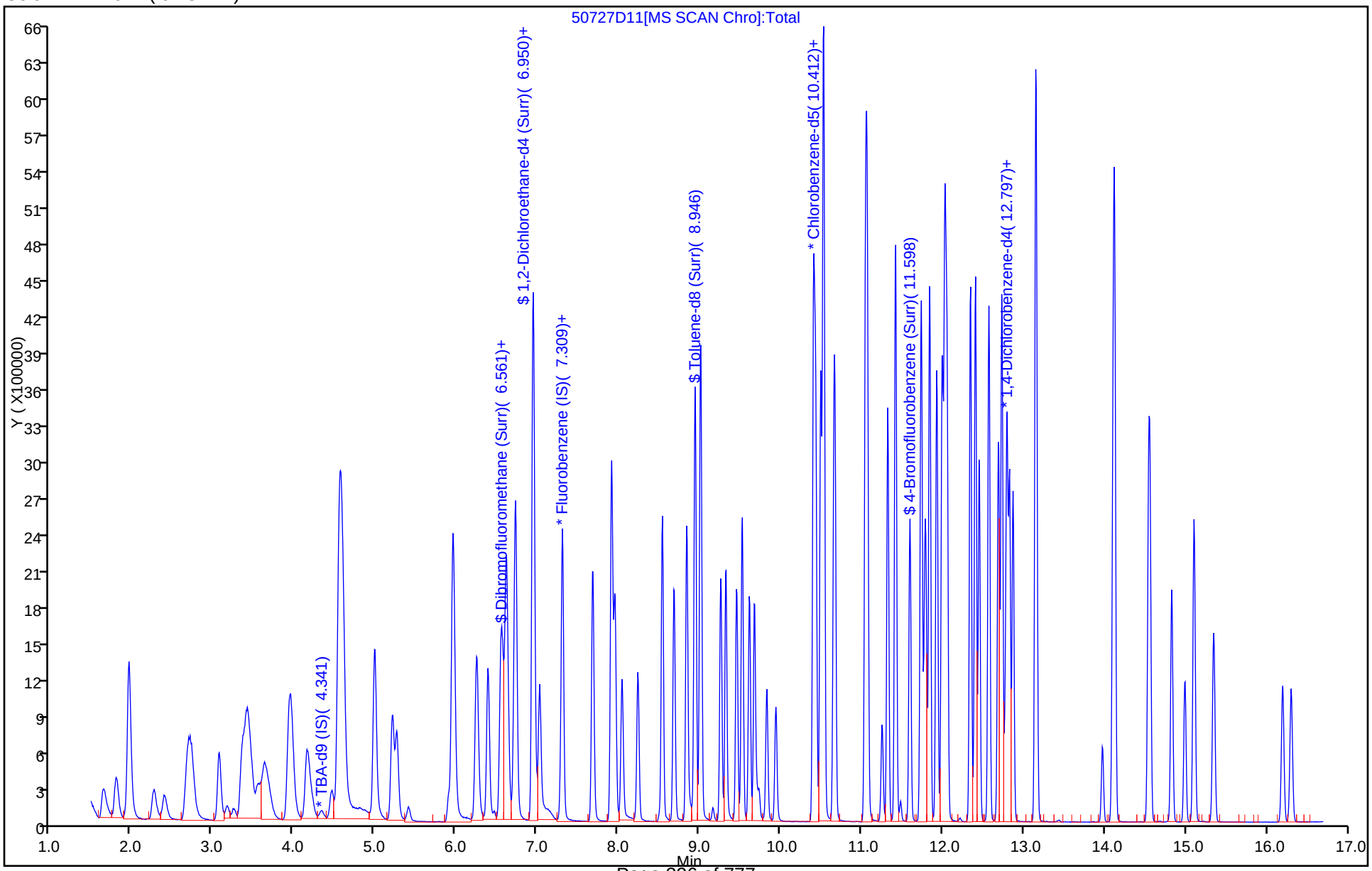
Report Date: 28-Jul-2017 01:05:09 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Injection Date:	27-Jul-2017 04:24:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	IC VSTD50			Worklist Smp#:	11
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-217861/3	60724D03.D
Level 2	IC 180-217861/4	60724D04.D
Level 3	ICIS 180-217861/5	60724D05.D
Level 4	IC 180-217861/6	60724D06.D
Level 5	IC 180-217861/7	60724D07.D
Level 6	IC 180-217861/8	60724D08.D
Level 7	IC 180-217861/9	60724D09.D
Level 8	IC 180-217861/10	60724D10.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3450 0.3059	0.3450 0.2869	0.3353 0.3121	0.3123	0.3101	Ave		0.3191			0.1000	6.5		20.0			
Chloromethane	0.3003 0.2886	0.3121 0.2599	0.2915 0.2724	0.2904	0.2802	Ave		0.2869			0.1000	5.6		20.0			
Vinyl chloride	0.3294 0.2874	0.3184 0.2708	0.3073 0.2897	0.3106	0.2927	Ave		0.3008			0.1000	6.3		20.0			
1,3-Butadiene	0.3092 0.2283	0.2618 0.2122	0.2620 0.2355	0.2508	0.2350	Ave		0.2494			0.0100	11.9		20.0			
Bromomethane	0.1553 0.1421	0.1665 0.1212	0.1437 0.1124	0.1420	0.1381	Ave		0.1402			0.0500	12.3		20.0			
Chloroethane	0.1804 0.1621	0.1823 0.1426	0.1613 0.1385	0.1692	0.1635	Ave		0.1625			0.0500	9.7		20.0			
Trichlorofluoromethane	0.3064 0.2991	0.3069 0.2753	0.2862 0.2942	0.3037	0.2975	Ave		0.2961			0.1000	3.7		20.0			
Ethyl ether	0.2704 0.2624	0.2948 0.2348	0.2431 0.2337	0.2503	0.2380	Ave		0.2534			0.0100	8.4		20.0			
Acrolein	0.0585 0.0578	0.0586 0.0511	0.0493 0.0540	0.0552	0.0498	Ave		0.0543			0.0100	7.2		20.0			
1,1-Dichloroethene	0.2867 0.2623	0.2569 0.2445	0.2480 0.2685	0.2599	0.2523	Ave		0.2599			0.1000	5.1		20.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2563 0.2479	0.2553 0.2297	0.2505 0.2557	0.2551	0.2415	Ave		0.2490			0.1000	3.7		20.0			
Acetone	0.1203 0.1200	0.1188 0.0908	0.1059 0.0850	0.1178	0.0996	Ave		0.1073			0.0500	13.2		20.0			
Iodomethane	0.3702 0.3809	0.3779 0.3532	0.3472 0.3674	0.3706	0.3553	Ave		0.3654			0.0100	3.3		20.0			
Carbon disulfide	0.5160 0.6411	0.5084 0.6051	0.5286 0.6607	0.5745	0.5948	Ave		0.5787			0.1000	9.9		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.1400 0.1667	0.1427 0.1552	0.1408 0.1669	0.1545	0.1506	Ave		0.1522			0.0100	7.1		20.0			
Methyl acetate	0.2511 0.2511	0.2629 0.2169	0.2237 0.2238	0.2281	0.2235	Ave		0.2351			0.1000	7.3		20.0			
Methylene Chloride	0.4304 0.3426	0.3720 0.3106	0.3253 0.3196	0.3333	0.3214	Ave		0.3444			0.1000	11.5		20.0			
tert-Butyl alcohol	1.1832 1.1169	1.0643 1.1780	1.0783 1.0503	1.0936	1.0903	Ave		1.1069			0.0100	4.5		20.0			
Acrylonitrile	0.1433 0.1282	0.1504 0.1099	0.1193 0.1099	0.1260	0.1177	Ave		0.1256			0.0100	11.8		20.0			
trans-1,2-Dichloroethene	0.3079 0.2977	0.3084 0.2782	0.2862 0.2973	0.2967	0.2863	Ave		0.2948			0.1000	3.6		20.0			
Methyl tert-butyl ether	0.9852 0.9798	1.0649 0.8774	0.9152 0.8866	0.9403	0.8941	Ave		0.9429			0.1000	6.8		20.0			
Hexane	0.3830 0.3427	0.3628 0.3171	0.3558 0.3531	0.3486	0.3306	Ave		0.3492			0.0100	5.7		20.0			
1,1-Dichloroethane	0.3424 0.5206	0.5334 0.4688	0.4893 0.4858	0.5109	0.4862	Ave		0.4797			0.2000	12.4		20.0			
Vinyl acetate	0.5164 0.5873	0.6180 0.5638	0.5095 0.5801	0.5598	0.5341	Ave		0.5586			0.0100	6.6		20.0			
2,2-Dichloropropane	0.0453 0.0537	0.0486 0.0484	0.0465 0.0533	0.0511	0.0505	Ave		0.0497			0.0100	6.1		20.0			
cis-1,2-Dichloroethene	0.3357 0.3634	0.3627 0.3286	0.3396 0.3403	0.3473	0.3378	Ave		0.3444			0.1000	3.7		20.0			
2-Butanone (MEK)	0.1549 0.1656	0.1778 0.1399	0.1558 0.1417	0.1537	0.1408	Ave		0.1538			0.0500	8.6		20.0			
Bromochloromethane	0.1516 0.1607	0.1622 0.1458	0.1383 0.1496	0.1503	0.1438	Ave		0.1503			0.0100	5.4		20.0			
Tetrahydrofuran	0.1403 0.1029	0.1208 0.0905	0.0949 0.0946	0.0965	0.0924	Ave		0.1041			0.0100	16.8		20.0			
Chloroform	0.5046 0.5414	0.5408 0.4888	0.5225 0.5010	0.5258	0.5131	Ave		0.5173			0.2000	3.6		20.0			
1,1,1-Trichloroethane	0.3059 0.3476	0.3251 0.3197	0.3211 0.3440	0.3302	0.3364	Ave		0.3287			0.1000	4.2		20.0			
Cyclohexane	0.5176 0.4515	0.4846 0.4234	0.4744 0.4585	0.4759	0.4508	Ave		0.4671			0.1000	6.0		20.0			
Carbon tetrachloride	0.1966 0.2579	0.2202 0.2439	0.2226 0.2730	0.2389	0.2388	Ave		0.2365			0.1000	10.0		20.0			
1,1-Dichloropropene	0.3981 0.4024	0.4008 0.3732	0.3987 0.3992	0.4036	0.3921	Ave		0.3960			0.0100	2.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Benzene	1.2659 1.1411	1.3110 1.0204	1.1612 1.0175	1.1979	1.1046	Ave		1.1524			0.5000	9.2		20.0			
Isobutyl alcohol	0.0068 0.0078	0.0074 0.0073	0.0062 0.0074	0.0067	0.0061	Ave		0.0069		*	0.0100	9.0		20.0			
1,2-Dichloroethane	0.4414 0.4413	0.4873 0.3948	0.4087 0.4001	0.4303	0.4024	Ave		0.4258			0.1000	7.3		20.0			
n-Heptane	0.3046 0.2655	0.2715 0.2397	0.2583 0.2675	0.2685	0.2506	Ave		0.2658			0.0100	7.1		20.0			
Trichloroethene	0.2857 0.2913	0.2895 0.2663	0.2730 0.2779	0.2828	0.2736	Ave		0.2800			0.2000	3.1		20.0			
Methylcyclohexane	0.5506 0.4736	0.5082 0.4397	0.4903 0.4745	0.5019	0.4725	Ave		0.4889			0.1000	6.7		20.0			
1,2-Dichloropropane	0.2899 0.3108	0.2949 0.2788	0.2747 0.2913	0.2876	0.2769	Ave		0.2881			0.1000	4.1		20.0			
1,4-Dioxane	0.0030 0.0026	0.0033 0.0022	0.0027 0.0024	0.0026	0.0023	Ave		0.0026		*	0.0100	13.6		20.0			
Dibromomethane	0.1974 0.2025	0.1996 0.1829	0.1756 0.1868	0.1860	0.1767	Ave		0.1884			0.0100	5.5		20.0			
Bromodichloromethane	0.2608 0.3692	0.3120 0.3396	0.2889 0.3543	0.3275	0.3140	Ave		0.3208			0.2000	10.9		20.0			
2-Chloroethyl vinyl ether	0.1868 0.2074	0.2167 0.1868	0.1781 0.1938	0.1904	0.1674	Ave		0.1909			0.0100	8.2		20.0			
cis-1,3-Dichloropropene	0.2705 0.4410	0.3316 0.3997	0.3266 0.4142	0.3665	0.3611	Ave		0.3639			0.2000	15.0		20.0			
4-Methyl-2-pentanone (MIBK)	1.3134 1.2837	1.4428 1.1619	1.3220 1.0694	1.3558	1.2661	Ave		1.2769			0.1000	9.1		20.0			
Toluene	6.0508 4.5624	5.5576 4.1666	5.1577 3.8337	5.2430	4.8472	Ave		4.9274			0.4000	14.8		20.0			
trans-1,3-Dichloropropene	1.0419 1.5300	1.2118 1.4618	1.1943 1.4145	1.3692	1.3334	Ave		1.3196			0.1000	12.2		20.0			
Ethyl methacrylate	1.5098 1.7677	1.7528 1.6625	1.6297 1.5641	1.7656	1.6495	Ave		1.6627			0.0100	5.8		20.0			
1,1,2-Trichloroethane	1.1786 1.1625	1.2819 1.0786	1.1275 1.0374	1.1670	1.0865	Ave		1.1400			0.1000	6.6		20.0			
Tetrachloroethene	1.0463 0.8489	0.8922 0.8062	0.8845 0.7981	0.9220	0.8591	Ave		0.8822			0.2000	8.9		20.0			
1,3-Dichloropropane	2.2848 2.0510	2.3788 1.8937	2.0325 1.7922	2.1291	1.9759	Ave		2.0672			0.0100	9.4		20.0			
2-Hexanone	0.8467 0.8290	0.9552 0.7643	0.8185 0.7213	0.8612	0.7781	Ave		0.8218			0.1000	8.6		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Dibromochloromethane	0.6235 0.9071	0.7065 0.8567	0.6998 0.8436	0.7772	0.7651	Ave		0.7724			0.1000	12.2		20.0			
1,2-Dibromoethane (EDB)	1.0866 1.1527	1.1708 1.0816	1.0670 1.0267	1.1262	1.0622	Ave		1.0967			0.1000	4.5		20.0			
3-Chlorobenzotrifluoride	1.5158 1.3678	1.5396 1.3015	1.4427 1.2972	1.5937	1.3990	Ave		1.4322			0.0100	7.7		20.0			
Chlorobenzene	3.8282 3.0865	3.6360 2.8090	3.2721 2.6244	3.3129	3.0652	Ave		3.2043			0.5000	12.5		20.0			
4-Chlorobenzotrifluoride	1.3979 1.2982	1.3616 1.2351	1.3127 1.2373	1.5001	1.2773	Ave		1.3275			0.0100	6.7		20.0			
1,1,1,2-Tetrachloroethane	0.7632 1.0328	0.8610 0.9619	0.8342 0.9319	0.9709	0.9327	Ave		0.9111			0.0100	9.5		20.0			
Ethylbenzene	2.0557 1.8003	1.9366 1.6726	1.8780 1.5959	1.9373	1.7866	Ave		1.8329			0.1000	8.2		20.0			
m-Xylene & p-Xylene	2.5501 2.2147	2.4209 2.0393	2.2209 1.9570	2.3806	2.1868	Ave		2.2463			0.1000	8.8		20.0			
o-Xylene	2.4843 2.2465	2.4921 2.0108	2.2993 1.9118	2.3599	2.2034	Ave		2.2510			0.3000	9.2		20.0			
Styrene	4.0891 3.5907	4.0950 3.2108	3.7484 2.9710	3.9219	3.4981	Ave		3.6406			0.3000	11.2		20.0			
Bromoform	0.3370 0.5330	0.3789 0.5010	0.3818 0.4964	0.4305	0.4190	Ave		0.4347			0.1000	15.9		20.0			
2-Chlorobenzotrifluoride	1.4533 1.4424	1.6153 1.3223	1.4179 1.3036	1.6403	1.4193	Ave		1.4518			0.0100	8.4		20.0			
Isopropylbenzene	6.3984 4.6371	5.8487 4.0713	5.3090 3.7512	5.4219	4.8709	Ave		5.0386			0.1000	17.6		20.0			
Bromobenzene	0.9410 0.9394	0.9810 0.9122	0.9383 0.9038	0.9005	0.9180	Ave		0.9293			0.0100	2.8		20.0			
1,1,2,2-Tetrachloroethane	1.6867 1.6395	1.8800 1.4633	1.6064 1.3686	1.6823	1.5069	Ave		1.6042			0.3000	9.9		20.0			
trans-1,4-Dichloro-2-butene	0.2724 0.2884	0.2827 0.2833	0.2498 0.2904	0.2507	0.2582	Ave		0.2720			0.0100	6.2		20.0			
1,2,3-Trichloropropane	0.3844 0.3903	0.4180 0.3743	0.3879 0.3799	0.3764	0.3765	Ave		0.3860			0.0100	3.7		20.0			
N-Propylbenzene	1.0896 0.9901	1.0404 0.9508	1.0060 0.9746	1.0147	1.0247	Ave		1.0114			0.0100	4.2		20.0			
2-Chlorotoluene	0.9244 0.8870	0.8858 0.8323	0.8682 0.8579	0.8757	0.8785	Ave		0.8762			0.0100	3.0		20.0			
3-Chlorotoluene	0.9488 0.9026	0.9481 0.8733	0.9020 0.9002	0.9547	0.9252	Ave		0.9194			0.0100	3.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,3,5-Trimethylbenzene	3.2098 2.7572	3.1610 2.5370	2.9762 2.4836	2.9682	2.8830	Ave		2.8720			0.0100	9.3		20.0			
4-Chlorotoluene	1.0814 0.9671	0.9434 0.9047	0.9555 0.9161	0.9436	0.9398	Ave		0.9565			0.0100	5.7		20.0			
tert-Butylbenzene	2.5322 2.2077	2.3962 2.0211	2.3742 2.0481	2.3326	2.3286	Ave		2.2801			0.0100	7.7		20.0			
1,2,4-Trimethylbenzene	3.5127 2.8439	3.3123 2.5942	3.1049 2.5435	3.0350	3.0086	Ave		2.9944			0.0100	11.1		20.0			
3,4-Dichlorobenzotrifluoride	0.7362 0.6508	0.6581 0.6193	0.6198 0.6784	0.6940	0.6587	Ave		0.6644			0.0100	5.8		20.0			
sec-Butylbenzene	3.9837 2.9724	3.4720 2.6959	3.2967 2.6895	3.2643	3.2125	Ave		3.1984			0.0100	13.3		20.0			
1,3-Dichlorobenzene	1.9656 1.6199	1.7934 1.5145	1.6495 1.5107	1.6503	1.6466	Ave		1.6688			0.6000	8.9		20.0			
4-Isopropyltoluene	3.0764 2.5117	2.9764 2.2679	2.6994 2.2836	2.6864	2.6251	Ave		2.6409			0.0100	11.0		20.0			
1,4-Dichlorobenzene	1.9865 1.6860	1.8621 1.5565	1.7487 1.5598	1.7034	1.7043	Ave		1.7259			0.5000	8.4		20.0			
2,4-Dichlorobenzotrifluoride	0.6454 0.6171	0.6327 0.5625	0.6090 0.6636	0.6702	0.6085	Ave		0.6261			0.0100	5.6		20.0			
2,5-Dichlorobenzotrifluoride	0.6732 0.7026	0.7481 0.6866	0.6523 0.6767	0.7060	0.6830	Ave		0.6911			0.0100	4.1		20.0			
n-Butylbenzene	2.8298 2.2864	2.6464 2.0727	2.4207 2.1235	2.4803	2.4098	Ave		2.4087			0.0100	10.5		20.0			
1,2-Dichlorobenzene	1.7708 1.5647	1.7956 1.4356	1.5665 1.4544	1.5674	1.5442	Ave		1.5874			0.4000	8.3		20.0			
1,2-Dibromo-3-Chloropropane	0.1216 0.1606	0.1391 0.1568	0.1266 0.1669	0.1326	0.1278	Ave		0.1415			0.0500	12.4		20.0			
2,4- & 2,5- & 2,6- Dichlorotoluene	1.0715 0.9570	1.1692 0.9265	0.9793 0.9637	1.0382	0.9824	Ave		1.0110			0.0100	7.8		20.0			
2,3- & 3,4- Dichlorotoluene	1.1353 1.0683	1.2293 1.0765	1.0355 1.1269	1.0901	1.0726	Ave		1.1043			0.0100	5.4		20.0			
1,2,4-Trichlorobenzene	0.8306 0.8182	0.9355 0.8486	0.7503 0.8953	0.7691	0.7875	Ave		0.8294			0.2000	7.6		20.0			
Hexachlorobutadiene	0.3307 0.2462	0.2635 0.2582	0.2213 0.2957	0.2402	0.2448	Ave		0.2626			0.0100	13.3		20.0			
Naphthalene	3.1019 2.3472	2.8951 2.4151	2.3638 2.3957	2.3524	2.3536	Ave		2.5281			0.0100	11.7		20.0			
1,2,3-Trichlorobenzene	0.7804 0.7270	0.8087 0.8154	0.6385 0.8565	0.6517	0.6792	Ave		0.7447			0.0100	11.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
2,4,5-Trichlorotoluene	0.4043 0.4250	0.4160 0.5255	0.3407 0.5717	0.3454	0.3978	Ave		0.4283			0.0100	19.0		20.0			
2,3,6-Trichlorotoluene	0.3645 0.3663	0.3955 0.4558	0.3167 0.5003	0.3075	0.3648	Ave		0.3839			0.0100	17.1		20.0			
Dibromofluoromethane (Surr)	0.3105 0.2657	0.2699 0.2422	0.2388 0.2506	0.2560	0.2449	Ave		0.2598				8.9		20.0			
1,2-Dichloroethane-d4 (Surr)	0.4947 0.3692	0.4116 0.3263	0.3458 0.3341	0.3589	0.3302	Ave		0.3713				15.4		20.0			
Toluene-d8 (Surr)	5.9733 3.6566	4.7106 3.3970	4.0457 +++++	4.1808	3.8728	Lin2	11.440	3.7819							0.9930		0.9900
4-Bromofluorobenzene (Surr)	2.3906 1.6487	1.9549 1.4705	1.6323 1.4101	1.7133	1.5905	Ave		1.7264				18.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-217861/3	60724D03.D
Level 2	IC 180-217861/4	60724D04.D
Level 3	ICIS 180-217861/5	60724D05.D
Level 4	IC 180-217861/6	60724D06.D
Level 5	IC 180-217861/7	60724D07.D
Level 6	IC 180-217861/8	60724D08.D
Level 7	IC 180-217861/9	60724D09.D
Level 8	IC 180-217861/10	60724D10.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	27479 839726	121547 998454	286699 1341098	392309	537841	5.00 175	25.0 200	50.0 250	75.0	100
Chloromethane	FB	Ave	23920 792135	109949 904618	249199 1170186	364709	485997	5.00 175	25.0 200	50.0 250	75.0	100
Vinyl chloride	FB	Ave	26240 788826	112168 942517	262771 1244722	390082	507676	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Butadiene	FB	Ave	24629 626705	92248 738623	223993 1011679	315046	407662	5.00 175	25.0 200	50.0 250	75.0	100
Bromomethane	FB	Ave	12374 390167	58670 421777	122895 482936	178416	239488	5.00 175	25.0 200	50.0 250	75.0	100
Chloroethane	FB	Ave	14369 445022	64213 496292	137952 595090	212582	283541	5.00 175	25.0 200	50.0 250	75.0	100
Trichlorofluoromethane	FB	Ave	24407 820933	108123 958134	244680 1263842	381467	515987	5.00 175	25.0 200	50.0 250	75.0	100
Ethyl ether	FB	Ave	21539 720418	103875 817030	207890 1004152	314417	412759	5.00 175	25.0 200	50.0 250	75.0	100
Acrolein	FB	Ave	93239 203936	103236 222222	126353 255428	161845	172660	100 225	125 250	150 275	175	200
1,1-Dichloroethene	FB	Ave	22840 719926	90501 850942	212019 1153420	326499	437661	5.00 175	25.0 200	50.0 250	75.0	100
1,1,2-Trichloro-1,2,2-trifluoroetha ne	FB	Ave	20417 680574	89949 799492	214148 1098540	320427	418931	5.00 175	25.0 200	50.0 250	75.0	100
Acetone	FB	Ave	47909 658887	83742 631699	181114 730103	295809	345529	25.0 350	50.0 400	100 500	150	200
Iodomethane	FB	Ave	29488 1045605	133154 1229211	296892 1578693	465530	616342	5.00 175	25.0 200	50.0 250	75.0	100
Carbon disulfide	FB	Ave	41100 1759930	179135 2106147	451961 2838844	721571	1031794	5.00 175	25.0 200	50.0 250	75.0	100
Allyl chloride	FB	Ave	11154 457646	50272 540192	120354 717090	194002	261163	5.00 175	25.0 200	50.0 250	75.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Methyl acetate	FB	Ave	40003 1378375	185280 1509491	382502 1923255	572896	775230	10.0 350	50.0 400	100 500	150	200
Methylene Chloride	FB	Ave	34286 940505	131057 1081026	278118 1372983	418660	557470	5.00 175	25.0 200	50.0 250	75.0	100
tert-Butyl alcohol	TBAd9	Ave	20227 572173	71644 544523	151604 673044	251071	297303	50.0 1750	250 2000	500 2500	750	1000
Acrylonitrile	FB	Ave	114140 3519987	530059 3825550	1020211 4723140	1582844	2040960	50.0 1750	250 2000	500 2500	750	1000
trans-1,2-Dichloroethene	FB	Ave	24529 817284	108647 968185	244707 1277192	372663	496677	5.00 175	25.0 200	50.0 250	75.0	100
Methyl tert-butyl ether	FB	Ave	78478 2689634	375187 3053893	782498 3809189	1181045	1550808	5.00 175	25.0 200	50.0 250	75.0	100
Hexane	FB	Ave	30509 940765	127818 1103506	304164 1517069	437873	573395	5.00 175	25.0 200	50.0 250	75.0	100
1,1-Dichloroethane	FB	Ave	27271 1429058	187923 1631648	418314 2087088	641771	843415	5.00 175	25.0 200	50.0 250	75.0	100
Vinyl acetate	FB	Ave	41136 1612184	217747 1962237	435645 2492452	703120	926426	5.00 175	25.0 200	50.0 250	75.0	100
2,2-Dichloropropane	FB	Ave	3609 147487	17106 168555	39797 228817	64241	87515	5.00 175	25.0 200	50.0 250	75.0	100
cis-1,2-Dichloroethene	FB	Ave	26745 997518	127777 1143732	290355 1462208	436220	585924	5.00 175	25.0 200	50.0 250	75.0	100
2-Butanone (MEK)	FB	Ave	61711 909301	125277 973759	266460 1217733	385993	488342	25.0 350	50.0 400	100 500	150	200
Bromochloromethane	FB	Ave	12079 441109	57129 507483	118276 642539	188762	249508	5.00 175	25.0 200	50.0 250	75.0	100
Tetrahydrofuran	FB	Ave	22350 565011	85090 629732	162324 812537	242295	320475	10.0 350	50.0 400	100 500	150	200
Chloroform	FB	Ave	40199 1486297	190538 1701079	446745 2152497	660420	889966	5.00 175	25.0 200	50.0 250	75.0	100
1,1,1-Trichloroethane	FB	Ave	24367 954279	114539 1112586	274535 1477890	414781	583435	5.00 175	25.0 200	50.0 250	75.0	100
Cyclohexane	FB	Ave	41233 1239342	170750 1473582	405642 1969875	597815	781868	5.00 175	25.0 200	50.0 250	75.0	100
Carbon tetrachloride	FB	Ave	15662 707925	77574 848801	190304 1172757	300016	414150	5.00 175	25.0 200	50.0 250	75.0	100
1,1-Dichloropropene	FB	Ave	31712 1104618	141227 1298950	340889 1715254	506906	680030	5.00 175	25.0 200	50.0 250	75.0	100
Benzene	FB	Ave	100837 3132477	461882 3551507	992835 4371437	1504594	1915947	5.00 175	25.0 200	50.0 250	75.0	100
Isobutyl alcohol	FB	Ave	13528 537905	64845 631529	132080 789622	208868	262400	125 4375	625 5000	1250 6250	1875	2500

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	35160 1211453	171694 1374193	349409 1719102	540487	697923	5.00 175	25.0 200	50.0 250	75.0	100
n-Heptane	FB	Ave	24265 728795	95666 834225	220812 1149322	337209	434669	5.00 175	25.0 200	50.0 250	75.0	100
Trichloroethene	FB	Ave	22756 799778	102011 926685	233389 1194165	355153	474544	5.00 175	25.0 200	50.0 250	75.0	100
Methylcyclohexane	FB	Ave	43857 1300055	179050 1530213	419227 2038808	630450	819514	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichloropropane	FB	Ave	23091 853109	103896 970394	234878 1251517	361293	480287	5.00 175	25.0 200	50.0 250	75.0	100
1,4-Dioxane	FB	Ave	4766 141286	23040 152489	45919 203123	65610	80878	100 3500	500 4000	1000 5000	1500	2000
Dibromomethane	FB	Ave	15724 555898	70312 636427	150124 802657	233620	306535	5.00 175	25.0 200	50.0 250	75.0	100
Bromodichloromethane	FB	Ave	20777 1013623	109927 1181877	246980 1522204	411363	544627	5.00 175	25.0 200	50.0 250	75.0	100
2-Chloroethyl vinyl ether	FB	Ave	29761 1138561	152667 1300177	304468 1665721	478201	580737	10.0 350	50.0 400	100 500	150	200
cis-1,3-Dichloropropene	FB	Ave	21547 1210517	116838 1391254	279255 1779441	460333	626305	5.00 175	25.0 200	50.0 250	75.0	100
4-Methyl-2-pentanone (MIBK)	CBNZ d5	Ave	113074 1737974	233783 1932325	495598 2362456	755882	970750	25.0 350	50.0 400	100 500	150	200
Toluene	CBNZ d5	Ave	104189 3088570	450260 3464609	966776 4234419	1461492	1858285	5.00 175	25.0 200	50.0 250	75.0	100
trans-1,3-Dichloropropene	CBNZ d5	Ave	17940 1035772	98174 1215519	223869 1562404	381658	511188	5.00 175	25.0 200	50.0 250	75.0	100
Ethyl methacrylate	CBNZ d5	Ave	25997 1196636	142004 1382390	305467 1727540	492154	632371	5.00 175	25.0 200	50.0 250	75.0	100
1,1,2-Trichloroethane	CBNZ d5	Ave	20294 786936	103854 896840	211345 1145832	325307	416541	5.00 175	25.0 200	50.0 250	75.0	100
Tetrachloroethene	CBNZ d5	Ave	18016 574638	72287 670325	165794 881532	257015	329342	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Dichloropropane	CBNZ d5	Ave	39343 1388403	192724 1574600	380984 1979514	593488	757496	5.00 175	25.0 200	50.0 250	75.0	100
2-Hexanone	CBNZ d5	Ave	72896 1122326	154768 1271094	306856 1593297	480105	596567	25.0 350	50.0 400	100 500	150	200
Dibromochloromethane	CBNZ d5	Ave	10736 614068	57240 712324	131179 931753	216633	293309	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dibromoethane (EDB)	CBNZ d5	Ave	18711 780325	94851 899338	200005 1134020	313940	407201	5.00 175	25.0 200	50.0 250	75.0	100
3-Chlorobenzotrifluoride	CBNZ d5	Ave	26101 925971	124733 1082251	270429 1432766	444234	536353	5.00 175	25.0 200	50.0 250	75.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Chlorobenzene	CBNZ d5	Ave	65919 2089428	294577 2335758	613324 2898680	923461	1175123	5.00 175	25.0 200	50.0 250	75.0	100
4-Chlorobenzotrifluoride	CBNZ d5	Ave	24071 878791	110312 1026977	246049 1366587	418159	489696	5.00 175	25.0 200	50.0 250	75.0	100
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	13142 699176	69755 799872	156373 1029362	270626	357566	5.00 175	25.0 200	50.0 250	75.0	100
Ethylbenzene	CBNZ d5	Ave	35398 1218751	156900 1390812	352019 1762716	540015	684943	5.00 175	25.0 200	50.0 250	75.0	100
m-Xylene & p-Xylene	CBNZ d5	Ave	43910 1499275	196132 1695741	416283 2161557	663604	838371	5.00 175	25.0 200	50.0 250	75.0	100
o-Xylene	CBNZ d5	Ave	42778 1520782	201906 1672026	430994 2111655	657817	844701	5.00 175	25.0 200	50.0 250	75.0	100
Styrene	CBNZ d5	Ave	70410 2430770	331761 2669824	702614 3281557	1093228	1341052	5.00 175	25.0 200	50.0 250	75.0	100
Bromoform	CBNZ d5	Ave	5803 360803	30696 416604	71560 548248	120009	160632	5.00 175	25.0 200	50.0 250	75.0	100
2-Chlorobenzotrifluoride	CBNZ d5	Ave	25025 976474	130865 1099473	265784 1439864	457223	544128	5.00 175	25.0 200	50.0 250	75.0	100
Isopropylbenzene	CBNZ d5	Ave	110174 3139141	473843 3385367	995129 4143279	1511361	1867348	5.00 175	25.0 200	50.0 250	75.0	100
Bromobenzene	DCBd 4	Ave	25122 913147	122999 1008153	249243 1259105	380643	474286	5.00 175	25.0 200	50.0 250	75.0	100
1,1,2,2-Tetrachloroethane	CBNZ d5	Ave	29044 1109880	152313 1216769	301111 1511708	468952	577708	5.00 175	25.0 200	50.0 250	75.0	100
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	7272 280292	35451 313051	66355 404523	105972	133396	5.00 175	25.0 200	50.0 250	75.0	100
1,2,3-Trichloropropane	DCBd 4	Ave	10261 379404	52406 413676	103048 529322	159086	194531	5.00 175	25.0 200	50.0 250	75.0	100
N-Propylbenzene	DCBd 4	Ave	29088 962443	130443 1050858	267230 1357847	428911	529403	5.00 175	25.0 200	50.0 250	75.0	100
2-Chlorotoluene	DCBd 4	Ave	24679 862193	111064 919859	230624 1195161	370145	453885	5.00 175	25.0 200	50.0 250	75.0	100
3-Chlorotoluene	DCBd 4	Ave	25329 877299	118876 965183	239610 1254125	403537	478005	5.00 175	25.0 200	50.0 250	75.0	100
1,3,5-Trimethylbenzene	DCBd 4	Ave	85688 2680034	396334 2803848	790599 3460126	1254643	1489442	5.00 175	25.0 200	50.0 250	75.0	100
4-Chlorotoluene	DCBd 4	Ave	28869 940075	118288 999834	253826 1276343	398838	485508	5.00 175	25.0 200	50.0 250	75.0	100
tert-Butylbenzene	DCBd 4	Ave	67600 2145902	300432 2233746	630674 2853353	985989	1203013	5.00 175	25.0 200	50.0 250	75.0	100
1,2,4-Trimethylbenzene	DCBd 4	Ave	93775 2764298	415297 2867121	824782 3543615	1282863	1554360	5.00 175	25.0 200	50.0 250	75.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
3,4-Dichlorobenzotrifluoride	DCBd 4	Ave	19655 632603	82510 684446	164643 945109	293347	340323	5.00 175	25.0 200	50.0 250	75.0	100
sec-Butylbenzene	DCBd 4	Ave	106349 2889256	435324 2979536	875734 3747062	1379795	1659704	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Dichlorobenzene	DCBd 4	Ave	52474 1574554	224858 1673821	438172 2104721	697551	850676	5.00 175	25.0 200	50.0 250	75.0	100
4-Isopropyltoluene	DCBd 4	Ave	82129 2441419	373177 2506437	717050 3181497	1135538	1356230	5.00 175	25.0 200	50.0 250	75.0	100
1,4-Dichlorobenzene	DCBd 4	Ave	53033 1638813	233465 1720245	464508 2173124	720028	880492	5.00 175	25.0 200	50.0 250	75.0	100
2,4-Dichlorobenzotrifluoride	DCBd 4	Ave	17229 599851	79327 621645	161786 924522	283275	314370	5.00 175	25.0 200	50.0 250	75.0	100
2,5-Dichlorobenzotrifluoride	DCBd 4	Ave	17972 682948	93800 758780	173267 942783	298436	352876	5.00 175	25.0 200	50.0 250	75.0	100
n-Butylbenzene	DCBd 4	Ave	75545 2222409	331802 2290785	643029 2958420	1048415	1244987	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichlorobenzene	DCBd 4	Ave	47273 1520936	225127 1586590	416117 2026312	662537	797769	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	3245 156142	17440 173322	33625 232535	56051	66004	5.00 175	25.0 200	50.0 250	75.0	100
2,4- & 2,5- & 2,6- Dichlorotoluene	DCBd 4	Ave	85812 2790747	439793 3071993	780454 4027755	1316529	1522613	15.0 525	75.0 600	150 750	225	300
2,3- & 3,4- Dichlorotoluene	DCBd 4	Ave	60616 2076832	308264 2379503	550121 3139946	921595	1108272	10.0 350	50.0 400	100 500	150	200
1,2,4-Trichlorobenzene	DCBd 4	Ave	22175 795349	117288 937825	199297 1247374	325076	406868	5.00 175	25.0 200	50.0 250	75.0	100
Hexachlorobutadiene	DCBd 4	Ave	8829 239351	33039 285364	58792 411971	101525	126465	5.00 175	25.0 200	50.0 250	75.0	100
Naphthalene	DCBd 4	Ave	82809 2281539	362983 2669188	627907 3337709	994327	1215966	5.00 175	25.0 200	50.0 250	75.0	100
1,2,3-Trichlorobenzene	DCBd 4	Ave	20833 706689	101393 901210	169607 1193234	275471	350907	5.00 175	25.0 200	50.0 250	75.0	100
2,4,5-Trichlorotoluene	DCBd 4	Ave	10792 413111	52163 580730	90501 796492	146009	205495	5.00 175	25.0 200	50.0 250	75.0	100
2,3,6-Trichlorotoluene	DCBd 4	Ave	9731 356014	49582 503740	84129 697018	129996	188457	5.00 175	25.0 200	50.0 250	75.0	100
Dibromofluoromethane (Surr)	FB	Ave	24732 729396	95101 842973	204197 1076618	321543	424756	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichloroethane-d4 (Surr)	FB	Ave	39405 1013596	145003 1135703	295614 1435595	450831	572691	5.00 175	25.0 200	50.0 250	75.0	100
Toluene-d8 (Surr)	CBNZ d5	Lin2	102855 2475360	381639 2824683	758339 +++++	1165400	1484720	5.00 175	25.0 200	50.0 +++++	75.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
4-Bromofluorobenzene (Surr)	CBNZ d5	Ave	41164 1116127	158379 1222775	305961 1557524	477594	609762	5.00 175	25.0 200	50.0 250	75.0	100

Curve Type Legend:

Ave = Average ISTD
Lin2 = Linear 1/conc^2 ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-217861/3	60724D03.D
Level 2	IC 180-217861/4	60724D04.D
Level 3	ICIS 180-217861/5	60724D05.D
Level 4	IC 180-217861/6	60724D06.D
Level 5	IC 180-217861/7	60724D07.D
Level 6	IC 180-217861/8	60724D08.D
Level 7	IC 180-217861/9	60724D09.D
Level 8	IC 180-217861/10	60724D10.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Dichlorodifluoromethane	8.1 -10.1	8.1 -2.2	5.1	-2.1	-2.8	-4.1	50 30	30 30	30	30	30	30
Chloromethane	4.7 -9.4	8.8 -5.1	1.6	1.2	-2.3	0.6	50 30	30 30	30	30	30	30
Vinyl chloride	9.5 -10.0	5.8 -3.7	2.2	3.3	-2.7	-4.5	50 30	30 30	30	30	30	30
1,3-Butadiene	24.0 -14.9	5.0 -5.6	5.1	0.6	-5.7	-8.4	50 30	30 30	30	30	30	30
Bromomethane	10.8 -13.5	18.8 -19.8	2.5	1.3	-1.5	1.4	50 30	30 30	30	30	30	30
Chloroethane	11.0 -12.2	12.2 -14.8	-0.7	4.2	0.6	-0.2	50 30	30 30	30	30	30	30
Trichlorofluoromethane	3.5 -7.0	3.6 -0.7	-3.4	2.6	0.4	1.0	50 30	30 30	30	30	30	30
Ethyl ether	6.7 -7.4	16.3 -7.8	-4.1	-1.2	-6.1	3.5	50 30	30 30	30	30	30	30
Acrolein	7.8 -5.9	8.0 -0.4	-9.3	1.7	-8.3	6.4	50 30	30 30	30	30	30	30
1,1-Dichloroethene	10.3 -5.9	-1.2 3.3	-4.6	0.0	-2.9	0.9	50 30	30 30	30	30	30	30
1,1,2-Trichloro-1,2,2-trifluoroethane	2.9 -7.7	2.5 2.7	0.6	2.5	-3.0	-0.4	50 30	30 30	30	30	30	30
Acetone	12.1 -15.4	10.8 -20.8	-1.3	9.8	-7.1	11.9	50 30	30 30	30	30	30	30
Iodomethane	1.3 -3.3	3.4 0.6	-5.0	1.4	-2.7	4.3	50 30	30 30	30	30	30	30
Carbon disulfide	-10.8 4.6	-12.1 14.2	-8.6	-0.7	2.8	10.8	50 30	30 30	30	30	30	30
Allyl chloride	-8.0 2.0	-6.2 9.7	-7.5	1.5	-1.1	9.6	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Methyl acetate	6.8 -7.8	11.8 -4.8	-4.9	-3.0	-5.0	6.8	50 30	30 30	30	30	30	30
Methylene Chloride	25.0 -9.8	8.0 -7.2	-5.5	-3.2	-6.7	-0.5	50 30	30 30	30	30	30	30
tert-Butyl alcohol	6.9 6.4	-3.8 -5.1	-2.6	-1.2	-1.5	0.9	50 30	30 30	30	30	30	30
Acrylonitrile	14.1 -12.5	19.8 -12.5	-5.0	0.3	-6.3	2.1	50 30	30 30	30	30	30	30
trans-1,2-Dichloroethene	4.4 -5.7	4.6 0.8	-2.9	0.6	-2.9	1.0	50 30	30 30	30	30	30	30
Methyl tert-butyl ether	4.5 -6.9	12.9 -6.0	-2.9	-0.3	-5.2	3.9	50 30	30 30	30	30	30	30
Hexane	9.7 -9.2	3.9 1.1	1.9	-0.2	-5.3	-1.9	50 30	30 30	30	30	30	30
1,1-Dichloroethane	-28.6 -2.3	11.2 1.3	2.0	6.5	1.4	8.5	50 30	30 30	30	30	30	30
Vinyl acetate	-7.6 0.9	10.6 3.8	-8.8	0.2	-4.4	5.1	50 30	30 30	30	30	30	30
2,2-Dichloropropane	-8.8 -2.5	-2.3 7.2	-6.3	3.0	1.6	8.2	50 30	30 30	30	30	30	30
cis-1,2-Dichloroethene	-2.5 -4.6	5.3 -1.2	-1.4	0.8	-1.9	5.5	50 30	30 30	30	30	30	30
2-Butanone (MEK)	0.8 -9.0	15.6 -7.8	1.3	-0.1	-8.5	7.7	50 30	30 30	30	30	30	30
Bromochloromethane	0.9 -3.0	7.9 -0.5	-8.0	0.0	-4.3	6.9	50 30	30 30	30	30	30	30
Tetrahydrofuran	34.8 -13.1	16.0 -9.2	-8.8	-7.3	-11.3	-1.1	50 30	30 30	30	30	30	30
Chloroform	-2.4 -5.5	4.6 -3.1	1.0	1.7	-0.8	4.7	50 30	30 30	30	30	30	30
1,1,1-Trichloroethane	-7.0 -2.8	-1.1 4.6	-2.3	0.5	2.3	5.7	50 30	30 30	30	30	30	30
Cyclohexane	10.8 -9.4	3.8 -1.8	1.6	1.9	-3.5	-3.3	50 30	30 30	30	30	30	30
Carbon tetrachloride	-16.9 3.1	-6.9 15.4	-5.9	1.0	1.0	9.1	50 30	30 30	30	30	30	30
1,1-Dichloropropene	0.5 -5.8	1.2 0.8	0.7	1.9	-1.0	1.6	50 30	30 30	30	30	30	30
Benzene	9.8 -11.5	13.8 -11.7	0.8	3.9	-4.2	-1.0	50 30	30 30	30	30	30	30
Isobutyl alcohol	-2.1 4.6	6.1 6.0	-10.9	-4.1	-12.8	13.0	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
1,2-Dichloroethane	3.7 -7.3	14.5 -6.0	-4.0	1.1	-5.5	3.6	50 30	30 30	30	30	30	30
n-Heptane	14.6 -9.8	2.2 0.7	-2.8	1.0	-5.7	-0.1	50 30	30 30	30	30	30	30
Trichloroethene	2.0 -4.9	3.4 -0.7	-2.5	1.0	-2.3	4.0	50 30	30 30	30	30	30	30
Methylcyclohexane	12.6 -10.1	3.9 -2.9	0.3	2.7	-3.4	-3.1	50 30	30 30	30	30	30	30
1,2-Dichloropropane	0.6 -3.2	2.4 1.1	-4.7	-0.2	-3.9	7.9	50 30	30 30	30	30	30	30
1,4-Dioxane	13.9 -16.6	24.5 -10.0	2.2	-0.6	-11.3	-2.0	50 30	30 30	30	30	30	30
Dibromomethane	4.8 -3.0	5.9 -0.9	-6.8	-1.3	-6.2	7.5	50 30	30 30	30	30	30	30
Bromodichloromethane	-18.7 5.9	-2.7 10.4	-10.0	2.1	-2.1	15.1	50 30	30 30	30	30	30	30
2-Chloroethyl vinyl ether	-2.2 -2.2	13.5 1.5	-6.7	-0.3	-12.3	8.6	50 30	30 30	30	30	30	30
cis-1,3-Dichloropropene	-25.7 9.8	-8.9 13.8	-10.2	0.7	-0.8	21.2	50 30	30 30	30	30	30	30
4-Methyl-2-pentanone (MIBK)	2.9 -9.0	13.0 -16.2	3.5	6.2	-0.8	0.5	50 30	30 30	30	30	30	30
Toluene	22.8 -15.4	12.8 -22.2	4.7	6.4	-1.6	-7.4	50 30	30 30	30	30	30	30
trans-1,3-Dichloropropene	-21.0 10.8	-8.2 7.2	-9.5	3.8	1.0	15.9	50 30	30 30	30	30	30	30
Ethyl methacrylate	-9.2 0.0	5.4 -5.9	-2.0	6.2	-0.8	6.3	50 30	30 30	30	30	30	30
1,1,2-Trichloroethane	3.4 -5.4	12.4 -9.0	-1.1	2.4	-4.7	2.0	50 30	30 30	30	30	30	30
Tetrachloroethene	18.6 -8.6	1.1 -9.5	0.3	4.5	-2.6	-3.8	50 30	30 30	30	30	30	30
1,3-Dichloropropane	10.5 -8.4	15.1 -13.3	-1.7	3.0	-4.4	-0.8	50 30	30 30	30	30	30	30
2-Hexanone	3.0 -7.0	16.2 -12.2	-0.4	4.8	-5.3	0.9	50 30	30 30	30	30	30	30
Dibromochloromethane	-19.3 10.9	-8.5 9.2	-9.4	0.6	-1.0	17.4	50 30	30 30	30	30	30	30
1,2-Dibromoethane (EDB)	-0.9 -1.4	6.8 -6.4	-2.7	2.7	-3.2	5.1	50 30	30 30	30	30	30	30
3-Chlorobenzotrifluoride	5.8 -9.1	7.5 -9.4	0.7	11.3	-2.3	-4.5	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Chlorobenzene	19.5 -12.3	13.5 -18.1	2.1	3.4	-4.3	-3.7	50 30	30 30	30	30	30	30
4-Chlorobenzotrifluoride	5.3 -7.0	2.6 -6.8	-1.1	13.0	-3.8	-2.2	50 30	30 30	30	30	30	30
1,1,1,2-Tetrachloroethane	-16.2 5.6	-5.5 2.3	-8.4	6.6	2.4	13.4	50 30	30 30	30	30	30	30
Ethylbenzene	12.2 -8.7	5.7 -12.9	2.5	5.7	-2.5	-1.8	50 30	30 30	30	30	30	30
m-Xylene & p-Xylene	13.5 -9.2	7.8 -12.9	-1.1	6.0	-2.6	-1.4	50 30	30 30	30	30	30	30
o-Xylene	10.4 -10.7	10.7 -15.1	2.1	4.8	-2.1	-0.2	50 30	30 30	30	30	30	30
Styrene	12.3 -11.8	12.5 -18.4	3.0	7.7	-3.9	-1.4	50 30	30 30	30	30	30	30
Bromoform	-22.5 15.3	-12.8 14.2	-12.2	-1.0	-3.6	22.6	50 30	30 30	30	30	30	30
2-Chlorobenzotrifluoride	0.1 -8.9	11.3 -10.2	-2.3	13.0	-2.2	-0.6	50 30	30 30	30	30	30	30
Isopropylbenzene	27.0 -19.2	16.1 -25.6	5.4	7.6	-3.3	-8.0	50 30	30 30	30	30	30	30
Bromobenzene	1.3 -1.8	5.6 -2.7	1.0	-3.1	-1.2	1.1	50 30	30 30	30	30	30	30
1,1,2,2-Tetrachloroethane	5.1 -8.8	17.2 -14.7	0.1	4.9	-6.1	2.2	50 30	30 30	30	30	30	30
trans-1,4-Dichloro-2-butene	0.2 4.1	4.0 6.8	-8.2	-7.8	-5.1	6.0	50 30	30 30	30	30	30	30
1,2,3-Trichloropropane	-0.4 -3.0	8.3 -1.6	0.5	-2.5	-2.4	1.1	50 30	30 30	30	30	30	30
N-Propylbenzene	7.7 -6.0	2.9 -3.6	-0.5	0.3	1.3	-2.1	50 30	30 30	30	30	30	30
2-Chlorotoluene	5.5 -5.0	1.1 -2.1	-0.9	-0.1	0.3	1.2	50 30	30 30	30	30	30	30
3-Chlorotoluene	3.2 -5.0	3.1 -2.1	-1.9	3.8	0.6	-1.8	50 30	30 30	30	30	30	30
1,3,5-Trimethylbenzene	11.8 -11.7	10.1 -13.5	3.6	3.4	0.4	-4.0	50 30	30 30	30	30	30	30
4-Chlorotoluene	13.1 -5.4	-1.4 -4.2	-0.1	-1.3	-1.7	1.1	50 30	30 30	30	30	30	30
tert-Butylbenzene	11.1 -11.4	5.1 -10.2	4.1	2.3	2.1	-3.2	50 30	30 30	30	30	30	30
1,2,4-Trimethylbenzene	17.3 -13.4	10.6 -15.1	3.7	1.4	0.5	-5.0	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
3,4-Dichlorobenzotrifluoride	10.8 -6.8	-1.0 2.1	-6.7	4.5	-0.9	-2.0	50 30	30 30	30	30	30	30
sec-Butylbenzene	24.6 -15.7	8.6 -15.9	3.1	2.1	0.4	-7.1	50 30	30 30	30	30	30	30
1,3-Dichlorobenzene	17.8 -9.2	7.5 -9.5	-1.2	-1.1	-1.3	-2.9	50 30	30 30	30	30	30	30
4-Isopropyltoluene	16.5 -14.1	12.7 -13.5	2.2	1.7	-0.6	-4.9	50 30	30 30	30	30	30	30
1,4-Dichlorobenzene	15.1 -9.8	7.9 -9.6	1.3	-1.3	-1.3	-2.3	50 30	30 30	30	30	30	30
2,4-Dichlorobenzotrifluoride	3.1 -10.2	1.0 6.0	-2.7	7.0	-2.8	-1.4	50 30	30 30	30	30	30	30
2,5-Dichlorobenzotrifluoride	-2.6 -0.7	8.3 -2.1	-5.6	2.2	-1.2	1.7	50 30	30 30	30	30	30	30
n-Butylbenzene	17.5 -13.9	9.9 -11.8	0.5	3.0	0.0	-5.1	50 30	30 30	30	30	30	30
1,2-Dichlorobenzene	11.6 -9.6	13.1 -8.4	-1.3	-1.3	-2.7	-1.4	50 30	30 30	30	30	30	30
1,2-Dibromo-3-Chloropropane	-14.1 10.8	-1.7 18.0	-10.5	-6.3	-9.7	13.5	50 30	30 30	30	30	30	30
2,4- & 2,5- & 2,6- Dichlorotoluene	6.0 -8.4	15.7 -4.7	-3.1	2.7	-2.8	-5.3	50 30	30 30	30	30	30	30
2,3- & 3,4- Dichlorotoluene	2.8 -2.5	11.3 2.0	-6.2	-1.3	-2.9	-3.3	50 30	30 30	30	30	30	30
1,2,4-Trichlorobenzene	0.2 2.3	12.8 8.0	-9.5	-7.3	-5.0	-1.3	50 30	30 30	30	30	30	30
Hexachlorobutadiene	25.9 -1.7	0.4 12.6	-15.7	-8.5	-6.8	-6.2	50 30	30 30	30	30	30	30
Naphthalene	22.7 -4.5	14.5 -5.2	-6.5	-7.0	-6.9	-7.2	50 30	30 30	30	30	30	30
1,2,3-Trichlorobenzene	4.8 9.5	8.6 15.0	-14.3	-12.5	-8.8	-2.4	50 30	30 30	30	30	30	30
2,4,5-Trichlorotoluene	-5.6 22.7	-2.9 33.5 *	-20.5	-19.3	-7.1	-0.8	50 30	30 30	30	30	30	30
2,3,6-Trichlorotoluene	-5.1 18.7	3.0 30.3 *	-17.5	-19.9	-5.0	-4.6	50 30	30 30	30	30	30	30
Dibromofluoromethane (Surr)	19.5 -6.8	3.9 -3.6	-8.1	-1.5	-5.8	2.3	50 30	30 30	30	30	30	30
1,2-Dichloroethane-d4 (Surr)	33.2 -12.1	10.8 -10.0	-6.9	-3.3	-11.1	-0.6	50 30	30 30	30	30	30	30
Toluene-d8 (Surr)	-2.6 -11.7	12.5 +++++	0.9	6.5	-0.6	-5.0	50 30	30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 217861

SDG No.:

Instrument ID: CHHP6 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2017 06:39 Calibration End Date: 07/24/2017 09:28 Calibration ID: 35029

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
4-Bromofluorobenzene (Surr)	38.5 -14.8	13.2 -18.3	-5.5	-0.8	-7.9	-4.5	50 30	30 30	30	30	30	30

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D03.D
Lims ID: IC VSTD1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 24-Jul-2017 06:39:30 ALS Bottle#: 3 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017705-003
Misc. Info.: IC VSTD1
Operator ID: 034635 Instrument ID: CHHP6
Sublist: chrom-MSVOA_LL_CHHP6*sub10

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 25-Jul-2017 01:44:30 Calib Date: 24-Jul-2017 09:28:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: bungardf Date: 24-Jul-2017 07:18:57

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.968	3.973	-0.005	93	341897	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.052	7.052	0.000	98	796580	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.173	10.172	0.001	88	172191	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.515	12.515	0.001	97	266961	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.316	6.315	0.001	92	24732	5.00	5.97	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.693	6.693	0.000	62	39405	5.00	6.66	
$ 7 Toluene-d8 (Surr)	98	8.719	8.712	0.007	93	102855	5.00	4.87	
$ 8 4-Bromofluorobenzene (Surr	95	11.353	11.353	0.000	84	41164	5.00	6.92	
11 Dichlorodifluoromethane	85	1.486	1.479	0.007	98	27479	5.00	5.41	
12 Chloromethane	50	1.632	1.631	0.001	97	23920	5.00	5.23	
13 Vinyl chloride	62	1.747	1.753	-0.006	96	26240	5.00	5.48	
14 Butadiene	39	1.790	1.789	0.001	89	24629	5.00	6.20	
15 Bromomethane	94	2.076	2.075	0.001	72	12374	5.00	5.54	
16 Chloroethane	64	2.210	2.203	0.007	82	14369	5.00	5.55	
17 Dichlorofluoromethane	67	2.459	2.459	0.000	95	29354	5.00	5.26	
18 Trichlorofluoromethane	101	2.496	2.501	-0.005	85	24407	5.00	5.17	M
20 Ethyl ether	59	2.818	2.824	-0.006	87	21539	5.00	5.33	
21 Acrolein	56	2.989	2.994	-0.005	100	93239	100.0	107.8	
22 1,1-Dichloroethene	96	3.110	3.109	0.001	96	22840	5.00	5.52	
23 1,1,2-Trichloro-1,2,2-trif	101	3.153	3.158	-0.005	88	20417	5.00	5.15	
24 Acetone	43	3.183	3.195	-0.012	99	47909	25.0	28.0	
25 Iodomethane	142	3.287	3.292	-0.005	92	29488	5.00	5.07	
26 Carbon disulfide	76	3.360	3.365	-0.005	98	41100	5.00	4.46	
29 3-Chloro-1-propene	76	3.633	3.633	0.000	80	11154	5.00	4.60	
30 Methyl acetate	43	3.646	3.651	-0.005	95	40003	10.0	10.7	
31 Methylene Chloride	84	3.828	3.846	-0.018	93	34286	5.00	6.25	
32 2-Methyl-2-propanol	59	4.108	4.113	-0.005	89	20227	50.0	53.4	
33 Acrylonitrile	53	4.236	4.235	0.001	99	114140	50.0	57.0	
34 trans-1,2-Dichloroethene	96	4.272	4.271	0.001	96	24529	5.00	5.22	
35 Methyl tert-butyl ether	73	4.284	4.290	-0.006	95	78478	5.00	5.22	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	4.704	4.709	-0.005	88	30509	5.00	5.48	
37 1,1-Dichloroethane	63	4.923	4.922	0.001	73	27271	5.00	3.57	
38 Vinyl acetate	43	4.978	4.983	-0.005	97	41136	5.00	4.62	
42 2,2-Dichloropropane	97	5.683	5.689	-0.006	51	3609	5.00	4.56	
43 cis-1,2-Dichloroethene	96	5.690	5.695	-0.005	75	26745	5.00	4.87	
44 2-Butanone (MEK)	43	5.708	5.713	-0.005	98	61711	25.0	25.2	
48 Chlorobromomethane	128	5.982	5.981	0.001	98	12079	5.00	5.04	
49 Tetrahydrofuran	42	5.994	5.987	0.007	91	22350	10.0	13.5	
50 Chloroform	83	6.140	6.133	0.007	92	40199	5.00	4.88	
51 1,1,1-Trichloroethane	97	6.280	6.285	-0.005	95	24367	5.00	4.65	
52 Cyclohexane	56	6.359	6.364	-0.005	91	41233	5.00	5.54	
53 Carbon tetrachloride	117	6.468	6.468	0.000	93	15662	5.00	4.16	
54 1,1-Dichloropropene	75	6.480	6.486	-0.006	96	31712	5.00	5.03	
56 Benzene	78	6.693	6.699	-0.006	96	100837	5.00	5.49	
55 Isobutyl alcohol	41	6.693	7.076	-0.383	37	13528	125.0	122.4	
57 1,2-Dichloroethane	62	6.779	6.778	0.001	97	35160	5.00	5.18	
59 n-Heptane	43	7.077	7.076	0.001	48	24265	5.00	5.73	
61 Trichloroethene	130	7.442	7.447	-0.005	98	22756	5.00	5.10	
63 Methylcyclohexane	83	7.679	7.678	0.001	84	43857	5.00	5.63	
64 1,2-Dichloropropane	63	7.715	7.715	0.000	89	23091	5.00	5.03	
65 1,4-Dioxane	88	7.807	7.885	-0.078	42	4766	100.0	113.9	
67 Dibromomethane	93	7.801	7.806	-0.005	93	15724	5.00	5.24	
68 Dichlorobromomethane	83	8.001	8.007	-0.006	94	20777	5.00	4.07	
70 2-Chloroethyl vinyl ether	63	8.312	8.311	0.001	91	29761	10.0	9.78	
71 cis-1,3-Dichloropropene	75	8.451	8.457	-0.006	94	21547	5.00	3.72	
72 4-Methyl-2-pentanone (MIBK	43	8.616	8.615	0.001	94	113074	25.0	25.7	
73 Toluene	91	8.786	8.779	0.007	99	104189	5.00	6.14	
74 trans-1,3-Dichloropropene	75	9.035	9.035	0.000	93	17940	5.00	3.95	
75 Ethyl methacrylate	69	9.102	9.102	0.000	90	25997	5.00	4.54	
76 1,1,2-Trichloroethane	97	9.230	9.229	0.001	90	20294	5.00	5.17	
77 Tetrachloroethene	164	9.291	9.296	-0.005	96	18016	5.00	5.93	
78 1,3-Dichloropropane	76	9.382	9.388	-0.006	88	39343	5.00	5.53	
79 2-Hexanone	43	9.449	9.448	0.001	95	72896	25.0	25.8	
81 Chlorodibromomethane	129	9.607	9.601	0.006	90	10736	5.00	4.04	
82 Ethylene Dibromide	107	9.705	9.710	-0.005	97	18711	5.00	4.95	
83 3-Chlorobenzotrifluoride	180	10.185	10.185	0.000	61	26101	5.00	5.29	
84 Chlorobenzene	112	10.204	10.197	0.007	95	65919	5.00	5.97	
85 4-Chlorobenzotrifluoride	180	10.270	10.270	0.000	95	24071	5.00	5.27	
86 1,1,1,2-Tetrachloroethane	131	10.289	10.294	-0.005	40	13142	5.00	4.19	
87 Ethylbenzene	106	10.301	10.300	0.001	98	35398	5.00	5.61	
88 m-Xylene & p-Xylene	106	10.435	10.434	0.001	99	43910	5.00	5.68	
89 o-Xylene	106	10.812	10.811	0.001	97	42778	5.00	5.52	
90 Styrene	104	10.836	10.835	0.001	95	70410	5.00	5.62	
91 Bromoform	173	11.007	11.018	-0.011	82	5803	5.00	3.88	
92 2-Chlorobenzotrifluoride	180	11.092	11.091	0.001	94	25025	5.00	5.01	
93 Isopropylbenzene	105	11.183	11.182	0.001	95	110174	5.00	6.35	
95 Bromobenzene	156	11.493	11.492	0.001	94	25122	5.00	5.06	
96 1,1,2,2-Tetrachloroethane	83	11.499	11.499	0.000	94	29044	5.00	5.26	
97 trans-1,4-Dichloro-2-buten	53	11.530	11.535	-0.005	70	7272	5.00	5.01	
98 1,2,3-Trichloropropane	110	11.548	11.553	-0.005	88	10261	5.00	4.98	
99 N-Propylbenzene	120	11.597	11.596	0.001	99	29088	5.00	5.39	
100 2-Chlorotoluene	126	11.682	11.681	0.001	95	24679	5.00	5.28	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
101 3-Chlorotoluene	126	11.749	11.748	0.001	97	25329	5.00	5.16	
102 1,3,5-Trimethylbenzene	105	11.785	11.784	0.001	92	85688	5.00	5.59	
103 4-Chlorotoluene	126	11.810	11.809	0.001	97	28869	5.00	5.65	
104 tert-Butylbenzene	119	12.095	12.095	0.000	90	67600	5.00	5.55	
106 1,2,4-Trimethylbenzene	105	12.156	12.156	0.000	95	93775	5.00	5.87	
107 1,2-dichloro-4-(trifluorom	214	12.199	12.204	-0.005	96	19655	5.00	5.54	
108 sec-Butylbenzene	105	12.321	12.320	0.001	94	106349	5.00	6.23	
109 1,3-Dichlorobenzene	146	12.436	12.435	0.001	95	52474	5.00	5.89	
110 4-Isopropyltoluene	119	12.473	12.478	-0.005	95	82129	5.00	5.82	
111 1,4-Dichlorobenzene	146	12.533	12.539	-0.006	93	53033	5.00	5.76	
113 2,4-Dichloro-1-(triflourom	214	12.570	12.569	0.001	94	17229	5.00	5.15	
114 2,5-Dichlorobenzotrifluori	214	12.613	12.612	0.001	96	17972	5.00	4.87	
116 n-Butylbenzene	91	12.880	12.886	-0.006	98	75545	5.00	5.87	
117 1,2-Dichlorobenzene	146	12.892	12.892	0.000	94	47273	5.00	5.58	
118 1,2-Dibromo-3-Chloropropan	75	13.677	13.683	-0.006	66	3245	5.00	4.30	
119 2,4- & 2,5- & 2,6- Dichlor	125	13.823	13.816	0.007	99	85812	15.0	15.9	
121 2,3- & 3,4- Dichlorotoluen	125	14.237	14.236	0.001	98	60616	10.0	10.3	
122 1,2,4-Trichlorobenzene	180	14.505	14.498	0.007	92	22175	5.00	5.01	
123 Hexachlorobutadiene	225	14.644	14.650	-0.006	89	8829	5.00	6.30	
124 Naphthalene	128	14.760	14.759	0.001	97	82809	5.00	6.13	
125 1,2,3-Trichlorobenzene	180	14.985	14.984	0.001	94	20833	5.00	5.24	
126 2,4,5-Trichlorotoluene	159	15.776	15.775	0.001	0	10792	5.00	4.72	
127 2,3,6-Trichlorotoluene	159	15.879	15.885	-0.006	91	9731	5.00	4.75	
146 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 131 Xylenes, Total	106				0		10.0	11.2	
S 130 1,2-Dichloroethene, Total	96				0		10.0	10.1	
S 132 1,3-Dichloropropene, Total	1				0		10.0	7.66	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

voaWEEmix1stR_00009	Amount Added:	0.20	Units: uL
voaWKetmix1st_00004	Amount Added:	0.80	Units: uL
VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	0.20	Units: uL
voaWVA1stRest_00016	Amount Added:	0.20	Units: uL
voaWAcro1stRe_00016	Amount Added:	4.00	Units: uL
VOA8260VOAPRI_00263	Amount Added:	0.20	Units: uL
voaW2clev1stR_00013	Amount Added:	0.20	Units: uL

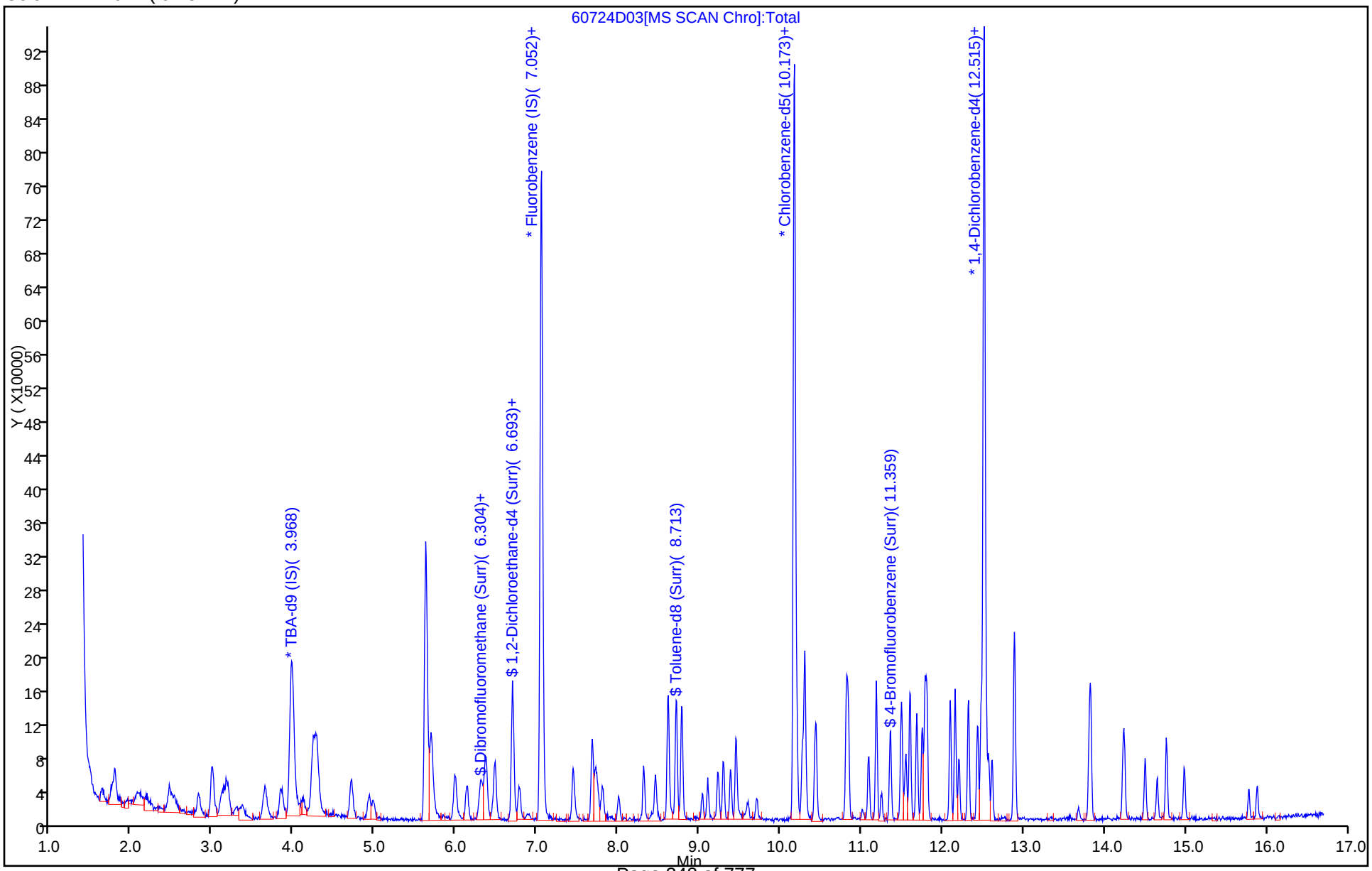
Report Date: 25-Jul-2017 01:44:31 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D03.D

Injection Date:	24-Jul-2017 06:39:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	IC VSTD1			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

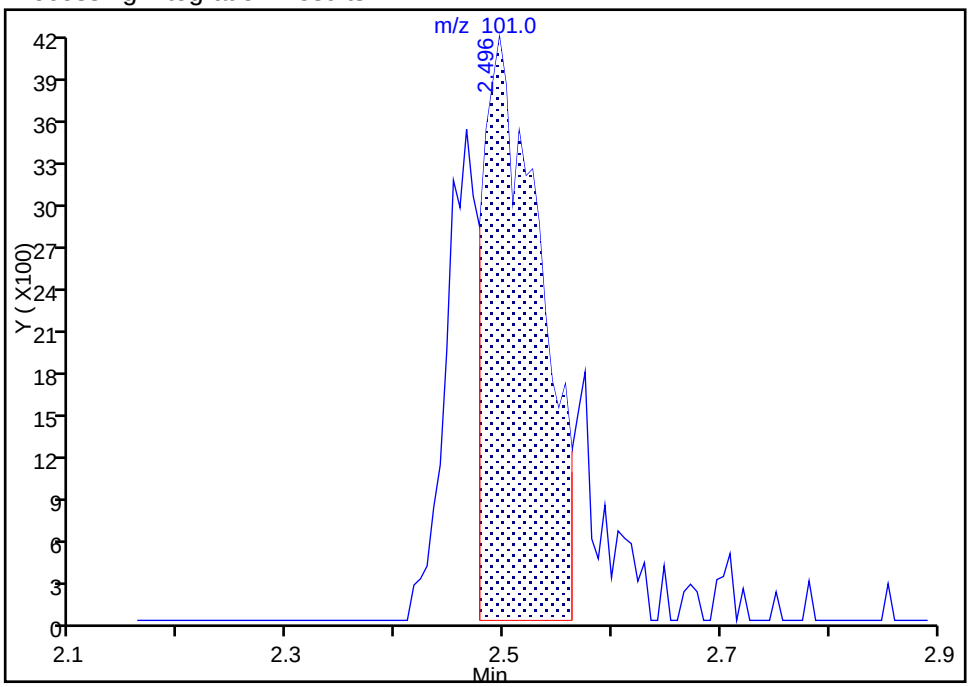
Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D03.D
Injection Date: 24-Jul-2017 06:39:30 Instrument ID: CHHP6
Lims ID: IC VSTD1
Client ID:
Operator ID: 034635 ALS Bottle#: 3 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP6 Limit Group: VOA 8260C ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

18 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

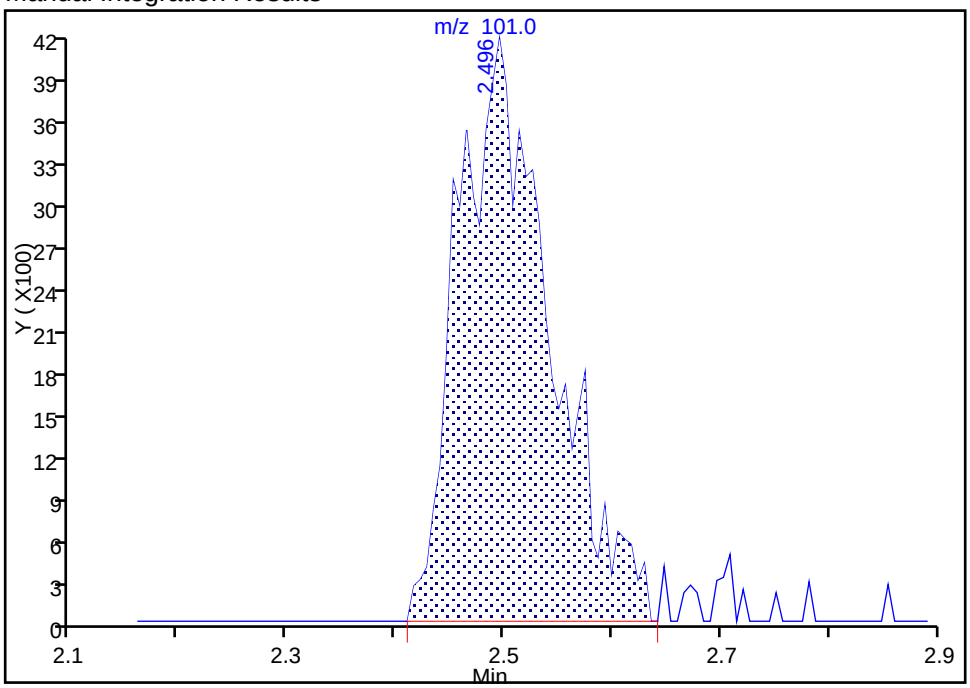
Processing Integration Results

RT: 2.50
Area: 15241
Amount: 5.000000
Amount Units: ng



Manual Integration Results

RT: 2.50
Area: 24407
Amount: 5.173113
Amount Units: ng



Reviewer: bungardf, 24-Jul-2017 07:17:36
Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D04.D
Lims ID: IC VSTD5
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 24-Jul-2017 07:03:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017705-004
Misc. Info.: IC VSTD5
Operator ID: 034635 Instrument ID: CHHP6
Sublist: chrom-MSVOA_LL_CHHP6*sub10

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 25-Jul-2017 01:44:32 Calib Date: 24-Jul-2017 09:28:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: bungardf Date: 24-Jul-2017 07:25:58

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.968	3.973	-0.005	93	269256	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.052	7.052	0.000	98	704642	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.173	10.172	0.001	88	162034	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.509	12.515	-0.005	97	250761	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.316	6.315	0.001	93	95101	25.0	26.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.693	6.693	0.000	59	145003	25.0	27.7	
$ 7 Toluene-d8 (Surr)	98	8.713	8.712	0.001	93	381639	25.0	28.1	
$ 8 4-Bromofluorobenzene (Surr	95	11.353	11.353	0.000	83	158379	25.0	28.3	
11 Dichlorodifluoromethane	85	1.480	1.479	0.001	98	121547	25.0	27.0	
12 Chloromethane	50	1.626	1.631	-0.005	99	109949	25.0	27.2	
13 Vinyl chloride	62	1.753	1.753	0.000	97	112168	25.0	26.5	
14 Butadiene	39	1.790	1.789	0.001	89	92248	25.0	26.3	
15 Bromomethane	94	2.082	2.075	0.007	88	58670	25.0	29.7	
16 Chloroethane	64	2.204	2.203	0.001	98	64213	25.0	28.0	
17 Dichlorofluoromethane	67	2.459	2.459	0.000	97	133871	25.0	27.1	
18 Trichlorofluoromethane	101	2.489	2.501	-0.012	98	108123	25.0	25.9	
20 Ethyl ether	59	2.824	2.824	0.000	88	103875	25.0	29.1	
21 Acrolein	56	3.000	2.994	0.006	98	103236	125.0	134.9	
22 1,1-Dichloroethene	96	3.104	3.109	-0.005	98	90501	25.0	24.7	
23 1,1,2-Trichloro-1,2,2-trif	101	3.159	3.158	0.001	94	89949	25.0	25.6	
24 Acetone	43	3.183	3.195	-0.012	100	83742	50.0	55.4	
25 Iodomethane	142	3.286	3.292	-0.006	96	133154	25.0	25.9	
26 Carbon disulfide	76	3.372	3.365	0.007	98	179135	25.0	22.0	
29 3-Chloro-1-propene	76	3.639	3.633	0.006	90	50272	25.0	23.4	
30 Methyl acetate	43	3.651	3.651	0.000	96	185280	50.0	55.9	
31 Methylene Chloride	84	3.846	3.846	0.000	90	131057	25.0	27.0	
32 2-Methyl-2-propanol	59	4.108	4.113	-0.005	91	71644	250.0	240.4	
33 Acrylonitrile	53	4.235	4.235	0.000	100	530059	250.0	299.5	
34 trans-1,2-Dichloroethene	96	4.272	4.271	0.001	96	108647	25.0	26.1	
35 Methyl tert-butyl ether	73	4.284	4.290	-0.006	96	375187	25.0	28.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	4.704	4.709	-0.005	90	127818	25.0	26.0	
37 1,1-Dichloroethane	63	4.929	4.922	0.007	96	187923	25.0	27.8	
38 Vinyl acetate	43	4.984	4.983	0.001	97	217747	25.0	27.7	
42 2,2-Dichloropropane	97	5.683	5.689	-0.006	54	17106	25.0	24.4	
43 cis-1,2-Dichloroethene	96	5.689	5.695	-0.006	80	127777	25.0	26.3	
44 2-Butanone (MEK)	43	5.702	5.713	-0.011	73	125277	50.0	57.8	
48 Chlorobromomethane	128	5.981	5.981	0.000	98	57129	25.0	27.0	
49 Tetrahydrofuran	42	5.994	5.987	0.007	87	85090	50.0	58.0	
50 Chloroform	83	6.133	6.133	0.000	93	190538	25.0	26.1	
51 1,1,1-Trichloroethane	97	6.292	6.285	0.007	97	114539	25.0	24.7	
52 Cyclohexane	56	6.359	6.364	-0.005	91	170750	25.0	25.9	
53 Carbon tetrachloride	117	6.468	6.468	0.000	95	77574	25.0	23.3	
54 1,1-Dichloropropene	75	6.480	6.486	-0.006	96	141227	25.0	25.3	
56 Benzene	78	6.699	6.699	0.000	97	461882	25.0	28.4	
57 1,2-Dichloroethane	62	6.778	6.778	0.000	98	171694	25.0	28.6	
55 Isobutyl alcohol	41	6.699	7.076	-0.377	40	64845	625.0	663.4	
59 n-Heptane	43	7.076	7.076	0.000	80	95666	25.0	25.5	
61 Trichloroethene	130	7.447	7.447	0.000	98	102011	25.0	25.9	
63 Methylcyclohexane	83	7.679	7.678	0.001	87	179050	25.0	26.0	
64 1,2-Dichloropropane	63	7.715	7.715	0.000	92	103896	25.0	25.6	
67 Dibromomethane	93	7.806	7.806	0.000	96	70312	25.0	26.5	
65 1,4-Dioxane	88	7.800	7.885	-0.085	38	23040	500.0	622.3	M
68 Dichlorobromomethane	83	8.007	8.007	0.000	98	109927	25.0	24.3	
70 2-Chloroethyl vinyl ether	63	8.317	8.311	0.006	92	152667	50.0	56.7	
71 cis-1,3-Dichloropropene	75	8.457	8.457	0.000	95	116838	25.0	22.8	
72 4-Methyl-2-pentanone (MIBK	43	8.615	8.615	0.000	96	233783	50.0	56.5	
73 Toluene	91	8.786	8.779	0.007	99	450260	25.0	28.2	
74 trans-1,3-Dichloropropene	75	9.035	9.035	0.000	92	98174	25.0	23.0	
75 Ethyl methacrylate	69	9.102	9.102	0.000	87	142004	25.0	26.4	
76 1,1,2-Trichloroethane	97	9.230	9.229	0.001	92	103854	25.0	28.1	
77 Tetrachloroethene	164	9.297	9.296	0.001	96	72287	25.0	25.3	
78 1,3-Dichloropropane	76	9.388	9.388	0.000	88	192724	25.0	28.8	
79 2-Hexanone	43	9.449	9.448	0.001	95	154768	50.0	58.1	
81 Chlorodibromomethane	129	9.601	9.601	0.000	87	57240	25.0	22.9	
82 Ethylene Dibromide	107	9.711	9.710	0.000	98	94851	25.0	26.7	
83 3-Chlorobenzotrifluoride	180	10.185	10.185	0.000	91	124733	25.0	26.9	
84 Chlorobenzene	112	10.203	10.197	0.006	94	294577	25.0	28.4	
85 4-Chlorobenzotrifluoride	180	10.270	10.270	0.000	96	110312	25.0	25.6	
86 1,1,1,2-Tetrachloroethane	131	10.295	10.294	0.001	87	69755	25.0	23.6	
87 Ethylbenzene	106	10.301	10.300	0.001	98	156900	25.0	26.4	
88 m-Xylene & p-Xylene	106	10.434	10.434	0.000	99	196132	25.0	26.9	
89 o-Xylene	106	10.818	10.811	0.007	96	201906	25.0	27.7	
90 Styrene	104	10.836	10.835	0.001	94	331761	25.0	28.1	
91 Bromoform	173	11.012	11.018	-0.006	94	30696	25.0	21.8	
92 2-Chlorobenzotrifluoride	180	11.091	11.091	0.000	97	130865	25.0	27.8	
93 Isopropylbenzene	105	11.183	11.182	0.001	96	473843	25.0	29.0	
95 Bromobenzene	156	11.487	11.492	-0.005	97	122999	25.0	26.4	
96 1,1,2,2-Tetrachloroethane	83	11.499	11.499	0.000	95	152313	25.0	29.3	
97 trans-1,4-Dichloro-2-buten	53	11.536	11.535	0.001	69	35451	25.0	26.0	
98 1,2,3-Trichloropropane	110	11.548	11.553	-0.005	86	52406	25.0	27.1	
99 N-Propylbenzene	120	11.596	11.596	0.000	98	130443	25.0	25.7	
100 2-Chlorotoluene	126	11.682	11.681	0.001	95	111064	25.0	25.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
101 3-Chlorotoluene	126	11.748	11.748	0.000	97	118876	25.0	25.8	
102 1,3,5-Trimethylbenzene	105	11.785	11.784	0.001	93	396334	25.0	27.5	
103 4-Chlorotoluene	126	11.809	11.809	0.000	99	118288	25.0	24.7	
104 tert-Butylbenzene	119	12.095	12.095	0.000	91	300432	25.0	26.3	
106 1,2,4-Trimethylbenzene	105	12.156	12.156	0.000	98	415297	25.0	27.7	
107 1,2-dichloro-4-(trifluorom	214	12.205	12.204	0.001	96	82510	25.0	24.8	
108 sec-Butylbenzene	105	12.320	12.320	0.000	94	435324	25.0	27.1	
109 1,3-Dichlorobenzene	146	12.430	12.435	-0.005	96	224858	25.0	26.9	
110 4-Isopropyltoluene	119	12.478	12.478	0.000	96	373177	25.0	28.2	
111 1,4-Dichlorobenzene	146	12.539	12.539	0.000	95	233465	25.0	27.0	
113 2,4-Dichloro-1-(triflourom	214	12.570	12.569	0.001	97	79327	25.0	25.3	
114 2,5-Dichlorobenzotrifluori	214	12.612	12.612	0.000	98	93800	25.0	27.1	
116 n-Butylbenzene	91	12.886	12.886	0.000	98	331802	25.0	27.5	
117 1,2-Dichlorobenzene	146	12.892	12.892	0.000	96	225127	25.0	28.3	
118 1,2-Dibromo-3-Chloropropan	75	13.677	13.683	-0.006	73	17440	25.0	24.6	
119 2,4- & 2,5- & 2,6- Dichlor	125	13.823	13.816	0.007	99	439793	75.0	86.7	
121 2,3- & 3,4- Dichlorotoluen	125	14.237	14.236	0.001	99	308264	50.0	55.7	
122 1,2,4-Trichlorobenzene	180	14.498	14.498	0.000	95	117288	25.0	28.2	
123 Hexachlorobutadiene	225	14.644	14.650	-0.006	93	33039	25.0	25.1	
124 Naphthalene	128	14.760	14.759	0.001	98	362983	25.0	28.6	
125 1,2,3-Trichlorobenzene	180	14.985	14.984	0.001	96	101393	25.0	27.1	
126 2,4,5-Trichlorotoluene	159	15.776	15.775	0.001	0	52163	25.0	24.3	
127 2,3,6-Trichlorotoluene	159	15.879	15.885	-0.006	98	49582	25.0	25.8	
146 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 130 1,2-Dichloroethene, Total	96				0		50.0	52.5	
S 131 Xylenes, Total	106				0		50.0	54.6	
S 132 1,3-Dichloropropene, Total	1				0		50.0	45.7	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

voaWEEmix1stR_00009	Amount Added:	1.00	Units: uL
voaWKetmix1st_00004	Amount Added:	1.00	Units: uL
VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	1.00	Units: uL
voaWVA1stRest_00016	Amount Added:	1.00	Units: uL
voaWAcro1stRe_00016	Amount Added:	5.00	Units: uL
VOA8260VOAPRI_00263	Amount Added:	1.00	Units: uL
voaW2clev1stR_00013	Amount Added:	1.00	Units: uL

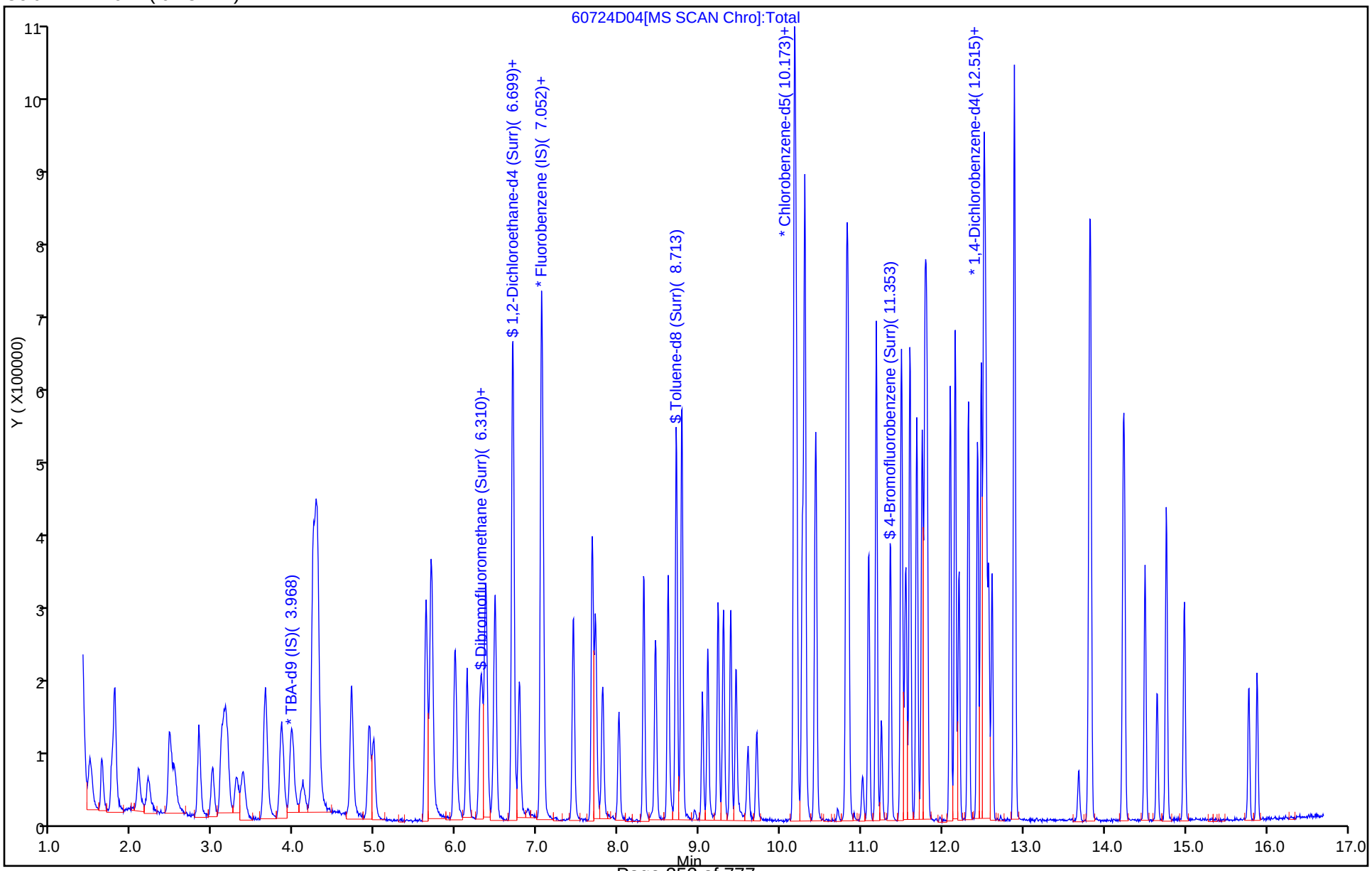
Report Date: 25-Jul-2017 01:44:33 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D04.D

Injection Date:	24-Jul-2017 07:03:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	IC VSTD5			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

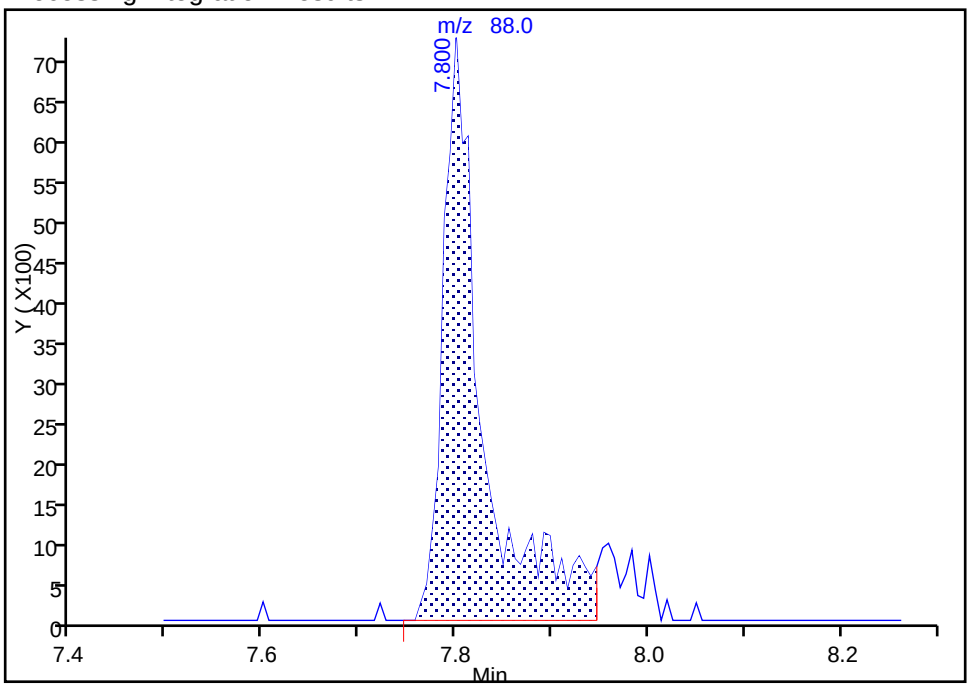
Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D04.D				
Injection Date:	24-Jul-2017 07:03:30	Instrument ID:	CHHP6		
Lims ID:	IC VSTD5				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

65 1,4-Dioxane, CAS: 123-91-1

Signal: 1

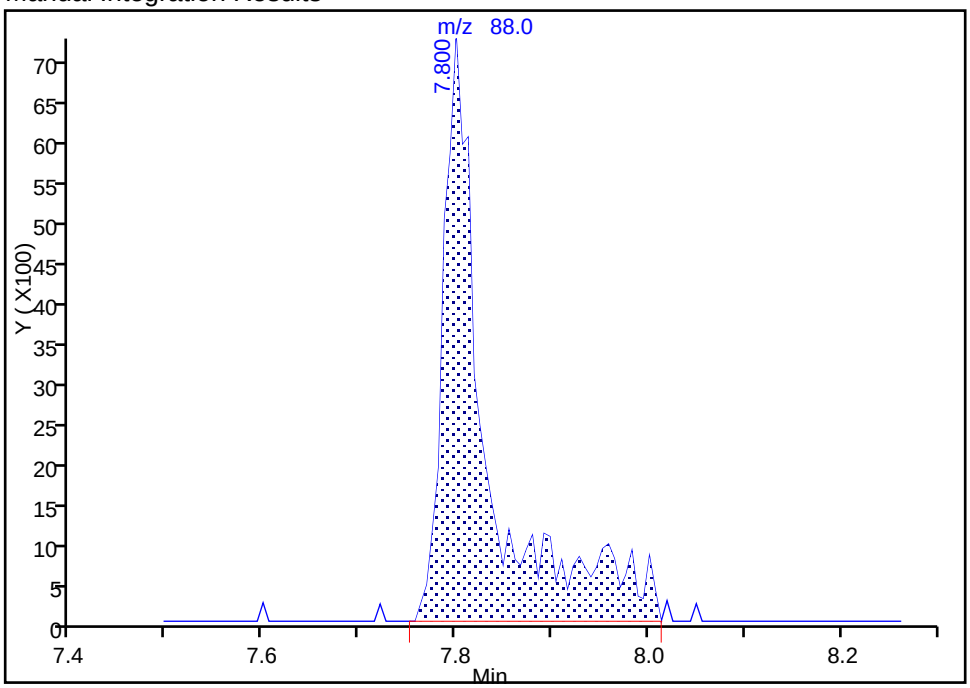
Processing Integration Results

RT: 7.80
Area: 20744
Amount: 495.9874
Amount Units: ng



Manual Integration Results

RT: 7.80
Area: 23040
Amount: 622.2830
Amount Units: ng



Reviewer: bungardf, 24-Jul-2017 07:27:10

Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D05.D
Lims ID: ICIS VSTD10
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 24-Jul-2017 07:27:30 ALS Bottle#: 5 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017705-005
Misc. Info.: ICIS VSTD10
Operator ID: 034635 Instrument ID: CHHP6
Sublist: chrom-MSVOA_LL_CHHP6*sub10

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 25-Jul-2017 02:13:16 Calib Date: 24-Jul-2017 09:28:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: bungardf Date: 25-Jul-2017 01:51:12

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.978	3.978	0.000	95	281180	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.050	7.050	0.000	99	854988	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.171	10.171	0.000	87	187443	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.513	12.513	0.000	94	265638	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.314	6.314	0.000	93	204197	50.0	46.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.691	6.691	0.000	69	295614	50.0	46.6	
$ 7 Toluene-d8 (Surr)	98	8.717	8.717	0.000	92	758339	50.0	50.5	
$ 8 4-Bromofluorobenzene (Surr	95	11.357	11.357	0.000	84	305961	50.0	47.3	
11 Dichlorodifluoromethane	85	1.484	1.484	0.000	99	286699	50.0	52.5	
12 Chloromethane	50	1.630	1.630	0.000	100	249199	50.0	50.8	
13 Vinyl chloride	62	1.758	1.758	0.000	98	262771	50.0	51.1	
14 Butadiene	39	1.788	1.788	0.000	92	223993	50.0	52.5	
15 Bromomethane	94	2.086	2.086	0.000	87	122895	50.0	51.3	
16 Chloroethane	64	2.202	2.202	0.000	98	137952	50.0	49.6	
17 Dichlorofluoromethane	67	2.463	2.463	0.000	96	297904	50.0	49.7	
18 Trichlorofluoromethane	101	2.506	2.506	0.000	95	244680	50.0	48.3	
20 Ethyl ether	59	2.822	2.822	0.000	88	207890	50.0	48.0	
21 Acrolein	56	2.993	2.993	0.000	100	126353	150.0	136.1	
22 1,1-Dichloroethene	96	3.114	3.114	0.000	98	212019	50.0	47.7	
23 1,1,2-Trichloro-1,2,2-trif	101	3.157	3.157	0.000	94	214148	50.0	50.3	
24 Acetone	43	3.187	3.187	0.000	100	181114	100.0	98.7	
25 Iodomethane	142	3.291	3.291	0.000	99	296892	50.0	47.5	
26 Carbon disulfide	76	3.370	3.370	0.000	98	451961	50.0	45.7	
29 3-Chloro-1-propene	76	3.644	3.644	0.000	92	120354	50.0	46.3	
30 Methyl acetate	43	3.656	3.656	0.000	96	382502	100.0	95.1	
31 Methylene Chloride	84	3.844	3.844	0.000	89	278118	50.0	47.2	
32 2-Methyl-2-propanol	59	4.112	4.112	0.000	93	151604	500.0	487.1	
33 Acrylonitrile	53	4.234	4.234	0.000	100	1020211	500.0	475.0	
34 trans-1,2-Dichloroethene	96	4.276	4.276	0.000	99	244707	50.0	48.5	
35 Methyl tert-butyl ether	73	4.295	4.295	0.000	95	782498	50.0	48.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	4.708	4.708	0.000	91	304164	50.0	50.9	
37 1,1-Dichloroethane	63	4.933	4.933	0.000	97	418314	50.0	51.0	
38 Vinyl acetate	43	4.982	4.982	0.000	97	435645	50.0	45.6	
42 2,2-Dichloropropane	97	5.688	5.688	0.000	61	39797	50.0	46.8	
43 cis-1,2-Dichloroethene	96	5.694	5.694	0.000	79	290355	50.0	49.3	
44 2-Butanone (MEK)	43	5.712	5.712	0.000	99	266460	100.0	101.3	
48 Chlorobromomethane	128	5.986	5.986	0.000	98	118276	50.0	46.0	
49 Tetrahydrofuran	42	5.998	5.998	0.000	90	162324	100.0	91.2	
50 Chloroform	83	6.138	6.138	0.000	93	446745	50.0	50.5	
51 1,1,1-Trichloroethane	97	6.296	6.296	0.000	97	274535	50.0	48.8	
52 Cyclohexane	56	6.363	6.363	0.000	90	405642	50.0	50.8	
53 Carbon tetrachloride	117	6.466	6.466	0.000	95	190304	50.0	47.1	
54 1,1-Dichloropropene	75	6.485	6.485	0.000	98	340889	50.0	50.3	
56 Benzene	78	6.698	6.698	0.000	97	992835	50.0	50.4	
55 Isobutyl alcohol	41	6.704	6.704	0.000	41	132080	1250.0	1113.7	
57 1,2-Dichloroethane	62	6.777	6.777	0.000	98	349409	50.0	48.0	
59 n-Heptane	43	7.075	7.075	0.000	86	220812	50.0	48.6	
61 Trichloroethene	130	7.446	7.446	0.000	97	233389	50.0	48.7	
63 Methylcyclohexane	83	7.677	7.677	0.000	86	419227	50.0	50.1	
64 1,2-Dichloropropane	63	7.720	7.720	0.000	95	234878	50.0	47.7	
65 1,4-Dioxane	88	7.805	7.805	0.000	31	45919	1000.0	1022.1	M
67 Dibromomethane	93	7.811	7.811	0.000	95	150124	50.0	46.6	
68 Dichlorobromomethane	83	8.005	8.005	0.000	99	246980	50.0	45.0	
70 2-Chloroethyl vinyl ether	63	8.316	8.316	0.000	91	304468	100.0	93.3	
71 cis-1,3-Dichloropropene	75	8.456	8.456	0.000	95	279255	50.0	44.9	
72 4-Methyl-2-pentanone (MIBK	43	8.614	8.614	0.000	94	495598	100.0	103.5	
73 Toluene	91	8.784	8.784	0.000	99	966776	50.0	52.3	
74 trans-1,3-Dichloropropene	75	9.040	9.040	0.000	92	223869	50.0	45.3	
75 Ethyl methacrylate	69	9.107	9.107	0.000	88	305467	50.0	49.0	
76 1,1,2-Trichloroethane	97	9.228	9.228	0.000	91	211345	50.0	49.5	
77 Tetrachloroethene	164	9.295	9.295	0.000	95	165794	50.0	50.1	
78 1,3-Dichloropropane	76	9.386	9.386	0.000	89	380984	50.0	49.2	
79 2-Hexanone	43	9.453	9.453	0.000	94	306856	100.0	99.6	
81 Chlorodibromomethane	129	9.599	9.599	0.000	89	131179	50.0	45.3	
82 Ethylene Dibromide	107	9.709	9.709	0.000	99	200005	50.0	48.6	
83 3-Chlorobenzotrifluoride	180	10.183	10.183	0.000	93	270429	50.0	50.4	
84 Chlorobenzene	112	10.202	10.202	0.000	94	613324	50.0	51.1	
85 4-Chlorobenzotrifluoride	180	10.269	10.269	0.000	97	246049	50.0	49.4	
86 1,1,1,2-Tetrachloroethane	131	10.293	10.293	0.000	87	156373	50.0	45.8	
87 Ethylbenzene	106	10.305	10.305	0.000	98	352019	50.0	51.2	
88 m-Xylene & p-Xylene	106	10.433	10.433	0.000	100	416283	50.0	49.4	
89 o-Xylene	106	10.816	10.816	0.000	96	430994	50.0	51.1	
90 Styrene	104	10.834	10.834	0.000	94	702614	50.0	51.5	
91 Bromoform	173	11.017	11.017	0.000	94	71560	50.0	43.9	
92 2-Chlorobenzotrifluoride	180	11.090	11.090	0.000	95	265784	50.0	48.8	
93 Isopropylbenzene	105	11.181	11.181	0.000	96	995129	50.0	52.7	
95 Bromobenzene	156	11.491	11.491	0.000	95	249243	50.0	50.5	
96 1,1,2,2-Tetrachloroethane	83	11.497	11.497	0.000	95	301111	50.0	50.1	
97 trans-1,4-Dichloro-2-buten	53	11.534	11.534	0.000	75	66355	50.0	45.9	
98 1,2,3-Trichloropropane	110	11.552	11.552	0.000	89	103048	50.0	50.3	
99 N-Propylbenzene	120	11.601	11.601	0.000	98	267230	50.0	49.7	
100 2-Chlorotoluene	126	11.680	11.680	0.000	95	230624	50.0	49.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
101 3-Chlorotoluene	126	11.747	11.747	0.000	96	239610	50.0	49.1	
102 1,3,5-Trimethylbenzene	105	11.783	11.783	0.000	93	790599	50.0	51.8	
103 4-Chlorotoluene	126	11.808	11.808	0.000	99	253826	50.0	50.0	
104 tert-Butylbenzene	119	12.094	12.094	0.000	91	630674	50.0	52.1	
106 1,2,4-Trimethylbenzene	105	12.154	12.154	0.000	98	824782	50.0	51.8	
107 1,2-dichloro-4-(trifluorom	214	12.209	12.209	0.000	97	164643	50.0	46.6	
108 sec-Butylbenzene	105	12.319	12.319	0.000	95	875734	50.0	51.5	
109 1,3-Dichlorobenzene	146	12.434	12.434	0.000	96	438172	50.0	49.4	
110 4-Isopropyltoluene	119	12.477	12.477	0.000	96	717050	50.0	51.1	
111 1,4-Dichlorobenzene	146	12.538	12.538	0.000	94	464508	50.0	50.7	
113 2,4-Dichloro-1-(triflourom	214	12.568	12.568	0.000	95	161786	50.0	48.6	
114 2,5-Dichlorobenzotrifluori	214	12.611	12.611	0.000	97	173267	50.0	47.2	
116 n-Butylbenzene	91	12.884	12.884	0.000	97	643029	50.0	50.2	
117 1,2-Dichlorobenzene	146	12.890	12.890	0.000	96	416117	50.0	49.3	
118 1,2-Dibromo-3-Chloropropan	75	13.681	13.681	0.000	77	33625	50.0	44.7	
119 2,4- & 2,5- & 2,6- Dichlor	125	13.821	13.821	0.000	99	780454	150.0	145.3	
121 2,3- & 3,4- Dichlorotoluen	125	14.235	14.235	0.000	99	550121	100.0	93.8	
122 1,2,4-Trichlorobenzene	180	14.497	14.497	0.000	94	199297	50.0	45.2	
123 Hexachlorobutadiene	225	14.649	14.649	0.000	97	58792	50.0	42.1	
124 Naphthalene	128	14.764	14.764	0.000	98	627907	50.0	46.7	
125 1,2,3-Trichlorobenzene	180	14.983	14.983	0.000	95	169607	50.0	42.9	
126 2,4,5-Trichlorotoluene	159	15.774	15.774	0.000	0	90501	50.0	39.8	
127 2,3,6-Trichlorotoluene	159	15.884	15.884	0.000	96	84129	50.0	41.2	
146 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 130 1,2-Dichloroethene, Total	96				0		100.0	97.8	
S 131 Xylenes, Total	106				0		100.0	100.5	
S 132 1,3-Dichloropropene, Total	1				0		100.0	90.1	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

voaWEEmix1stR_00009	Amount Added:	2.00	Units: uL
voaWKetmix1st_00004	Amount Added:	2.00	Units: uL
VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	2.00	Units: uL
voaWVA1stRest_00016	Amount Added:	2.00	Units: uL
voaWAcro1stRe_00016	Amount Added:	6.00	Units: uL
VOA8260VOAPRI_00263	Amount Added:	2.00	Units: uL
voaW2clev1stR_00013	Amount Added:	2.00	Units: uL

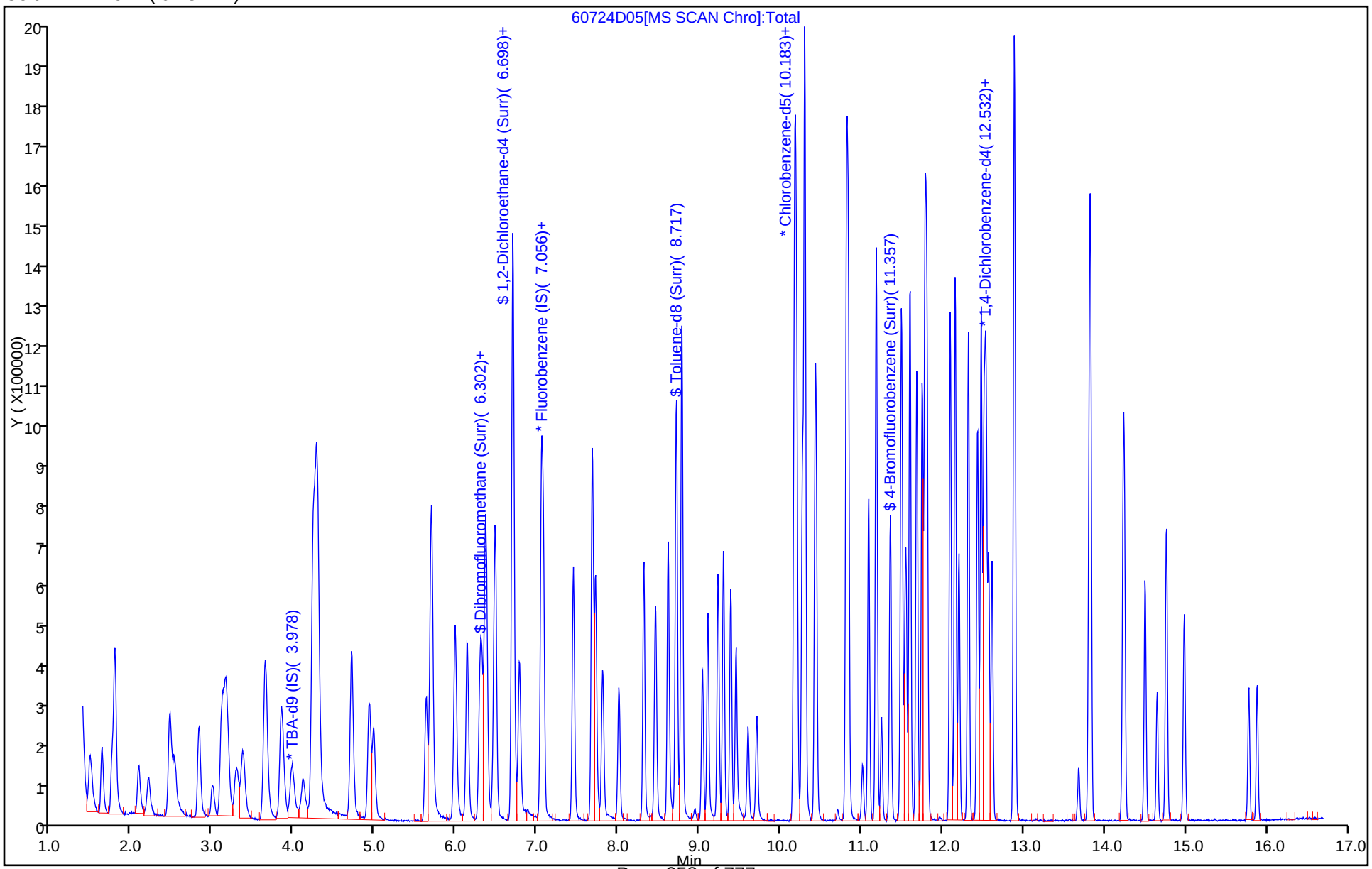
Report Date: 25-Jul-2017 02:13:18 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D05.D

Injection Date:	24-Jul-2017 07:27:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	ICIS VSTD10			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

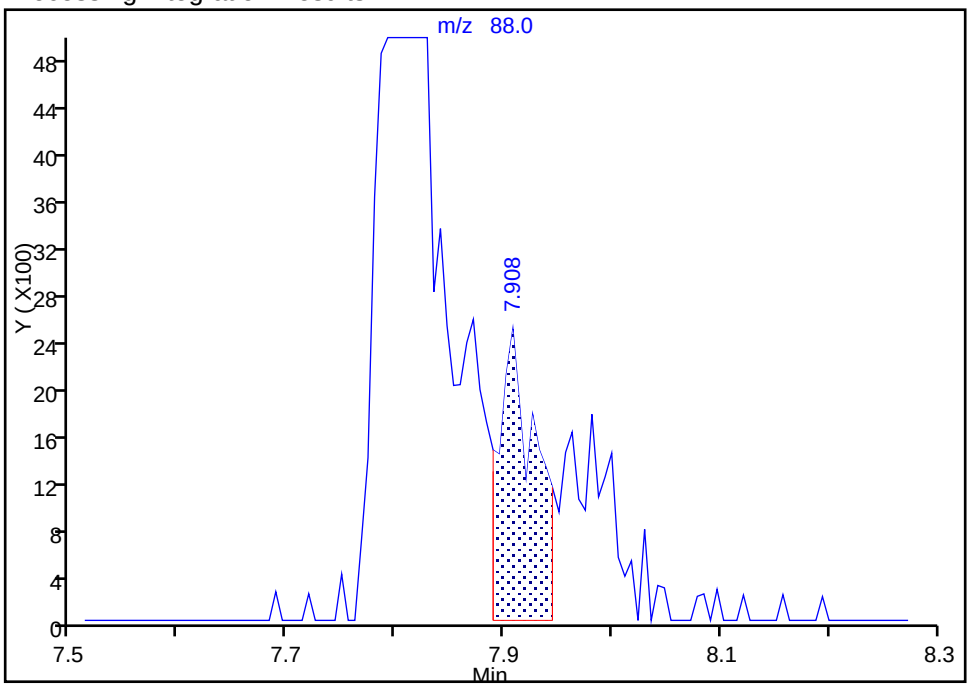
Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D05.D
Injection Date: 24-Jul-2017 07:27:30 Instrument ID: CHHP6
Lims ID: ICIS VSTD10
Client ID:
Operator ID: 034635 ALS Bottle#: 5 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP6 Limit Group: VOA 8260C ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

65 1,4-Dioxane, CAS: 123-91-1

Signal: 1

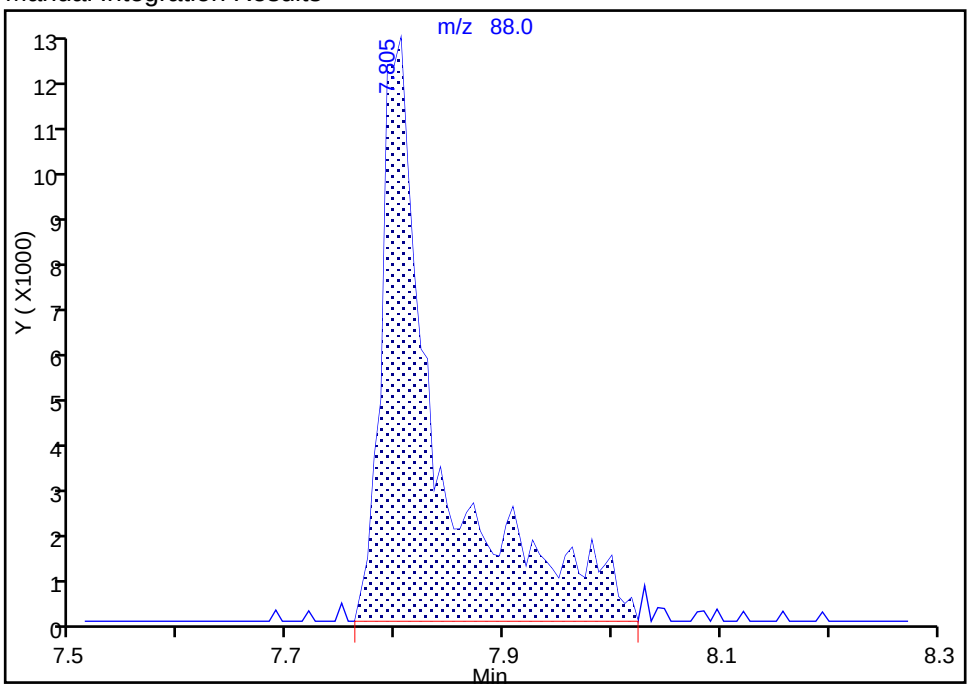
Processing Integration Results

RT: 7.91
Area: 5831
Amount: 154.9459
Amount Units: ng



Manual Integration Results

RT: 7.80
Area: 45919
Amount: 1022.1306
Amount Units: ng



Reviewer: bungardf, 24-Jul-2017 07:58:04
Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D06.D
Lims ID: IC VSTD15
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 24-Jul-2017 07:52:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017705-006
Misc. Info.: IC VSTD15
Operator ID: 034635 Instrument ID: CHHP6
Sublist: chrom-MSVOA_LL_CHHP6*sub10

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 25-Jul-2017 01:44:34 Calib Date: 24-Jul-2017 09:28:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: bungardf Date: 24-Jul-2017 08:44:01

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.972	3.972	0.000	94	306123	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.051	7.051	0.000	98	837369	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.172	10.172	0.000	87	185833	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.514	12.514	0.000	93	281796	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.315	6.315	0.000	93	321543	75.0	73.9	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.692	6.692	0.000	69	450831	75.0	72.5	
$ 7 Toluene-d8 (Surr)	98	8.718	8.718	0.000	93	1165400	75.0	79.9	
$ 8 4-Bromofluorobenzene (Surr	95	11.352	11.352	0.000	85	477594	75.0	74.4	
11 Dichlorodifluoromethane	85	1.484	1.484	0.000	98	392309	75.0	73.4	
12 Chloromethane	50	1.630	1.630	0.000	98	364709	75.0	75.9	
13 Vinyl chloride	62	1.758	1.758	0.000	98	390082	75.0	77.4	
14 Butadiene	39	1.788	1.788	0.000	89	315046	75.0	75.4	
15 Bromomethane	94	2.087	2.087	0.000	90	178416	75.0	76.0	
16 Chloroethane	64	2.202	2.202	0.000	98	212582	75.0	78.1	
17 Dichlorofluoromethane	67	2.470	2.470	0.000	96	452413	75.0	77.1	
18 Trichlorofluoromethane	101	2.506	2.506	0.000	98	381467	75.0	76.9	
20 Ethyl ether	59	2.823	2.823	0.000	87	314417	75.0	74.1	
21 Acrolein	56	2.999	2.999	0.000	100	161845	175.0	178.0	
22 1,1-Dichloroethene	96	3.115	3.115	0.000	98	326499	75.0	75.0	
23 1,1,2-Trichloro-1,2,2-trif	101	3.157	3.157	0.000	95	320427	75.0	76.8	
24 Acetone	43	3.194	3.194	0.000	100	295809	150.0	164.7	
25 Iodomethane	142	3.291	3.291	0.000	98	465530	75.0	76.1	
26 Carbon disulfide	76	3.364	3.364	0.000	99	721571	75.0	74.5	
29 3-Chloro-1-propene	76	3.638	3.638	0.000	92	194002	75.0	76.1	
30 Methyl acetate	43	3.662	3.662	0.000	97	572896	150.0	145.5	
31 Methylene Chloride	84	3.839	3.839	0.000	89	418660	75.0	72.6	
32 2-Methyl-2-propanol	59	4.112	4.112	0.000	93	251071	750.0	741.0	
33 Acrylonitrile	53	4.240	4.240	0.000	99	1582844	750.0	752.5	
34 trans-1,2-Dichloroethene	96	4.277	4.277	0.000	98	372663	75.0	75.5	
35 Methyl tert-butyl ether	73	4.295	4.295	0.000	95	1181045	75.0	74.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	4.709	4.709	0.000	91	437873	75.0	74.9	
37 1,1-Dichloroethane	63	4.928	4.928	0.000	95	641771	75.0	79.9	
38 Vinyl acetate	43	4.982	4.982	0.000	97	703120	75.0	75.2	
42 2,2-Dichloropropane	97	5.682	5.682	0.000	56	64241	75.0	77.2	
43 cis-1,2-Dichloroethene	96	5.694	5.694	0.000	80	436220	75.0	75.6	
44 2-Butanone (MEK)	43	5.706	5.706	0.000	97	385993	150.0	149.9	
48 Chlorobromomethane	128	5.986	5.986	0.000	98	188762	75.0	75.0	
49 Tetrahydrofuran	42	5.992	5.992	0.000	85	242295	150.0	139.0	
50 Chloroform	83	6.138	6.138	0.000	93	660420	75.0	76.2	
51 1,1,1-Trichloroethane	97	6.290	6.290	0.000	98	414781	75.0	75.3	
52 Cyclohexane	56	6.363	6.363	0.000	90	597815	75.0	76.4	
53 Carbon tetrachloride	117	6.467	6.467	0.000	96	300016	75.0	75.8	
54 1,1-Dichloropropene	75	6.485	6.485	0.000	98	506906	75.0	76.4	
56 Benzene	78	6.704	6.704	0.000	97	1504594	75.0	78.0	
57 1,2-Dichloroethane	62	6.783	6.783	0.000	97	540487	75.0	75.8	
59 n-Heptane	43	7.075	7.075	0.000	89	337209	75.0	75.8	
55 Isobutyl alcohol	41	6.698	6.698	0.000	42	208868	1875.0	1798.2	
61 Trichloroethene	130	7.446	7.446	0.000	98	355153	75.0	75.7	
63 Methylcyclohexane	83	7.677	7.677	0.000	87	630450	75.0	77.0	
64 1,2-Dichloropropane	63	7.720	7.720	0.000	93	361293	75.0	74.9	
67 Dibromomethane	93	7.811	7.811	0.000	96	233620	75.0	74.0	
65 1,4-Dioxane	88	7.805	7.805	0.000	61	65610	1500.0	1491.2	M
68 Dichlorobromomethane	83	8.006	8.006	0.000	100	411363	75.0	76.6	
70 2-Chloroethyl vinyl ether	63	8.316	8.316	0.000	92	478201	150.0	149.6	
71 cis-1,3-Dichloropropene	75	8.456	8.456	0.000	96	460333	75.0	75.5	
72 4-Methyl-2-pentanone (MIBK	43	8.614	8.614	0.000	94	755882	150.0	159.3	
73 Toluene	91	8.784	8.784	0.000	98	1461492	75.0	79.8	
74 trans-1,3-Dichloropropene	75	9.040	9.040	0.000	92	381658	75.0	77.8	
75 Ethyl methacrylate	69	9.101	9.101	0.000	87	492154	75.0	79.6	
76 1,1,2-Trichloroethane	97	9.229	9.229	0.000	91	325307	75.0	76.8	
77 Tetrachloroethene	164	9.295	9.295	0.000	97	257015	75.0	78.4	
78 1,3-Dichloropropane	76	9.387	9.387	0.000	89	593488	75.0	77.2	
79 2-Hexanone	43	9.454	9.454	0.000	94	480105	150.0	157.2	
81 Chlorodibromomethane	129	9.600	9.600	0.000	89	216633	75.0	75.5	
82 Ethylene Dibromide	107	9.709	9.709	0.000	98	313940	75.0	77.0	
83 3-Chlorobenzotrifluoride	180	10.184	10.184	0.000	92	444234	75.0	83.5	
84 Chlorobenzene	112	10.202	10.202	0.000	95	923461	75.0	77.5	
85 4-Chlorobenzotrifluoride	180	10.269	10.269	0.000	97	418159	75.0	84.8	
86 1,1,1,2-Tetrachloroethane	131	10.293	10.293	0.000	88	270626	75.0	79.9	
87 Ethylbenzene	106	10.299	10.299	0.000	98	540015	75.0	79.3	
88 m-Xylene & p-Xylene	106	10.433	10.433	0.000	99	663604	75.0	79.5	
89 o-Xylene	106	10.816	10.816	0.000	95	657817	75.0	78.6	
90 Styrene	104	10.835	10.835	0.000	94	1093228	75.0	80.8	
91 Bromoform	173	11.017	11.017	0.000	94	120009	75.0	74.3	
92 2-Chlorobenzotrifluoride	180	11.090	11.090	0.000	96	457223	75.0	84.7	
93 Isopropylbenzene	105	11.181	11.181	0.000	97	1511361	75.0	80.7	
95 Bromobenzene	156	11.492	11.492	0.000	95	380643	75.0	72.7	
96 1,1,2,2-Tetrachloroethane	83	11.498	11.498	0.000	95	468952	75.0	78.7	
97 trans-1,4-Dichloro-2-buten	53	11.534	11.534	0.000	76	105972	75.0	69.1	
98 1,2,3-Trichloropropane	110	11.552	11.552	0.000	87	159086	75.0	73.1	
99 N-Propylbenzene	120	11.601	11.601	0.000	98	428911	75.0	75.2	
100 2-Chlorotoluene	126	11.680	11.680	0.000	95	370145	75.0	75.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
101 3-Chlorotoluene	126	11.747	11.747	0.000	95	403537	75.0	77.9	
102 1,3,5-Trimethylbenzene	105	11.784	11.784	0.000	94	1254643	75.0	77.5	
103 4-Chlorotoluene	126	11.808	11.808	0.000	99	398838	75.0	74.0	
104 tert-Butylbenzene	119	12.094	12.094	0.000	91	985989	75.0	76.7	
106 1,2,4-Trimethylbenzene	105	12.155	12.155	0.000	98	1282863	75.0	76.0	
107 1,2-dichloro-4-(trifluorom	214	12.203	12.203	0.000	96	293347	75.0	78.3	
108 sec-Butylbenzene	105	12.319	12.319	0.000	95	1379795	75.0	76.5	
109 1,3-Dichlorobenzene	146	12.435	12.435	0.000	95	697551	75.0	74.2	
110 4-Isopropyltoluene	119	12.477	12.477	0.000	96	1135538	75.0	76.3	
111 1,4-Dichlorobenzene	146	12.538	12.538	0.000	93	720028	75.0	74.0	
113 2,4-Dichloro-1-(triflourom	214	12.568	12.568	0.000	97	283275	75.0	80.3	
114 2,5-Dichlorobenzotrifluori	214	12.611	12.611	0.000	97	298436	75.0	76.6	
116 n-Butylbenzene	91	12.885	12.885	0.000	97	1048415	75.0	77.2	
117 1,2-Dichlorobenzene	146	12.891	12.891	0.000	96	662537	75.0	74.1	
118 1,2-Dibromo-3-Chloropropan	75	13.682	13.682	0.000	79	56051	75.0	70.3	
119 2,4- & 2,5- & 2,6- Dichlor	125	13.822	13.822	0.000	99	1316529	225.0	231.1	
121 2,3- & 3,4- Dichlorotoluen	125	14.235	14.235	0.000	98	921595	150.0	148.1	
122 1,2,4-Trichlorobenzene	180	14.503	14.503	0.000	93	325076	75.0	69.5	
123 Hexachlorobutadiene	225	14.649	14.649	0.000	96	101525	75.0	68.6	
124 Naphthalene	128	14.765	14.765	0.000	97	994327	75.0	69.8	
125 1,2,3-Trichlorobenzene	180	14.984	14.984	0.000	95	275471	75.0	65.6	
126 2,4,5-Trichlorotoluene	159	15.780	15.780	0.000	0	146009	75.0	60.5	
127 2,3,6-Trichlorotoluene	159	15.884	15.884	0.000	96	129996	75.0	60.1	
146 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 131 Xylenes, Total	106				0		150.0	158.1	
S 130 1,2-Dichloroethene, Total	96				0		150.0	151.1	
S 132 1,3-Dichloropropene, Total	1				0		150.0	153.4	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

voaWEEmix1stR_00009	Amount Added:	3.00	Units: uL
voaWKetmix1st_00004	Amount Added:	3.00	Units: uL
VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	3.00	Units: uL
voaWVA1stRest_00016	Amount Added:	3.00	Units: uL
voaWAcro1stRe_00016	Amount Added:	7.00	Units: uL
VOA8260VOAPRI_00263	Amount Added:	3.00	Units: uL
voaW2clev1stR_00013	Amount Added:	3.00	Units: uL

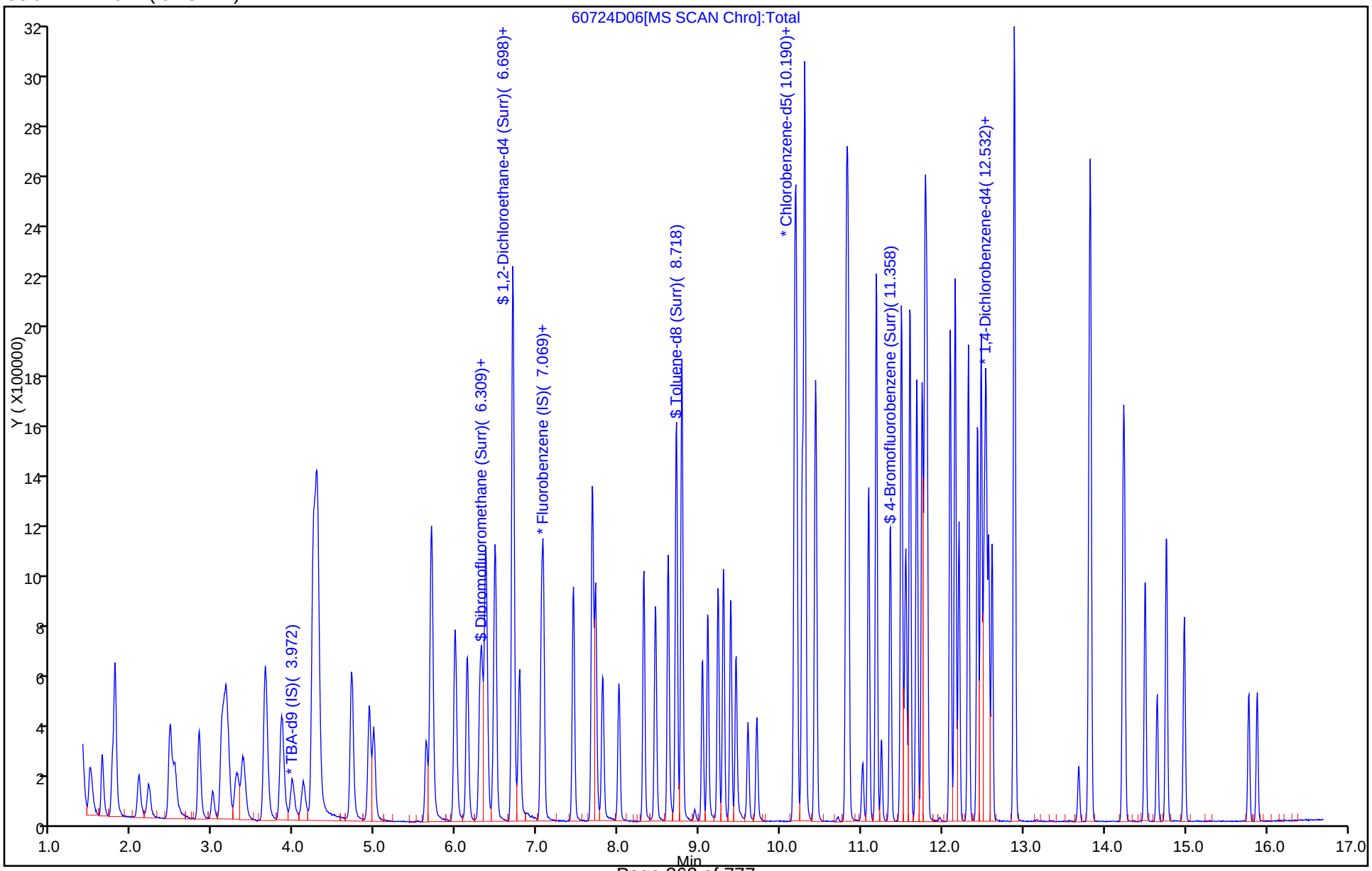
Report Date: 25-Jul-2017 01:44:35 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D06.D

Injection Date:	24-Jul-2017 07:52:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	IC VSTD15			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

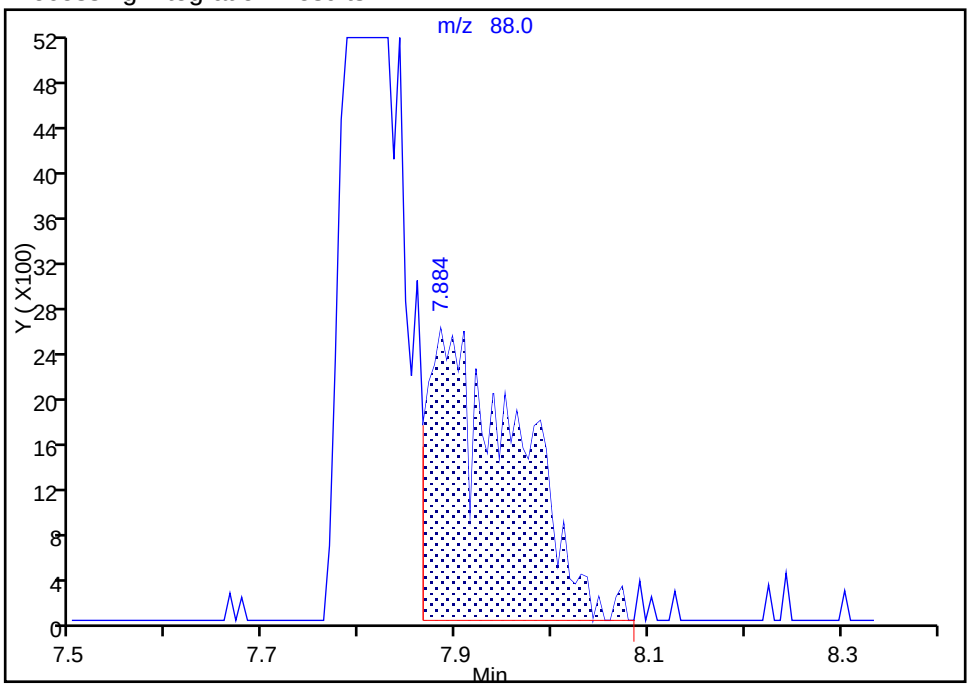
Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D06.D
Injection Date: 24-Jul-2017 07:52:30 Instrument ID: CHHP6
Lims ID: IC VSTD15
Client ID:
Operator ID: 034635 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP6 Limit Group: VOA 8260C ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

65 1,4-Dioxane, CAS: 123-91-1

Signal: 1

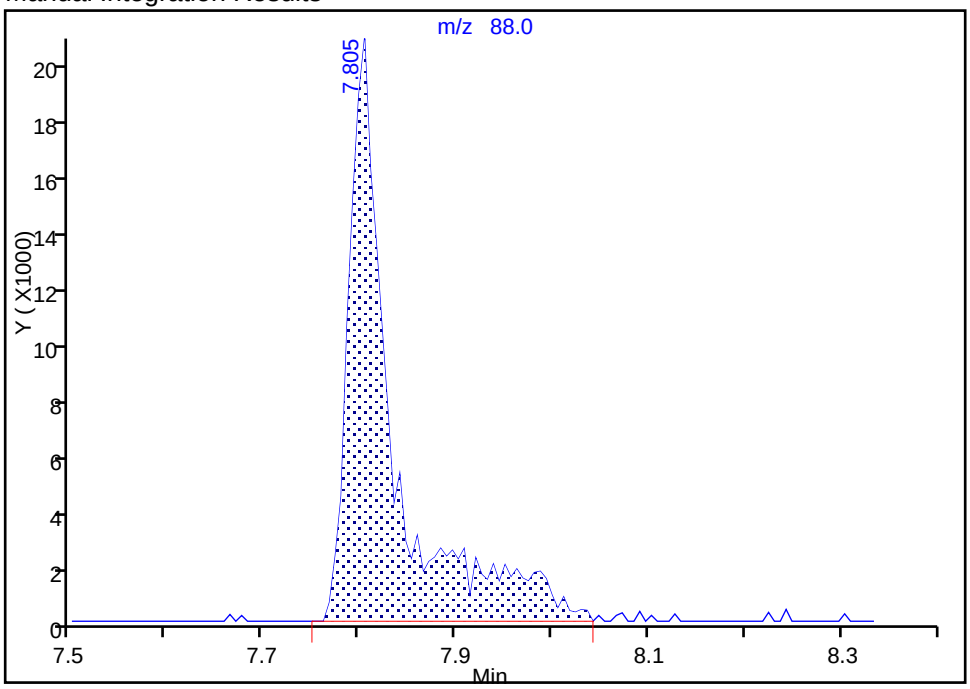
Processing Integration Results

RT: 7.88
Area: 16500
Amount: 410.3640
Amount Units: ng



Manual Integration Results

RT: 7.81
Area: 65610
Amount: 1491.1699
Amount Units: ng



Reviewer: bungardf, 24-Jul-2017 08:11:32
Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D07.D
Lims ID: IC VSTD20
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 24-Jul-2017 08:16:30 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017705-007
Misc. Info.: IC VSTD20
Operator ID: 034635 Instrument ID: CHHP6
Sublist: chrom-MSVOA_LL_CHHP6*sub10

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 25-Jul-2017 01:44:36 Calib Date: 24-Jul-2017 09:28:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: bungardf Date: 24-Jul-2017 08:52:45

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.976	3.972	0.004	94	272680	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.048	7.051	-0.003	99	867274	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.169	10.172	-0.003	87	191685	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.511	12.514	-0.003	96	258316	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.318	6.315	0.003	93	424756	100.0	94.2	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.689	6.692	-0.003	70	572691	100.0	88.9	
$ 7 Toluene-d8 (Surr)	98	8.715	8.718	-0.003	93	1484720	100.0	99.4	
$ 8 4-Bromofluorobenzene (Surr	95	11.355	11.352	0.003	83	609762	100.0	92.1	
11 Dichlorodifluoromethane	85	1.482	1.484	-0.002	98	537841	100.0	97.2	
12 Chloromethane	50	1.628	1.630	-0.002	99	485997	100.0	97.7	
13 Vinyl chloride	62	1.755	1.758	-0.003	98	507676	100.0	97.3	
14 Butadiene	39	1.786	1.788	-0.002	89	407662	100.0	94.3	
15 Bromomethane	94	2.084	2.087	-0.003	90	239488	100.0	98.5	
16 Chloroethane	64	2.199	2.202	-0.003	98	283541	100.0	100.6	
17 Dichlorofluoromethane	67	2.467	2.470	-0.003	97	601770	100.0	99.1	
18 Trichlorofluoromethane	101	2.498	2.506	-0.008	99	515987	100.0	100.4	
20 Ethyl ether	59	2.820	2.823	-0.003	88	412759	100.0	93.9	
21 Acrolein	56	2.990	2.999	-0.009	100	172660	200.0	183.4	
22 1,1-Dichloroethene	96	3.112	3.115	-0.003	97	437661	100.0	97.1	
23 1,1,2-Trichloro-1,2,2-trif	101	3.155	3.157	-0.002	95	418931	100.0	97.0	
24 Acetone	43	3.191	3.194	-0.003	100	345529	200.0	185.7	
25 Iodomethane	142	3.282	3.291	-0.009	99	616342	100.0	97.3	
26 Carbon disulfide	76	3.361	3.364	-0.003	99	1031794	100.0	102.8	
29 3-Chloro-1-propene	76	3.635	3.638	-0.003	93	261163	100.0	98.9	
30 Methyl acetate	43	3.653	3.662	-0.009	97	775230	200.0	190.1	
31 Methylene Chloride	84	3.842	3.839	0.003	88	557470	100.0	93.3	
32 2-Methyl-2-propanol	59	4.104	4.112	-0.008	94	297303	1000.0	985.0	
33 Acrylonitrile	53	4.231	4.240	-0.009	98	2040960	1000.0	936.8	
34 trans-1,2-Dichloroethene	96	4.274	4.277	-0.003	99	496677	100.0	97.1	
35 Methyl tert-butyl ether	73	4.286	4.295	-0.009	96	1550808	100.0	94.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	4.706	4.709	-0.003	90	573395	100.0	94.7	
37 1,1-Dichloroethane	63	4.925	4.928	-0.003	95	843415	100.0	101.4	
38 Vinyl acetate	43	4.980	4.982	-0.002	97	926426	100.0	95.6	
42 2,2-Dichloropropane	97	5.691	5.682	0.009	90	87515	100.0	101.6	
43 cis-1,2-Dichloroethene	96	5.691	5.694	-0.003	80	585924	100.0	98.1	
44 2-Butanone (MEK)	43	5.704	5.706	-0.002	98	488342	200.0	183.1	
48 Chlorobromomethane	128	5.983	5.986	-0.003	97	249508	100.0	95.7	
49 Tetrahydrofuran	42	5.989	5.992	-0.003	87	320475	200.0	177.5	
50 Chloroform	83	6.135	6.138	-0.003	93	889966	100.0	99.2	
51 1,1,1-Trichloroethane	97	6.294	6.290	0.004	98	583435	100.0	102.3	
52 Cyclohexane	56	6.367	6.363	0.004	89	781868	100.0	96.5	
53 Carbon tetrachloride	117	6.470	6.467	0.003	96	414150	100.0	101.0	
54 1,1-Dichloropropene	75	6.482	6.485	-0.003	98	680030	100.0	99.0	
56 Benzene	78	6.701	6.704	-0.003	98	1915947	100.0	95.8	
57 1,2-Dichloroethane	62	6.780	6.783	-0.003	97	697923	100.0	94.5	
55 Isobutyl alcohol	41	6.695	6.698	-0.003	42	262400	2500.0	2181.2	
59 n-Heptane	43	7.072	7.075	-0.003	90	434669	100.0	94.3	
61 Trichloroethene	130	7.443	7.446	-0.003	98	474544	100.0	97.7	
63 Methylcyclohexane	83	7.681	7.677	0.004	86	819514	100.0	96.6	
64 1,2-Dichloropropane	63	7.717	7.720	-0.003	94	480287	100.0	96.1	
67 Dibromomethane	93	7.808	7.811	-0.003	96	306535	100.0	93.8	
65 1,4-Dioxane	88	7.802	7.805	-0.003	36	80878	2000.0	1774.8	M
68 Dichlorobromomethane	83	8.009	8.006	0.003	100	544627	100.0	97.9	
70 2-Chloroethyl vinyl ether	63	8.313	8.316	-0.003	93	580737	200.0	175.4	
71 cis-1,3-Dichloropropene	75	8.453	8.456	-0.003	96	626305	100.0	99.2	
72 4-Methyl-2-pentanone (MIBK	43	8.611	8.614	-0.003	93	970750	200.0	198.3	
73 Toluene	91	8.782	8.784	-0.002	98	1858285	100.0	98.4	
74 trans-1,3-Dichloropropene	75	9.037	9.040	-0.003	92	511188	100.0	101.0	
75 Ethyl methacrylate	69	9.104	9.101	0.003	88	632371	100.0	99.2	
76 1,1,2-Trichloroethane	97	9.232	9.229	0.003	91	416541	100.0	95.3	
77 Tetrachloroethene	164	9.299	9.295	0.004	96	329342	100.0	97.4	
78 1,3-Dichloropropane	76	9.384	9.387	-0.003	89	757496	100.0	95.6	
79 2-Hexanone	43	9.451	9.454	-0.003	94	596567	200.0	189.4	
81 Chlorodibromomethane	129	9.597	9.600	-0.003	91	293309	100.0	99.0	
82 Ethylene Dibromide	107	9.706	9.709	-0.003	97	407201	100.0	96.8	
83 3-Chlorobenzotrifluoride	180	10.181	10.184	-0.003	91	536353	100.0	97.7	
84 Chlorobenzene	112	10.199	10.202	-0.003	92	1175123	100.0	95.7	
85 4-Chlorobenzotrifluoride	180	10.266	10.269	-0.003	97	489696	100.0	96.2	
86 1,1,1,2-Tetrachloroethane	131	10.297	10.293	0.004	89	357566	100.0	102.4	
87 Ethylbenzene	106	10.303	10.299	0.004	98	684943	100.0	97.5	
88 m-Xylene & p-Xylene	106	10.430	10.433	-0.003	99	838371	100.0	97.4	
89 o-Xylene	106	10.814	10.816	-0.002	95	844701	100.0	97.9	
90 Styrene	104	10.838	10.835	0.003	94	1341052	100.0	96.1	
91 Bromoform	173	11.014	11.017	-0.003	95	160632	100.0	96.4	
92 2-Chlorobenzotrifluoride	180	11.087	11.090	-0.003	95	544128	100.0	97.8	
93 Isopropylbenzene	105	11.185	11.181	0.004	97	1867348	100.0	96.7	
95 Bromobenzene	156	11.489	11.492	-0.003	96	474286	100.0	98.8	
96 1,1,2,2-Tetrachloroethane	83	11.495	11.498	-0.003	95	577708	100.0	93.9	
97 trans-1,4-Dichloro-2-buten	53	11.531	11.534	-0.003	78	133396	100.0	94.9	
98 1,2,3-Trichloropropane	110	11.550	11.552	-0.002	85	194531	100.0	97.6	
99 N-Propylbenzene	120	11.598	11.601	-0.003	97	529403	100.0	101.3	
100 2-Chlorotoluene	126	11.684	11.680	0.004	96	453885	100.0	100.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
101 3-Chlorotoluene	126	11.750	11.747	0.003	96	478005	100.0	100.6	
102 1,3,5-Trimethylbenzene	105	11.787	11.784	0.003	95	1489442	100.0	100.4	
103 4-Chlorotoluene	126	11.805	11.808	-0.003	99	485508	100.0	98.3	
104 tert-Butylbenzene	119	12.097	12.094	0.003	91	1203013	100.0	102.1	
106 1,2,4-Trimethylbenzene	105	12.152	12.155	-0.003	98	1554360	100.0	100.5	
107 1,2-dichloro-4-(trifluorom	214	12.201	12.203	-0.002	97	340323	100.0	99.1	
108 sec-Butylbenzene	105	12.316	12.319	-0.003	95	1659704	100.0	100.4	
109 1,3-Dichlorobenzene	146	12.432	12.435	-0.003	96	850676	100.0	98.7	
110 4-Isopropyltoluene	119	12.474	12.477	-0.003	95	1356230	100.0	99.4	
111 1,4-Dichlorobenzene	146	12.535	12.538	-0.003	93	880492	100.0	98.7	
113 2,4-Dichloro-1-(triflourom	214	12.572	12.568	0.004	96	314370	100.0	97.2	
114 2,5-Dichlorobenzotrifluori	214	12.614	12.611	0.003	97	352876	100.0	98.8	
116 n-Butylbenzene	91	12.882	12.885	-0.003	96	1244987	100.0	100.0	
117 1,2-Dichlorobenzene	146	12.894	12.891	0.003	96	797769	100.0	97.3	
118 1,2-Dibromo-3-Chloropropan	75	13.679	13.682	-0.003	82	66004	100.0	90.3	
119 2,4- & 2,5- & 2,6- Dichlor	125	13.819	13.822	-0.003	99	1522613	300.0	291.5	
121 2,3- & 3,4- Dichlorotoluen	125	14.239	14.235	0.004	99	1108272	200.0	194.3	
122 1,2,4-Trichlorobenzene	180	14.500	14.503	-0.003	93	406868	100.0	95.0	
123 Hexachlorobutadiene	225	14.646	14.649	-0.003	97	126465	100.0	93.2	
124 Naphthalene	128	14.762	14.765	-0.003	98	1215966	100.0	93.1	
125 1,2,3-Trichlorobenzene	180	14.981	14.984	-0.003	95	350907	100.0	91.2	
126 2,4,5-Trichlorotoluene	159	15.778	15.780	-0.002	0	205495	100.0	92.9	
127 2,3,6-Trichlorotoluene	159	15.881	15.884	-0.003	97	188457	100.0	95.0	
146 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 130 1,2-Dichloroethene, Total	96				0		200.0	195.2	
S 131 Xylenes, Total	106				0		200.0	195.2	
S 132 1,3-Dichloropropene, Total	1				0		200.0	200.3	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

voaWEEmix1stR_00009	Amount Added:	4.00	Units: uL
voaWKetmix1st_00004	Amount Added:	4.00	Units: uL
VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	4.00	Units: uL
voaWVA1stRest_00016	Amount Added:	4.00	Units: uL
voaWAcro1stRe_00016	Amount Added:	8.00	Units: uL
VOA8260VOAPRI_00263	Amount Added:	4.00	Units: uL
voaW2clev1stR_00013	Amount Added:	4.00	Units: uL

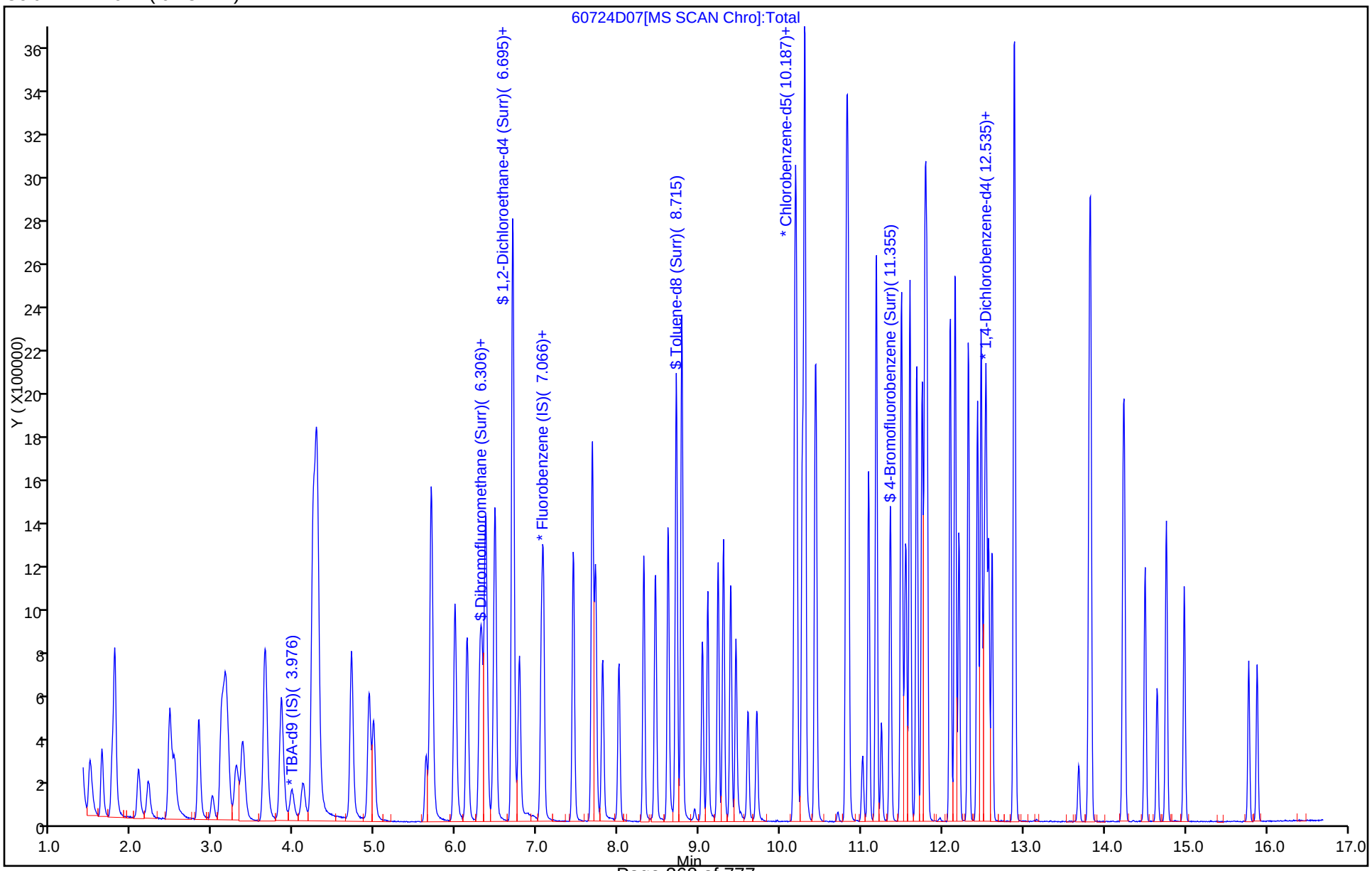
Report Date: 25-Jul-2017 01:44:38 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D07.D

Injection Date:	24-Jul-2017 08:16:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	IC VSTD20			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

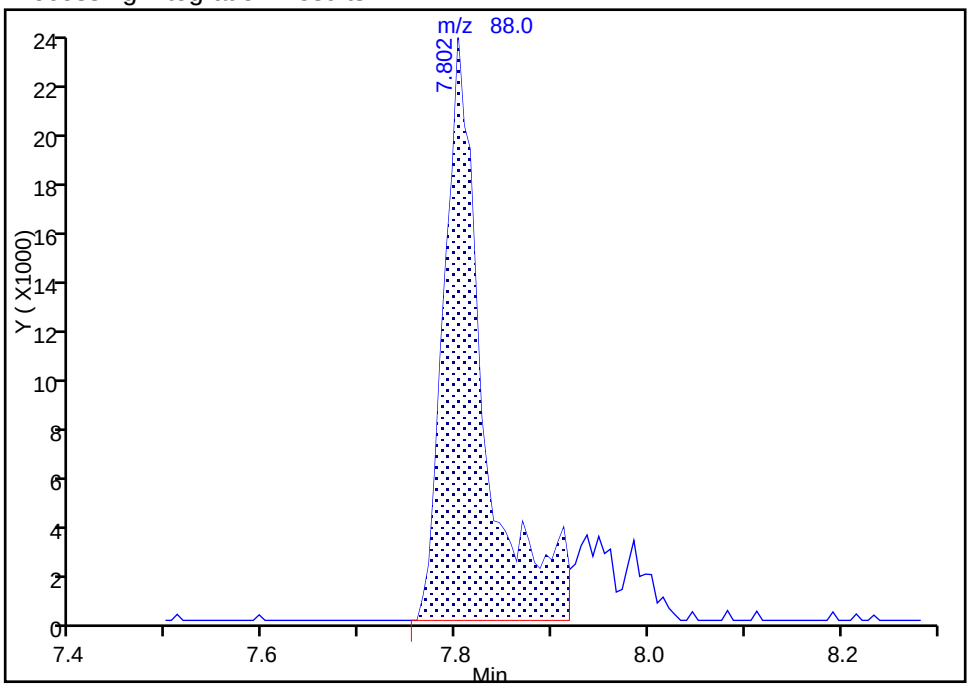
Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D07.D				
Injection Date:	24-Jul-2017 08:16:30	Instrument ID:	CHHP6		
Lims ID:	IC VSTD20				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

65 1,4-Dioxane, CAS: 123-91-1

Signal: 1

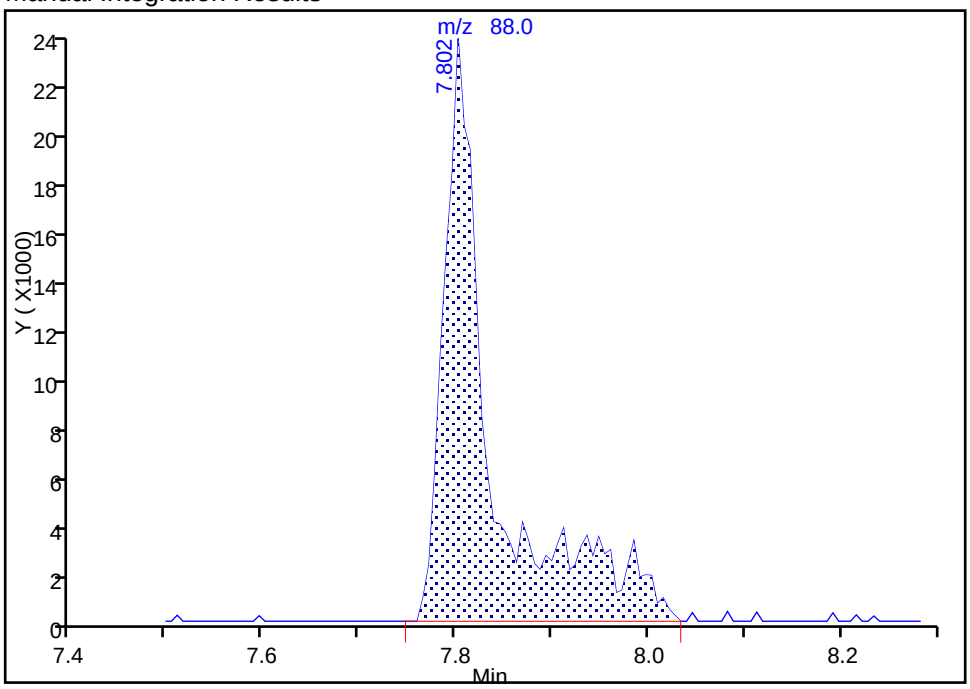
Processing Integration Results

RT: 7.80
Area: 67754
Amount: 1445.4932
Amount Units: ng



Manual Integration Results

RT: 7.80
Area: 80878
Amount: 1774.7944
Amount Units: ng



Reviewer: bungardf, 24-Jul-2017 08:44:40

Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D08.D
Lims ID: IC VSTD35
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 24-Jul-2017 08:40:30 ALS Bottle#: 8 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017705-008
Misc. Info.: IC VSTD35
Operator ID: 034635 Instrument ID: CHHP6
Sublist: chrom-MSVOA_LL_CHHP6*sub10

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 25-Jul-2017 01:44:38 Calib Date: 24-Jul-2017 09:28:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: bungardf Date: 24-Jul-2017 09:10:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.976	3.972	0.004	94	292725	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.048	7.051	-0.003	99	784312	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.169	10.172	-0.003	86	193416	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.511	12.514	-0.003	96	277720	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.318	6.315	0.003	94	729396	175.0	179.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.689	6.692	-0.003	70	1013596	175.0	174.0	
$ 7 Toluene-d8 (Surr)	98	8.715	8.718	-0.003	93	2475360	175.0	166.2	
$ 8 4-Bromofluorobenzene (Surr	95	11.355	11.352	0.003	84	1116127	175.0	167.1	
11 Dichlorodifluoromethane	85	1.488	1.484	0.004	99	839726	175.0	167.8	
12 Chloromethane	50	1.634	1.630	0.004	98	792135	175.0	176.0	
13 Vinyl chloride	62	1.762	1.758	0.004	97	788826	175.0	167.2	
14 Butadiene	39	1.792	1.788	0.004	88	626705	175.0	160.2	
15 Bromomethane	94	2.084	2.087	-0.003	90	390167	175.0	177.4	
16 Chloroethane	64	2.212	2.202	0.010	98	445022	175.0	174.6	
17 Dichlorofluoromethane	67	2.473	2.470	0.003	96	986869	175.0	179.6	
18 Trichlorofluoromethane	101	2.516	2.506	0.010	98	820933	175.0	176.7	
20 Ethyl ether	59	2.826	2.823	0.003	87	720418	175.0	181.2	
21 Acrolein	56	2.997	2.999	-0.002	99	203936	225.0	239.5	
22 1,1-Dichloroethene	96	3.118	3.115	0.003	98	719926	175.0	176.6	
23 1,1,2-Trichloro-1,2,2-trif	101	3.161	3.157	0.004	95	680574	175.0	174.2	
24 Acetone	43	3.191	3.194	-0.003	100	658887	350.0	391.6	
25 Iodomethane	142	3.289	3.291	-0.002	98	1045605	175.0	182.4	
26 Carbon disulfide	76	3.368	3.364	0.004	99	1759930	175.0	193.9	
29 3-Chloro-1-propene	76	3.635	3.638	-0.003	91	457646	175.0	191.7	
30 Methyl acetate	43	3.654	3.662	-0.008	96	1378375	350.0	373.7	
31 Methylene Chloride	84	3.842	3.839	0.003	88	940505	175.0	174.1	
32 2-Methyl-2-propanol	59	4.116	4.112	0.004	94	572173	1750.0	1765.9	
33 Acrylonitrile	53	4.238	4.240	-0.002	97	3519987	1750.0	1786.6	
34 trans-1,2-Dichloroethene	96	4.274	4.277	-0.003	99	817284	175.0	176.7	
35 Methyl tert-butyl ether	73	4.286	4.295	-0.009	96	2689634	175.0	181.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	4.712	4.709	0.003	91	940765	175.0	171.7	
37 1,1-Dichloroethane	63	4.931	4.928	0.003	95	1429058	175.0	189.9	
38 Vinyl acetate	43	4.980	4.982	-0.002	97	1612184	175.0	184.0	
42 2,2-Dichloropropane	97	5.692	5.682	0.010	92	147487	175.0	189.3	
43 cis-1,2-Dichloroethene	96	5.692	5.694	-0.002	80	997518	175.0	184.6	
44 2-Butanone (MEK)	43	5.704	5.706	-0.002	98	909301	350.0	377.0	
48 Chlorobromomethane	128	5.984	5.986	-0.002	97	441109	175.0	187.1	
49 Tetrahydrofuran	42	5.990	5.992	-0.002	87	565011	350.0	346.0	
50 Chloroform	83	6.136	6.138	-0.002	93	1486297	175.0	183.2	
51 1,1,1-Trichloroethane	97	6.294	6.290	0.004	97	954279	175.0	185.1	
52 Cyclohexane	56	6.361	6.363	-0.002	89	1239342	175.0	169.1	
53 Carbon tetrachloride	117	6.464	6.467	-0.003	96	707925	175.0	190.9	
54 1,1-Dichloropropene	75	6.482	6.485	-0.003	97	1104618	175.0	177.8	
55 Isobutyl alcohol	41	6.701	6.698	0.003	46	537905	4375.0	4944.3	
56 Benzene	78	6.701	6.704	-0.003	98	3132477	175.0	173.3	
57 1,2-Dichloroethane	62	6.781	6.783	-0.002	97	1211453	175.0	181.4	
59 n-Heptane	43	7.073	7.075	-0.002	89	728795	175.0	174.8	
61 Trichloroethene	130	7.444	7.446	-0.002	98	799778	175.0	182.1	
63 Methylcyclohexane	83	7.681	7.677	0.004	87	1300055	175.0	169.5	
64 1,2-Dichloropropane	63	7.717	7.720	-0.003	94	853109	175.0	188.8	
65 1,4-Dioxane	88	7.796	7.805	-0.009	39	141286	3500.0	3428.3	
67 Dibromomethane	93	7.803	7.811	-0.008	97	555898	175.0	188.1	
68 Dichlorobromomethane	83	8.003	8.006	-0.003	99	1013623	175.0	201.4	
70 2-Chloroethyl vinyl ether	63	8.314	8.316	-0.002	93	1138561	350.0	380.2	
71 cis-1,3-Dichloropropene	75	8.453	8.456	-0.003	96	1210517	175.0	212.1	
72 4-Methyl-2-pentanone (MIBK	43	8.612	8.614	-0.002	92	1737974	350.0	351.9	
73 Toluene	91	8.782	8.784	-0.002	96	3088570	175.0	162.0	
74 trans-1,3-Dichloropropene	75	9.037	9.040	-0.003	92	1035772	175.0	202.9	
75 Ethyl methacrylate	69	9.104	9.101	0.003	88	1196636	175.0	186.0	
76 1,1,2-Trichloroethane	97	9.232	9.229	0.003	91	786936	175.0	178.4	
77 Tetrachloroethene	164	9.299	9.295	0.004	96	574638	175.0	168.4	
78 1,3-Dichloropropane	76	9.384	9.387	-0.003	89	1388403	175.0	173.6	
79 2-Hexanone	43	9.451	9.454	-0.003	91	1122326	350.0	353.1	
81 Chlorodibromomethane	129	9.597	9.600	-0.003	91	614068	175.0	205.5	
82 Ethylene Dibromide	107	9.707	9.709	-0.002	98	780325	175.0	183.9	
83 3-Chlorobenzotrifluoride	180	10.181	10.184	-0.003	92	925971	175.0	167.1	
84 Chlorobenzene	112	10.199	10.202	-0.003	92	2089428	175.0	168.6	
85 4-Chlorobenzotrifluoride	180	10.272	10.269	0.003	96	878791	175.0	171.1	
86 1,1,1,2-Tetrachloroethane	131	10.297	10.293	0.004	92	699176	175.0	198.4	
87 Ethylbenzene	106	10.303	10.299	0.004	97	1218751	175.0	171.9	
88 m-Xylene & p-Xylene	106	10.437	10.433	0.004	97	1499275	175.0	172.5	
89 o-Xylene	106	10.814	10.816	-0.002	94	1520782	175.0	174.6	
90 Styrene	104	10.838	10.835	0.003	93	2430770	175.0	172.6	
91 Bromoform	173	11.015	11.017	-0.002	95	360803	175.0	214.6	
92 2-Chlorobenzotrifluoride	180	11.088	11.090	-0.002	94	976474	175.0	173.9	
93 Isopropylbenzene	105	11.185	11.181	0.004	97	3139141	175.0	161.1	
95 Bromobenzene	156	11.489	11.492	-0.003	96	913147	175.0	176.9	
96 1,1,2,2-Tetrachloroethane	83	11.501	11.498	0.003	95	1109880	175.0	178.8	
97 trans-1,4-Dichloro-2-buten	53	11.538	11.534	0.004	80	280292	175.0	185.5	
98 1,2,3-Trichloropropane	110	11.550	11.552	-0.002	87	379404	175.0	177.0	
99 N-Propylbenzene	120	11.599	11.601	-0.002	96	962443	175.0	171.3	
100 2-Chlorotoluene	126	11.684	11.680	0.004	96	862193	175.0	177.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
101 3-Chlorotoluene	126	11.751	11.747	0.004	95	877299	175.0	171.8	
102 1,3,5-Trimethylbenzene	105	11.787	11.784	0.003	96	2680034	175.0	168.0	
103 4-Chlorotoluene	126	11.805	11.808	-0.003	98	940075	175.0	177.0	
104 tert-Butylbenzene	119	12.097	12.094	0.003	91	2145902	175.0	169.4	
106 1,2,4-Trimethylbenzene	105	12.158	12.155	0.003	97	2764298	175.0	166.2	
107 1,2-dichloro-4-(trifluorom	214	12.207	12.203	0.004	95	632603	175.0	171.4	
108 sec-Butylbenzene	105	12.316	12.319	-0.003	95	2889256	175.0	162.6	
109 1,3-Dichlorobenzene	146	12.432	12.435	-0.003	94	1574554	175.0	169.9	
110 4-Isopropyltoluene	119	12.475	12.477	-0.002	93	2441419	175.0	166.4	
111 1,4-Dichlorobenzene	146	12.535	12.538	-0.003	91	1638813	175.0	171.0	
113 2,4-Dichloro-1-(triflourom	214	12.572	12.568	0.004	95	599851	175.0	172.5	
114 2,5-Dichlorobenzotrifluori	214	12.615	12.611	0.004	97	682948	175.0	177.9	
116 n-Butylbenzene	91	12.882	12.885	-0.003	96	2222409	175.0	166.1	
117 1,2-Dichlorobenzene	146	12.888	12.891	-0.003	94	1520936	175.0	172.5	
118 1,2-Dibromo-3-Chloropropan	75	13.679	13.682	-0.003	81	156142	175.0	198.7	
119 2,4- & 2,5- & 2,6- Dichlor	125	13.819	13.822	-0.003	97	2790747	525.0	497.0	
121 2,3- & 3,4- Dichlorotoluen	125	14.239	14.235	0.004	98	2076832	350.0	338.6	
122 1,2,4-Trichlorobenzene	180	14.500	14.503	-0.003	94	795349	175.0	172.6	
123 Hexachlorobutadiene	225	14.646	14.649	-0.003	97	239351	175.0	164.1	
124 Naphthalene	128	14.762	14.765	-0.003	99	2281539	175.0	162.5	
125 1,2,3-Trichlorobenzene	180	14.981	14.984	-0.003	95	706689	175.0	170.9	
126 2,4,5-Trichlorotoluene	159	15.778	15.780	-0.002	0	413111	175.0	173.7	
127 2,3,6-Trichlorotoluene	159	15.881	15.884	-0.003	96	356014	175.0	167.0	
146 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 131 Xylenes, Total	106				0		350.0	347.2	
S 130 1,2-Dichloroethene, Total	96				0		350.0	361.3	
S 132 1,3-Dichloropropene, Total	1				0		350.0	415.0	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

voaWEEmix1stR_00009	Amount Added:	7.00	Units: uL
voaWKetmix1st_00004	Amount Added:	7.00	Units: uL
VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	7.00	Units: uL
voaWVA1stRest_00016	Amount Added:	7.00	Units: uL
voaWAcro1stRe_00016	Amount Added:	9.00	Units: uL
VOA8260VOAPRI_00263	Amount Added:	7.00	Units: uL
voaW2clev1stR_00013	Amount Added:	7.00	Units: uL

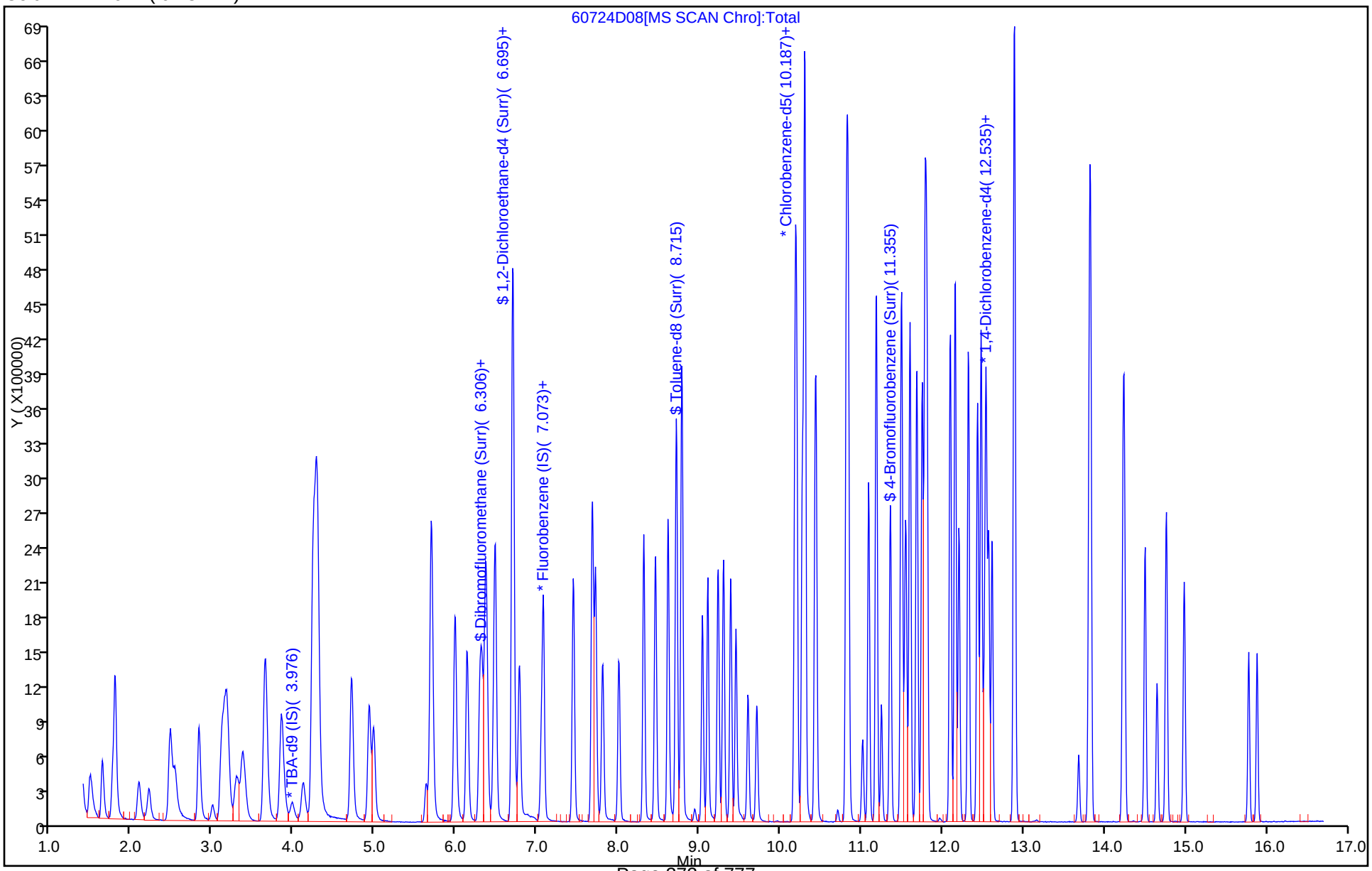
Report Date: 25-Jul-2017 01:44:40 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D08.D

Injection Date:	24-Jul-2017 08:40:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	IC VSTD35			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D09.D
Lims ID: IC VSTD40
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 24-Jul-2017 09:04:30 ALS Bottle#: 9 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017705-009
Misc. Info.: IC VSTD40
Operator ID: 034635 Instrument ID: CHHP6
Sublist: chrom-MSVOA_LL_CHHP6*sub10

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 25-Jul-2017 01:44:40 Calib Date: 24-Jul-2017 09:28:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: bungardf Date: 24-Jul-2017 09:37:55

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.979	3.972	0.007	97	231119	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.051	7.051	0.000	98	870105	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.172	10.172	0.000	88	207878	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.514	12.514	0.000	97	276299	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.321	6.315	0.006	94	842973	200.0	186.4	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.692	6.692	0.000	70	1135703	200.0	175.7	
$ 7 Toluene-d8 (Surr)	98	8.718	8.718	0.000	93	2824683	200.0	176.6	
$ 8 4-Bromofluorobenzene (Surr	95	11.358	11.352	0.006	88	1222775	200.0	170.4	
11 Dichlorodifluoromethane	85	1.484	1.484	0.000	99	998454	200.0	179.8	
12 Chloromethane	50	1.630	1.630	0.000	98	904618	200.0	181.2	
13 Vinyl chloride	62	1.764	1.758	0.006	98	942517	200.0	180.1	
14 Butadiene	39	1.789	1.788	0.001	88	738623	200.0	170.2	
15 Bromomethane	94	2.081	2.087	-0.006	90	421777	200.0	172.9	
16 Chloroethane	64	2.202	2.202	0.000	98	496292	200.0	175.5	
17 Dichlorofluoromethane	67	2.464	2.470	-0.006	96	1112294	200.0	182.5	
18 Trichlorofluoromethane	101	2.506	2.506	0.000	97	958134	200.0	185.9	
20 Ethyl ether	59	2.829	2.823	0.006	87	817030	200.0	185.2	
21 Acrolein	56	2.993	2.999	-0.006	98	222222	250.0	235.2	
22 1,1-Dichloroethene	96	3.109	3.115	-0.006	97	850942	200.0	188.2	
23 1,1,2-Trichloro-1,2,2-trif	101	3.157	3.157	0.000	95	799492	200.0	184.5	
24 Acetone	43	3.194	3.194	0.000	98	631699	400.0	338.4	
25 Iodomethane	142	3.285	3.291	-0.006	98	1229211	200.0	193.3	
26 Carbon disulfide	76	3.370	3.364	0.006	99	2106147	200.0	209.1	
29 3-Chloro-1-propene	76	3.632	3.638	-0.006	92	540192	200.0	204.0	
30 Methyl acetate	43	3.650	3.662	-0.012	96	1509491	400.0	368.9	
31 Methylene Chloride	84	3.845	3.839	0.006	88	1081026	200.0	180.4	
32 2-Methyl-2-propanol	59	4.119	4.112	0.006	94	544523	2000.0	2128.5	
33 Acrylonitrile	53	4.234	4.240	-0.006	97	3825550	2000.0	1750.2	
34 trans-1,2-Dichloroethene	96	4.277	4.277	0.000	98	968185	200.0	188.7	
35 Methyl tert-butyl ether	73	4.295	4.295	0.000	96	3053893	200.0	186.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	4.709	4.709	0.000	90	1103506	200.0	181.6	
37 1,1-Dichloroethane	63	4.928	4.928	0.000	95	1631648	200.0	195.5	
38 Vinyl acetate	43	4.982	4.982	0.000	97	1962237	200.0	201.8	
42 2,2-Dichloropropane	97	5.694	5.682	0.012	87	168555	200.0	195.0	
43 cis-1,2-Dichloroethene	96	5.694	5.694	0.000	80	1143732	200.0	190.8	
44 2-Butanone (MEK)	43	5.706	5.706	0.000	98	973759	400.0	363.9	
48 Chlorobromomethane	128	5.980	5.986	-0.006	98	507483	200.0	194.0	
49 Tetrahydrofuran	42	5.992	5.992	0.000	84	629732	400.0	347.6	
50 Chloroform	83	6.132	6.138	-0.006	92	1701079	200.0	189.0	
51 1,1,1-Trichloroethane	97	6.296	6.290	0.006	98	1112586	200.0	194.5	
52 Cyclohexane	56	6.363	6.363	0.000	89	1473582	200.0	181.3	
53 Carbon tetrachloride	117	6.467	6.467	0.000	96	848801	200.0	206.3	
54 1,1-Dichloropropene	75	6.485	6.485	0.000	97	1298950	200.0	188.5	
55 Isobutyl alcohol	41	6.698	6.698	0.000	88	631529	5000.0	5232.5	
56 Benzene	78	6.698	6.704	-0.006	98	3551507	200.0	177.1	
57 1,2-Dichloroethane	62	6.783	6.783	0.000	97	1374193	200.0	185.5	
59 n-Heptane	43	7.075	7.075	0.000	89	834225	200.0	180.4	
61 Trichloroethene	130	7.446	7.446	0.000	98	926685	200.0	190.2	
63 Methylcyclohexane	83	7.677	7.677	0.000	87	1530213	200.0	179.9	
64 1,2-Dichloropropane	63	7.720	7.720	0.000	94	970394	200.0	193.5	
65 1,4-Dioxane	88	7.805	7.805	0.000	56	152489	4000.0	3335.3	M
67 Dibromomethane	93	7.805	7.811	-0.006	97	636427	200.0	194.1	
68 Dichlorobromomethane	83	8.006	8.006	0.000	99	1181877	200.0	211.7	
70 2-Chloroethyl vinyl ether	63	8.316	8.316	0.000	93	1300177	400.0	391.4	
71 cis-1,3-Dichloropropene	75	8.456	8.456	0.000	96	1391254	200.0	219.7	
72 4-Methyl-2-pentanone (MIBK	43	8.614	8.614	0.000	91	1932325	400.0	364.0	
73 Toluene	91	8.785	8.784	0.001	95	3464609	200.0	169.1	
74 trans-1,3-Dichloropropene	75	9.040	9.040	0.000	92	1215519	200.0	221.6	
75 Ethyl methacrylate	69	9.101	9.101	0.000	88	1382390	200.0	200.0	
76 1,1,2-Trichloroethane	97	9.229	9.229	0.000	91	896840	200.0	189.2	
77 Tetrachloroethene	164	9.296	9.295	0.001	95	670325	200.0	182.8	
78 1,3-Dichloropropane	76	9.387	9.387	0.000	89	1574600	200.0	183.2	
79 2-Hexanone	43	9.448	9.454	-0.006	92	1271094	400.0	372.0	
81 Chlorodibromomethane	129	9.600	9.600	0.000	93	712324	200.0	221.8	
82 Ethylene Dibromide	107	9.709	9.709	0.000	98	899338	200.0	197.2	
83 3-Chlorobenzotrifluoride	180	10.184	10.184	0.000	91	1082251	200.0	181.8	
84 Chlorobenzene	112	10.202	10.202	0.000	91	2335758	200.0	175.3	
85 4-Chlorobenzotrifluoride	180	10.269	10.269	0.000	96	1026977	200.0	186.1	
86 1,1,1,2-Tetrachloroethane	131	10.299	10.293	0.006	92	799872	200.0	211.2	
87 Ethylbenzene	106	10.305	10.299	0.006	96	1390812	200.0	182.5	
88 m-Xylene & p-Xylene	106	10.433	10.433	0.000	96	1695741	200.0	181.6	
89 o-Xylene	106	10.816	10.816	0.000	94	1672026	200.0	178.7	
90 Styrene	104	10.835	10.835	0.000	93	2669824	200.0	176.4	
91 Bromoform	173	11.011	11.017	-0.006	95	416604	200.0	230.5	
92 2-Chlorobenzotrifluoride	180	11.090	11.090	0.000	94	1099473	200.0	182.2	
93 Isopropylbenzene	105	11.181	11.181	0.000	97	3385367	200.0	161.6	
95 Bromobenzene	156	11.492	11.492	0.000	97	1008153	200.0	196.3	
96 1,1,2,2-Tetrachloroethane	83	11.498	11.498	0.000	95	1216769	200.0	182.4	
97 trans-1,4-Dichloro-2-buten	53	11.534	11.534	0.000	80	313051	200.0	208.3	
98 1,2,3-Trichloropropane	110	11.553	11.552	0.000	85	413676	200.0	194.0	
99 N-Propylbenzene	120	11.601	11.601	0.000	95	1050858	200.0	188.0	
100 2-Chlorotoluene	126	11.680	11.680	0.000	96	919859	200.0	190.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
101 3-Chlorotoluene	126	11.747	11.747	0.000	94	965183	200.0	190.0	
102 1,3,5-Trimethylbenzene	105	11.784	11.784	0.000	94	2803848	200.0	176.7	
103 4-Chlorotoluene	126	11.808	11.808	0.000	98	999834	200.0	189.2	
104 tert-Butylbenzene	119	12.094	12.094	0.000	91	2233746	200.0	177.3	
106 1,2,4-Trimethylbenzene	105	12.155	12.155	0.000	97	2867121	200.0	173.3	
107 1,2-dichloro-4-(trifluorom	214	12.203	12.203	0.000	96	684446	200.0	186.4	
108 sec-Butylbenzene	105	12.319	12.319	0.000	95	2979536	200.0	168.6	
109 1,3-Dichlorobenzene	146	12.435	12.435	0.000	94	1673821	200.0	181.5	
110 4-Isopropyltoluene	119	12.477	12.477	0.000	94	2506437	200.0	171.8	
111 1,4-Dichlorobenzene	146	12.538	12.538	0.000	91	1720245	200.0	180.4	
113 2,4-Dichloro-1-(triflourom	214	12.568	12.568	0.000	94	621645	200.0	179.7	
114 2,5-Dichlorobenzotrifluori	214	12.611	12.611	0.000	97	758780	200.0	198.7	
116 n-Butylbenzene	91	12.885	12.885	0.000	94	2290785	200.0	172.1	
117 1,2-Dichlorobenzene	146	12.891	12.891	0.000	95	1586590	200.0	180.9	
118 1,2-Dibromo-3-Chloropropan	75	13.682	13.682	0.000	88	173322	200.0	221.7	
119 2,4- & 2,5- & 2,6- Dichlor	125	13.822	13.822	0.000	96	3071993	600.0	549.9	
121 2,3- & 3,4- Dichlorotoluen	125	14.235	14.235	0.000	97	2379503	400.0	389.9	
122 1,2,4-Trichlorobenzene	180	14.503	14.503	0.000	94	937825	200.0	204.6	
123 Hexachlorobutadiene	225	14.649	14.649	0.000	97	285364	200.0	196.7	
124 Naphthalene	128	14.758	14.765	-0.007	99	2669188	200.0	191.1	
125 1,2,3-Trichlorobenzene	180	14.984	14.984	0.000	95	901210	200.0	219.0	
126 2,4,5-Trichlorotoluene	159	15.781	15.780	0.000	0	580730	200.0	245.4	
127 2,3,6-Trichlorotoluene	159	15.884	15.884	0.000	95	503740	200.0	237.4	
146 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 130 1,2-Dichloroethene, Total	96				0		400.0	379.5	
S 131 Xylenes, Total	106				0		400.0	360.2	
S 132 1,3-Dichloropropene, Total	1				0		400.0	441.2	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

voaWEEmix1stR_00009	Amount Added:	8.00	Units: uL
voaWKetmix1st_00004	Amount Added:	8.00	Units: uL
VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	8.00	Units: uL
voaWVA1stRest_00016	Amount Added:	8.00	Units: uL
voaWAcro1stRe_00016	Amount Added:	10.00	Units: uL
VOA8260VOAPRI_00263	Amount Added:	8.00	Units: uL
voaW2clev1stR_00013	Amount Added:	8.00	Units: uL

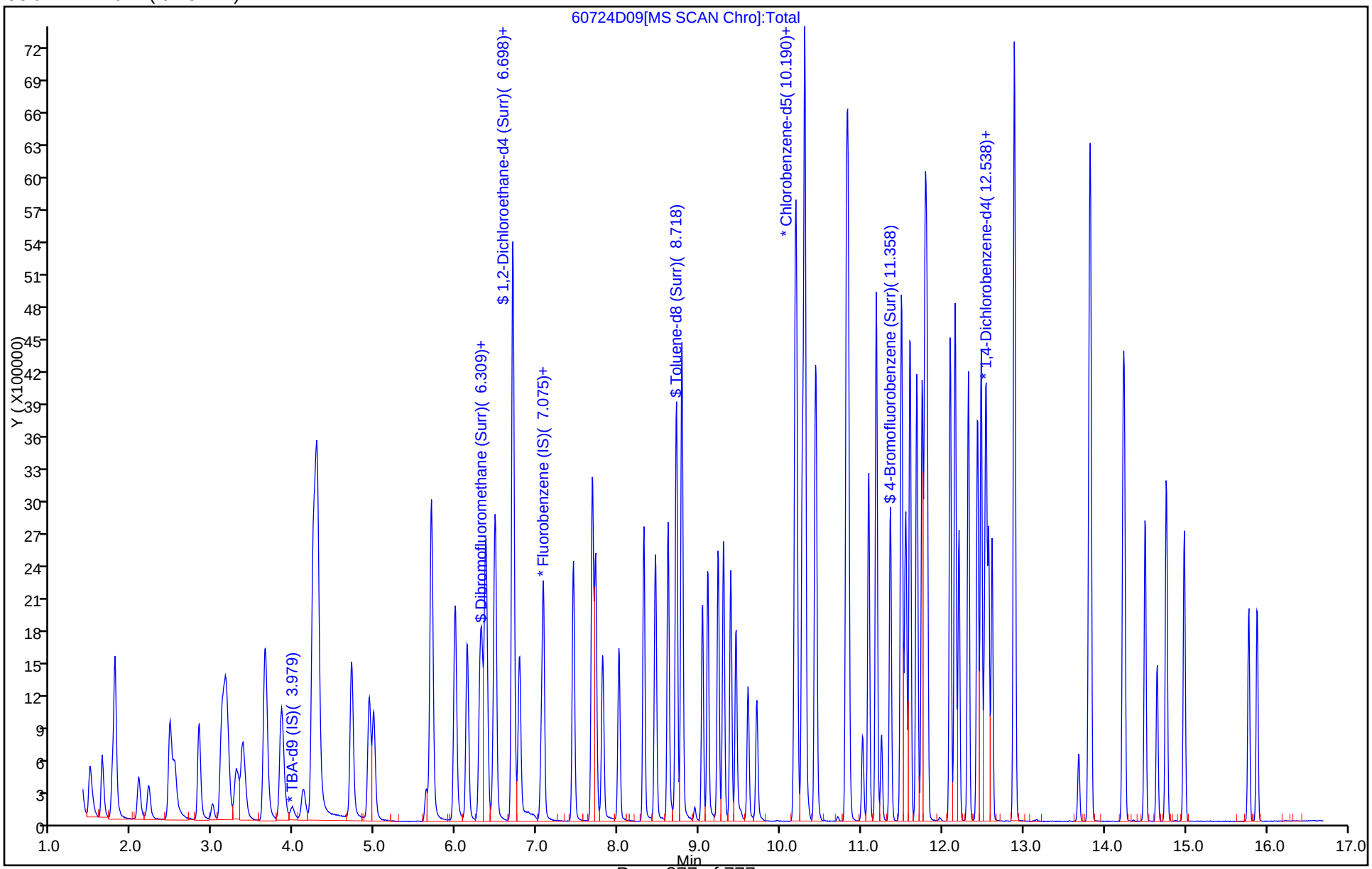
Report Date: 25-Jul-2017 01:44:42 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D09.D

Injection Date:	24-Jul-2017 09:04:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	IC VSTD40			Worklist Smp#:	9
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

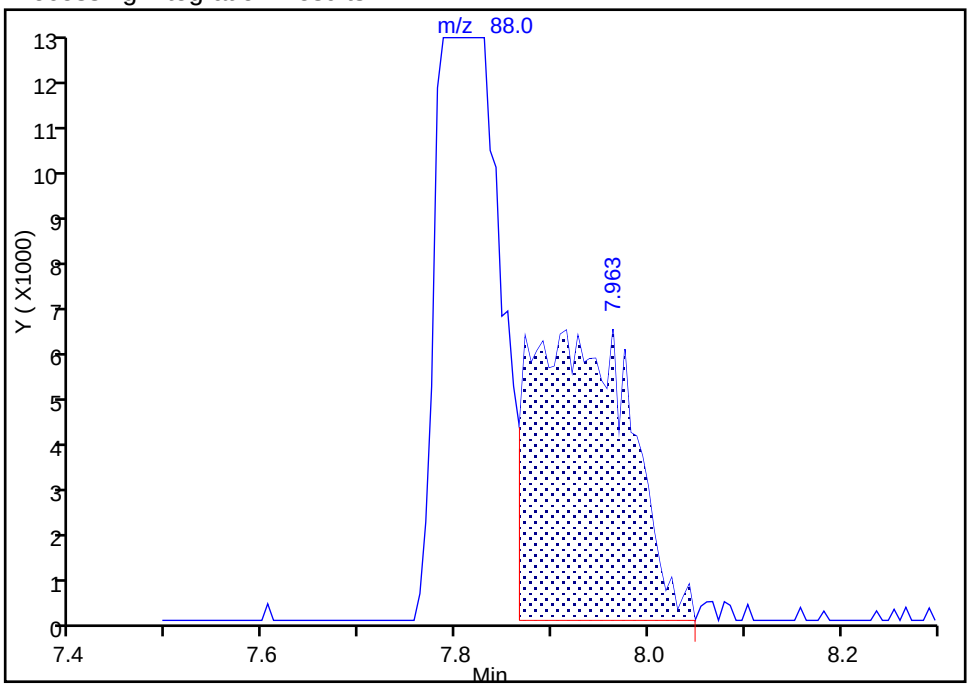
Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D09.D
Injection Date: 24-Jul-2017 09:04:30 Instrument ID: CHHP6
Lims ID: IC VSTD40
Client ID:
Operator ID: 034635 ALS Bottle#: 9 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP6 Limit Group: VOA 8260C ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

65 1,4-Dioxane, CAS: 123-91-1

Signal: 1

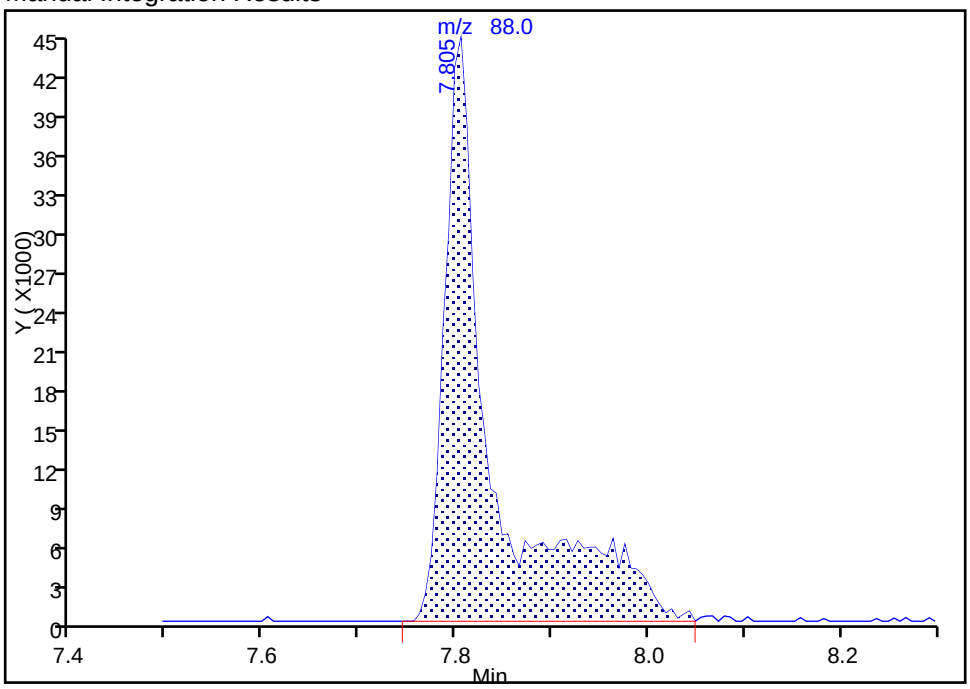
Processing Integration Results

RT: 7.96
Area: 45805
Amount: 1076.1525
Amount Units: ng



Manual Integration Results

RT: 7.81
Area: 152489
Amount: 3335.3454
Amount Units: ng



Reviewer: bungardf, 24-Jul-2017 09:26:43
Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D10.D
Lims ID: IC VSTD50
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 24-Jul-2017 09:28:30 ALS Bottle#: 10 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0017705-010
Misc. Info.: IC VSTD50
Operator ID: 034635 Instrument ID: CHHP6
Sublist: chrom-MSVOA_LL_CHHP6*sub10

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 25-Jul-2017 01:44:43 Calib Date: 24-Jul-2017 09:28:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: bungardf Date: 24-Jul-2017 09:58:03

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.992	3.972	0.020	94	256331	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.052	7.051	0.001	99	859285	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.172	10.172	0.000	86	220905	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.515	12.514	0.001	96	278640	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.316	6.315	0.001	94	1076618	250.0	241.1	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.693	6.692	0.001	68	1435595	250.0	224.9	
$ 7 Toluene-d8 (Surr)	98	8.718	8.718	0.000	93	3487645	250.0	205.7	
$ 8 4-Bromofluorobenzene (Surr	95	11.353	11.352	0.001	84	1557524	250.0	204.2	
11 Dichlorodifluoromethane	85	1.485	1.484	0.001	99	1341098	250.0	244.6	
12 Chloromethane	50	1.637	1.630	0.007	98	1170186	250.0	237.3	
13 Vinyl chloride	62	1.765	1.758	0.007	97	1244722	250.0	240.8	
14 Butadiene	39	1.796	1.788	0.008	88	1011679	250.0	236.1	
15 Bromomethane	94	2.081	2.087	-0.006	90	482936	250.0	200.5	
16 Chloroethane	64	2.209	2.202	0.007	99	595090	250.0	213.1	
17 Dichlorofluoromethane	67	2.471	2.470	0.001	96	1369610	250.0	227.5	
18 Trichlorofluoromethane	101	2.495	2.506	-0.011	99	1263842	250.0	248.3	
20 Ethyl ether	59	2.830	2.823	0.007	86	1004152	250.0	230.5	
21 Acrolein	56	2.994	2.999	-0.005	100	255428	275.0	273.8	
22 1,1-Dichloroethene	96	3.116	3.115	0.001	97	1153420	250.0	258.3	
23 1,1,2-Trichloro-1,2,2-trif	101	3.158	3.157	0.001	95	1098540	250.0	256.7	
24 Acetone	43	3.189	3.194	-0.005	100	730103	500.0	396.1	
25 Iodomethane	142	3.292	3.291	0.001	98	1578693	250.0	251.4	
26 Carbon disulfide	76	3.371	3.364	0.007	99	2838844	250.0	285.5	
29 3-Chloro-1-propene	76	3.633	3.638	-0.005	91	717090	250.0	274.2	
30 Methyl acetate	43	3.657	3.662	-0.005	96	1923255	500.0	476.0	
31 Methylene Chloride	84	3.846	3.839	0.007	87	1372983	250.0	232.0	
32 2-Methyl-2-propanol	59	4.113	4.112	0.001	94	673044	2500.0	2372.2	
33 Acrylonitrile	53	4.241	4.240	0.001	96	4723140	2500.0	2188.1	
34 trans-1,2-Dichloroethene	96	4.278	4.277	0.001	98	1277192	250.0	252.1	
35 Methyl tert-butyl ether	73	4.290	4.295	-0.005	97	3809189	250.0	235.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	4.703	4.709	-0.006	90	1517069	250.0	252.8	
37 1,1-Dichloroethane	63	4.928	4.928	0.000	95	2087088	250.0	253.2	
38 Vinyl acetate	43	4.983	4.982	0.001	97	2492452	250.0	259.6	
42 2,2-Dichloropropane	97	5.683	5.682	0.001	89	228817	250.0	268.0	
43 cis-1,2-Dichloroethene	96	5.695	5.694	0.001	78	1462208	250.0	247.0	
44 2-Butanone (MEK)	43	5.707	5.706	0.001	97	1217733	500.0	460.8	
48 Chlorobromomethane	128	5.981	5.986	-0.005	96	642539	250.0	248.8	
49 Tetrahydrofuran	42	5.993	5.992	0.001	84	812537	500.0	454.2	
50 Chloroform	83	6.139	6.138	0.001	92	2152497	250.0	242.1	
51 1,1,1-Trichloroethane	97	6.291	6.290	0.001	97	1477890	250.0	261.6	
52 Cyclohexane	56	6.364	6.363	0.001	87	1969875	250.0	245.4	
53 Carbon tetrachloride	117	6.468	6.467	0.001	96	1172757	250.0	288.6	
54 1,1-Dichloropropene	75	6.480	6.485	-0.005	96	1715254	250.0	252.0	
55 Isobutyl alcohol	41	6.705	6.698	0.007	81	789622	6250.0	6624.7	
56 Benzene	78	6.699	6.704	-0.005	97	4371437	250.0	220.7	
57 1,2-Dichloroethane	62	6.778	6.783	-0.005	96	1719102	250.0	234.9	
59 n-Heptane	43	7.076	7.075	0.001	87	1149322	250.0	251.6	
61 Trichloroethene	130	7.447	7.446	0.001	98	1194165	250.0	248.2	
63 Methylcyclohexane	83	7.678	7.677	0.001	90	2038808	250.0	242.6	
64 1,2-Dichloropropane	63	7.721	7.720	0.001	94	1251517	250.0	252.8	
65 1,4-Dioxane	88	7.800	7.805	-0.005	37	203123	5000.0	4498.8	
67 Dibromomethane	93	7.806	7.811	-0.005	97	802657	250.0	247.9	
68 Dichlorobromomethane	83	8.007	8.006	0.001	99	1522204	250.0	276.1	
70 2-Chloroethyl vinyl ether	63	8.317	8.316	0.001	93	1665721	500.0	507.7	
71 cis-1,3-Dichloropropene	75	8.457	8.456	0.001	96	1779441	250.0	284.5	
72 4-Methyl-2-pentanone (MIBK	43	8.615	8.614	0.001	90	2362456	500.0	418.8	
73 Toluene	91	8.785	8.784	0.001	94	4234419	250.0	194.5	
74 trans-1,3-Dichloropropene	75	9.035	9.040	-0.005	92	1562404	250.0	268.0	
75 Ethyl methacrylate	69	9.102	9.101	0.001	88	1727540	250.0	235.2	
76 1,1,2-Trichloroethane	97	9.230	9.229	0.001	92	1145832	250.0	227.5	
77 Tetrachloroethene	164	9.296	9.295	0.001	95	881532	250.0	226.2	
78 1,3-Dichloropropane	76	9.388	9.387	0.001	89	1979514	250.0	216.7	
79 2-Hexanone	43	9.449	9.454	-0.006	91	1593297	500.0	438.8	
81 Chlorodibromomethane	129	9.601	9.600	0.001	91	931753	250.0	273.0	
82 Ethylene Dibromide	107	9.710	9.709	0.001	98	1134020	250.0	234.0	
83 3-Chlorobenzotrifluoride	180	10.185	10.184	0.001	91	1432766	250.0	226.4	
84 Chlorobenzene	112	10.197	10.202	-0.005	90	2898680	250.0	204.8	
85 4-Chlorobenzotrifluoride	180	10.270	10.269	0.001	96	1366587	250.0	233.0	
86 1,1,1,2-Tetrachloroethane	131	10.294	10.293	0.001	92	1029362	250.0	255.7	
87 Ethylbenzene	106	10.300	10.299	0.001	95	1762716	250.0	217.7	
88 m-Xylene & p-Xylene	106	10.434	10.433	0.001	95	2161557	250.0	217.8	
89 o-Xylene	106	10.817	10.816	0.001	93	2111655	250.0	212.3	
90 Styrene	104	10.836	10.835	0.001	90	3281557	250.0	204.0	
91 Bromoform	173	11.012	11.017	-0.005	94	548248	250.0	285.5	
92 2-Chlorobenzotrifluoride	180	11.091	11.090	0.001	92	1439864	250.0	224.5	
93 Isopropylbenzene	105	11.182	11.181	0.001	97	4143279	250.0	186.1	
95 Bromobenzene	156	11.493	11.492	0.001	96	1259105	250.0	243.1	
96 1,1,2,2-Tetrachloroethane	83	11.499	11.498	0.001	96	1511708	250.0	213.3	
97 trans-1,4-Dichloro-2-buten	53	11.535	11.534	0.001	83	404523	250.0	266.9	
98 1,2,3-Trichloropropane	110	11.553	11.552	0.001	86	529322	250.0	246.1	
99 N-Propylbenzene	120	11.602	11.601	0.001	94	1357847	250.0	240.9	
100 2-Chlorotoluene	126	11.681	11.680	0.001	96	1195161	250.0	244.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
101 3-Chlorotoluene	126	11.748	11.747	0.001	93	1254125	250.0	244.8	
102 1,3,5-Trimethylbenzene	105	11.785	11.784	0.001	95	3460126	250.0	216.2	
103 4-Chlorotoluene	126	11.809	11.808	0.001	98	1276343	250.0	239.5	
104 tert-Butylbenzene	119	12.095	12.094	0.001	90	2853353	250.0	224.6	
106 1,2,4-Trimethylbenzene	105	12.156	12.155	0.001	96	3543615	250.0	212.4	
107 1,2-dichloro-4-(trifluorom	214	12.204	12.203	0.001	95	945109	250.0	255.3	
108 sec-Butylbenzene	105	12.320	12.319	0.001	95	3747062	250.0	210.2	
109 1,3-Dichlorobenzene	146	12.435	12.435	0.000	93	2104721	250.0	226.3	
110 4-Isopropyltoluene	119	12.478	12.477	0.001	92	3181497	250.0	216.2	
111 1,4-Dichlorobenzene	146	12.539	12.538	0.001	90	2173124	250.0	225.9	
113 2,4-Dichloro-1-(triflourom	214	12.569	12.568	0.001	94	924522	250.0	265.0	
114 2,5-Dichlorobenzotrifluori	214	12.612	12.611	0.001	96	942783	250.0	244.8	
116 n-Butylbenzene	91	12.886	12.885	0.001	93	2958420	250.0	220.4	
117 1,2-Dichlorobenzene	146	12.892	12.891	0.001	93	2026312	250.0	229.1	
118 1,2-Dibromo-3-Chloropropan	75	13.683	13.682	0.001	82	232535	250.0	294.9	
119 2,4- & 2,5- & 2,6- Dichlor	125	13.823	13.822	0.000	94	4027755	750.0	714.9	
121 2,3- & 3,4- Dichlorotoluen	125	14.236	14.235	0.001	96	3139946	500.0	510.2	
122 1,2,4-Trichlorobenzene	180	14.498	14.503	-0.005	95	1247374	250.0	269.9	
123 Hexachlorobutadiene	225	14.650	14.649	0.001	95	411971	250.0	281.5	
124 Naphthalene	128	14.759	14.765	-0.006	99	3337709	250.0	236.9	
125 1,2,3-Trichlorobenzene	180	14.984	14.984	0.000	94	1193234	250.0	287.5	
126 2,4,5-Trichlorotoluene	159	15.781	15.780	0.001	0	796492	250.0	333.7	
127 2,3,6-Trichlorotoluene	159	15.885	15.884	0.001	96	697018	250.0	325.8	
146 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 131 Xylenes, Total	106				0		500.0	430.1	
S 130 1,2-Dichloroethene, Total	96				0		500.0	499.1	
S 132 1,3-Dichloropropene, Total	1				0		500.0	552.5	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

voaWEEmix1stR_00009	Amount Added:	10.00	Units: uL
voaWKetmix1st_00004	Amount Added:	10.00	Units: uL
voaWVA1stRest_00016	Amount Added:	10.00	Units: uL
voaWAcro1stRe_00016	Amount Added:	11.00	Units: uL
VOA8260VOAPRI_00263	Amount Added:	10.00	Units: uL
voaW2clev1stR_00013	Amount Added:	10.00	Units: uL
VOA8260INT_00072	Amount Added:	2.00	Units: uL
VOA8260SURR_00071	Amount Added:	10.00	Units: uL

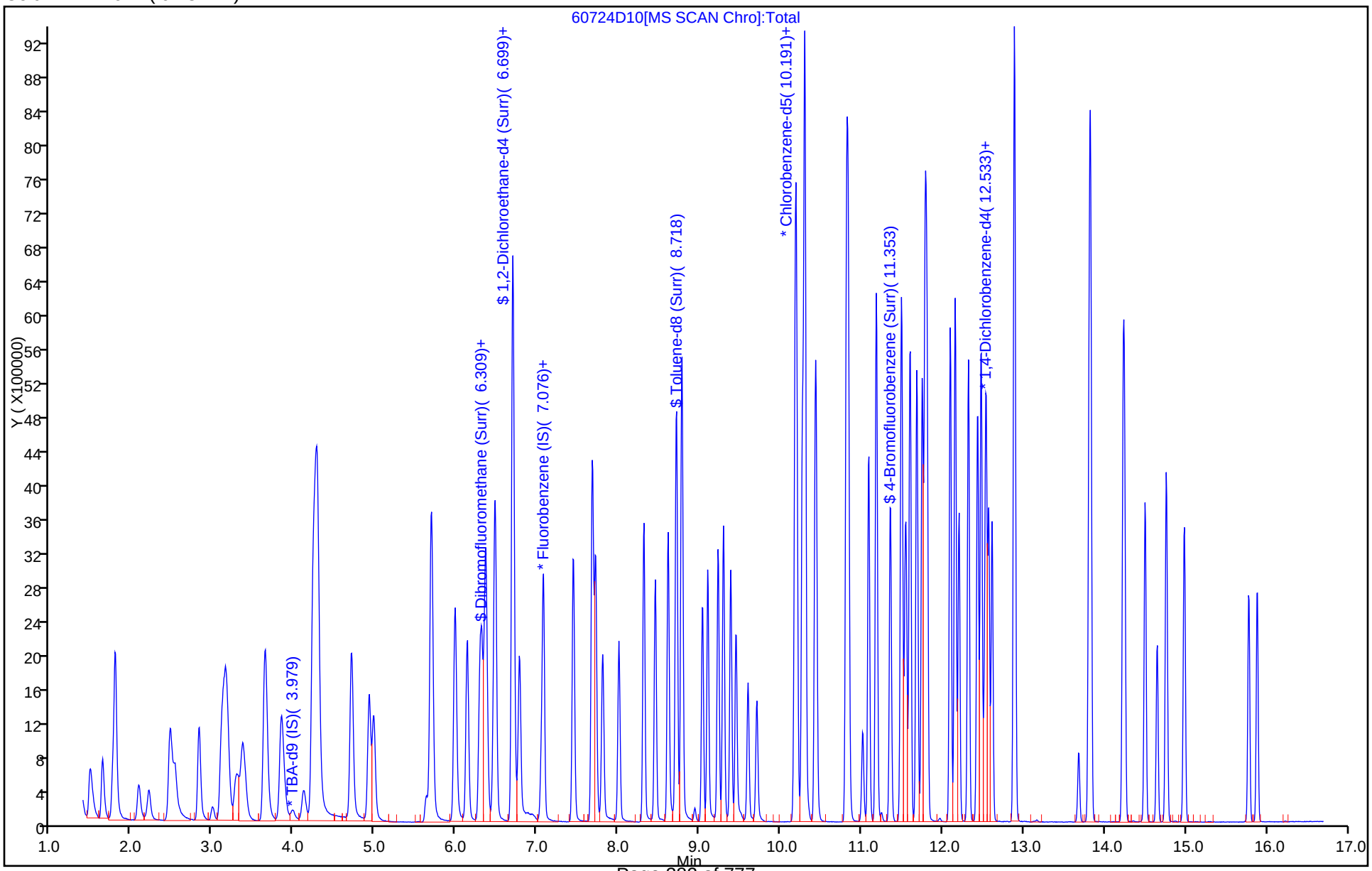
Report Date: 25-Jul-2017 01:44:44 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D10.D

Injection Date:	24-Jul-2017 09:28:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	IC VSTD50			Worklist Smp#:	10
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: CCVIS 180-224674/2 Calibration Date: 10/02/2017 23:26

Instrument ID: CHHP5 Calib Start Date: 07/27/2017 00:51

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 07/27/2017 04:24

Lab File ID: 51002D02.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2907	0.2344	0.1000	8.06	10.0	-19.4	20.0
Chloromethane	Ave	0.2922	0.3117	0.1000	10.7	10.0	6.7	20.0
Vinyl chloride	Ave	0.2965	0.2773	0.1000	9.35	10.0	-6.5	20.0
1,3-Butadiene	Ave	0.2694	0.2609	0.0100	9.68	10.0	-3.2	20.0
Bromomethane	Ave	0.1402	0.1405	0.0500	10.0	10.0	0.2	20.0
Chloroethane	Ave	0.1630	0.1683	0.0500	10.3	10.0	3.2	20.0
Trichlorofluoromethane	Ave	0.3643	0.3676	0.1000	10.1	10.0	0.9	20.0
Ethyl ether	Ave	0.2370	0.2322	0.0100	9.80	10.0	-2.0	20.0
Acrolein	Ave	0.0597	0.0632	0.0100	31.8	30.0	5.8	20.0
1,1-Dichloroethene	Ave	0.2448	0.2419	0.1000	9.88	10.0	-1.2	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2686	0.2611	0.1000	9.72	10.0	-2.8	20.0
Acetone	Ave	0.1308	0.1243	0.0500	19.0	20.0	-4.9	20.0
Iodomethane	Ave	0.3845	0.3500	0.0100	9.10	10.0	-9.0	20.0
Carbon disulfide	Ave	0.5372	0.4882	0.1000	9.09	10.0	-9.1	20.0
Allyl chloride	Ave	0.1582	0.1407	0.0100	8.89	10.0	-11.1	20.0
Methyl acetate	Ave	0.2589	0.2348	0.1000	18.1	20.0	-9.3	20.0
Methylene Chloride	Lin2		0.2679	0.1000	8.76	10.0	-12.4	20.0
tert-Butyl alcohol	Ave	1.183	1.144	0.0100	96.7	100	-3.3	20.0
Acrylonitrile	Ave	0.1259	0.1200	0.0100	95.3	100	-4.7	20.0
trans-1,2-Dichloroethene	Ave	0.2789	0.2709	0.1000	9.71	10.0	-2.9	20.0
Methyl tert-butyl ether	Ave	0.7479	0.6181	0.1000	8.26	10.0	-17.4	20.0
Hexane	Ave	0.3580	0.3301	0.0100	9.22	10.0	-7.8	20.0
1,1-Dichloroethane	Ave	0.4850	0.4385	0.2000	9.04	10.0	-9.6	20.0
Vinyl acetate	Ave	0.4932	0.5191	0.0100	10.5	10.0	5.3	20.0
2,2-Dichloropropane	Ave	0.0617	0.0602	0.0100	9.75	10.0	-2.5	20.0
cis-1,2-Dichloroethene	Ave	0.3190	0.2788	0.1000	8.74	10.0	-12.6	20.0
2-Butanone (MEK)	Ave	0.1861	0.1671	0.0500	18.0	20.0	-10.2	20.0
Bromochloromethane	Ave	0.1418	0.1200	0.0100	8.46	10.0	-15.4	20.0
Tetrahydrofuran	Ave	0.1084	0.0851	0.0100	15.7	20.0	-21.5*	20.0
Chloroform	Ave	0.4843	0.4295	0.2000	8.87	10.0	-11.3	20.0
1,1,1-Trichloroethane	Ave	0.3666	0.3470	0.1000	9.47	10.0	-5.3	20.0
Cyclohexane	Ave	0.4524	0.4210	0.1000	9.31	10.0	-6.9	20.0
Carbon tetrachloride	Ave	0.3051	0.2861	0.1000	9.38	10.0	-6.2	20.0
1,1-Dichloropropene	Ave	0.3961	0.3480	0.0100	8.79	10.0	-12.1	20.0
Isobutyl alcohol	Ave	0.0099	0.0101	0.0100	253	250	1.3	20.0
Benzene	Ave	1.216	1.093	0.5000	8.99	10.0	-10.1	20.0
1,2-Dichloroethane	Ave	0.3544	0.3090	0.1000	8.72	10.0	-12.8	20.0
n-Heptane	Ave	0.2863	0.2770	0.0100	9.68	10.0	-3.2	20.0
Trichloroethene	Ave	0.3059	0.2665	0.2000	8.71	10.0	-12.9	20.0
Methylcyclohexane	Ave	0.4626	0.3887	0.1000	8.40	10.0	-16.0	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: CCVIS 180-224674/2 Calibration Date: 10/02/2017 23:26

Instrument ID: CHHP5 Calib Start Date: 07/27/2017 00:51

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 07/27/2017 04:24

Lab File ID: 51002D02.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dichloropropane	Ave	0.2831	0.2333	0.1000	8.24	10.0	-17.6	20.0
1,4-Dioxane	Ave	0.0029	0.0030*	0.0100	206	200	3.1	20.0
Dibromomethane	Ave	0.1659	0.1336	0.0100	8.05	10.0	-19.5	20.0
Bromodichloromethane	Ave	0.3256	0.2638	0.2000	8.10	10.0	-19.0	20.0
2-Chloroethyl vinyl ether	Ave	0.2037	0.1698	0.0100	16.7	20.0	-16.7	20.0
cis-1,3-Dichloropropene	Ave	0.3955	0.3216	0.2000	8.13	10.0	-18.7	20.0
4-Methyl-2-pentanone (MIBK)	Ave	1.282	1.350	0.1000	21.1	20.0	5.3	20.0
Toluene	Ave	4.986	5.558	0.4000	11.1	10.0	11.5	20.0
trans-1,3-Dichloropropene	Ave	1.357	1.345	0.1000	9.91	10.0	-0.9	20.0
Ethyl methacrylate	Ave	1.636	1.411	0.0100	8.62	10.0	-13.8	20.0
1,1,2-Trichloroethane	Ave	1.039	1.052	0.1000	10.1	10.0	1.3	20.0
Tetrachloroethene	Ave	0.9508	1.030	0.2000	10.8	10.0	8.4	20.0
1,3-Dichloropropane	Ave	1.920	1.799	0.0100	9.37	10.0	-6.3	20.0
2-Hexanone	Ave	0.9836	0.9908	0.1000	20.1	20.0	0.7	20.0
Dibromochloromethane	Ave	0.8779	0.7973	0.1000	9.08	10.0	-9.2	20.0
1,2-Dibromoethane (EDB)	Ave	1.065	1.012	0.1000	9.50	10.0	-5.0	20.0
3-Chlorobenzotrifluoride	Ave	1.718	2.134	0.0100	12.4	10.0	24.2*	20.0
Chlorobenzene	Ave	3.246	3.277	0.5000	10.1	10.0	1.0	20.0
4-Chlorobenzotrifluoride	Ave	1.586	2.013	0.0100	12.7	10.0	26.9*	20.0
1,1,1,2-Tetrachloroethane	Ave	1.032	1.065	0.0100	10.3	10.0	3.2	20.0
Ethylbenzene	Ave	1.812	1.826	0.1000	10.1	10.0	0.8	20.0
m-Xylene & p-Xylene	Ave	2.214	2.256	0.1000	10.2	10.0	1.9	20.0
o-Xylene	Ave	2.110	2.068	0.3000	9.80	10.0	-2.0	20.0
Styrene	Ave	3.571	3.560	0.3000	9.97	10.0	-0.3	20.0
Bromoform	Ave	0.5456	0.5023	0.1000	9.21	10.0	-7.9	20.0
2-Chlorobenzotrifluoride	Ave	1.644	1.990	0.0100	12.1	10.0	21.0*	20.0
Isopropylbenzene	Ave	5.150	5.388	0.1000	10.5	10.0	4.6	20.0
1,1,2,2-Tetrachloroethane	Ave	1.538	1.499	0.3000	9.75	10.0	-2.5	20.0
Bromobenzene	Ave	0.9704	0.8231	0.0100	8.48	10.0	-15.2	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2926	0.2915	0.0100	9.96	10.0	-0.4	20.0
1,2,3-Trichloropropane	Ave	0.4005	0.3516	0.0100	8.78	10.0	-12.2	20.0
N-Propylbenzene	Ave	1.109	1.043	0.0100	9.40	10.0	-6.0	20.0
2-Chlorotoluene	Ave	0.9585	0.8776	0.0100	9.16	10.0	-8.4	20.0
3-Chlorotoluene	Ave	1.043	1.129	0.0100	10.8	10.0	8.3	20.0
1,3,5-Trimethylbenzene	Ave	3.173	3.032	0.0100	9.56	10.0	-4.4	20.0
4-Chlorotoluene	Ave	1.035	0.9601	0.0100	9.28	10.0	-7.2	20.0
tert-Butylbenzene	Ave	2.653	2.395	0.0100	9.03	10.0	-9.7	20.0
1,2,4-Trimethylbenzene	Ave	3.226	2.992	0.0100	9.28	10.0	-7.2	20.0
3,4-Dichlorobenzotrifluoride	Ave	0.8081	0.8650	0.0100	10.7	10.0	7.0	20.0
sec-Butylbenzene	Ave	3.701	3.474	0.0100	9.39	10.0	-6.1	20.0
1,3-Dichlorobenzene	Ave	1.734	1.540	0.6000	8.88	10.0	-11.2	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: CCVIS 180-224674/2 Calibration Date: 10/02/2017 23:26

Instrument ID: CHHP5 Calib Start Date: 07/27/2017 00:51

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 07/27/2017 04:24

Lab File ID: 51002D02.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
4-Isopropyltoluene	Ave	3.083	2.853	0.0100	9.25	10.0	-7.5	20.0
1,4-Dichlorobenzene	Ave	1.780	1.587	0.5000	8.92	10.0	-10.8	20.0
2,4-Dichlorobenzotrifluoride	Ave	0.7524	0.7531	0.0100	10.0	10.0	0.1	20.0
2,5-Dichlorobenzotrifluoride	Ave	0.8127	0.8903	0.0100	11.0	10.0	9.5	20.0
n-Butylbenzene	Ave	2.514	2.337	0.0100	9.30	10.0	-7.0	20.0
1,2-Dichlorobenzene	Ave	1.653	1.429	0.4000	8.65	10.0	-13.5	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.1835	0.1534	0.0500	8.36	10.0	-16.4	20.0
2,4- & 2,5- & 2,6-Dichlorotoluene	Ave	1.048	1.103	0.0100	31.6	30.0	5.2	20.0
2,3- & 3,4- Dichlorotoluene	Ave	1.084	1.077	0.0100	19.9	20.0	-0.7	20.0
1,2,4-Trichlorobenzene	Ave	0.7563	0.5554	0.2000	7.34	10.0	-26.6*	20.0
Hexachlorobutadiene	Ave	0.2767	0.2583	0.0100	9.33	10.0	-6.7	20.0
Naphthalene	Ave	2.576	1.834	0.0100	7.12	10.0	-28.8*	20.0
1,2,3-Trichlorobenzene	Ave	0.6909	0.5162	0.0100	7.47	10.0	-25.3*	20.0
2,4,5-Trichlorotoluene	Ave	0.3284	0.2406	0.0100	7.32	10.0	-26.8*	20.0
2,3,6-Trichlorotoluene	Ave	0.3055	0.2422	0.0100	7.93	10.0	-20.7*	20.0
Dibromofluoromethane (Surr)	Ave	0.2406	0.2048		8.51	10.0	-14.9	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2934	0.2712		9.24	10.0	-7.6	20.0
Toluene-d8 (Surr)	Ave	3.979	4.551		11.4	10.0	14.4	20.0
4-Bromofluorobenzene (Surr)	Ave	1.437	1.459		10.2	10.0	1.5	20.0

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D02.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 02-Oct-2017 23:26:30 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0018689-002
Misc. Info.: CCVIS
Operator ID: 034635 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub29

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 03-Oct-2017 21:01:12 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: bungardf Date: 03-Oct-2017 00:18:14

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.364	4.364	0.000	0	188011	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.339	7.339	0.000	98	408772	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.429	10.429	0.000	86	80130	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.771	12.771	0.000	92	117436	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.615	6.615	0.000	93	83713	50.0	42.6	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.986	6.986	0.000	0	110838	50.0	46.2	
$ 7 Toluene-d8 (Surr)	98	8.981	8.981	0.000	93	364672	50.0	57.2	
$ 8 4-Bromofluorobenzene (Surr	95	11.609	11.609	0.000	87	116937	50.0	50.8	
11 Dichlorodifluoromethane	85	1.669	1.669	0.000	99	95808	50.0	40.3	
12 Chloromethane	50	1.815	1.815	0.000	98	127415	50.0	53.3	
13 Vinyl chloride	62	1.955	1.955	0.000	98	113365	50.0	46.8	
14 Butadiene	39	1.998	1.998	0.000	97	106633	50.0	48.4	
15 Bromomethane	94	2.296	2.296	0.000	91	57437	50.0	50.1	
16 Chloroethane	64	2.448	2.448	0.000	98	68786	50.0	51.6	
17 Dichlorofluoromethane	67	2.740	2.740	0.000	96	179210	50.0	53.2	
18 Trichlorofluoromethane	101	2.770	2.770	0.000	80	150263	50.0	50.4	
20 Ethyl ether	59	3.117	3.117	0.000	92	94903	50.0	49.0	
21 Acrolein	56	3.299	3.299	0.000	98	77510	150.0	158.8	
22 1,1-Dichloroethene	96	3.415	3.415	0.000	97	98893	50.0	49.4	
23 1,1,2-Trichloro-1,2,2-trif	101	3.494	3.494	0.000	93	106721	50.0	48.6	
24 Acetone	43	3.518	3.518	0.000	100	101653	100.0	95.1	
25 Iodomethane	142	3.610	3.610	0.000	97	143054	50.0	45.5	
26 Carbon disulfide	76	3.701	3.701	0.000	99	199571	50.0	45.4	
28 3-Chloro-1-propene	76	4.005	4.005	0.000	93	57493	50.0	44.5	
30 Methyl acetate	43	4.023	4.023	0.000	98	191977	100.0	90.7	
31 Methylene Chloride	84	4.224	4.224	0.000	91	109493	50.0	43.8	
32 2-Methyl-2-propanol	59	4.486	4.486	0.000	93	107552	500.0	483.7	
33 Acrylonitrile	53	4.601	4.601	0.000	99	490327	500.0	476.4	
34 trans-1,2-Dichloroethene	96	4.638	4.638	0.000	99	110741	50.0	48.6	
35 Methyl tert-butyl ether	73	4.656	4.656	0.000	96	252648	50.0	41.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.058	5.058	0.000	94	134943	50.0	46.1	
37 1,1-Dichloroethane	63	5.258	5.258	0.000	96	179247	50.0	45.2	
38 Vinyl acetate	43	5.313	5.313	0.000	97	212187	50.0	52.6	
44 2,2-Dichloropropane	97	6.001	6.001	0.000	62	24601	50.0	48.7	
45 cis-1,2-Dichloroethene	96	6.007	6.007	0.000	80	113955	50.0	43.7	
46 2-Butanone (MEK)	43	6.019	6.019	0.000	91	136607	100.0	89.8	
49 Chlorobromomethane	128	6.286	6.286	0.000	97	49037	50.0	42.3	
51 Tetrahydrofuran	42	6.311	6.311	0.000	86	69576	100.0	78.5	
52 Chloroform	83	6.432	6.432	0.000	93	175548	50.0	44.3	
53 1,1,1-Trichloroethane	97	6.591	6.591	0.000	98	141839	50.0	47.3	
54 Cyclohexane	56	6.664	6.664	0.000	91	172110	50.0	46.5	
56 Carbon tetrachloride	117	6.761	6.761	0.000	96	116952	50.0	46.9	
55 1,1-Dichloropropene	75	6.779	6.779	0.000	96	142240	50.0	43.9	
57 Isobutyl alcohol	41	6.980	6.980	0.000	94	102956	1250.0	1265.8	
58 Benzene	78	6.992	6.992	0.000	97	446884	50.0	45.0	
59 1,2-Dichloroethane	62	7.071	7.071	0.000	97	126292	50.0	43.6	
62 n-Heptane	43	7.351	7.351	0.000	91	113226	50.0	48.4	
64 Trichloroethene	130	7.722	7.722	0.000	98	108939	50.0	43.6	
66 Methylcyclohexane	83	7.953	7.953	0.000	90	158871	50.0	42.0	
67 1,2-Dichloropropane	63	7.996	7.996	0.000	94	95357	50.0	41.2	
70 1,4-Dioxane	88	8.075	8.075	0.000	50	24260	1000.0	1030.8	
68 Dibromomethane	93	8.081	8.081	0.000	97	54615	50.0	40.3	
71 Dichlorobromomethane	83	8.276	8.276	0.000	100	107835	50.0	40.5	
73 2-Chloroethyl vinyl ether	63	8.574	8.574	0.000	93	138803	100.0	83.3	
74 cis-1,3-Dichloropropene	75	8.720	8.720	0.000	95	131464	50.0	40.7	
75 4-Methyl-2-pentanone (MIBK	43	8.872	8.872	0.000	97	216367	100.0	105.3	
76 Toluene	91	9.042	9.042	0.000	98	445343	50.0	55.7	
77 trans-1,3-Dichloropropene	75	9.292	9.292	0.000	92	107756	50.0	49.6	
78 Ethyl methacrylate	69	9.353	9.353	0.000	88	113038	50.0	43.1	
79 1,1,2-Trichloroethane	97	9.486	9.486	0.000	91	84298	50.0	50.6	
80 Tetrachloroethene	164	9.559	9.559	0.000	96	82569	50.0	54.2	
81 1,3-Dichloropropane	76	9.645	9.645	0.000	91	144136	50.0	46.8	
82 2-Hexanone	43	9.705	9.705	0.000	98	158792	100.0	100.7	
84 Chlorodibromomethane	129	9.857	9.857	0.000	91	63886	50.0	45.4	
85 Ethylene Dibromide	107	9.967	9.967	0.000	97	81096	50.0	47.5	
86 3-Chlorobenzotrifluoride	180	10.429	10.429	0.000	91	170962	50.0	62.1	
87 Chlorobenzene	112	10.460	10.460	0.000	96	262577	50.0	50.5	
88 4-Chlorobenzotrifluoride	180	10.514	10.514	0.000	96	161266	50.0	63.5	
89 1,1,1,2-Tetrachloroethane	131	10.551	10.551	0.000	89	85304	50.0	51.6	
90 Ethylbenzene	106	10.557	10.557	0.000	98	146282	50.0	50.4	
91 m-Xylene & p-Xylene	106	10.691	10.691	0.000	0	180739	50.0	50.9	
92 o-Xylene	106	11.068	11.068	0.000	96	165681	50.0	49.0	
93 Styrene	104	11.092	11.092	0.000	95	285248	50.0	49.8	
94 Bromoform	173	11.275	11.275	0.000	95	40251	50.0	46.0	
96 2-Chlorobenzotrifluoride	180	11.342	11.342	0.000	96	159420	50.0	60.5	
97 Isopropylbenzene	105	11.433	11.433	0.000	96	431740	50.0	52.3	
100 Bromobenzene	156	11.749	11.749	0.000	95	96659	50.0	42.4	
99 1,1,2,2-Tetrachloroethane	83	11.749	11.749	0.000	81	120111	50.0	48.7	
102 trans-1,4-Dichloro-2-buten	53	11.786	11.786	0.000	83	34227	50.0	49.8	
101 1,2,3-Trichloropropane	110	11.810	11.810	0.000	84	41294	50.0	43.9	
103 N-Propylbenzene	120	11.853	11.853	0.000	99	122440	50.0	47.0	
104 2-Chlorotoluene	126	11.944	11.944	0.000	97	103056	50.0	45.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 3-Chlorotoluene	126	12.005	12.005	0.000	96	132609	50.0	54.1	
106 1,3,5-Trimethylbenzene	105	12.035	12.035	0.000	94	356090	50.0	47.8	
107 4-Chlorotoluene	126	12.066	12.066	0.000	96	112752	50.0	46.4	
108 tert-Butylbenzene	119	12.352	12.352	0.000	93	281227	50.0	45.1	
110 1,2,4-Trimethylbenzene	105	12.406	12.406	0.000	97	351338	50.0	46.4	
111 1,2-dichloro-4-(trifluorom	214	12.455	12.455	0.000	96	101582	50.0	53.5	
112 sec-Butylbenzene	105	12.571	12.571	0.000	94	407959	50.0	46.9	
113 1,3-Dichlorobenzene	146	12.692	12.692	0.000	97	180809	50.0	44.4	
114 4-Isopropyltoluene	119	12.729	12.729	0.000	96	335003	50.0	46.3	
115 1,4-Dichlorobenzene	146	12.796	12.796	0.000	96	186406	50.0	44.6	
116 2,4-Dichloro-1-(triflourom	214	12.820	12.820	0.000	93	88444	50.0	50.0	
118 2,5-Dichlorobenzotrifluori	214	12.863	12.863	0.000	0	104551	50.0	54.8	
120 n-Butylbenzene	91	13.136	13.136	0.000	98	274505	50.0	46.5	
121 1,2-Dichlorobenzene	146	13.149	13.149	0.000	96	167827	50.0	43.2	
122 1,2-Dibromo-3-Chloropropan	75	13.939	13.939	0.000	83	18010	50.0	41.8	
123 2,4- & 2,5- & 2,6- Dichlor	125	14.085	14.085	0.000	0	388731	150.0	157.9	
125 2,3- & 3,4- Dichlorotoluen	125	14.499	14.499	0.000	0	252888	100.0	99.3	
126 1,2,4-Trichlorobenzene	180	14.767	14.767	0.000	94	65228	50.0	36.7	
127 Hexachlorobutadiene	225	14.907	14.907	0.000	96	30332	50.0	46.7	
128 Naphthalene	128	15.028	15.028	0.000	97	215320	50.0	35.6	
129 1,2,3-Trichlorobenzene	180	15.253	15.253	0.000	95	60622	50.0	37.4	
131 2,4,5-Trichlorotoluene	159	16.026	16.026	0.000	0	28250	50.0	36.6	
130 2,3,6-Trichlorotoluene	159	16.117	16.117	0.000	96	28447	50.0	39.6	
149 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 134 1,2-Dichloroethene, Total	96				0		100.0	92.3	
S 133 Xylenes, Total	106				0		100.0	99.9	
S 135 1,3-Dichloropropene, Total	1				0		100.0	90.2	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

voaWEEmix1stR_00011	Amount Added:	2.00	Units: uL	
voaWAcro1stRe_00020	Amount Added:	6.00	Units: uL	
voaWKetmix1st_00006	Amount Added:	2.00	Units: uL	
voaW2clev1stR_00022	Amount Added:	2.00	Units: uL	
voaWVA1stRest_00021	Amount Added:	2.00	Units: uL	
VOA8260VOA2ND_00267	Amount Added:	2.00	Units: uL	
VOA8260INT_00074	Amount Added:	2.00	Units: uL	Run Reagent
VOA8260SURR_00073	Amount Added:	2.00	Units: uL	Run Reagent

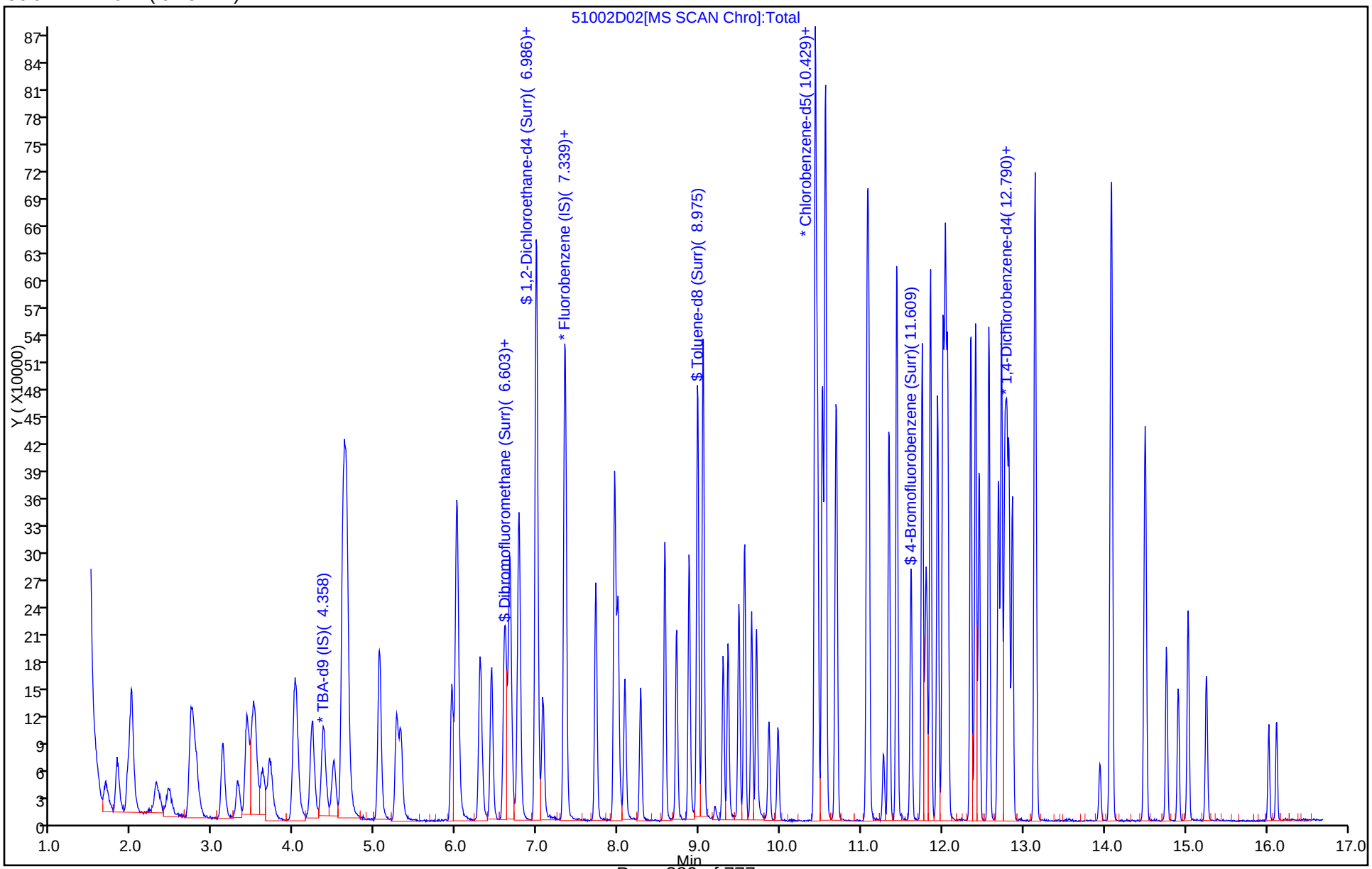
Report Date: 03-Oct-2017 21:01:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D02.D

Injection Date:	02-Oct-2017 23:26:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	CCVIS			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: CCVIS 180-224560/2 Calibration Date: 10/02/2017 00:09

Instrument ID: CHHP6 Calib Start Date: 07/24/2017 06:39

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 07/24/2017 09:28

Lab File ID: 6100102.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3191	0.2600	0.1000	8.15	10.0	-18.5	20.0
Chloromethane	Ave	0.2869	0.2743	0.1000	9.56	10.0	-4.4	20.0
Vinyl chloride	Ave	0.3008	0.2849	0.1000	9.47	10.0	-5.3	20.0
1,3-Butadiene	Ave	0.2494	0.2585	0.0100	10.4	10.0	3.7	20.0
Bromomethane	Ave	0.1402	0.0803	0.0500	5.73	10.0	-42.7*	20.0
Chloroethane	Ave	0.1625	0.1424	0.0500	8.76	10.0	-12.4	20.0
Trichlorofluoromethane	Ave	0.2961	0.3539	0.1000	11.9	10.0	19.5	20.0
Ethyl ether	Ave	0.2534	0.2779	0.0100	11.0	10.0	9.6	20.0
Acrolein	Ave	0.0543	0.0633	0.0100	35.0	30.0	16.7	20.0
1,1-Dichloroethene	Ave	0.2599	0.2557	0.1000	9.84	10.0	-1.6	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2490	0.2588	0.1000	10.4	10.0	3.9	20.0
Acetone	Ave	0.1073	0.0908	0.0500	16.9	20.0	-15.3	20.0
Iodomethane	Ave	0.3654	0.3805	0.0100	10.4	10.0	4.1	20.0
Carbon disulfide	Ave	0.5787	0.6853	0.1000	11.8	10.0	18.4	20.0
Allyl chloride	Ave	0.1522	0.1554	0.0100	10.2	10.0	2.1	20.0
Methyl acetate	Ave	0.2351	0.2002	0.1000	17.0	20.0	-14.8	20.0
Methylene Chloride	Ave	0.3444	0.3045	0.1000	8.84	10.0	-11.6	20.0
tert-Butyl alcohol	Ave	1.107	1.247	0.0100	113	100	12.7	20.0
Acrylonitrile	Ave	0.1256	0.1054	0.0100	83.9	100	-16.1	20.0
trans-1,2-Dichloroethene	Ave	0.2948	0.2991	0.1000	10.1	10.0	1.4	20.0
Methyl tert-butyl ether	Ave	0.9429	0.8603	0.1000	9.12	10.0	-8.8	20.0
Hexane	Ave	0.3492	0.3745	0.0100	10.7	10.0	7.2	20.0
1,1-Dichloroethane	Ave	0.4797	0.5010	0.2000	10.4	10.0	4.4	20.0
Vinyl acetate	Ave	0.5586	0.4961	0.0100	8.88	10.0	-11.2	20.0
2,2-Dichloropropane	Ave	0.0497	0.0602	0.0100	12.1	10.0	21.1*	20.0
cis-1,2-Dichloroethene	Ave	0.3444	0.3300	0.1000	9.58	10.0	-4.2	20.0
2-Butanone (MEK)	Ave	0.1538	0.1349	0.0500	17.5	20.0	-12.3	20.0
Bromochloromethane	Ave	0.1503	0.1432	0.0100	9.53	10.0	-4.7	20.0
Tetrahydrofuran	Ave	0.1041	0.0832	0.0100	16.0	20.0	-20.1*	20.0
Chloroform	Ave	0.5173	0.5005	0.2000	9.68	10.0	-3.2	20.0
1,1,1-Trichloroethane	Ave	0.3287	0.3979	0.1000	12.1	10.0	21.0*	20.0
Cyclohexane	Ave	0.4671	0.5078	0.1000	10.9	10.0	8.7	20.0
Carbon tetrachloride	Ave	0.2365	0.3313	0.1000	14.0	10.0	40.1*	20.0
1,1-Dichloropropene	Ave	0.3960	0.4188	0.0100	10.6	10.0	5.7	20.0
Benzene	Ave	1.152	1.178	0.5000	10.2	10.0	2.2	20.0
Isobutyl alcohol	Ave	0.0069	0.0080*	0.0100	289	250	15.5	20.0
1,2-Dichloroethane	Ave	0.4258	0.4191	0.1000	9.84	10.0	-1.6	20.0
n-Heptane	Ave	0.2658	0.2912	0.0100	11.0	10.0	9.6	20.0
Trichloroethene	Ave	0.2800	0.2815	0.2000	10.1	10.0	0.5	20.0
Methylcyclohexane	Ave	0.4889	0.4768	0.1000	9.75	10.0	-2.5	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: CCVIS 180-224560/2 Calibration Date: 10/02/2017 00:09

Instrument ID: CHHP6 Calib Start Date: 07/24/2017 06:39

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 07/24/2017 09:28

Lab File ID: 6100102.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dichloropropane	Ave	0.2881	0.2902	0.1000	10.1	10.0	0.7	20.0
1,4-Dioxane	Ave	0.0026	0.0031*	0.0100	234	200	17.1	20.0
Dibromomethane	Ave	0.1884	0.1677	0.0100	8.90	10.0	-11.0	20.0
Bromodichloromethane	Ave	0.3208	0.3562	0.2000	11.1	10.0	11.0	20.0
2-Chloroethyl vinyl ether	Ave	0.1909	0.1773	0.0100	18.6	20.0	-7.1	20.0
cis-1,3-Dichloropropene	Ave	0.3639	0.4144	0.2000	11.4	10.0	13.9	20.0
4-Methyl-2-pentanone (MIBK)	Ave	1.277	1.138	0.1000	17.8	20.0	-10.9	20.0
Toluene	Ave	4.927	5.406	0.4000	11.0	10.0	9.7	20.0
trans-1,3-Dichloropropene	Ave	1.320	1.511	0.1000	11.4	10.0	14.5	20.0
Ethyl methacrylate	Ave	1.663	1.625	0.0100	9.77	10.0	-2.3	20.0
1,1,2-Trichloroethane	Ave	1.140	1.109	0.1000	9.73	10.0	-2.7	20.0
Tetrachloroethene	Ave	0.8822	0.9643	0.2000	10.9	10.0	9.3	20.0
1,3-Dichloropropane	Ave	2.067	2.021	0.0100	9.78	10.0	-2.2	20.0
2-Hexanone	Ave	0.8218	0.8502	0.1000	20.7	20.0	3.5	20.0
Dibromochloromethane	Ave	0.7724	1.008	0.1000	13.0	10.0	30.4*	20.0
1,2-Dibromoethane (EDB)	Ave	1.097	1.025	0.1000	9.34	10.0	-6.6	20.0
3-Chlorobenzotrifluoride	Ave	1.432	1.888	0.0100	13.2	10.0	31.8*	20.0
Chlorobenzene	Ave	3.204	3.497	0.5000	10.9	10.0	9.1	20.0
4-Chlorobenzotrifluoride	Ave	1.328	1.752	0.0100	13.2	10.0	31.9*	20.0
1,1,1,2-Tetrachloroethane	Ave	0.9111	1.208	0.0100	13.3	10.0	32.6*	20.0
Ethylbenzene	Ave	1.833	1.922	0.1000	10.5	10.0	4.8	20.0
m-Xylene & p-Xylene	Ave	2.246	2.438	0.1000	10.9	10.0	8.5	20.0
o-Xylene	Ave	2.251	2.375	0.3000	10.5	10.0	5.5	20.0
Styrene	Ave	3.641	3.829	0.3000	10.5	10.0	5.2	20.0
Bromoform	Ave	0.4347	0.5337	0.1000	12.3	10.0	22.8*	20.0
2-Chlorobenzotrifluoride	Ave	1.452	1.806	0.0100	12.4	10.0	24.4*	20.0
Isopropylbenzene	Ave	5.039	5.840	0.1000	11.6	10.0	15.9	20.0
Bromobenzene	Ave	0.9293	0.8718	0.0100	9.38	10.0	-6.2	20.0
1,1,2,2-Tetrachloroethane	Ave	1.604	1.406	0.3000	8.76	10.0	-12.4	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2720	0.2323	0.0100	8.54	10.0	-14.6	20.0
1,2,3-Trichloropropane	Ave	0.3860	0.3170	0.0100	8.21	10.0	-17.9	20.0
N-Propylbenzene	Ave	1.011	0.9841	0.0100	9.73	10.0	-2.7	20.0
2-Chlorotoluene	Ave	0.8762	0.8216	0.0100	9.38	10.0	-6.2	20.0
3-Chlorotoluene	Ave	0.9194	1.000	0.0100	10.9	10.0	8.8	20.0
1,3,5-Trimethylbenzene	Ave	2.872	3.039	0.0100	10.6	10.0	5.8	20.0
4-Chlorotoluene	Ave	0.9565	0.8987	0.0100	9.40	10.0	-6.0	20.0
tert-Butylbenzene	Ave	2.280	2.530	0.0100	11.1	10.0	11.0	20.0
1,2,4-Trimethylbenzene	Ave	2.994	3.171	0.0100	10.6	10.0	5.9	20.0
3,4-Dichlorobenzotrifluoride	Ave	0.6644	0.7727	0.0100	11.6	10.0	16.3	20.0
sec-Butylbenzene	Ave	3.198	3.484	0.0100	10.9	10.0	8.9	20.0
1,3-Dichlorobenzene	Ave	1.669	1.677	0.6000	10.0	10.0	0.5	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: CCVIS 180-224560/2 Calibration Date: 10/02/2017 00:09

Instrument ID: CHHP6 Calib Start Date: 07/24/2017 06:39

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 07/24/2017 09:28

Lab File ID: 6100102.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
4-Isopropyltoluene	Ave	2.641	2.994	0.0100	11.3	10.0	13.4	20.0
1,4-Dichlorobenzene	Ave	1.726	1.775	0.5000	10.3	10.0	2.8	20.0
2,4-Dichlorobenzotrifluoride	Ave	0.6261	0.7335	0.0100	11.7	10.0	17.1	20.0
2,5-Dichlorobenzotrifluoride	Ave	0.6911	0.8154	0.0100	11.8	10.0	18.0	20.0
n-Butylbenzene	Ave	2.409	2.646	0.0100	11.0	10.0	9.9	20.0
1,2-Dichlorobenzene	Ave	1.587	1.683	0.4000	10.6	10.0	6.1	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.1415	0.1429	0.0500	10.1	10.0	1.0	20.0
2,4- & 2,5- & 2,6-Dichlorotoluene	Ave	1.011	1.409	0.0100	41.8	30.0	39.4*	20.0
2,3- & 3,4- Dichlorotoluene	Ave	1.104	1.492	0.0100	27.0	20.0	35.1*	20.0
1,2,4-Trichlorobenzene	Ave	0.8294	0.9150	0.2000	11.0	10.0	10.3	20.0
Hexachlorobutadiene	Ave	0.2626	0.3247	0.0100	12.4	10.0	23.6*	20.0
Naphthalene	Ave	2.528	2.280	0.0100	9.02	10.0	-9.8	20.0
1,2,3-Trichlorobenzene	Ave	0.7447	0.7996	0.0100	10.7	10.0	7.4	20.0
2,4,5-Trichlorotoluene	Ave	0.4283	0.5195	0.0100	12.1	10.0	21.3*	20.0
2,3,6-Trichlorotoluene	Ave	0.3839	0.4927	0.0100	12.8	10.0	28.3*	20.0
Dibromofluoromethane (Surr)	Ave	0.2598	0.2294		8.83	10.0	-11.7	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3713	0.3082		8.30	10.0	-17.0	20.0
Toluene-d8 (Surr)	Lin2		4.139		10.3	10.0	3.4	20.0
4-Bromofluorobenzene (Surr)	Ave	1.726	1.750		10.1	10.0	1.4	20.0

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100102.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 02-Oct-2017 00:09:30 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0018668-002
Misc. Info.: CCVIS
Operator ID: 034635 Instrument ID: CHHP6
Sublist: chrom-MSVOA_LL_CHHP6*sub21

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 02-Oct-2017 22:14:56 Calib Date: 28-Sep-2017 15:13:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170928-18631.b\60928P06.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK020

First Level Reviewer: bungardf Date: 02-Oct-2017 00:47:17

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.974	3.974	0.000	93	199237	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.040	7.040	0.000	98	517308	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.167	10.167	0.000	88	117673	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.509	12.509	0.000	95	189489	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.310	6.310	0.000	92	118648	50.0	44.1	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.687	6.687	0.000	69	159428	50.0	41.5	
$ 7 Toluene-d8 (Surr)	98	8.706	8.706	0.000	93	487018	50.0	51.7	
$ 8 4-Bromofluorobenzene (Surr	95	11.353	11.353	0.000	82	205910	50.0	50.7	
11 Dichlorodifluoromethane	85	1.473	1.473	0.000	99	134500	50.0	40.7	
12 Chloromethane	50	1.625	1.625	0.000	99	141884	50.0	47.8	
13 Vinyl chloride	62	1.753	1.753	0.000	97	147365	50.0	47.4	
14 Butadiene	39	1.777	1.777	0.000	93	133711	50.0	51.8	
15 Bromomethane	94	2.051	2.051	0.000	93	41551	50.0	28.6	
16 Chloroethane	64	2.185	2.185	0.000	99	73673	50.0	43.8	
17 Dichlorofluoromethane	67	2.453	2.453	0.000	97	219480	50.0	60.6	
18 Trichlorofluoromethane	101	2.489	2.489	0.000	97	183066	50.0	59.7	
20 Ethyl ether	59	2.818	2.818	0.000	88	143744	50.0	54.8	
21 Acrolein	56	2.976	2.976	0.000	99	98291	150.0	175.0	
22 1,1-Dichloroethene	96	3.098	3.098	0.000	97	132249	50.0	49.2	
23 1,1,2-Trichloro-1,2,2-trif	101	3.152	3.152	0.000	94	133855	50.0	52.0	
24 Acetone	43	3.171	3.171	0.000	100	93967	100.0	84.7	
25 Iodomethane	142	3.268	3.268	0.000	100	196827	50.0	52.1	
26 Carbon disulfide	76	3.347	3.347	0.000	99	354507	50.0	59.2	
29 3-Chloro-1-propene	76	3.615	3.615	0.000	93	80367	50.0	51.0	
30 Methyl acetate	43	3.633	3.633	0.000	97	207166	100.0	85.2	
31 Methylene Chloride	84	3.828	3.828	0.000	90	157530	50.0	44.2	
32 2-Methyl-2-propanol	59	4.101	4.101	0.000	93	124257	500.0	563.4	
33 Acrylonitrile	53	4.217	4.217	0.000	100	545455	500.0	419.7	
34 trans-1,2-Dichloroethene	96	4.259	4.259	0.000	81	154728	50.0	50.7	
35 Methyl tert-butyl ether	73	4.272	4.272	0.000	96	445043	50.0	45.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	4.697	4.697	0.000	92	193709	50.0	53.6	
37 1,1-Dichloroethane	63	4.916	4.916	0.000	96	259167	50.0	52.2	
38 Vinyl acetate	43	4.971	4.971	0.000	98	256613	50.0	44.4	
43 cis-1,2-Dichloroethene	96	5.683	5.683	0.000	81	170701	50.0	47.9	
42 2,2-Dichloropropane	97	5.683	5.683	0.000	58	31128	50.0	60.6	
44 2-Butanone (MEK)	43	5.695	5.695	0.000	82	139605	100.0	87.7	
48 Chlorobromomethane	128	5.975	5.975	0.000	96	74088	50.0	47.6	
49 Tetrahydrofuran	42	5.981	5.981	0.000	87	86084	100.0	79.9	
50 Chloroform	83	6.127	6.127	0.000	94	258896	50.0	48.4	
51 1,1,1-Trichloroethane	97	6.279	6.279	0.000	98	205825	50.0	60.5	
52 Cyclohexane	56	6.358	6.358	0.000	89	262700	50.0	54.4	
53 Carbon tetrachloride	117	6.456	6.456	0.000	97	171390	50.0	70.1	
54 1,1-Dichloropropene	75	6.474	6.474	0.000	97	216630	50.0	52.9	
56 Benzene	78	6.693	6.693	0.000	97	609261	50.0	51.1	
55 Isobutyl alcohol	41	6.693	6.693	0.000	47	103581	1250.0	1443.5	
57 1,2-Dichloroethane	62	6.772	6.772	0.000	98	216824	50.0	49.2	
59 n-Heptane	43	7.070	7.070	0.000	89	150652	50.0	54.8	
61 Trichloroethene	130	7.441	7.441	0.000	98	145605	50.0	50.3	
63 Methylcyclohexane	83	7.672	7.672	0.000	89	246656	50.0	48.8	
64 1,2-Dichloropropane	63	7.715	7.715	0.000	93	150107	50.0	50.4	
65 1,4-Dioxane	88	7.794	7.794	0.000	47	31843	1000.0	1171.5	
67 Dibromomethane	93	7.800	7.800	0.000	95	86745	50.0	44.5	
68 Dichlorobromomethane	83	8.001	8.001	0.000	98	184245	50.0	55.5	
70 2-Chloroethyl vinyl ether	63	8.305	8.305	0.000	91	183440	100.0	92.9	
71 cis-1,3-Dichloropropene	75	8.451	8.451	0.000	95	214358	50.0	56.9	
72 4-Methyl-2-pentanone (MIBK	43	8.609	8.609	0.000	95	267840	100.0	89.1	
73 Toluene	91	8.779	8.779	0.000	98	636115	50.0	54.9	
74 trans-1,3-Dichloropropene	75	9.029	9.029	0.000	93	177765	50.0	57.2	
75 Ethyl methacrylate	69	9.096	9.096	0.000	88	191178	50.0	48.9	
76 1,1,2-Trichloroethane	97	9.230	9.230	0.000	92	130550	50.0	48.7	
77 Tetrachloroethene	164	9.297	9.297	0.000	94	113466	50.0	54.7	
78 1,3-Dichloropropane	76	9.382	9.382	0.000	90	237875	50.0	48.9	
79 2-Hexanone	43	9.449	9.449	0.000	95	200083	100.0	103.5	
81 Chlorodibromomethane	129	9.595	9.595	0.000	89	118567	50.0	65.2	
82 Ethylene Dibromide	107	9.704	9.704	0.000	100	120556	50.0	46.7	
83 3-Chlorobenzotrifluoride	180	10.179	10.179	0.000	91	222130	50.0	65.9	
84 Chlorobenzene	112	10.197	10.197	0.000	93	411525	50.0	54.6	
85 4-Chlorobenzotrifluoride	180	10.264	10.264	0.000	94	206106	50.0	66.0	
86 1,1,1,2-Tetrachloroethane	131	10.294	10.294	0.000	91	142173	50.0	66.3	
87 Ethylbenzene	106	10.300	10.300	0.000	98	226136	50.0	52.4	
88 m-Xylene & p-Xylene	106	10.434	10.434	0.000	99	286852	50.0	54.3	
89 o-Xylene	106	10.811	10.811	0.000	96	279425	50.0	52.7	
90 Styrene	104	10.836	10.836	0.000	95	450534	50.0	52.6	
91 Bromoform	173	11.012	11.012	0.000	94	62796	50.0	61.4	
92 2-Chlorobenzotrifluoride	180	11.085	11.085	0.000	92	212489	50.0	62.2	
93 Isopropylbenzene	105	11.176	11.176	0.000	97	687200	50.0	58.0	
95 Bromobenzene	156	11.487	11.487	0.000	96	165196	50.0	46.9	
96 1,1,2,2-Tetrachloroethane	83	11.493	11.493	0.000	95	165409	50.0	43.8	
97 trans-1,4-Dichloro-2-buten	53	11.535	11.535	0.000	67	44023	50.0	42.7	
98 1,2,3-Trichloropropane	110	11.547	11.547	0.000	87	60075	50.0	41.1	
99 N-Propylbenzene	120	11.596	11.596	0.000	98	186484	50.0	48.7	
100 2-Chlorotoluene	126	11.681	11.681	0.000	95	155682	50.0	46.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
101 3-Chlorotoluene	126	11.748	11.748	0.000	96	189453	50.0	54.4	
102 1,3,5-Trimethylbenzene	105	11.779	11.779	0.000	94	575837	50.0	52.9	
103 4-Chlorotoluene	126	11.803	11.803	0.000	99	170301	50.0	47.0	
104 tert-Butylbenzene	119	12.095	12.095	0.000	92	479430	50.0	55.5	
106 1,2,4-Trimethylbenzene	105	12.150	12.150	0.000	98	600876	50.0	52.9	
107 1,2-dichloro-4-(trifluorom	214	12.204	12.204	0.000	95	146424	50.0	58.2	
108 sec-Butylbenzene	105	12.314	12.314	0.000	95	660211	50.0	54.5	
109 1,3-Dichlorobenzene	146	12.430	12.430	0.000	96	317801	50.0	50.2	
110 4-Isopropyltoluene	119	12.472	12.472	0.000	95	567280	50.0	56.7	
111 1,4-Dichlorobenzene	146	12.533	12.533	0.000	93	336325	50.0	51.4	
113 2,4-Dichloro-1-(triflourom	214	12.563	12.563	0.000	92	138988	50.0	58.6	
114 2,5-Dichlorobenzotrifluori	214	12.612	12.612	0.000	96	154512	50.0	59.0	
116 n-Butylbenzene	91	12.880	12.880	0.000	98	501406	50.0	54.9	
117 1,2-Dichlorobenzene	146	12.886	12.886	0.000	95	318994	50.0	53.0	
118 1,2-Dibromo-3-Chloropropan	75	13.677	13.683	-0.006	78	27070	50.0	50.5	
119 2,4- & 2,5- & 2,6- Dichlor	125	13.817	13.817	0.000	99	801144	150.0	209.1	
121 2,3- & 3,4- Dichlorotoluen	125	14.230	14.230	0.000	98	565454	100.0	135.1	
122 1,2,4-Trichlorobenzene	180	14.498	14.498	0.000	94	173387	50.0	55.2	
123 Hexachlorobutadiene	225	14.644	14.644	0.000	93	61519	50.0	61.8	
124 Naphthalene	128	14.760	14.760	0.000	98	432127	50.0	45.1	
125 1,2,3-Trichlorobenzene	180	14.985	14.985	0.000	95	151516	50.0	53.7	
126 2,4,5-Trichlorotoluene	159	15.775	15.775	0.000	0	98448	50.0	60.7	
127 2,3,6-Trichlorotoluene	159	15.873	15.873	0.000	95	93364	50.0	64.2	
146 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 131 Xylenes, Total	106				0		100.0	107.0	
S 130 1,2-Dichloroethene, Total	96				0		100.0	98.6	
S 132 1,3-Dichloropropene, Total	1				0		100.0	114.2	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

voaWEEmix1stR_00011	Amount Added:	2.00	Units: uL	
voaWAcro1stRe_00020	Amount Added:	6.00	Units: uL	
VOA8260VOA2ND_00266	Amount Added:	2.00	Units: uL	
voaWKetmix1st_00006	Amount Added:	2.00	Units: uL	
voaW2clev1stR_00022	Amount Added:	2.00	Units: uL	
voaWVA1stRest_00021	Amount Added:	2.00	Units: uL	
VOA8260INT_00074	Amount Added:	2.00	Units: uL	Run Reagent
VOA8260SURR_00073	Amount Added:	2.00	Units: uL	Run Reagent

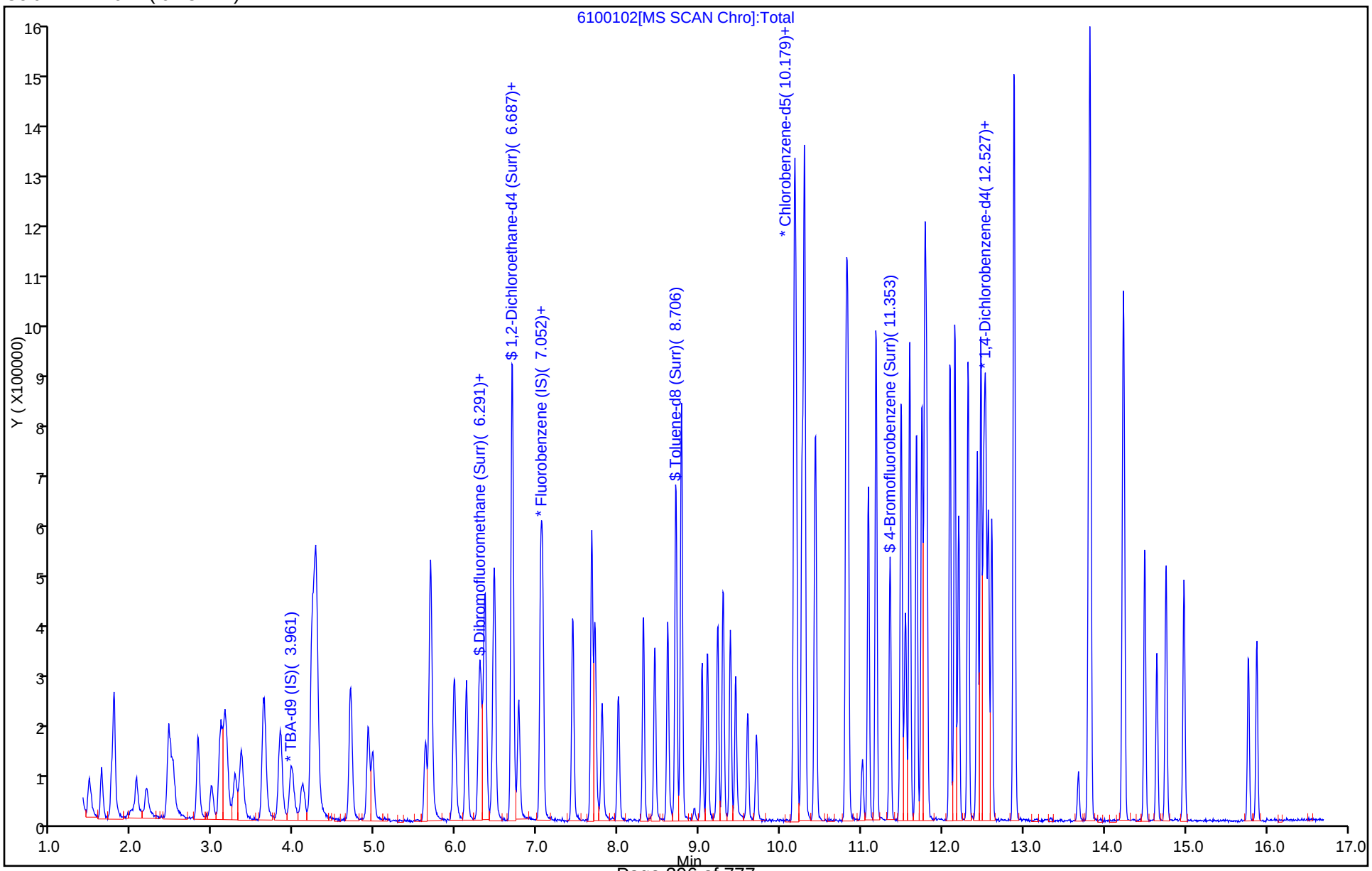
Report Date: 02-Oct-2017 22:14:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100102.D

Injection Date:	02-Oct-2017 00:09:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	CCVIS			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D01.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	27-Jul-2017 00:22:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Sample Info:	180-0017756-001				
Misc. Info.:	BFB				
Operator ID:	034635	Instrument ID:	CHHP5		
Method:	\\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\MSVOA_LL_CHHP5.m				
Limit Group:	VOA 8260C ICAL				
Last Update:	28-Jul-2017 01:04:43	Calib Date:	27-Jul-2017 04:24:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	XAWRK029				
First Level Reviewer: bungardf		Date:	27-Jul-2017 05:09:11		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 10 BFB	95	8.334	8.334	0.000	0	79656	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

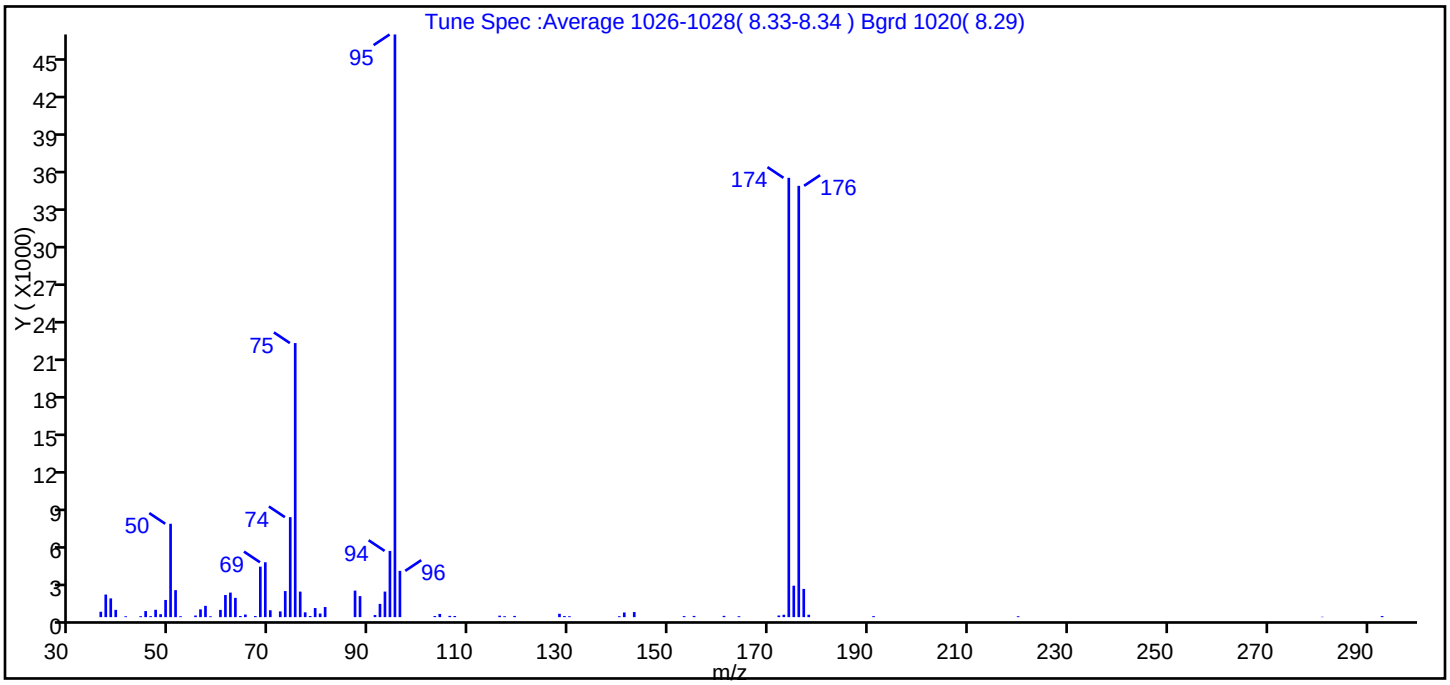
VOABFB25_00090 Amount Added: 1.00 Units: uL

MS Tune Report

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D01.D
Injection Date: 27-Jul-2017 00:22:30 Instrument ID: CHHP5
Lims ID: BFB
Client ID:
Operator ID: 034635 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C ICAL
Tune Method: BFB Method 8260

$ 10 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	16.0
75	30 to 60% of m/z 95	47.0
96	5 to 9% of m/z 95	7.9
173	Less than 2% of m/z 174	0.4 (0.5)
174	50 to 120% of m/z 95	75.4
175	5 to 9% of m/z 174	5.4 (7.2)
176	Greater than 95% but less than 101% of m/z 174	74.0 (98.2)
177	5 to 9% of m/z 176	4.8 (6.5)

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D01.D\MSVOA_LL_CHHP5.rslt\spec
Injection Date: 27-Jul-2017 00:22:30
Spectrum: Tune Spec :Average 1026-1028(8.33-8.34) Bgrd 1020(8.29)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 74

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	433	61.00	1769	87.00	2123	141.00	374
37.00	1806	62.00	1963	88.00	1682	143.00	408
38.00	1500	63.00	1542	91.00	169	153.00	84
39.00	582	64.00	92	92.00	1061	155.00	97
41.00	70	65.00	209	93.00	2045	161.00	102
44.00	76	67.00	88	94.00	5297	164.00	73
45.00	487	68.00	4038	95.00	46600	172.00	132
46.00	79	69.00	4388	96.00	3703	173.00	191
47.00	590	70.00	551	103.00	90	174.00	35136
48.00	235	72.00	459	104.00	258	175.00	2515
49.00	1375	73.00	2085	106.00	102	176.00	34496
50.00	7469	74.00	7996	107.00	90	177.00	2259
51.00	2160	75.00	21920	116.00	116	178.00	192
52.00	70	76.00	2042	117.00	73	191.00	80
55.00	130	77.00	386	119.00	97	220.00	71
56.00	624	78.00	89	128.00	269	281.00	30
57.00	904	79.00	726	129.00	86	293.00	87
58.00	67	80.00	290	130.00	72		
60.00	579	81.00	809	140.00	72		

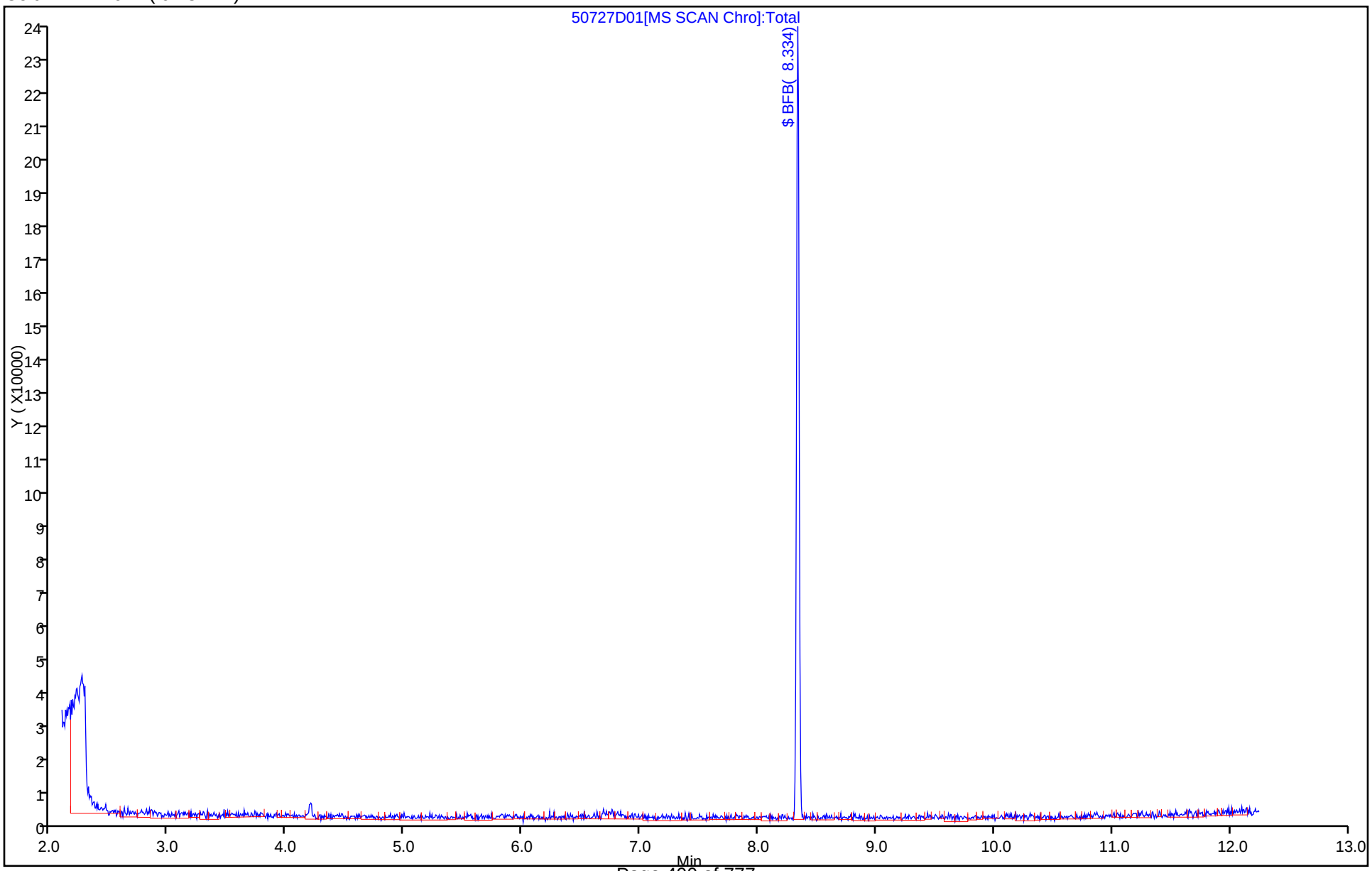
Report Date: 28-Jul-2017 01:04:43 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D01.D

Injection Date:	27-Jul-2017 00:22:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D01.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	02-Oct-2017 21:30:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Sample Info:	180-0018689-001				
Misc. Info.:	BFB				
Operator ID:	034635	Instrument ID:	CHHP5		
Method:	\\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\MSVOA_LL_CHHP5.m				
Limit Group:	VOA 8260C ICAL				
Last Update:	03-Oct-2017 21:01:07	Calib Date:	27-Jul-2017 04:24:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	XAWRK011				

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 10 BFB	95	8.338	8.338	0.000	0	62445	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

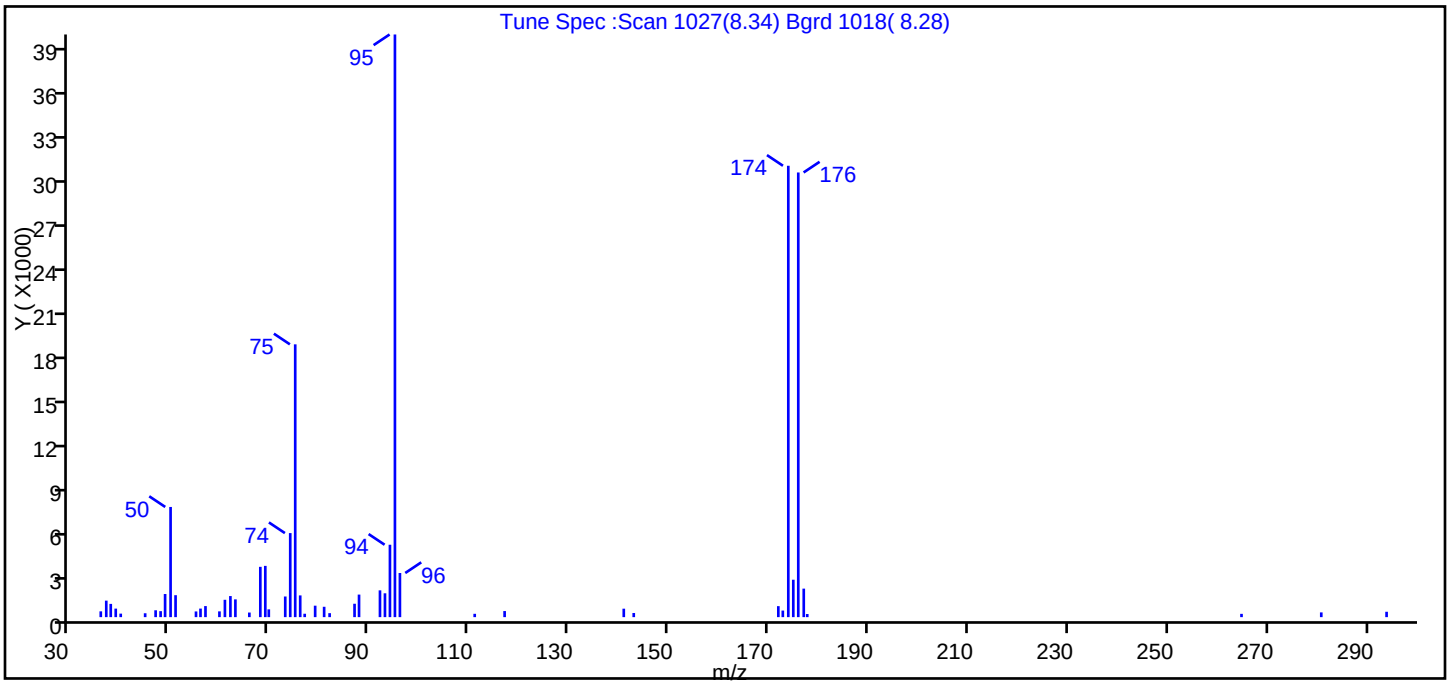
VOABFB25_00093 Amount Added: 1.00 Units: uL

MS Tune Report

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D01.D
Injection Date: 02-Oct-2017 21:30:30 Instrument ID: CHHP5
Lims ID: BFB
Client ID:
Operator ID: 034635 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C ICAL
Tune Method: BFB Method 8260

$ 10 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	18.9
75	30 to 60% of m/z 95	46.8
96	5 to 9% of m/z 95	7.6
173	Less than 2% of m/z 174	1.1 (1.5)
174	50 to 120% of m/z 95	77.5
175	5 to 9% of m/z 174	6.4 (8.3)
176	Greater than 95% but less than 101% of m/z 174	76.3 (98.5)
177	5 to 9% of m/z 176	4.9 (6.4)

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D01.D\MSVOA_LL_CHHP5.rslt\spec
Injection Date: 02-Oct-2017 21:30:30
Spectrum: Tune Spec :Scan 1027(8.34) Bgrd 1018(8.28)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 51

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	395	57.00	752	76.90	231	140.90	575
37.10	1122	59.80	393	79.00	779	142.90	282
38.00	901	60.90	1180	80.80	705	171.90	748
39.00	580	62.00	1434	81.90	271	172.80	448
40.00	239	63.00	1209	86.90	911	173.90	30696
44.90	264	65.80	313	87.80	1534	174.90	2545
47.00	467	68.00	3421	92.00	1822	175.90	30240
48.00	407	69.00	3486	93.00	1622	177.00	1939
48.90	1573	69.70	529	94.00	4924	177.70	211
50.00	7493	73.00	1404	95.00	39624	264.80	224
51.00	1493	74.00	5716	96.00	3002	280.80	323
55.10	388	75.00	18552	111.00	227	293.90	366
56.00	582	76.00	1478	117.00	414		

Report Date: 03-Oct-2017 21:01:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D01.D

Injection Date:	02-Oct-2017 21:30:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D01.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	24-Jul-2017 04:58:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Sample Info:	180-0017705-001				
Misc. Info.:	BFB				
Operator ID:	034635	Instrument ID:	CHHP6		
Method:	\\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\MSVOA_LL_CHHP6.m				
Limit Group:	VOA 8260C ICAL				
Last Update:	25-Jul-2017 01:44:23	Calib Date:	24-Jul-2017 09:28:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D10.D				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	XAWRK021				

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 10 BFB	95	8.182	8.182	0.000	0	80019	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

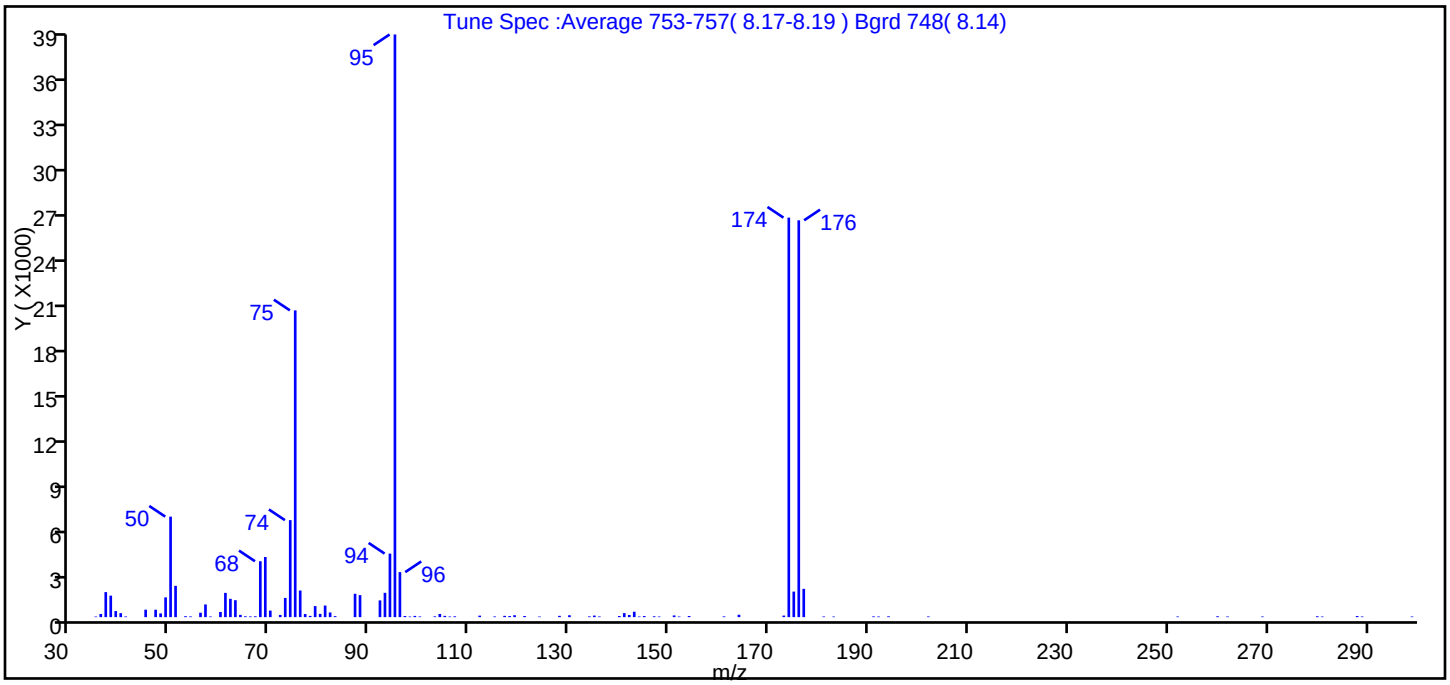
VOABFB25_00090 Amount Added: 1.00 Units: uL

MS Tune Report

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D01.D
Injection Date: 24-Jul-2017 04:58:30 Instrument ID: CHHP6
Lims ID: BFB
Client ID:
Operator ID: 034635 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP6 Limit Group: VOA 8260C ICAL
Tune Method: BFB Method 8260

$ 10 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	17.3
75	30 to 60% of m/z 95	52.6
96	5 to 9% of m/z 95	7.7
173	Less than 2% of m/z 174	0.3 (0.4)
174	50 to 120% of m/z 95	68.6
175	5 to 9% of m/z 174	4.4 (6.4)
176	Greater than 95% but less than 101% of m/z 174	68.1 (99.3)
177	5 to 9% of m/z 176	4.9 (7.1)

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D01.D\MSVOA_LL_CHHP6.rslt\spec
Injection Date: 24-Jul-2017 04:58:30
Spectrum: Tune Spec :Average 753-757(8.17-8.19) Bgrd 748(8.14)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 102

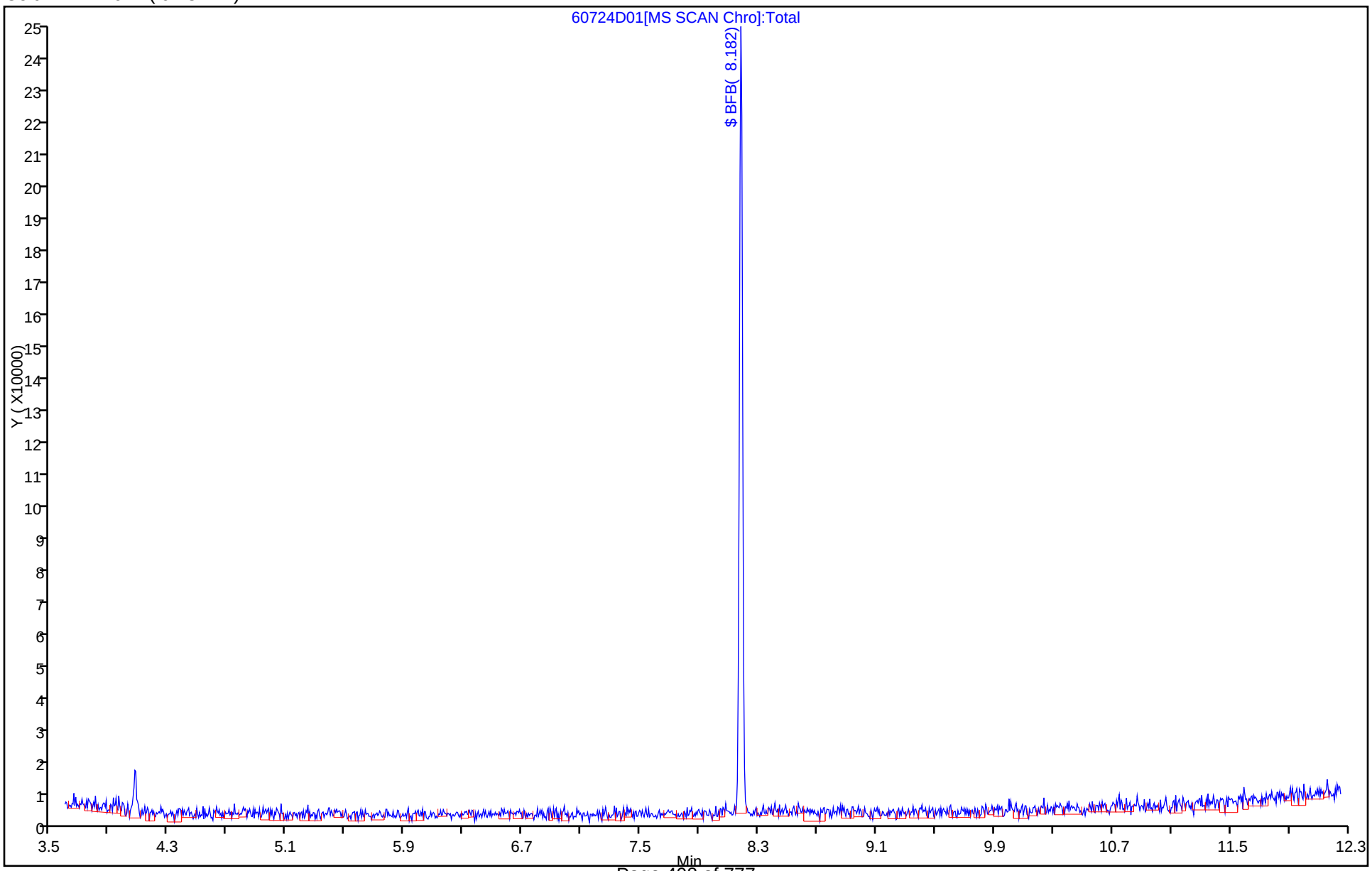
m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	41	68.00	3693	103.00	52	152.00	40
36.00	211	69.00	3974	104.00	211	154.00	76
37.00	1655	70.00	433	105.00	85	161.00	49
38.00	1420	72.00	145	106.00	41	164.00	157
39.00	400	73.00	1271	107.00	54	173.00	103
40.00	262	74.00	6411	112.00	99	174.00	26400
41.00	45	75.00	20272	115.00	45	175.00	1689
45.00	492	76.00	1760	117.00	85	176.00	26224
47.00	490	77.00	205	118.00	72	177.00	1870
48.00	248	78.00	83	119.00	127	181.00	43
49.00	1307	79.00	730	121.00	74	183.00	41
50.00	6642	80.00	217	124.00	40	191.00	49
51.00	2068	81.00	766	128.00	87	192.00	42
53.00	63	82.00	309	130.00	124	194.00	54
54.00	47	83.00	65	134.00	50	202.00	45
56.00	292	87.00	1545	135.00	104	252.00	43
57.00	839	88.00	1453	136.00	44	260.00	58
58.00	42	92.00	1107	140.00	73	262.00	42
60.00	343	93.00	1608	141.00	265	269.00	42
61.00	1604	94.00	4199	142.00	143	280.00	58
62.00	1212	95.00	38504	143.00	358	281.00	40
63.00	1119	96.00	2976	144.00	40	288.00	73
64.00	149	97.00	76	145.00	73	289.00	43
65.00	56	98.00	40	147.00	56	299.00	42
66.00	47	99.00	82	148.00	40		
67.00	56	100.00	44	151.00	113		

Report Date: 25-Jul-2017 01:44:25 Chrom Revision: 2.2 20-Jun-2017 07:42:38

TestAmerica Pittsburgh

Data File:	\\ChromNA\Pittsburgh\ChromData\CHHP6\20170724-17705.b\60724D01.D				
Injection Date:	24-Jul-2017 04:58:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100101.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 01-Oct-2017 22:54:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Sample Info: 180-0018668-001
Misc. Info.: BFB
Operator ID: 034635 Instrument ID: CHHP6

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 02-Oct-2017 22:14:54 Calib Date: 28-Sep-2017 15:13:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170928-18631.b\60928P06.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK020

First Level Reviewer: journetp Date: 02-Oct-2017 12:22:15

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 10 BFB	95	8.182	8.182	0.000	0	31659	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

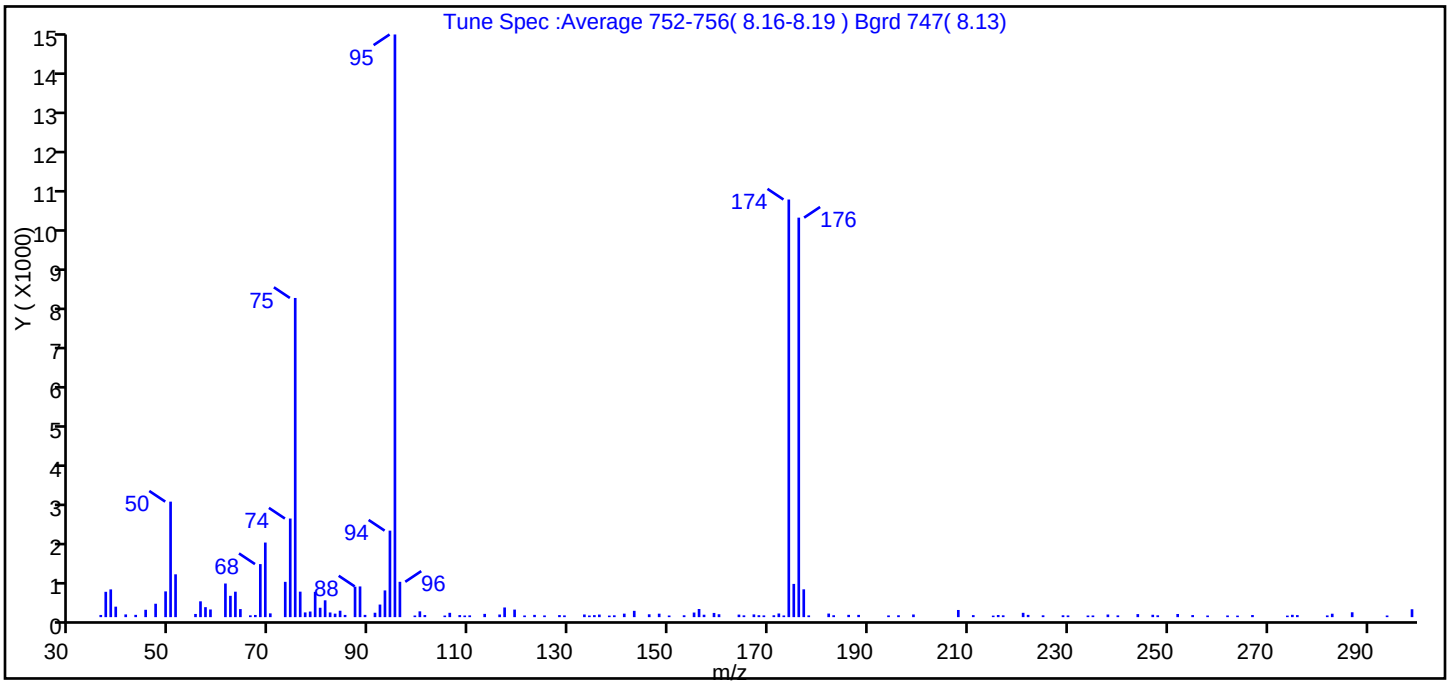
VOABFB25_00093 Amount Added: 1.00 Units: uL

MS Tune Report

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100101.D
Injection Date: 01-Oct-2017 22:54:30 Instrument ID: CHHP6
Lims ID: BFB
Client ID:
Operator ID: 034635 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP6 Limit Group: VOA 8260C ICAL
Tune Method: BFB Method 8260

$ 10 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	19.8
75	30 to 60% of m/z 95	54.8
96	5 to 9% of m/z 95	6.1
173	Less than 2% of m/z 174	0.3 (0.4)
174	50 to 120% of m/z 95	71.7
175	5 to 9% of m/z 174	5.7 (8.0)
176	Greater than 95% but less than 101% of m/z 174	68.6 (95.7)
177	5 to 9% of m/z 176	4.8 (7.0)

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100101.D\MSVOA_LL_CHHP6.rslt\spectra
Injection Date: 01-Oct-2017 22:54:30
Spectrum: Tune Spec :Average 752-756(8.16-8.19) Bgrd 747(8.13)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 131

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	56	82.00	120	136.00	66	199.00	68
37.00	650	83.00	90	138.00	40	208.00	184
38.00	712	84.00	165	139.00	47	211.00	52
39.00	269	85.00	57	141.00	90	215.00	40
41.00	70	87.00	782	143.00	162	216.00	55
43.00	59	88.00	788	146.00	73	217.00	47
45.00	189	89.00	58	148.00	89	221.00	111
47.00	344	91.00	113	150.00	42	222.00	58
49.00	661	92.00	323	153.00	48	225.00	47
50.00	2964	93.00	686	155.00	118	229.00	48
51.00	1099	94.00	2220	156.00	209	230.00	44
55.00	82	95.00	14951	157.00	62	234.00	42
56.00	406	96.00	907	159.00	108	235.00	43
57.00	256	99.00	42	160.00	74	238.00	67
58.00	197	100.00	149	164.00	65	240.00	45
61.00	863	101.00	54	165.00	46	244.00	78
62.00	547	105.00	41	167.00	70	247.00	61
63.00	653	106.00	111	168.00	50	248.00	47
64.00	207	108.00	53	169.00	45	252.00	81
66.00	46	109.00	42	171.00	48	255.00	53
67.00	56	110.00	46	172.00	94	258.00	42
68.00	1361	113.00	84	173.00	43	262.00	43
69.00	1914	116.00	67	174.00	10716	264.00	40
70.00	97	117.00	248	175.00	853	267.00	54
73.00	906	119.00	194	176.00	10251	274.00	40
74.00	2530	121.00	43	177.00	714	275.00	60
75.00	8190	123.00	58	178.00	45	276.00	52
76.00	654	125.00	44	182.00	92	282.00	44
77.00	121	128.00	53	183.00	49	283.00	88
78.00	144	129.00	45	186.00	59	287.00	125
79.00	648	133.00	68	188.00	58	294.00	42
80.00	241	134.00	42	194.00	44	299.00	203
81.00	432	135.00	52	196.00	48		

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	56	82.00	120	136.00	66	199.00	68
37.00	650	83.00	90	138.00	40	208.00	184
38.00	712	84.00	165	139.00	47	211.00	52
39.00	269	85.00	57	141.00	90	215.00	40
41.00	70	87.00	782	143.00	162	216.00	55
43.00	59	88.00	788	146.00	73	217.00	47
45.00	189	89.00	58	148.00	89	221.00	111
47.00	344	91.00	113	150.00	42	222.00	58
49.00	661	92.00	323	153.00	48	225.00	47
50.00	2964	93.00	686	155.00	118	229.00	48
51.00	1099	94.00	2220	156.00	209	230.00	44
55.00	82	95.00	14951	157.00	62	234.00	42
56.00	406	96.00	907	159.00	108	235.00	43
57.00	256	99.00	42	160.00	74	238.00	67
58.00	197	100.00	149	164.00	65	240.00	45
61.00	863	101.00	54	165.00	46	244.00	78
62.00	547	105.00	41	167.00	70	247.00	61
63.00	653	106.00	111	168.00	50	248.00	47
64.00	207	108.00	53	169.00	45	252.00	81
66.00	46	109.00	42	171.00	48	255.00	53
67.00	56	110.00	46	172.00	94	258.00	42
68.00	1361	113.00	84	173.00	43	262.00	43
69.00	1914	116.00	67	174.00	10716	264.00	40
70.00	97	117.00	248	175.00	853	267.00	54
73.00	906	119.00	194	176.00	10251	274.00	40
74.00	2530	121.00	43	177.00	714	275.00	60
75.00	8190	123.00	58	178.00	45	276.00	52
76.00	654	125.00	44	182.00	92	282.00	44
77.00	121	128.00	53	183.00	49	283.00	88
78.00	144	129.00	45	186.00	59	287.00	125
79.00	648	133.00	68	188.00	58	294.00	42
80.00	241	134.00	42	194.00	44	299.00	203
81.00	432	135.00	52	196.00	48		

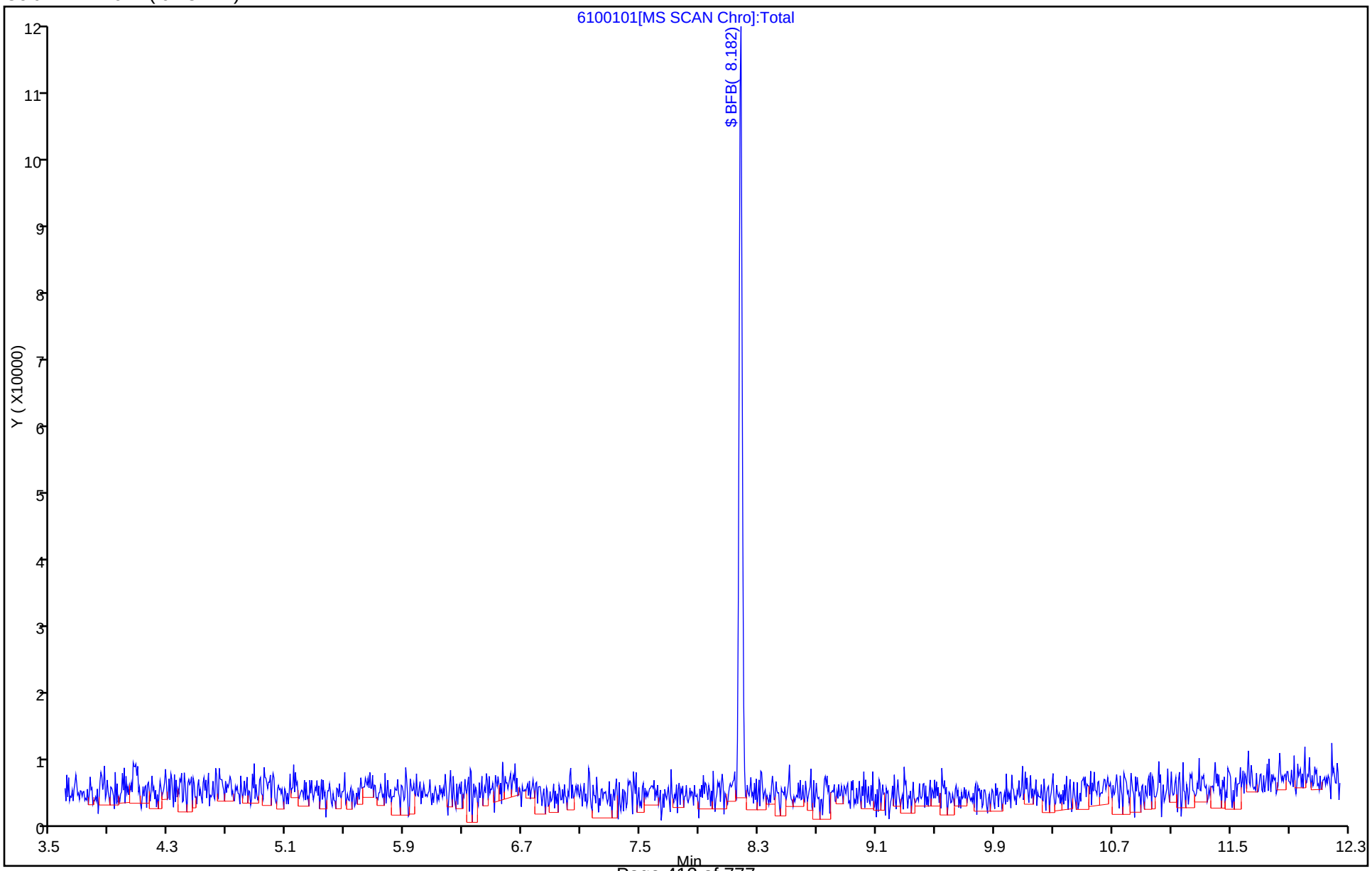
Report Date: 02-Oct-2017 22:14:55 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100101.D

Injection Date:	01-Oct-2017 22:54:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 180-224560/6

Matrix: Water | Lab File ID: 6100106.D

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 10/02/2017 02:22

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224560 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	1.0	U	1.0	0.38
75-01-4	Vinyl chloride	1.0	U	1.0	0.17
74-83-9	Bromomethane	1.0	U	1.0	0.59
75-00-3	Chloroethane	1.0	U	1.0	0.58
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.32
67-64-1	Acetone	5.0	U	5.0	3.1
75-15-0	Carbon disulfide	1.0	U	1.0	0.53
75-09-2	Methylene Chloride	1.0	U	1.0	0.94
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.20
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.34
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.30
74-97-5	Bromochloromethane	1.0	U	1.0	0.36
78-93-3	2-Butanone (MEK)	5.0	U	5.0	2.6
67-66-3	Chloroform	1.0	U	1.0	0.27
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.27
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.56
71-43-2	Benzene	1.0	U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.24
79-01-6	Trichloroethene	1.0	U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.35
75-27-4	Bromodichloromethane	1.0	U	1.0	0.57
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.32
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.2
108-88-3	Toluene	1.0	U	1.0	0.16
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.22
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.31
127-18-4	Tetrachloroethene	1.0	U	1.0	0.24
591-78-6	2-Hexanone	5.0	U	5.0	2.0
124-48-1	Dibromochloromethane	1.0	U	1.0	0.44
106-93-4	1,2-Dibromoethane (EDB)	1.0	U	1.0	0.51
108-90-7	Chlorobenzene	1.0	U	1.0	0.15
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.49
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
1330-20-7	Xylenes, Total	2.0	U	2.0	0.27
100-42-5	Styrene	1.0	U	1.0	0.22

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 180-224560/6

Matrix: Water | Lab File ID: 6100106.D

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 10/02/2017 02:22

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224560 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	1.0	U	1.0	0.76
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.37
107-13-1	Acrylonitrile	20	U	20	3.3
123-91-1	1,4-Dioxane	200	U	200	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	89		65-121
2037-26-5	Toluene-d8 (Surr)	88		73-120
460-00-4	4-Bromofluorobenzene (Surr)	97		80-120
1868-53-7	Dibromofluoromethane (Surr)	94		73-120

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100106.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 02-Oct-2017 02:22:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0018668-006
Misc. Info.: MB
Operator ID: 034635 Instrument ID: CHHP6

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 02-Oct-2017 22:14:59 Calib Date: 28-Sep-2017 15:13:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170928-18631.b\60928P06.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK020

First Level Reviewer: bungardf Date: 02-Oct-2017 02:48:38

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.954	3.952	0.002	92	161135	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.051	7.042	0.009	99	393187	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.166	10.169	-0.003	89	118340	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.508	12.511	-0.003	97	188567	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.315	6.310	0.005	91	95527	50.0	46.8	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.686	6.687	-0.001	70	129460	50.0	44.3	
$ 7 Toluene-d8 (Surr)	98	8.712	8.706	0.006	93	419608	50.0	43.9	
$ 8 4-Bromofluorobenzene (Surr	95	11.352	11.353	-0.001	82	198920	50.0	48.7	
11 Dichlorodifluoromethane	85		1.473					ND	
12 Chloromethane	50		1.625					ND	
13 Vinyl chloride	62		1.753					ND	
14 Butadiene	39		1.777					ND	
15 Bromomethane	94		2.051					ND	
16 Chloroethane	64		2.185					ND	
17 Dichlorofluoromethane	67		2.453					ND	
18 Trichlorofluoromethane	101		2.489					ND	
20 Ethyl ether	59		2.818					ND	
19 Ethanol	45		2.823					ND	
21 Acrolein	56		2.976					ND	
22 1,1-Dichloroethene	96		3.098					ND	
23 1,1,2-Trichloro-1,2,2-trif	101		3.152					ND	
24 Acetone	43		3.171					ND	
25 Iodomethane	142		3.268					ND	
26 Carbon disulfide	76		3.347					ND	
27 Isopropyl alcohol	45		3.428					ND	
28 Acetonitrile	41		3.574					ND	
29 3-Chloro-1-propene	76		3.615					ND	
30 Methyl acetate	43		3.633					ND	
31 Methylene Chloride	84		3.828					ND	
32 2-Methyl-2-propanol	59		4.101					ND	
33 Acrylonitrile	53		4.217					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
34 trans-1,2-Dichloroethene	96		4.259					ND	
35 Methyl tert-butyl ether	73		4.272					ND	
36 Hexane	57		4.697					ND	
37 1,1-Dichloroethane	63		4.916					ND	
38 Vinyl acetate	43		4.971					ND	
39 2-Chloro-1,3-butadiene	53		5.016					ND	
40 Isopropyl ether	45		5.022					ND	
41 Tert-butyl ethyl ether	59		5.509					ND	
43 cis-1,2-Dichloroethene	96		5.683					ND	
42 2,2-Dichloropropane	97		5.683					ND	
44 2-Butanone (MEK)	43		5.695					ND	
45 Propionitrile	54		5.770					ND	
46 Ethyl acetate	43		5.777					ND	
47 Methacrylonitrile	41		5.953					ND	
48 Chlorobromomethane	128		5.975					ND	
49 Tetrahydrofuran	42		5.981					ND	
50 Chloroform	83	6.132	6.127	0.005	17	1637		0.4025	
51 1,1,1-Trichloroethane	97		6.279					ND	
52 Cyclohexane	56		6.358					ND	
53 Carbon tetrachloride	117		6.456					ND	
54 1,1-Dichloropropene	75		6.474					ND	
56 Benzene	78		6.693					ND	
55 Isobutyl alcohol	41		6.693					ND	
57 1,2-Dichloroethane	62		6.772					ND	
148 Isooctane	57		6.853					ND	
58 Tert-amyl methyl ether	73		6.878					ND	
59 n-Heptane	43		7.070					ND	
60 n-Butanol	56		7.407					ND	
61 Trichloroethene	130		7.441					ND	
62 Ethyl acrylate	55		7.571					ND	
63 Methylcyclohexane	83		7.672					ND	
64 1,2-Dichloropropane	63		7.715					ND	
65 1,4-Dioxane	88		7.794					ND	
67 Dibromomethane	93		7.800					ND	
66 Methyl methacrylate	69		7.808					ND	
68 Dichlorobromomethane	83		8.001					ND	
70 2-Chloroethyl vinyl ether	63		8.305					ND	
71 cis-1,3-Dichloropropene	75		8.451					ND	
72 4-Methyl-2-pentanone (MIBK	43		8.609					ND	
73 Toluene	91		8.779					ND	
74 trans-1,3-Dichloropropene	75		9.029					ND	
75 Ethyl methacrylate	69		9.096					ND	
76 1,1,2-Trichloroethane	97		9.230					ND	
77 Tetrachloroethene	164		9.297					ND	
78 1,3-Dichloropropane	76		9.382					ND	
79 2-Hexanone	43		9.449					ND	
80 n-Butyl acetate	43		9.573					ND	
81 Chlorodibromomethane	129		9.595					ND	
82 Ethylene Dibromide	107		9.704					ND	
83 3-Chlorobenzotrifluoride	180		10.179					ND	
84 Chlorobenzene	112		10.197					ND	
85 4-Chlorobenzotrifluoride	180		10.264					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
86 1,1,1,2-Tetrachloroethane	131		10.294					ND	
87 Ethylbenzene	106		10.300					ND	
88 m-Xylene & p-Xylene	106		10.434					ND	
89 o-Xylene	106		10.811					ND	
90 Styrene	104		10.836					ND	
91 Bromoform	173		11.012					ND	
129 Cyclohexanol	57		11.037					ND	
92 2-Chlorobenzotrifluoride	180		11.085					ND	
93 Isopropylbenzene	105		11.176					ND	
94 Cyclohexanone	55		11.264					ND	
95 Bromobenzene	156		11.487					ND	
96 1,1,2,2-Tetrachloroethane	83		11.493					ND	
97 trans-1,4-Dichloro-2-buten	53		11.535					ND	
98 1,2,3-Trichloropropane	110		11.547					ND	
99 N-Propylbenzene	120		11.596					ND	
100 2-Chlorotoluene	126		11.681					ND	
101 3-Chlorotoluene	126		11.748					ND	
102 1,3,5-Trimethylbenzene	105		11.779					ND	
103 4-Chlorotoluene	126		11.803					ND	
104 tert-Butylbenzene	119		12.095					ND	
106 1,2,4-Trimethylbenzene	105		12.150					ND	
107 1,2-dichloro-4-(trifluorom	214		12.204					ND	
108 sec-Butylbenzene	105		12.314					ND	
109 1,3-Dichlorobenzene	146		12.430					ND	
110 4-Isopropyltoluene	119		12.472					ND	
111 1,4-Dichlorobenzene	146		12.533					ND	
112 1,2,3-Trimethylbenzene	105		12.560					ND	
113 2,4-Dichloro-1-(triflourom	214		12.563					ND	
114 2,5-Dichlorobenzotrifluori	214		12.612					ND	
115 Benzyl chloride	91		12.651					ND	
116 n-Butylbenzene	91		12.880					ND	
117 1,2-Dichlorobenzene	146		12.886					ND	
118 1,2-Dibromo-3-Chloropropan	75		13.683					ND	
119 2,4- & 2,5- & 2,6- Dichlor	125		13.817					ND	
120 1,3,5-Trichlorobenzene	180		13.868					ND	
121 2,3- & 3,4- Dichlorotoluen	125		14.230					ND	
122 1,2,4-Trichlorobenzene	180		14.498					ND	
123 Hexachlorobutadiene	225		14.644					ND	
124 Naphthalene	128		14.760					ND	
125 1,2,3-Trichlorobenzene	180		14.985					ND	
126 2,4,5-Trichlorotoluene	159		15.775					ND	
127 2,3,6-Trichlorotoluene	159		15.873					ND	
151 Tert-amyl methyl ether (TI	1		0.000					ND	
146 3,4-Dichlorotoluene	1		0.000					ND	
149 Isopropyl ether TIC	1		0.000					ND	
152 Formaldehyde TIC	1		0.000					ND	
153 1,2 Epoxybutane TIC	1		0.000					ND	
150 Tert-butyl ethyl ether (TI	1		0.000					ND	
S 131 Xylenes, Total	106		1.000					ND	
S 130 1,2-Dichloroethene, Total	96		1.000					ND	
S 132 1,3-Dichloropropene, Total	1		0.000					ND	
S 154 Total BTEX	1		0.000					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
T 133 Tetrahydrofuran TIC	42		0.000					ND	
T 135 Mesityl oxide TIC	83		0.000					ND	
T 134 Methyl n-amyl ketone TIC	43		0.000					ND	

Reagents:

VOA8260INT_00074	Amount Added:	2.00	Units: uL	Run Reagent
VOA8260SURR_00073	Amount Added:	2.00	Units: uL	Run Reagent

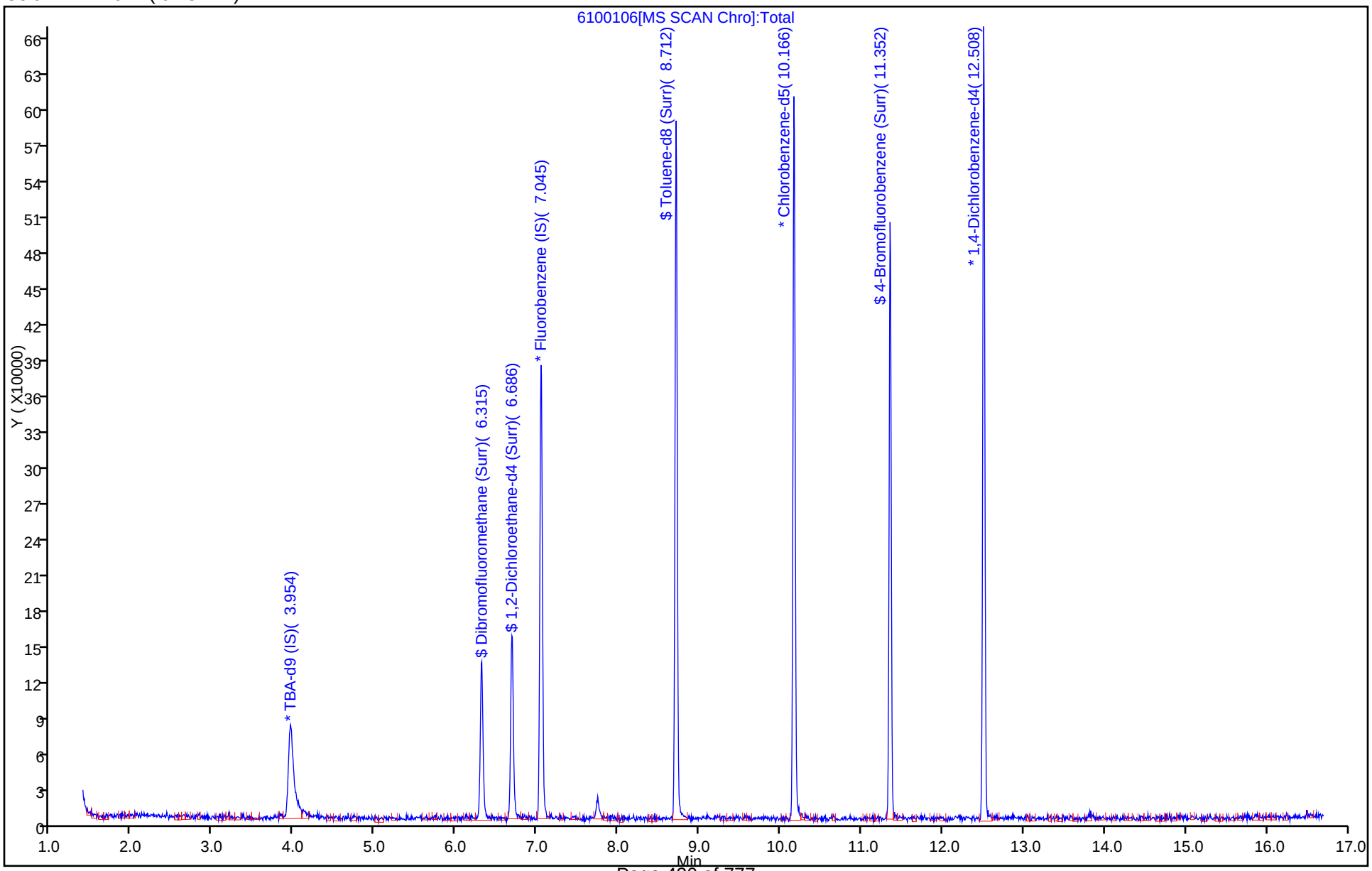
Report Date: 02-Oct-2017 22:15:14 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100106.D

Injection Date:	02-Oct-2017 02:22:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	MB			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Recovery Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100106.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 02-Oct-2017 02:22:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0018668-006
Misc. Info.: MB
Operator ID: 034635 Instrument ID: CHHP6

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 02-Oct-2017 22:14:59 Calib Date: 28-Sep-2017 15:13:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170928-18631.b\60928P06.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK020

First Level Reviewer: bungardf Date: 02-Oct-2017 02:48:38

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	46.8	93.51
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	44.3	88.67
$ 7 Toluene-d8 (Surr)	50.0	43.9	87.71
$ 8 4-Bromofluorobenzene (Surr)	50.0	48.7	97.37

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 180-224674/6

Matrix: Water | Lab File ID: 51002D06.D

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 10/03/2017 01:25

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224674 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	1.0	U	1.0	0.38
75-01-4	Vinyl chloride	1.0	U	1.0	0.17
74-83-9	Bromomethane	1.0	U	1.0	0.59
75-00-3	Chloroethane	1.0	U	1.0	0.58
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.32
67-64-1	Acetone	5.0	U	5.0	3.1
75-15-0	Carbon disulfide	1.0	U	1.0	0.53
75-09-2	Methylene Chloride	1.0	U	1.0	0.94
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.20
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.34
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.30
74-97-5	Bromochloromethane	1.0	U	1.0	0.36
78-93-3	2-Butanone (MEK)	5.0	U	5.0	2.6
67-66-3	Chloroform	1.0	U	1.0	0.27
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.27
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.56
71-43-2	Benzene	1.0	U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.24
79-01-6	Trichloroethene	1.0	U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.35
75-27-4	Bromodichloromethane	1.0	U	1.0	0.57
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.32
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.2
108-88-3	Toluene	1.0	U	1.0	0.16
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.22
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.31
127-18-4	Tetrachloroethene	1.0	U	1.0	0.24
591-78-6	2-Hexanone	5.0	U	5.0	2.0
124-48-1	Dibromochloromethane	1.0	U	1.0	0.44
106-93-4	1,2-Dibromoethane (EDB)	1.0	U	1.0	0.51
108-90-7	Chlorobenzene	1.0	U	1.0	0.15
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.49
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
1330-20-7	Xylenes, Total	2.0	U	2.0	0.27
100-42-5	Styrene	1.0	U	1.0	0.22

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 180-224674/6

Matrix: Water | Lab File ID: 51002D06.D

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 10/03/2017 01:25

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224674 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	1.0	U	1.0	0.76
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.37
107-13-1	Acrylonitrile	20	U	20	3.3
123-91-1	1,4-Dioxane	200	U	200	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		65-121
2037-26-5	Toluene-d8 (Surr)	99		73-120
460-00-4	4-Bromofluorobenzene (Surr)	94		80-120
1868-53-7	Dibromofluoromethane (Surr)	98		73-120

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D06.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 03-Oct-2017 01:25:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0018689-006
Misc. Info.: MB
Operator ID: 034635 Instrument ID: CHHP5

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 03-Oct-2017 21:01:20 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: bungardf Date: 03-Oct-2017 01:47:06

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.355	4.353	0.002	0	213117	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.336	7.334	0.002	99	421426	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.427	10.430	-0.003	86	91594	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.769	12.772	-0.003	96	134108	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.612	6.615	-0.003	93	99789	50.0	49.2	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.989	6.986	0.003	0	131729	50.0	53.3	
$ 7 Toluene-d8 (Surr)	98	8.979	8.981	-0.002	93	360489	50.0	49.5	
$ 8 4-Bromofluorobenzene (Surr	95	11.613	11.609	0.004	84	123198	50.0	46.8	
11 Dichlorodifluoromethane	85		1.669					ND	
12 Chloromethane	50		1.815					ND	
13 Vinyl chloride	62		1.955					ND	
14 Butadiene	39		1.998					ND	
15 Bromomethane	94		2.296					ND	
16 Chloroethane	64		2.448					ND	
17 Dichlorofluoromethane	67		2.740					ND	
18 Trichlorofluoromethane	101		2.770					ND	
19 Ethanol	45		2.821					ND	
20 Ethyl ether	59		3.117					ND	
21 Acrolein	56		3.299					ND	
22 1,1-Dichloroethene	96		3.415					ND	
23 1,1,2-Trichloro-1,2,2-trif	101		3.494					ND	
24 Acetone	43		3.518					ND	
25 Iodomethane	142		3.610					ND	
26 Carbon disulfide	76		3.701					ND	
27 Isopropyl alcohol	45		3.817					ND	
29 Acetonitrile	41		3.976					ND	
28 3-Chloro-1-propene	76		4.005					ND	
30 Methyl acetate	43		4.023					ND	
31 Methylene Chloride	84		4.224					ND	
32 2-Methyl-2-propanol	59		4.486					ND	
33 Acrylonitrile	53		4.601					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
34 trans-1,2-Dichloroethene	96		4.638					ND	
35 Methyl tert-butyl ether	73		4.656					ND	
36 Hexane	57		5.058					ND	
37 1,1-Dichloroethane	63		5.258					ND	
38 Vinyl acetate	43		5.313					ND	
41 Isopropyl ether	45		5.363					ND	
39 2-Chloro-1,3-butadiene	53		5.369					ND	
40 Isopropyl ether TIC	45		5.410					ND	
42 Tert-butyl ethyl ether	59		5.831					ND	
43 Tert-butyl ethyl ether (TI	59		5.961					ND	
44 2,2-Dichloropropane	97		6.001					ND	
45 cis-1,2-Dichloroethene	96		6.007					ND	
46 2-Butanone (MEK)	43		6.019					ND	
48 Ethyl acetate	43		6.093					ND	
47 Propionitrile	54		6.099					ND	
50 Methacrylonitrile	41		6.275					ND	
49 Chlorobromomethane	128		6.286					ND	
51 Tetrahydrofuran	42		6.311					ND	
52 Chloroform	83		6.432					ND	
53 1,1,1-Trichloroethane	97		6.591					ND	
54 Cyclohexane	56		6.664					ND	
56 Carbon tetrachloride	117		6.761					ND	
55 1,1-Dichloropropene	75		6.779					ND	
57 Isobutyl alcohol	41		6.980					ND	
58 Benzene	78		6.992					ND	
59 1,2-Dichloroethane	62		7.071					ND	
151 Isooctane	57		7.145					ND	
61 Tert-amyl methyl ether	73		7.169					ND	
60 Tert-amyl methyl ether (TI	73		7.262					ND	
62 n-Heptane	43		7.351					ND	
63 n-Butanol	56		7.680					ND	
64 Trichloroethene	130		7.722					ND	
65 Ethyl acrylate	55		7.845					ND	
66 Methylcyclohexane	83		7.953					ND	
67 1,2-Dichloropropane	63		7.996					ND	
70 1,4-Dioxane	88		8.075					ND	
69 Methyl methacrylate	69		8.076					ND	
68 Dibromomethane	93		8.081					ND	
71 Dichlorobromomethane	83		8.276					ND	
73 2-Chloroethyl vinyl ether	63		8.574					ND	
74 cis-1,3-Dichloropropene	75		8.720					ND	
75 4-Methyl-2-pentanone (MIBK	43		8.872					ND	
76 Toluene	91		9.042					ND	
77 trans-1,3-Dichloropropene	75		9.292					ND	
78 Ethyl methacrylate	69		9.353					ND	
79 1,1,2-Trichloroethane	97		9.486					ND	
80 Tetrachloroethene	164		9.559					ND	
81 1,3-Dichloropropane	76		9.645					ND	
82 2-Hexanone	43		9.705					ND	
83 n-Butyl acetate	43		9.828					ND	
84 Chlorodibromomethane	129		9.857					ND	
85 Ethylene Dibromide	107		9.967					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
86 3-Chlorobenzotrifluoride	180		10.429					ND	
87 Chlorobenzene	112		10.460					ND	
88 4-Chlorobenzotrifluoride	180		10.514					ND	
89 1,1,1,2-Tetrachloroethane	131		10.551					ND	
90 Ethylbenzene	106		10.557					ND	
91 m-Xylene & p-Xylene	106		10.691					ND	
92 o-Xylene	106		11.068					ND	
93 Styrene	104		11.092					ND	
94 Bromoform	173		11.275					ND	
95 Cyclohexanol	57		11.288					ND	
96 2-Chlorobenzotrifluoride	180		11.342					ND	
97 Isopropylbenzene	105		11.433					ND	
98 Cyclohexanone	55		11.525					ND	
100 Bromobenzene	156		11.749					ND	
99 1,1,2,2-Tetrachloroethane	83		11.749					ND	
102 trans-1,4-Dichloro-2-buten	53		11.786					ND	
101 1,2,3-Trichloropropane	110		11.810					ND	
103 N-Propylbenzene	120		11.853					ND	
104 2-Chlorotoluene	126		11.944					ND	
105 3-Chlorotoluene	126		12.005					ND	
106 1,3,5-Trimethylbenzene	105		12.035					ND	
107 4-Chlorotoluene	126		12.066					ND	
108 tert-Butylbenzene	119		12.352					ND	
110 1,2,4-Trimethylbenzene	105		12.406					ND	
111 1,2-dichloro-4-(trifluorom	214		12.455					ND	
112 sec-Butylbenzene	105		12.571					ND	
113 1,3-Dichlorobenzene	146		12.692					ND	
114 4-Isopropyltoluene	119		12.729					ND	
115 1,4-Dichlorobenzene	146		12.796					ND	
116 2,4-Dichloro-1-(triflourom	214		12.820					ND	
117 1,2,3-Trimethylbenzene	105		12.821					ND	
118 2,5-Dichlorobenzotrifluori	214		12.863					ND	
119 Benzyl chloride	91		12.906					ND	
120 n-Butylbenzene	91		13.136					ND	
121 1,2-Dichlorobenzene	146		13.149					ND	
122 1,2-Dibromo-3-Chloropropan	75		13.939					ND	
123 2,4- & 2,5- & 2,6- Dichlor	125		14.085					ND	
124 1,3,5-Trichlorobenzene	180		14.129					ND	
125 2,3- & 3,4- Dichlorotoluen	125		14.499					ND	
126 1,2,4-Trichlorobenzene	180		14.767					ND	
127 Hexachlorobutadiene	225		14.907					ND	
128 Naphthalene	128		15.028					ND	
129 1,2,3-Trichlorobenzene	180		15.253					ND	
131 2,4,5-Trichlorotoluene	159		16.026					ND	
130 2,3,6-Trichlorotoluene	159		16.117					ND	
149 3,4-Dichlorotoluene	1		0.000					ND	
152 Formaldehyde TIC	1		0.000					ND	
S 154 Total BTEX	106		1.000					ND	
S 134 1,2-Dichloroethene, Total	96		1.000					ND	
S 133 Xylenes, Total	106		1.000					ND	
S 135 1,3-Dichloropropene, Total	1		0.000					ND	
T 138 Methyl n-amyl ketone TIC	43		0.000					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
T 136 Mesityl oxide TIC	83		0.000					ND	
T 153 1,2 Epoxybutane TIC	42		6.253					ND	
T 137 Tetrahydrofuran TIC	42		6.253					ND	

Reagents:

VOA8260INT_00074	Amount Added:	2.00	Units: uL	Run Reagent
VOA8260SURR_00073	Amount Added:	2.00	Units: uL	Run Reagent

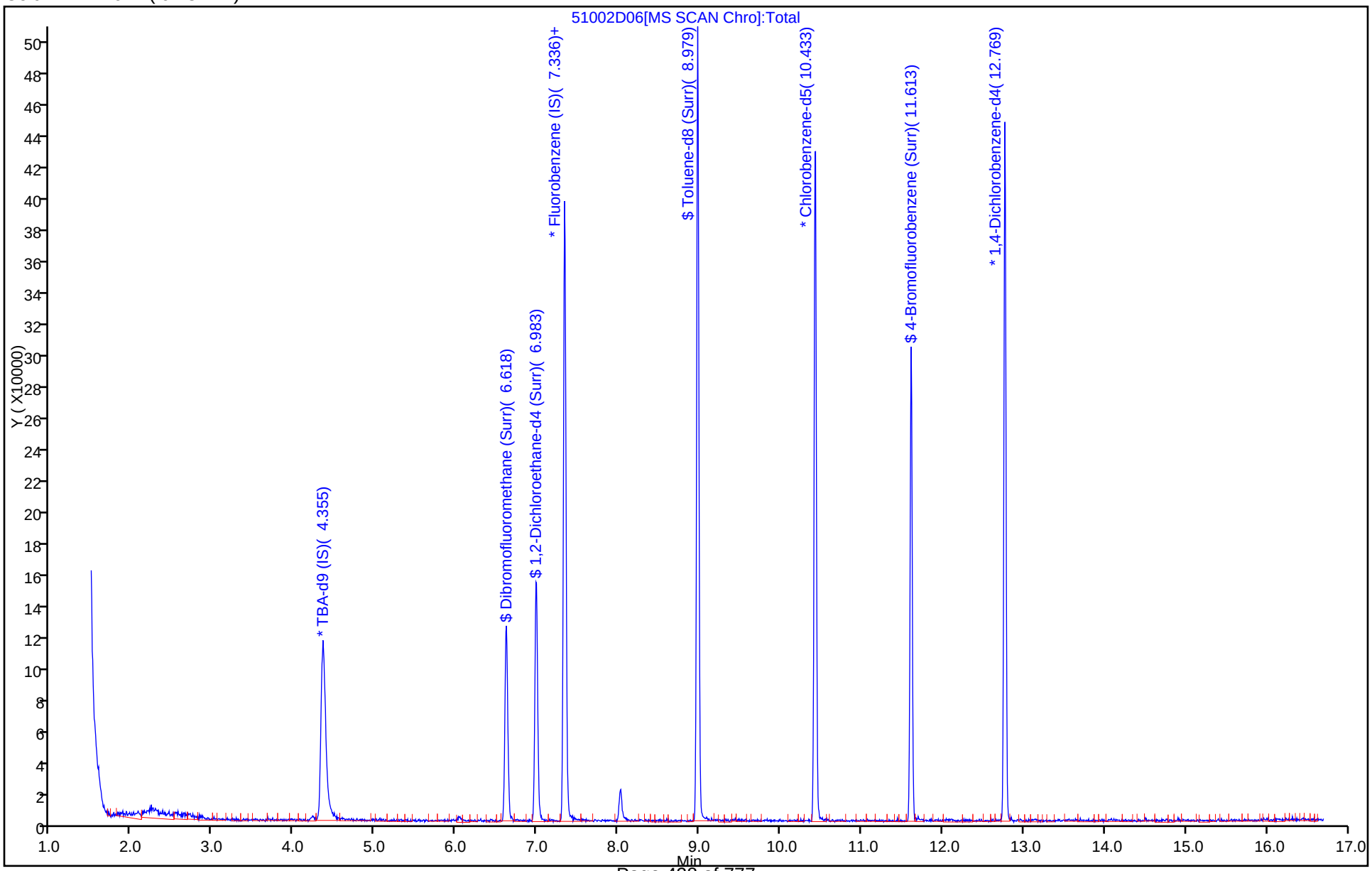
Report Date: 03-Oct-2017 21:01:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D06.D

Injection Date:	03-Oct-2017 01:25:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	MB			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Recovery Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D06.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 03-Oct-2017 01:25:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0018689-006
Misc. Info.: MB
Operator ID: 034635 Instrument ID: CHHP5

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 03-Oct-2017 21:01:20 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: bungardf Date: 03-Oct-2017 01:47:06

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	49.2	98.43
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	53.3	106.53
$ 7 Toluene-d8 (Surr)	50.0	49.5	98.90
$ 8 4-Bromofluorobenzene (Surr)	50.0	46.8	93.59

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 180-224560/4

Matrix: Water | Lab File ID: 6100104.D

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 10/02/2017 01:22

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224560 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	8.70		1.0	0.38
75-01-4	Vinyl chloride	8.70		1.0	0.17
74-83-9	Bromomethane	8.82		1.0	0.59
75-00-3	Chloroethane	9.59		1.0	0.58
75-35-4	1,1-Dichloroethene	9.60		1.0	0.32
67-64-1	Acetone	19.3		5.0	3.1
75-15-0	Carbon disulfide	10.8		1.0	0.53
75-09-2	Methylene Chloride	9.59		1.0	0.94
156-60-5	trans-1,2-Dichloroethene	9.76		1.0	0.20
1634-04-4	Methyl tert-butyl ether	10.0		1.0	0.20
75-34-3	1,1-Dichloroethane	10.3		1.0	0.34
156-59-2	cis-1,2-Dichloroethene	9.60		1.0	0.30
74-97-5	Bromochloromethane	10.3		1.0	0.36
78-93-3	2-Butanone (MEK)	19.3		5.0	2.6
67-66-3	Chloroform	10.2		1.0	0.27
71-55-6	1,1,1-Trichloroethane	11.1		1.0	0.27
56-23-5	Carbon tetrachloride	12.8		1.0	0.56
71-43-2	Benzene	10.2		1.0	0.18
107-06-2	1,2-Dichloroethane	10.7		1.0	0.24
79-01-6	Trichloroethene	9.68		1.0	0.20
78-87-5	1,2-Dichloropropane	10.7		1.0	0.35
75-27-4	Bromodichloromethane	11.2		1.0	0.57
10061-01-5	cis-1,3-Dichloropropene	11.6		1.0	0.32
108-10-1	4-Methyl-2-pentanone (MIBK)	18.6		5.0	2.2
108-88-3	Toluene	10.2		1.0	0.16
10061-02-6	trans-1,3-Dichloropropene	11.5		1.0	0.22
79-00-5	1,1,2-Trichloroethane	10.5		1.0	0.31
127-18-4	Tetrachloroethene	9.31		1.0	0.24
591-78-6	2-Hexanone	21.5		5.0	2.0
124-48-1	Dibromochloromethane	13.3		1.0	0.44
106-93-4	1,2-Dibromoethane (EDB)	9.70		1.0	0.51
108-90-7	Chlorobenzene	10.4		1.0	0.15
630-20-6	1,1,1,2-Tetrachloroethane	12.5		1.0	0.49
100-41-4	Ethylbenzene	9.92		1.0	0.25
1330-20-7	Xylenes, Total	19.7		2.0	0.27
100-42-5	Styrene	10.3		1.0	0.22

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 180-224560/4

Matrix: Water | Lab File ID: 6100104.D

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 10/02/2017 01:22

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224560 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	12.4		1.0	0.76
79-34-5	1,1,2,2-Tetrachloroethane	9.40		1.0	0.37
107-13-1	Acrylonitrile	93.5		20	3.3
123-91-1	1,4-Dioxane	238		200	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		65-121
2037-26-5	Toluene-d8 (Surr)	115		73-120
460-00-4	4-Bromofluorobenzene (Surr)	114		80-120
1868-53-7	Dibromofluoromethane (Surr)	108		73-120

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100104.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 02-Oct-2017 01:22:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0018668-004
Misc. Info.: LCS
Operator ID: 034635 Instrument ID: CHHP6

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 02-Oct-2017 22:14:59 Calib Date: 28-Sep-2017 15:13:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170928-18631.b\60928P06.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK020

First Level Reviewer: bungardf Date: 02-Oct-2017 01:42:25

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.960	3.952	0.008	94	182230	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.044	7.042	0.002	99	417795	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.171	10.169	0.002	88	102230	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.507	12.511	-0.004	96	160112	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.314	6.310	0.004	92	117149	50.0	54.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.686	6.687	-0.001	64	150265	50.0	48.4	
$ 7 Toluene-d8 (Surr)	98	8.711	8.706	0.005	93	469056	50.0	57.6	
$ 8 4-Bromofluorobenzene (Surr	95	11.352	11.353	-0.001	82	201903	50.0	57.2	
11 Dichlorodifluoromethane	85	1.472	1.473	-0.001	99	101888	50.0	38.2	
12 Chloromethane	50	1.624	1.625	-0.001	99	104340	50.0	43.5	
13 Vinyl chloride	62	1.752	1.753	-0.001	97	109322	50.0	43.5	
14 Butadiene	39	1.788	1.777	0.011	92	95858	50.0	46.0	
15 Bromomethane	94	2.080	2.051	0.029	92	51651	50.0	44.1	
16 Chloroethane	64	2.202	2.185	0.017	98	65089	50.0	47.9	
17 Dichlorofluoromethane	67	2.464	2.453	0.011	97	170599	50.0	58.3	
18 Trichlorofluoromethane	101	2.500	2.489	0.011	95	127202	50.0	51.4	
20 Ethyl ether	59	2.816	2.818	-0.002	90	126153	50.0	59.6	
21 Acrolein	56	2.987	2.976	0.011	98	93465	150.0	206.0	
22 1,1-Dichloroethene	96	3.108	3.098	0.010	98	104193	50.0	48.0	
23 1,1,2-Trichloro-1,2,2-trif	101	3.151	3.152	-0.001	94	103909	50.0	49.9	
24 Acetone	43	3.188	3.171	0.017	100	86692	100.0	96.7	
25 Iodomethane	142	3.273	3.268	0.005	97	164391	50.0	53.8	
26 Carbon disulfide	76	3.352	3.347	0.005	99	260283	50.0	53.8	
29 3-Chloro-1-propene	76	3.626	3.615	0.011	91	60565	50.0	47.6	
30 Methyl acetate	43	3.650	3.633	0.017	97	185492	100.0	94.4	
31 Methylene Chloride	84	3.838	3.828	0.010	89	138055	50.0	48.0	
32 2-Methyl-2-propanol	59	4.094	4.101	-0.007	93	106414	500.0	527.6	
33 Acrylonitrile	53	4.228	4.217	0.011	99	490514	500.0	467.4	
34 trans-1,2-Dichloroethene	96	4.258	4.259	-0.001	78	120196	50.0	48.8	
35 Methyl tert-butyl ether	73	4.276	4.272	0.004	96	394916	50.0	50.1	
36 Hexane	57	4.702	4.697	0.005	90	140434	50.0	48.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
37 1,1-Dichloroethane	63	4.921	4.916	0.005	97	205909	50.0	51.4	
38 Vinyl acetate	43	4.976	4.971	0.005	97	245360	50.0	52.6	
43 cis-1,2-Dichloroethene	96	5.688	5.683	0.005	82	138168	50.0	48.0	
42 2,2-Dichloropropane	97	5.688	5.683	0.005	53	25916	50.0	62.4	
44 2-Butanone (MEK)	43	5.694	5.695	-0.001	74	123826	100.0	96.4	
48 Chlorobromomethane	128	5.980	5.975	0.005	95	64360	50.0	51.3	
49 Tetrahydrofuran	42	5.986	5.981	0.005	87	72370	100.0	83.2	
50 Chloroform	83	6.132	6.127	0.005	93	219855	50.0	50.9	
51 1,1,1-Trichloroethane	97	6.290	6.279	0.011	97	151776	50.0	55.3	
52 Cyclohexane	56	6.351	6.358	-0.007	89	192409	50.0	49.3	
53 Carbon tetrachloride	117	6.460	6.456	0.004	96	126021	50.0	63.8	
54 1,1-Dichloropropene	75	6.479	6.474	0.005	97	164166	50.0	49.6	
56 Benzene	78	6.692	6.693	-0.001	97	489248	50.0	50.8	
55 Isobutyl alcohol	41	6.692	6.693	-0.001	47	88782	1250.0	1532.0	
57 1,2-Dichloroethane	62	6.771	6.772	-0.001	98	189558	50.0	53.3	
59 n-Heptane	43	7.069	7.070	-0.001	88	117303	50.0	52.8	
61 Trichloroethene	130	7.434	7.441	-0.007	97	113227	50.0	48.4	
63 Methylcyclohexane	83	7.671	7.672	-0.001	89	182809	50.0	44.7	
64 1,2-Dichloropropane	63	7.714	7.715	-0.001	94	128313	50.0	53.3	
65 1,4-Dioxane	88	7.799	7.794	0.005	43	26093	1000.0	1188.6	
67 Dibromomethane	93	7.799	7.800	-0.001	94	76567	50.0	48.6	
68 Dichlorobromomethane	83	8.000	8.001	-0.001	99	150371	50.0	56.1	
70 2-Chloroethyl vinyl ether	63	8.310	8.305	0.005	92	162518	100.0	101.9	
71 cis-1,3-Dichloropropene	75	8.450	8.451	-0.001	95	175799	50.0	57.8	
72 4-Methyl-2-pentanone (MIBK	43	8.608	8.609	-0.001	96	242730	100.0	93.0	
73 Toluene	91	8.778	8.779	-0.001	99	514640	50.0	51.1	
74 trans-1,3-Dichloropropene	75	9.034	9.029	0.005	94	154967	50.0	57.4	
75 Ethyl methacrylate	69	9.101	9.096	0.005	89	174503	50.0	51.3	
76 1,1,2-Trichloroethane	97	9.228	9.230	-0.002	91	122892	50.0	52.7	
77 Tetrachloroethene	164	9.295	9.297	-0.002	95	83983	50.0	46.6	
78 1,3-Dichloropropane	76	9.381	9.382	-0.002	90	216483	50.0	51.2	
79 2-Hexanone	43	9.447	9.449	-0.002	95	180806	100.0	107.6	
81 Chlorodibromomethane	129	9.600	9.595	0.005	88	104705	50.0	66.3	
82 Ethylene Dibromide	107	9.703	9.704	-0.001	99	108772	50.0	48.5	
83 3-Chlorobenzotrifluoride	180	10.184	10.179	0.005	91	206310	50.0	70.5	
84 Chlorobenzene	112	10.196	10.197	-0.001	92	341294	50.0	52.1	
85 4-Chlorobenzotrifluoride	180	10.269	10.264	0.005	96	190790	50.0	70.3	
86 1,1,1,2-Tetrachloroethane	131	10.293	10.294	-0.001	91	116399	50.0	62.5	
87 Ethylbenzene	106	10.299	10.300	-0.001	98	185939	50.0	49.6	
88 m-Xylene & p-Xylene	106	10.433	10.434	-0.001	99	221301	50.0	48.2	
89 o-Xylene	106	10.816	10.811	0.005	96	231692	50.0	50.3	
90 Styrene	104	10.834	10.836	-0.002	94	384439	50.0	51.6	
91 Bromoform	173	11.011	11.012	-0.001	94	55153	50.0	62.1	
92 2-Chlorobenzotrifluoride	180	11.090	11.085	0.005	93	201862	50.0	68.0	
93 Isopropylbenzene	105	11.181	11.176	0.005	97	542066	50.0	52.6	
95 Bromobenzene	156	11.485	11.487	-0.002	96	138654	50.0	46.6	
96 1,1,2,2-Tetrachloroethane	83	11.498	11.493	0.005	96	154084	50.0	47.0	
97 trans-1,4-Dichloro-2-buten	53	11.534	11.535	-0.001	78	34194	50.0	39.3	
98 1,2,3-Trichloropropane	110	11.552	11.547	0.005	86	53159	50.0	43.0	
99 N-Propylbenzene	120	11.595	11.596	-0.001	99	149081	50.0	46.0	
100 2-Chlorotoluene	126	11.680	11.681	-0.001	95	125265	50.0	44.6	
101 3-Chlorotoluene	126	11.747	11.748	-0.001	96	182090	50.0	61.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
102 1,3,5-Trimethylbenzene	105	11.783	11.779	0.004	95	466094	50.0	50.7	
103 4-Chlorotoluene	126	11.802	11.803	-0.001	99	141047	50.0	46.1	
104 tert-Butylbenzene	119	12.094	12.095	-0.001	91	371547	50.0	50.9	
106 1,2,4-Trimethylbenzene	105	12.155	12.150	0.005	98	488677	50.0	51.0	
107 1,2-dichloro-4-(trifluorom	214	12.203	12.204	-0.001	95	136515	50.0	64.2	
108 sec-Butylbenzene	105	12.313	12.314	-0.001	95	521852	50.0	51.0	
109 1,3-Dichlorobenzene	146	12.428	12.430	-0.002	97	271820	50.0	50.9	
110 4-Isopropyltoluene	119	12.471	12.472	-0.001	96	447270	50.0	52.9	
111 1,4-Dichlorobenzene	146	12.532	12.533	-0.001	93	284021	50.0	51.4	
113 2,4-Dichloro-1-(triflourom	214	12.568	12.563	0.005	92	123870	50.0	61.8	
114 2,5-Dichlorobenzotrifluori	214	12.611	12.612	-0.001	97	143469	50.0	64.8	
116 n-Butylbenzene	91	12.879	12.880	-0.002	98	381458	50.0	49.5	
117 1,2-Dichlorobenzene	146	12.885	12.886	-0.001	98	270829	50.0	53.3	
118 1,2-Dibromo-3-Chloropropan	75	13.669	13.683	-0.014	76	25088	50.0	55.4	
119 2,4- & 2,5- & 2,6- Dichlor	125	13.815	13.817	-0.002	99	741521	150.0	229.0	
121 2,3- & 3,4- Dichlorotoluen	125	14.235	14.230	0.005	98	527031	100.0	149.0	
122 1,2,4-Trichlorobenzene	180	14.497	14.498	-0.001	94	149370	50.0	56.2	
123 Hexachlorobutadiene	225	14.649	14.644	0.005	92	45482	50.0	54.1	
124 Naphthalene	128	14.758	14.760	-0.002	98	389694	50.0	48.1	
125 1,2,3-Trichlorobenzene	180	14.977	14.985	-0.008	95	132757	50.0	55.7	
126 2,4,5-Trichlorotoluene	159	15.774	15.775	-0.001	0	84440	50.0	61.6	
127 2,3,6-Trichlorotoluene	159	15.878	15.873	0.005	97	87240	50.0	71.0	
146 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 131 Xylenes, Total	106				0		100.0	98.5	
S 130 1,2-Dichloroethene, Total	96				0		100.0	96.8	
S 132 1,3-Dichloropropene, Total	1				0		100.0	115.3	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

voaWAcro1stRe_00020	Amount Added:	6.00	Units: uL	
voaWEEmix1stR_00011	Amount Added:	2.00	Units: uL	
VOA8260VOA2ND_00266	Amount Added:	2.00	Units: uL	
voaWKetmix1st_00006	Amount Added:	2.00	Units: uL	
voaW2clev1stR_00022	Amount Added:	2.00	Units: uL	
voaWVA1stRest_00021	Amount Added:	2.00	Units: uL	
VOA8260INT_00074	Amount Added:	2.00	Units: uL	Run Reagent
VOA8260SURR_00073	Amount Added:	2.00	Units: uL	Run Reagent

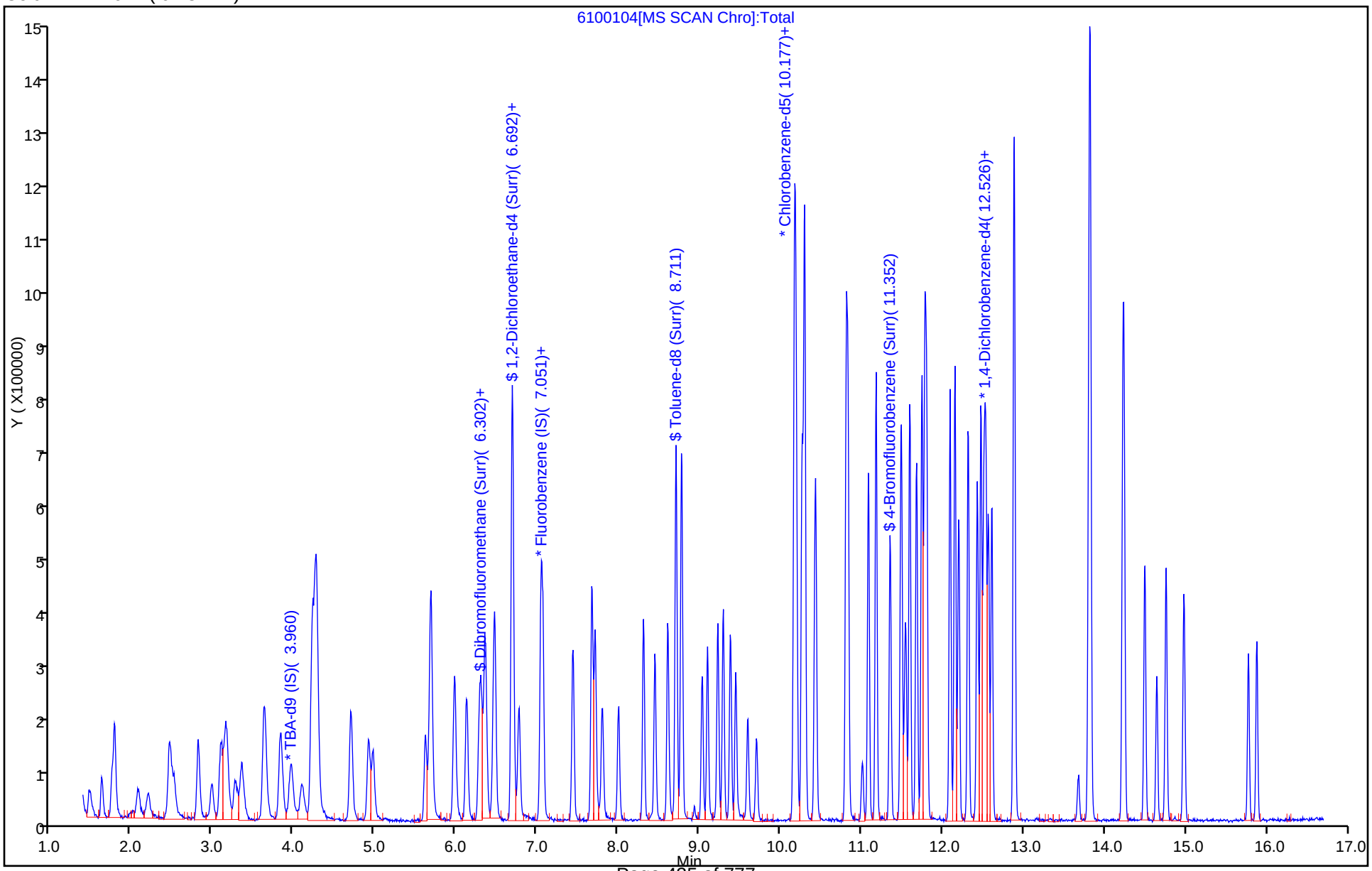
Report Date: 02-Oct-2017 22:15:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100104.D

Injection Date:	02-Oct-2017 01:22:30	Instrument ID:	CHHP6	Operator ID:	034635
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSVOA_LL_CHHP6	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Recovery Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\6100104.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 02-Oct-2017 01:22:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0018668-004
Misc. Info.: LCS
Operator ID: 034635 Instrument ID: CHHP6

Method: \\ChromNA\Pittsburgh\ChromData\CHHP6\20171001-18668.b\MSVOA_LL_CHHP6.m
Limit Group: VOA 8260C ICAL
Last Update: 02-Oct-2017 22:14:59 Calib Date: 28-Sep-2017 15:13:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP6\20170928-18631.b\60928P06.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK020

First Level Reviewer: bungardf Date: 02-Oct-2017 01:42:25

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	54.0	107.92
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	48.4	96.85
$ 7 Toluene-d8 (Surr)	50.0	57.6	115.27
$ 8 4-Bromofluorobenzene (Surr)	50.0	57.2	114.40

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 180-224674/4

Matrix: Water | Lab File ID: 51002D04.D

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 10/03/2017 00:27

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224674 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	11.6		1.0	0.38
75-01-4	Vinyl chloride	11.0		1.0	0.17
74-83-9	Bromomethane	11.7		1.0	0.59
75-00-3	Chloroethane	11.3		1.0	0.58
75-35-4	1,1-Dichloroethene	11.2		1.0	0.32
67-64-1	Acetone	20.5		5.0	3.1
75-15-0	Carbon disulfide	10.7		1.0	0.53
75-09-2	Methylene Chloride	9.53		1.0	0.94
156-60-5	trans-1,2-Dichloroethene	10.8		1.0	0.20
1634-04-4	Methyl tert-butyl ether	9.05		1.0	0.20
75-34-3	1,1-Dichloroethane	10.1		1.0	0.34
156-59-2	cis-1,2-Dichloroethene	9.61		1.0	0.30
74-97-5	Bromochloromethane	9.38		1.0	0.36
78-93-3	2-Butanone (MEK)	17.8		5.0	2.6
67-66-3	Chloroform	9.66		1.0	0.27
71-55-6	1,1,1-Trichloroethane	10.7		1.0	0.27
56-23-5	Carbon tetrachloride	10.5		1.0	0.56
71-43-2	Benzene	9.67		1.0	0.18
107-06-2	1,2-Dichloroethane	9.24		1.0	0.24
79-01-6	Trichloroethene	9.49		1.0	0.20
78-87-5	1,2-Dichloropropane	9.02		1.0	0.35
75-27-4	Bromodichloromethane	9.09		1.0	0.57
10061-01-5	cis-1,3-Dichloropropene	8.88		1.0	0.32
108-10-1	4-Methyl-2-pentanone (MIBK)	20.2		5.0	2.2
108-88-3	Toluene	11.5		1.0	0.16
10061-02-6	trans-1,3-Dichloropropene	10.1		1.0	0.22
79-00-5	1,1,2-Trichloroethane	10.7		1.0	0.31
127-18-4	Tetrachloroethene	11.1		1.0	0.24
591-78-6	2-Hexanone	18.7		5.0	2.0
124-48-1	Dibromochloromethane	10.1		1.0	0.44
106-93-4	1,2-Dibromoethane (EDB)	9.92		1.0	0.51
108-90-7	Chlorobenzene	10.4		1.0	0.15
630-20-6	1,1,1,2-Tetrachloroethane	11.1		1.0	0.49
100-41-4	Ethylbenzene	10.5		1.0	0.25
1330-20-7	Xylenes, Total	21.0		2.0	0.27
100-42-5	Styrene	10.1		1.0	0.22

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh | Job No.: 180-70792-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 180-224674/4

Matrix: Water | Lab File ID: 51002D04.D

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 10/03/2017 00:27

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 224674 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	9.56		1.0	0.76
79-34-5	1,1,2,2-Tetrachloroethane	10.4		1.0	0.37
107-13-1	Acrylonitrile	99.4		20	3.3
123-91-1	1,4-Dioxane	201		200	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		65-121
2037-26-5	Toluene-d8 (Surr)	119		73-120
460-00-4	4-Bromofluorobenzene (Surr)	109		80-120
1868-53-7	Dibromofluoromethane (Surr)	98		73-120

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D04.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 03-Oct-2017 00:27:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0018689-004
Misc. Info.: LCS
Operator ID: 034635 Instrument ID: CHHP5

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 03-Oct-2017 21:01:20 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: bungardf Date: 03-Oct-2017 00:49:25

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.364	4.353	0.011	0	186146	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.339	7.334	0.005	97	391761	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.429	10.430	-0.001	86	79428	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.771	12.772	-0.001	93	113213	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.615	6.615	0.000	93	92491	50.0	49.1	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.986	6.986	0.000	0	114772	50.0	49.9	
$ 7 Toluene-d8 (Surr)	98	8.981	8.981	0.000	91	375862	50.0	59.5	
$ 8 4-Bromofluorobenzene (Surr	95	11.609	11.609	0.000	86	124475	50.0	54.5	
11 Dichlorodifluoromethane	85	1.687	1.669	0.018	99	127620	50.0	56.0	
12 Chloromethane	50	1.821	1.815	0.006	98	133100	50.0	58.1	
13 Vinyl chloride	62	1.955	1.955	0.000	98	127920	50.0	55.1	
14 Butadiene	39	1.998	1.998	0.000	96	127436	50.0	60.4	
15 Bromomethane	94	2.302	2.296	0.006	88	64395	50.0	58.6	
16 Chloroethane	64	2.454	2.448	0.006	99	72190	50.0	56.5	
17 Dichlorofluoromethane	67	2.740	2.740	0.000	96	185098	50.0	57.3	
18 Trichlorofluoromethane	101	2.764	2.770	-0.006	96	163048	50.0	57.1	
20 Ethyl ether	59	3.123	3.117	0.006	91	93122	50.0	50.1	
21 Acrolein	56	3.299	3.299	0.000	97	76032	150.0	162.5	
22 1,1-Dichloroethene	96	3.427	3.415	0.012	97	107434	50.0	56.0	
23 1,1,2-Trichloro-1,2,2-trif	101	3.506	3.494	0.012	93	114438	50.0	54.4	
24 Acetone	43	3.531	3.518	0.013	95	105003	100.0	102.5	
25 Iodomethane	142	3.616	3.610	0.006	96	154114	50.0	51.2	
26 Carbon disulfide	76	3.713	3.701	0.012	98	224969	50.0	53.4	
28 3-Chloro-1-propene	76	4.011	4.005	0.006	91	59602	50.0	48.1	
30 Methyl acetate	43	4.036	4.023	0.013	98	193987	100.0	95.6	
31 Methylene Chloride	84	4.230	4.224	0.006	91	113569	50.0	47.7	
32 2-Methyl-2-propanol	59	4.492	4.486	0.006	93	108828	500.0	494.4	
33 Acrylonitrile	53	4.607	4.601	0.006	100	490499	500.0	497.2	
34 trans-1,2-Dichloroethene	96	4.638	4.638	0.000	98	118029	50.0	54.0	
35 Methyl tert-butyl ether	73	4.656	4.656	0.000	97	265237	50.0	45.3	
36 Hexane	57	5.051	5.058	-0.007	94	146119	50.0	52.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
37 1,1-Dichloroethane	63	5.270	5.258	0.012	95	191989	50.0	50.5	
38 Vinyl acetate	43	5.319	5.313	0.006	97	200301	50.0	51.8	
44 2,2-Dichloropropane	97	6.007	6.001	0.006	78	26720	50.0	55.2	
45 cis-1,2-Dichloroethene	96	6.013	6.007	0.006	80	120083	50.0	48.0	
46 2-Butanone (MEK)	43	6.025	6.019	0.006	98	129719	100.0	88.9	
49 Chlorobromomethane	128	6.299	6.286	0.013	97	52106	50.0	46.9	
51 Tetrahydrofuran	42	6.311	6.311	0.000	91	72653	100.0	85.6	
52 Chloroform	83	6.439	6.432	0.006	93	183284	50.0	48.3	
53 1,1,1-Trichloroethane	97	6.597	6.591	0.006	98	153917	50.0	53.6	
54 Cyclohexane	56	6.664	6.664	0.000	90	185487	50.0	52.3	
56 Carbon tetrachloride	117	6.767	6.761	0.006	97	125881	50.0	52.7	
55 1,1-Dichloropropene	75	6.785	6.779	0.006	96	153597	50.0	49.5	
57 Isobutyl alcohol	41	6.980	6.980	0.000	92	95137	1250.0	1220.4	
58 Benzene	78	6.998	6.992	0.006	97	460745	50.0	48.4	
59 1,2-Dichloroethane	62	7.071	7.071	0.000	98	128326	50.0	46.2	
62 n-Heptane	43	7.351	7.351	0.000	86	114096	50.0	50.9	
64 Trichloroethene	130	7.722	7.722	0.000	98	113745	50.0	47.5	
66 Methylcyclohexane	83	7.959	7.953	0.006	90	173191	50.0	47.8	
67 1,2-Dichloropropane	63	7.996	7.996	0.000	94	100005	50.0	45.1	
70 1,4-Dioxane	88	8.081	8.075	0.006	46	22708	1000.0	1006.8	
68 Dibromomethane	93	8.087	8.081	0.006	96	57966	50.0	44.6	
71 Dichlorobromomethane	83	8.276	8.276	0.000	99	115912	50.0	45.4	
73 2-Chloroethyl vinyl ether	63	8.574	8.574	0.000	92	113261	100.0	71.0	
74 cis-1,3-Dichloropropene	75	8.720	8.720	0.000	95	137629	50.0	44.4	
75 4-Methyl-2-pentanone (MIBK	43	8.872	8.872	0.000	96	205412	100.0	100.8	
76 Toluene	91	9.048	9.042	0.006	98	454776	50.0	57.4	
77 trans-1,3-Dichloropropene	75	9.292	9.292	0.000	93	108898	50.0	50.5	
78 Ethyl methacrylate	69	9.352	9.353	-0.001	89	112948	50.0	43.5	
79 1,1,2-Trichloroethane	97	9.486	9.486	0.000	91	88480	50.0	53.6	
80 Tetrachloroethene	164	9.559	9.559	0.000	98	84087	50.0	55.7	
81 1,3-Dichloropropane	76	9.651	9.645	0.006	91	143819	50.0	47.2	
82 2-Hexanone	43	9.705	9.705	0.000	98	146308	100.0	93.6	
84 Chlorodibromomethane	129	9.864	9.857	0.007	92	70117	50.0	50.3	
85 Ethylene Dibromide	107	9.973	9.967	0.006	97	83906	50.0	49.6	
86 3-Chlorobenzotrifluoride	180	10.429	10.429	0.000	90	154711	50.0	56.7	
87 Chlorobenzene	112	10.460	10.460	0.000	95	268409	50.0	52.1	
88 4-Chlorobenzotrifluoride	180	10.521	10.514	0.007	95	148406	50.0	58.9	
89 1,1,1,2-Tetrachloroethane	131	10.551	10.551	0.000	92	90824	50.0	55.4	
90 Ethylbenzene	106	10.557	10.557	0.000	99	150442	50.0	52.3	
91 m-Xylene & p-Xylene	106	10.691	10.691	0.000	0	186606	50.0	53.1	
92 o-Xylene	106	11.068	11.068	0.000	96	173747	50.0	51.8	
93 Styrene	104	11.092	11.092	0.000	96	286040	50.0	50.4	
94 Bromoform	173	11.269	11.275	-0.006	95	41423	50.0	47.8	
96 2-Chlorobenzotrifluoride	180	11.342	11.342	0.000	97	152493	50.0	58.4	
97 Isopropylbenzene	105	11.433	11.433	0.000	96	454694	50.0	55.6	
100 Bromobenzene	156	11.749	11.749	0.000	94	95679	50.0	43.5	
99 1,1,2,2-Tetrachloroethane	83	11.749	11.749	0.000	84	126901	50.0	52.0	
102 trans-1,4-Dichloro-2-buten	53	11.780	11.786	-0.006	73	33218	50.0	50.1	
101 1,2,3-Trichloropropane	110	11.804	11.810	-0.006	83	42448	50.0	46.8	
103 N-Propylbenzene	120	11.853	11.853	0.000	99	121034	50.0	48.2	
104 2-Chlorotoluene	126	11.938	11.944	-0.006	96	107356	50.0	49.5	
105 3-Chlorotoluene	126	12.005	12.005	0.000	96	125303	50.0	53.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
106 1,3,5-Trimethylbenzene	105	12.035	12.035	0.000	93	375541	50.0	52.3	
107 4-Chlorotoluene	126	12.066	12.066	0.000	96	118917	50.0	50.7	
108 tert-Butylbenzene	119	12.352	12.352	0.000	94	298320	50.0	49.7	
110 1,2,4-Trimethylbenzene	105	12.406	12.406	0.000	97	365102	50.0	50.0	
111 1,2-dichloro-4-(trifluorom	214	12.449	12.455	-0.006	96	92451	50.0	50.5	
112 sec-Butylbenzene	105	12.571	12.571	0.000	94	432467	50.0	51.6	
113 1,3-Dichlorobenzene	146	12.686	12.692	-0.006	97	185054	50.0	47.1	
114 4-Isopropyltoluene	119	12.729	12.729	0.000	96	356429	50.0	51.1	
115 1,4-Dichlorobenzene	146	12.796	12.796	0.000	94	189359	50.0	47.0	
116 2,4-Dichloro-1-(triflourom	214	12.820	12.820	0.000	95	92930	50.0	54.5	
118 2,5-Dichlorobenzotrifluori	214	12.863	12.863	0.000	0	91675	50.0	49.8	
120 n-Butylbenzene	91	13.136	13.136	0.000	98	283812	50.0	49.8	
121 1,2-Dichlorobenzene	146	13.149	13.149	0.000	96	175634	50.0	46.9	
122 1,2-Dibromo-3-Chloropropan	75	13.939	13.939	0.000	76	18540	50.0	44.6	
123 2,4- & 2,5- & 2,6- Dichlor	125	14.085	14.085	0.000	0	355167	150.0	149.6	
125 2,3- & 3,4- Dichlorotoluen	125	14.499	14.499	0.000	0	233687	100.0	95.2	
126 1,2,4-Trichlorobenzene	180	14.761	14.767	-0.006	95	71771	50.0	41.9	
127 Hexachlorobutadiene	225	14.907	14.907	0.000	96	32178	50.0	51.4	
128 Naphthalene	128	15.028	15.028	0.000	97	219472	50.0	37.6	
129 1,2,3-Trichlorobenzene	180	15.253	15.253	0.000	96	62952	50.0	40.2	
131 2,4,5-Trichlorotoluene	159	16.026	16.026	0.000	0	24170	50.0	32.5	
130 2,3,6-Trichlorotoluene	159	16.123	16.117	0.006	93	24911	50.0	36.0	
149 3,4-Dichlorotoluene	1		0.000				ND	ND	
S 134 1,2-Dichloroethene, Total	96				0		100.0	102.0	
S 133 Xylenes, Total	106				0		100.0	104.9	
S 135 1,3-Dichloropropene, Total	1				0		100.0	94.9	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

voaWEEmix1stR_00011	Amount Added:	2.00	Units: uL	
voaWAcro1stRe_00020	Amount Added:	6.00	Units: uL	
voaWKetmix1st_00006	Amount Added:	2.00	Units: uL	
voaW2clev1stR_00022	Amount Added:	2.00	Units: uL	
voaWVA1stRest_00021	Amount Added:	2.00	Units: uL	
VOA8260VOA2ND_00267	Amount Added:	2.00	Units: uL	
VOA8260INT_00074	Amount Added:	2.00	Units: uL	Run Reagent
VOA8260SURR_00073	Amount Added:	2.00	Units: uL	Run Reagent

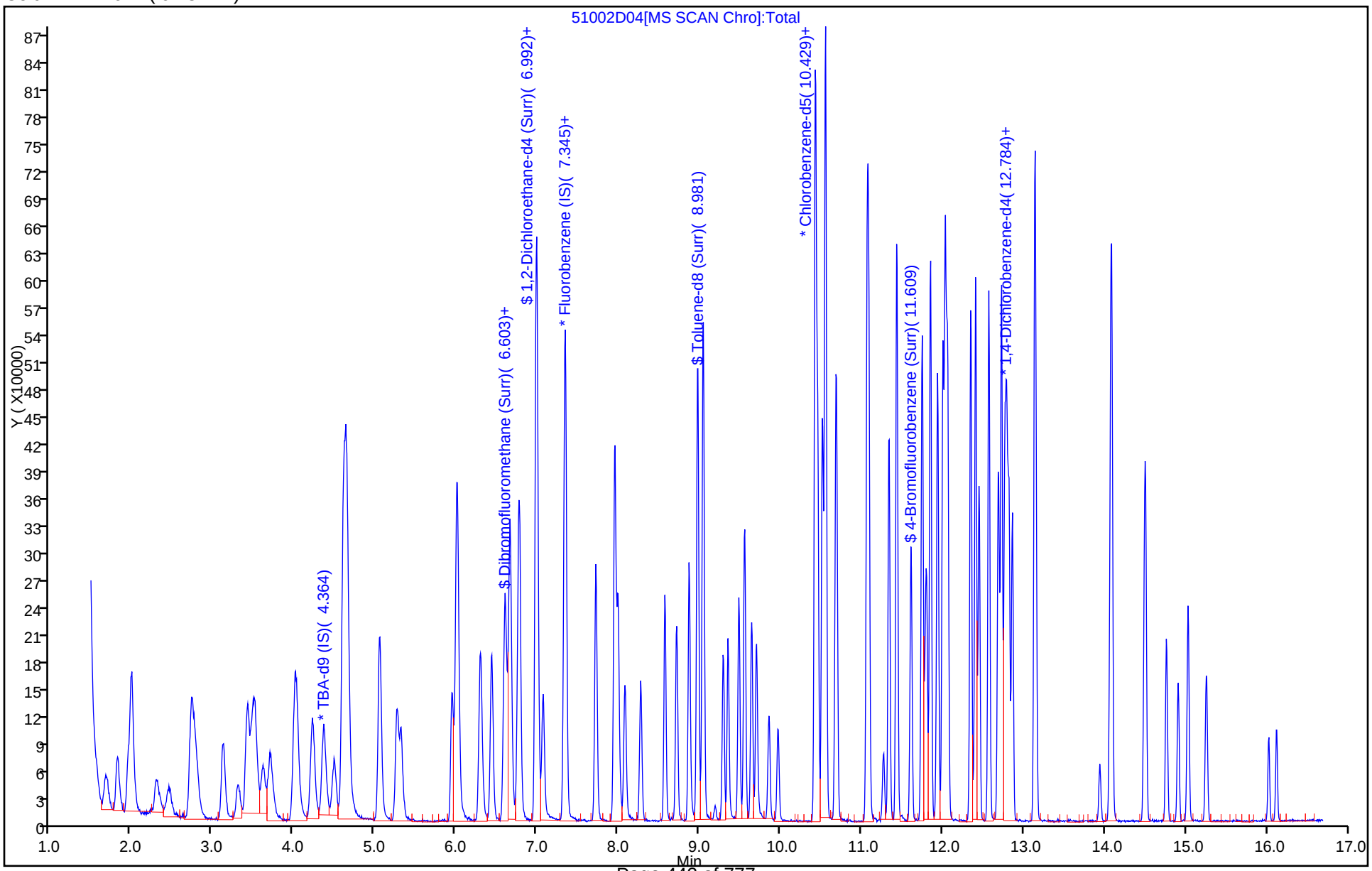
Report Date: 03-Oct-2017 21:01:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D04.D

Injection Date:	03-Oct-2017 00:27:30	Instrument ID:	CHHP5	Operator ID:	034635
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh
Recovery Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\51002D04.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 03-Oct-2017 00:27:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0018689-004
Misc. Info.: LCS
Operator ID: 034635 Instrument ID: CHHP5

Method: \\ChromNA\Pittsburgh\ChromData\CHHP5\20171002-18689.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C ICAL
Last Update: 03-Oct-2017 21:01:20 Calib Date: 27-Jul-2017 04:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHHP5\20170726-17756.b\50727D11.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: bungardf Date: 03-Oct-2017 00:49:25

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	49.1	98.14
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	49.9	99.85
$ 7 Toluene-d8 (Surr)	50.0	59.5	118.92
$ 8 4-Bromofluorobenzene (Surr)	50.0	54.5	109.04

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: CHHP6 Start Date: 07/24/2017 04:58

Analysis Batch Number: 217861 End Date: 07/24/2017 16:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-217861/1		07/24/2017 04:58	1	60724D01.D	DB-624 0.18(mm)
ZZZZZ		07/24/2017 05:31	1		DB-624 0.18(mm)
ZZZZZ		07/24/2017 05:31	1		DB-624 0.18(mm)
IC 180-217861/3		07/24/2017 06:39	1	60724D03.D	DB-624 0.18(mm)
IC 180-217861/4		07/24/2017 07:03	1	60724D04.D	DB-624 0.18(mm)
ICIS 180-217861/5		07/24/2017 07:27	1	60724D05.D	DB-624 0.18(mm)
IC 180-217861/6		07/24/2017 07:52	1	60724D06.D	DB-624 0.18(mm)
IC 180-217861/7		07/24/2017 08:16	1	60724D07.D	DB-624 0.18(mm)
IC 180-217861/8		07/24/2017 08:40	1	60724D08.D	DB-624 0.18(mm)
IC 180-217861/9		07/24/2017 09:04	1	60724D09.D	DB-624 0.18(mm)
IC 180-217861/10		07/24/2017 09:28	1	60724D10.D	DB-624 0.18(mm)
ZZZZZ		07/24/2017 09:52	1		DB-624 0.18(mm)
MDLV 180-217861/1011		07/24/2017 09:52	1		DB-624 0.18(mm)
CCV 180-217861/12		07/24/2017 10:16	1		DB-624 0.18(mm)
ICV 180-217861/13		07/24/2017 10:40	1		DB-624 0.18(mm)
ZZZZZ		07/24/2017 11:04	1		DB-624 0.18(mm)
ZZZZZ		07/24/2017 11:53	1		DB-624 0.18(mm)
ZZZZZ		07/24/2017 12:17	1		DB-624 0.18(mm)
ZZZZZ		07/24/2017 12:42	1		DB-624 0.18(mm)
ZZZZZ		07/24/2017 13:37	1		DB-624 0.18(mm)
ZZZZZ		07/24/2017 14:14	1		DB-624 0.18(mm)
ZZZZZ		07/24/2017 14:45	1		DB-624 0.18(mm)
ZZZZZ		07/24/2017 15:09	1		DB-624 0.18(mm)
ZZZZZ		07/24/2017 15:33	1		DB-624 0.18(mm)
ZZZZZ		07/24/2017 16:22	1		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: CHHP5 Start Date: 07/27/2017 00:22

Analysis Batch Number: 218218 End Date: 07/27/2017 05:50

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-218218/1		07/27/2017 00:22	1	50727D01.D	DB-624 0.18(mm)
IC 180-218218/2		07/27/2017 00:51	1	50727D02.D	DB-624 0.18(mm)
IC 180-218218/3		07/27/2017 01:15	1	50727D03.D	DB-624 0.18(mm)
ICIS 180-218218/4		07/27/2017 01:39	1	50727D04.D	DB-624 0.18(mm)
ZZZZZ		07/27/2017 01:39	1		DB-624 0.18(mm)
IC 180-218218/5		07/27/2017 02:02	1	50727D05.D	DB-624 0.18(mm)
IC 180-218218/6		07/27/2017 02:26	1	50727D06.D	DB-624 0.18(mm)
IC 180-218218/8		07/27/2017 03:13	1	50727D08.D	DB-624 0.18(mm)
IC 180-218218/10		07/27/2017 04:00	1	50727D10.D	DB-624 0.18(mm)
IC 180-218218/11		07/27/2017 04:24	1	50727D11.D	DB-624 0.18(mm)
ICV 180-218218/12		07/27/2017 05:03	1		DB-624 0.18(mm)
ZZZZZ		07/27/2017 05:50	1		DB-624 0.18(mm)
ZZZZZ		07/27/2017 05:50	1		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: CHHP6 Start Date: 10/01/2017 22:54

Analysis Batch Number: 224560 End Date: 10/02/2017 10:48

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-224560/1		10/01/2017 22:54	1	6100101.D	DB-624 0.18(mm)
CCVIS 180-224560/2		10/02/2017 00:09	1	6100102.D	DB-624 0.18(mm)
ZZZZZ		10/02/2017 00:09	1		DB-624 0.18(mm)
CCV 180-224560/3		10/02/2017 00:56	1		DB-624 0.18(mm)
LCS 180-224560/4		10/02/2017 01:22	1	6100104.D	DB-624 0.18(mm)
ZZZZZ		10/02/2017 01:57	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 01:57	1		DB-624 0.18(mm)
MB 180-224560/6		10/02/2017 02:22	1	6100106.D	DB-624 0.18(mm)
ZZZZZ		10/02/2017 02:57	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 03:28	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 03:55	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 04:45	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 05:10	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 05:34	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 05:58	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 06:22	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 06:46	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 07:34	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 07:59	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 08:23	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 08:47	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 09:12	1		DB-624 0.18(mm)
ZZZZZ		10/02/2017 09:36	1		DB-624 0.18(mm)
180-70792-3		10/02/2017 10:24	1	6100125.D	DB-624 0.18(mm)
180-70792-1		10/02/2017 10:48	1	6100126.D	DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: CHHP5 Start Date: 10/02/2017 21:30

Analysis Batch Number: 224674 End Date: 10/03/2017 08:04

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-224674/1		10/02/2017 21:30	1	51002D01.D	DB-624 0.18(mm)
CCVIS 180-224674/2		10/02/2017 23:26	1	51002D02.D	DB-624 0.18(mm)
ZZZZZ		10/02/2017 23:26	1		DB-624 0.18(mm)
CCV 180-224674/3		10/03/2017 00:01	1		DB-624 0.18(mm)
LCS 180-224674/4		10/03/2017 00:27	1	51002D04.D	DB-624 0.18(mm)
ZZZZZ		10/03/2017 01:00	1		DB-624 0.18(mm)
MB 180-224674/6		10/03/2017 01:25	1	51002D06.D	DB-624 0.18(mm)
ZZZZZ		10/03/2017 01:58	1		DB-624 0.18(mm)
ZZZZZ		10/03/2017 02:25	1		DB-624 0.18(mm)
ZZZZZ		10/03/2017 03:39	1		DB-624 0.18(mm)
ZZZZZ		10/03/2017 04:03	1		DB-624 0.18(mm)
ZZZZZ		10/03/2017 04:28	1		DB-624 0.18(mm)
ZZZZZ		10/03/2017 04:51	1		DB-624 0.18(mm)
ZZZZZ		10/03/2017 05:15	1		DB-624 0.18(mm)
ZZZZZ		10/03/2017 05:39	1		DB-624 0.18(mm)
ZZZZZ		10/03/2017 06:27	1		DB-624 0.18(mm)
ZZZZZ		10/03/2017 06:52	1		DB-624 0.18(mm)
ZZZZZ		10/03/2017 07:16	1		DB-624 0.18(mm)
180-70792-1 DL		10/03/2017 07:40	12.5	51002D21.D	DB-624 0.18(mm)
180-70792-2		10/03/2017 08:04	12.5	51002D22.D	DB-624 0.18(mm)

300_ORGFMS

Anions, Ion Chromatography

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 09-29-2017-5.d

Lab ID: LCS 180-224419/5 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Nitrate as N	1.25	1.17	93	90-110	
Nitrite as N	1.25	1.14	91	90-110	
Fluoride	1.25	1.21	97	90-110	
Chloride	25.0	26.1	105	90-110	
Sulfate	25.0	23.1	92	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab File ID: 09-29-2017-6.d Lab Sample ID: MB 180-224419/6

Matrix: Water Date Extracted:

Instrument ID: CHICS2000 Date Analyzed: 09/29/2017 10:59

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 180-224419/4	09-29-2017-4.d	09/29/2017 10:27
	LCS 180-224419/5	09-29-2017-5.d	09/29/2017 10:43
	CCB 180-224419/19	09-29-2017-19.d	09/29/2017 15:29
	CCB 180-224419/31	09-29-2017-31.d	09/29/2017 19:39
HD-SPBA-CW-22-0/1-0	180-70792-2	09-29-2017-36.d	09/29/2017 20:59
	CCB 180-224419/43	09-29-2017-43.d	09/29/2017 22:50

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Client Sample ID: HD-SPBA-CW-22-0/1-0 Lab Sample ID: 180-70792-2

Matrix: Water Lab File ID: 09-29-2017-36.d

Analysis Method: 300.0 Date Collected: 09/28/2017 09:40

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 09/29/2017 20:59

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 50(uL) GC Column: AS-14 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 224419 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	4.5		0.10	0.023
14797-65-0	Nitrite as N	0.050	U	0.050	0.029
16984-48-8	Fluoride	0.094	J	0.10	0.026
16887-00-6	Chloride	14		1.0	0.71
14808-79-8	Sulfate	0.97	J	1.0	0.38

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-36.d
Lims ID: 180-70792-D-2
Client ID: HD-SPBA-CW-22-0/1-0
Sample Type: Client
Inject. Date: 29-Sep-2017 20:59:00 ALS Bottle#: 0 Worklist Smp#: 36
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018654-036
Misc. Info.: 46 180-70792-D-2
Operator ID: Instrument ID: CHICS2000

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 30-Sep-2017 06:54:18 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

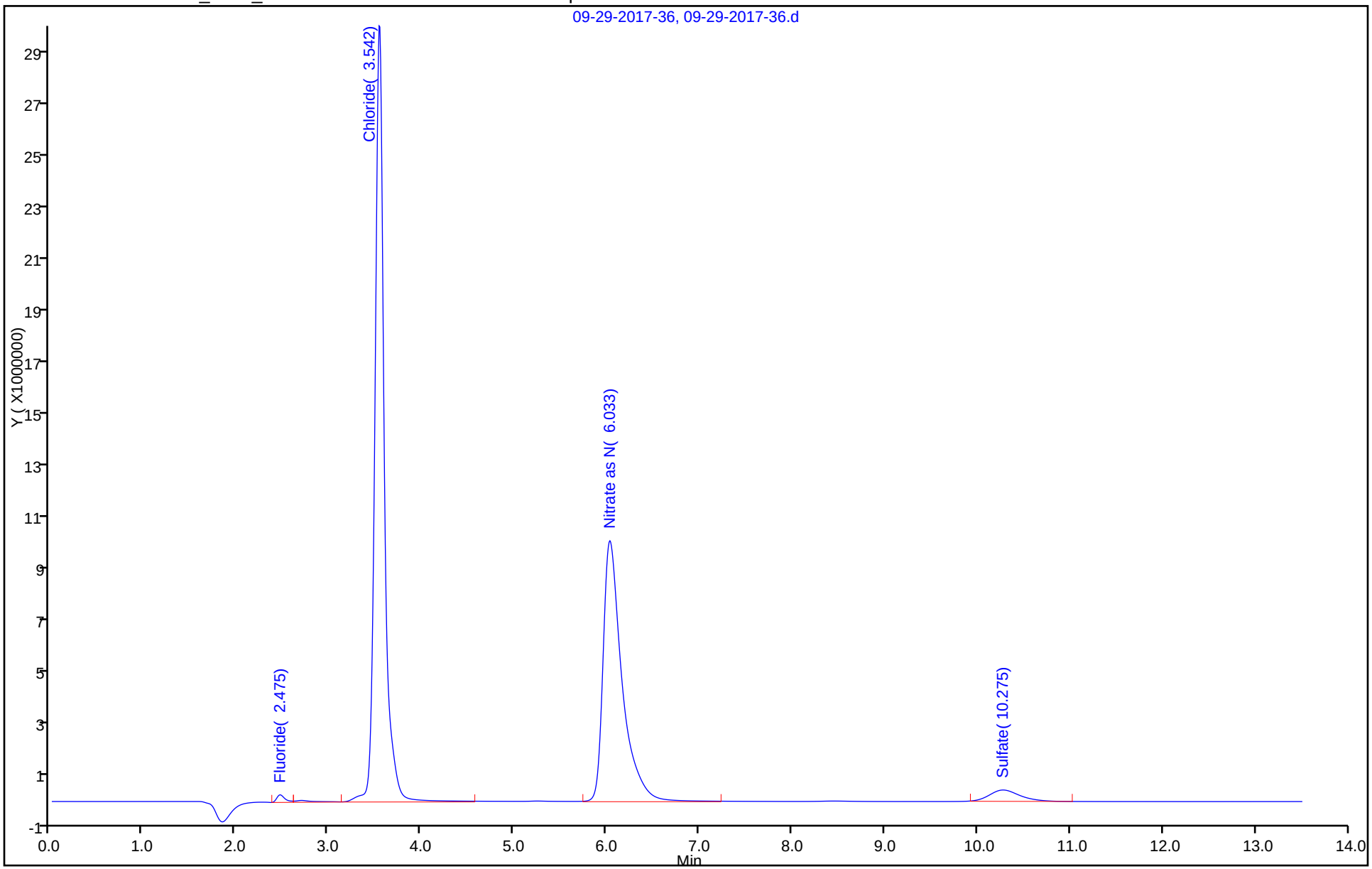
Column 1 : Det: 0008
Process Host: XAWRK025

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	2.475	2.475	0.000	287764H	0.0944	
2 Chloride	3.542	3.583	-0.041	29416050H	14.5	
7 Nitrite as N		4.192			ND	
5 Nitrate as N	6.033	6.058	-0.025	9889899H	4.47	
3 Sulfate	10.275	10.200	0.075	429970H	0.9699	

Report Date: 30-Sep-2017 06:54:21 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-36.d				
Injection Date:	29-Sep-2017 20:59:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	180-70792-D-2	Lab Sample ID:	180-70792-2	Worklist Smp#:	36
Client ID:	HD-SPBA-CW-22-0/1-0				
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 224350

SDG No.:

Instrument ID: CHICS2000 GC Column: AS-14 ID: 2(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/28/2017 14:23 Calibration End Date: 09/28/2017 15:58 Calibration ID: 35681

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-224350/2	09-28-2017-2.d
Level 2	IC 180-224350/3	09-28-2017-3.d
Level 3	IC 180-224350/4	09-28-2017-4.d
Level 4	IC 180-224350/5	09-28-2017-5.d
Level 5	IC 180-224350/6	09-28-2017-6.d
Level 6	IC 180-224350/7	09-28-2017-7.d
Level 7	IC 180-224350/8	09-28-2017-8.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Fluoride	2.467	2.475	2.467	2.475	2.467	2.475	2.475				2.117 - 2.817	2.472
Chloride	3.508	3.517	3.517	3.542	3.575	3.608	3.633				3.167 - 3.867	3.557
Nitrite as N	4.183	4.183	4.183	4.183	4.183	4.192	4.200				3.933 - 4.433	4.187
Bromide	5.250	5.250	5.242	5.242	5.225	5.217	5.217				4.892 - 5.592	5.235
Nitrate as N	6.117	6.108	6.092	6.075	6.042	6.033	6.017				5.842 - 6.342	6.069
Orthophosphate as P	8.458	8.450	8.442	8.442	8.425	8.425	8.417				7.942 - 8.942	8.437
Sulfate	10.275	10.283	10.258	10.242	10.192	10.158	+++++				9.908 - 10.608	10.235

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 224350

SDG No.:

Instrument ID: CHICS2000 GC Column: AS-14 ID: 2(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/28/2017 14:23 Calibration End Date: 09/28/2017 15:58 Calibration ID: 35681

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-224350/2	09-28-2017-2.d
Level 2	IC 180-224350/3	09-28-2017-3.d
Level 3	IC 180-224350/4	09-28-2017-4.d
Level 4	IC 180-224350/5	09-28-2017-5.d
Level 5	IC 180-224350/6	09-28-2017-6.d
Level 6	IC 180-224350/7	09-28-2017-7.d
Level 7	IC 180-224350/8	09-28-2017-8.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Fluoride	3058780 3082772	2992988 3115403	2953848 3108821	3054600	Lin2	-858.29010	3055875.64							1.0000		0.9950
Chloride	1634620 2195005	1841553 2076008	1927157 1921859	2217473	Lin2	-454038.39	2063757.35							0.9960		0.9950
Nitrite as N	2419400 2835944	2651264 2836351	2546232 2926486	2672335	LinF		2879279.94							0.9990		0.9950
Bromide	406170 467118	443650 483111	435626 499663	454014	Lin2	-13634.082	469190.903							0.9980		0.9950
Nitrate as N	1985800 2217560	2092576 2293221	2054104 2364167	2149204	Lin2	-12962.529	2216836.29							0.9980		0.9950
Orthophosphate as P	444820 512550	475732 520506	477142 529893	507050	Lin2	-3526.0624	509421.915							0.9990		0.9950
Sulfate	450807 462863	422525 484831	402626 +++++	431675	Lin2	925.747531	442340.989							0.9950		0.9950

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 224350

SDG No.:

Instrument ID: CHICS2000 GC Column: AS-14 ID: 2(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/28/2017 14:23 Calibration End Date: 09/28/2017 15:58 Calibration ID: 35681

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-224350/2	09-28-2017-2.d
Level 2	IC 180-224350/3	09-28-2017-3.d
Level 3	IC 180-224350/4	09-28-2017-4.d
Level 4	IC 180-224350/5	09-28-2017-5.d
Level 5	IC 180-224350/6	09-28-2017-6.d
Level 6	IC 180-224350/7	09-28-2017-7.d
Level 7	IC 180-224350/8	09-28-2017-8.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Fluoride	Lin2	152939 11682762	748247 15544105	1476924	3054600	7706929	0.0500 3.75	0.250 5.00	0.500	1.00	2.50
Chloride	Lin2	1634620 155700574	9207766 192185895	19271569	44349459	109750250	1.00 75.0	5.00 100	10.0	20.0	50.0
Nitrite as N	LinF	120970 10636316	662816 14632429	1273116	2672335	7089860	0.0500 3.75	0.250 5.00	0.500	1.00	2.50
Bromide	Lin2	81234 7246666	443650 9993268	871252	1816055	4671180	0.200 15.0	1.00 20.0	2.00	4.00	10.0
Nitrate as N	Lin2	99290 8599580	523144 11820833	1027052	2149204	5543899	0.0500 3.75	0.250 5.00	0.500	1.00	2.50
Orthophosphate as P	Lin2	22241 1951899	118933 2649465	238571	507050	1281376	0.0500 3.75	0.250 5.00	0.500	1.00	2.50
Sulfate	Lin2	450807 36362314	2112623 +++++	4026257	8633500	23143170	1.00 75.0	5.00 +++++	10.0	20.0	50.0

Curve Type Legend:

Lin2 = Linear 1/conc^2 by height
LinF = Linear Forced Zero by Height

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1 Analy Batch No.: 224350

SDG No.:

Instrument ID: CHICS2000 GC Column: AS-14 ID: 2(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/28/2017 14:23 Calibration End Date: 09/28/2017 15:58 Calibration ID: 35681

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-224350/2	09-28-2017-2.d
Level 2	IC 180-224350/3	09-28-2017-3.d
Level 3	IC 180-224350/4	09-28-2017-4.d
Level 4	IC 180-224350/5	09-28-2017-5.d
Level 5	IC 180-224350/6	09-28-2017-6.d
Level 6	IC 180-224350/7	09-28-2017-7.d
Level 7	IC 180-224350/8	09-28-2017-8.d

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Fluoride	0.7 1.7	-1.9	-3.3	0.0	0.9	2.0	50 30	30	30	30	30	30
Chloride	1.2 -6.7	-6.4	-4.4	8.5	6.8	0.9	50 30	30	30	30	30	30
Nitrite as N	-16.0 1.6	-7.9	-11.6	-7.2	-1.5	-1.5	50 30	30	30	30	30	30
Bromide	1.1 6.6	-2.5	-5.7	-2.5	-0.2	3.2	50 30	30	30	30	30	30
Nitrate as N	1.3 6.8	-3.3	-6.2	-2.5	0.3	3.6	50 30	30	30	30	30	30
Orthophosphate as P	1.2 4.2	-3.8	-5.0	0.2	0.9	2.4	50 30	30	30	30	30	30
Sulfate	1.7 +++++	-4.5	-9.0	-2.4	4.6	9.6	50	30	30	30	30	30

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-2.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 28-Sep-2017 14:23:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018640-002
Misc. Info.: 2 IC
Operator ID: Instrument ID: CHICS2000
Sublist: chrom-300_9056_CHICS2000*sub1

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 29-Sep-2017 10:24:15 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK006

First Level Reviewer: reaglec Date: 28-Sep-2017 15:10:11

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	152939H	0.0500	0.0503	M
2 Chloride	3.508	3.517	-0.009	1634620H	1.00	1.01	M
7 Nitrite as N	4.183	4.183	0.000	120970H	0.0500	0.0420	M
4 Bromide	5.250	5.242	0.008	81234H	0.2000	0.2022	M
5 Nitrate as N	6.117	6.092	0.025	99290H	0.0500	0.0506	M
6 Orthophosphate as P	8.458	8.442	0.016	22241H	0.0500	0.0506	M
3 Sulfate	10.275	10.258	0.017	450807H	1.00	1.02	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

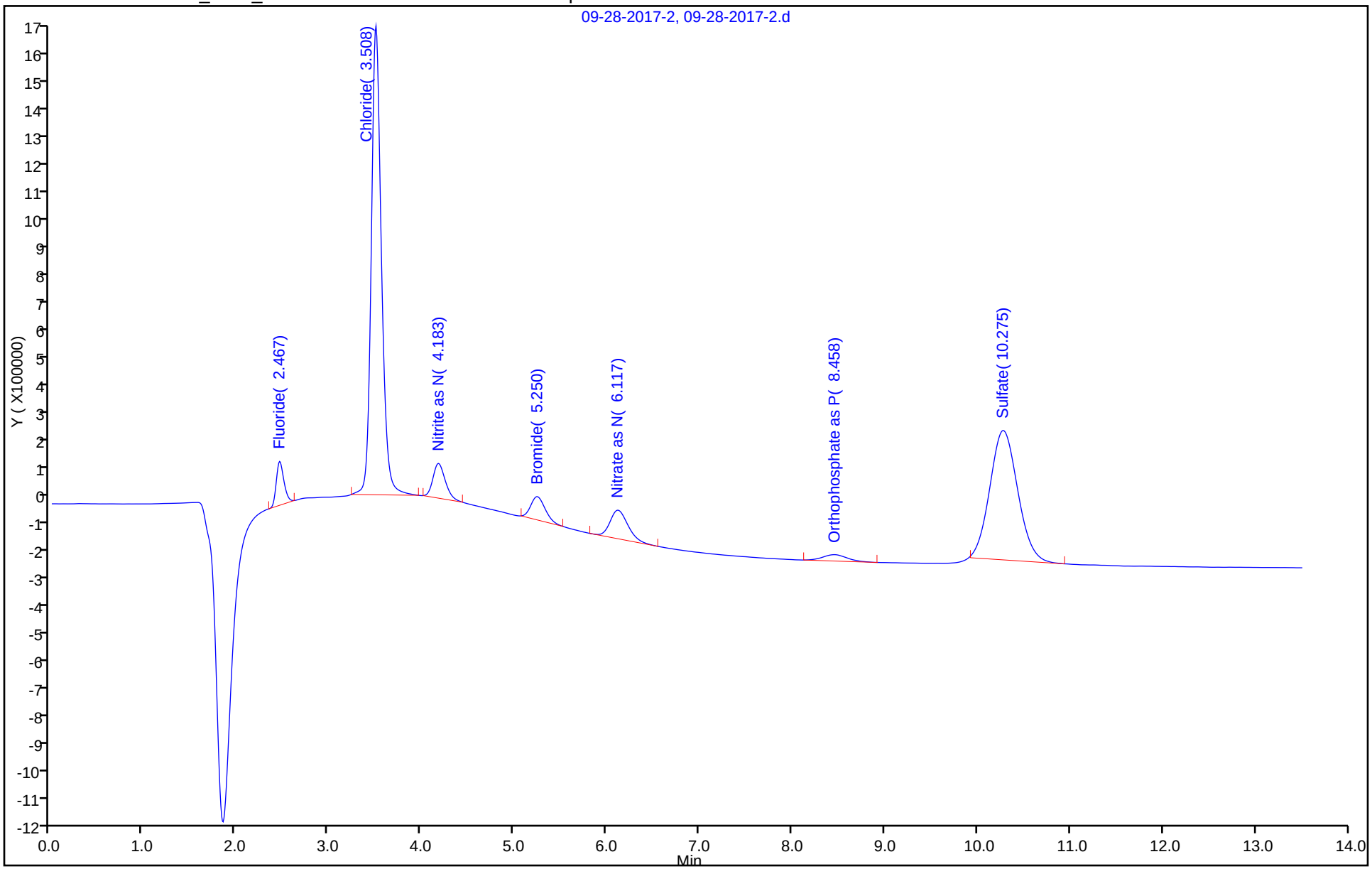
ICSTDL2_00317 Amount Added: 1.00 Units: mL

Report Date: 29-Sep-2017 10:24:15 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-2.d

Injection Date:	28-Sep-2017 14:23:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ic			Worklist Smp#:	2
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

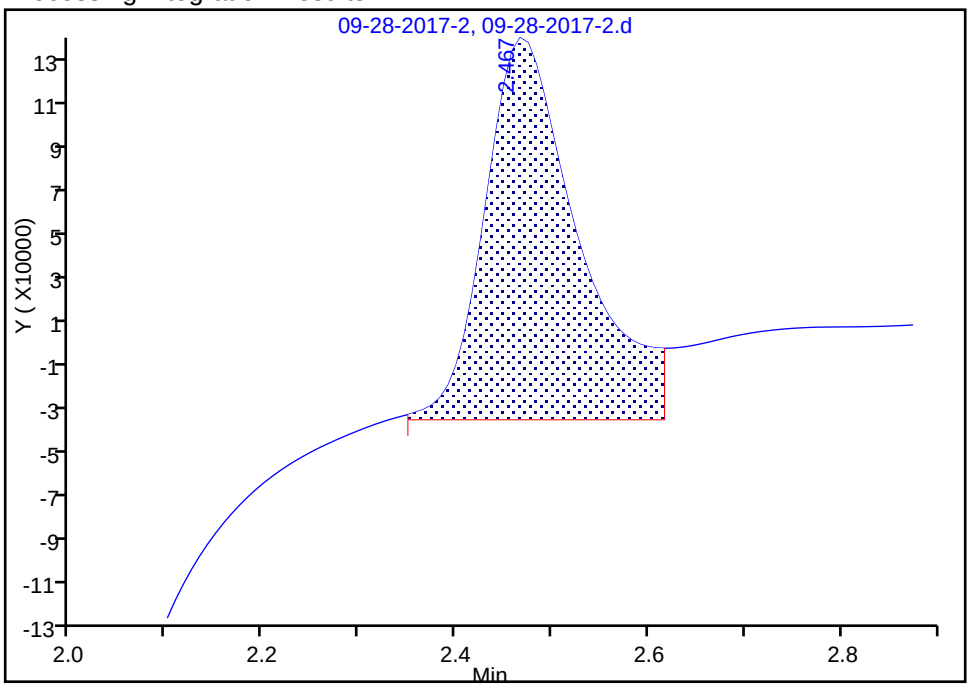
Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-2.d				
Injection Date:	28-Sep-2017 14:23:00	Instrument ID:	CHICS2000		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	50.0 ul	Dil. Factor:	1.0000		
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		
Column:		Detector	0008		

1 Fluoride, CAS: 16984-48-8

Signal: 1

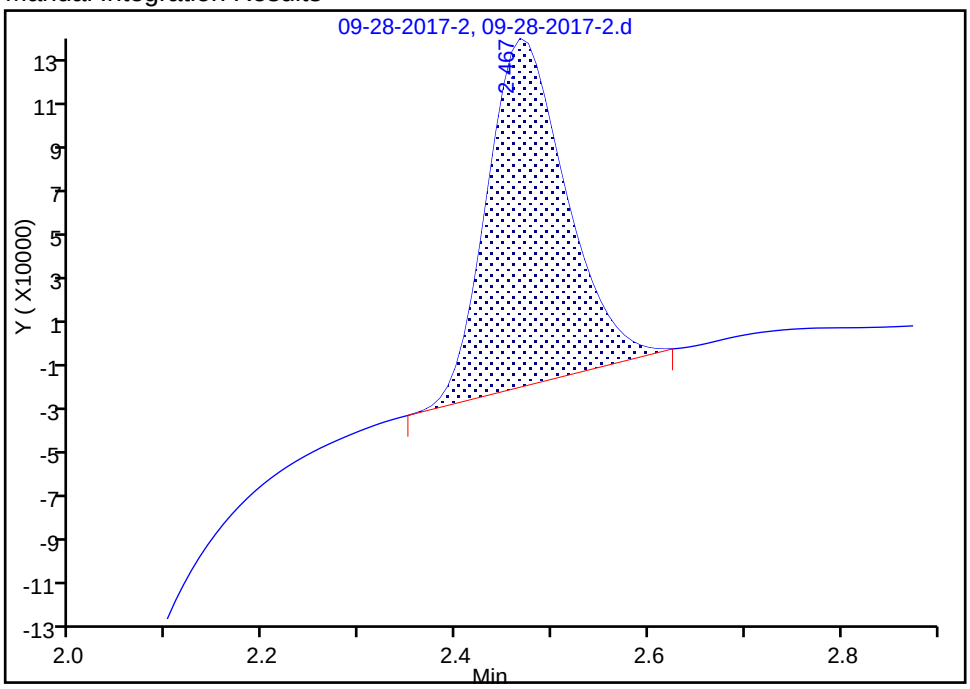
Processing Integration Results

RT: 2.47
Height: 167626
Amount: 0.056539
Amount Units: ug/ml



Manual Integration Results

RT: 2.47
Height: 152939
Amount: 0.050328
Amount Units: ug/ml



Reviewer: reaglec, 28-Sep-2017 15:12:19

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

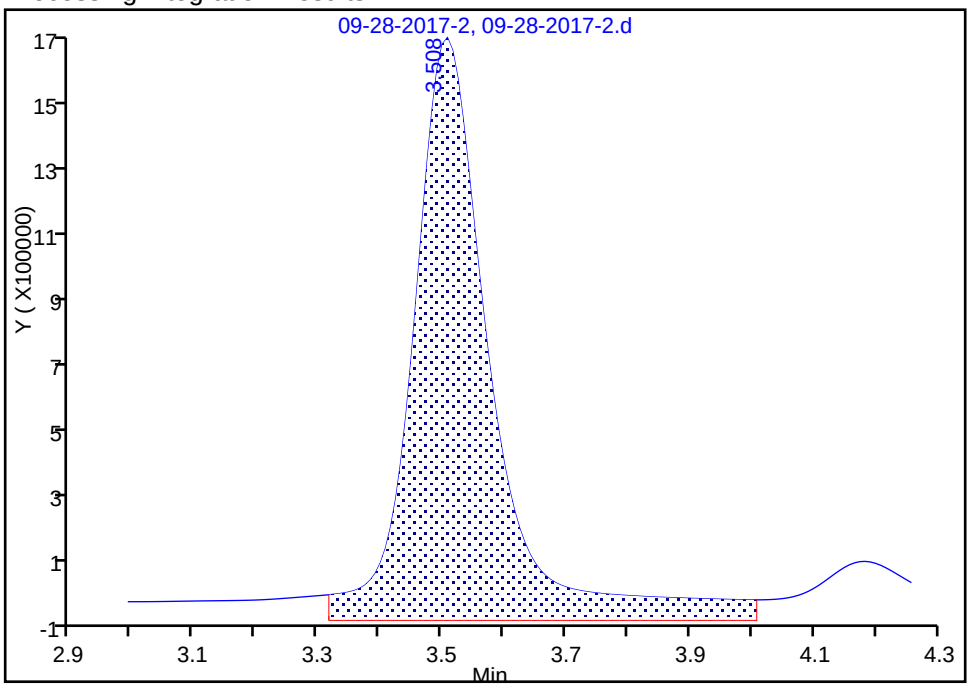
Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-2.d				
Injection Date:	28-Sep-2017 14:23:00	Instrument ID:	CHICS2000		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	50.0 ul	Dil. Factor:	1.0000		
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		
Column:		Detector	0008		

2 Chloride, CAS: 16887-00-6

Signal: 1

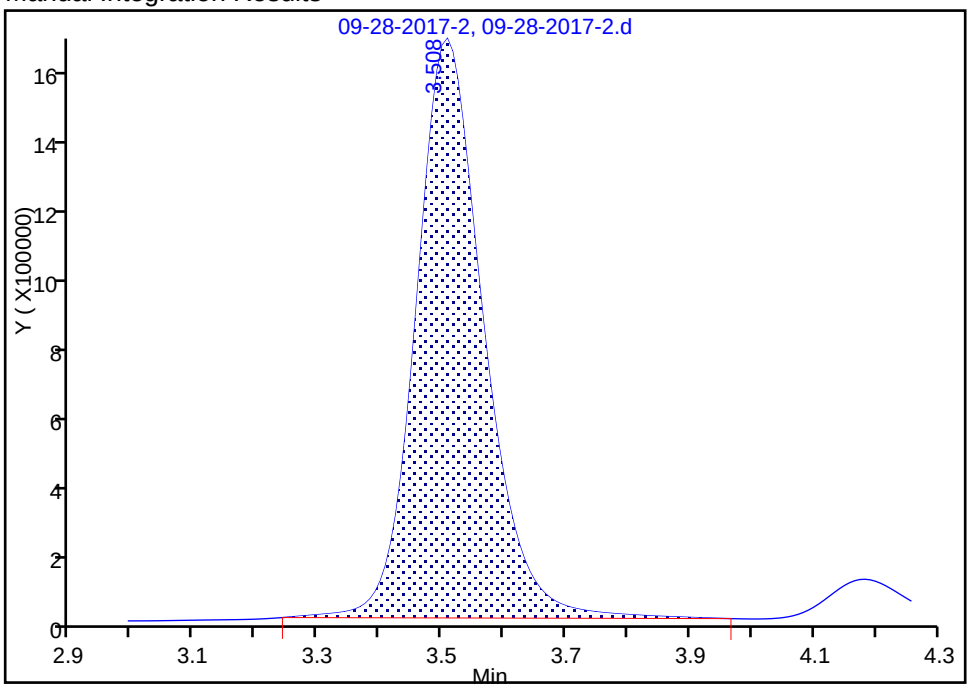
Processing Integration Results

RT: 3.51
Height: 1697296
Amount: 0.889406
Amount Units: ug/ml



Manual Integration Results

RT: 3.51
Height: 1634620
Amount: 1.012066
Amount Units: ug/ml



Reviewer: reaglec, 28-Sep-2017 15:12:24

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

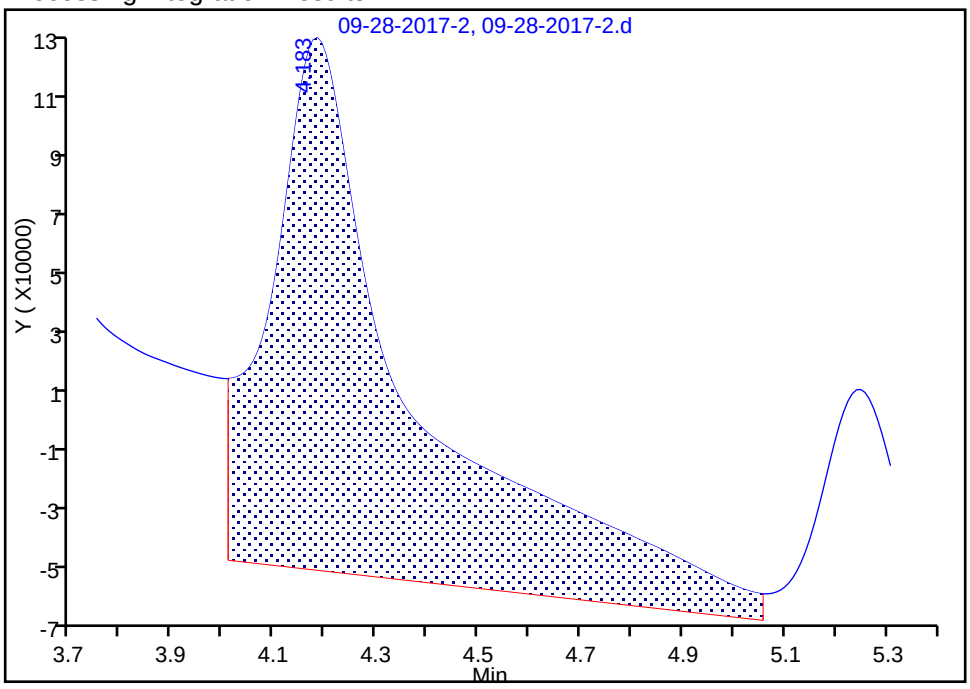
Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-2.d				
Injection Date:	28-Sep-2017 14:23:00	Instrument ID:	CHICS2000		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	50.0 ul	Dil. Factor:	1.0000		
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		
Column:		Detector	0008		

7 Nitrite as N, CAS: 14797-65-0

Signal: 1

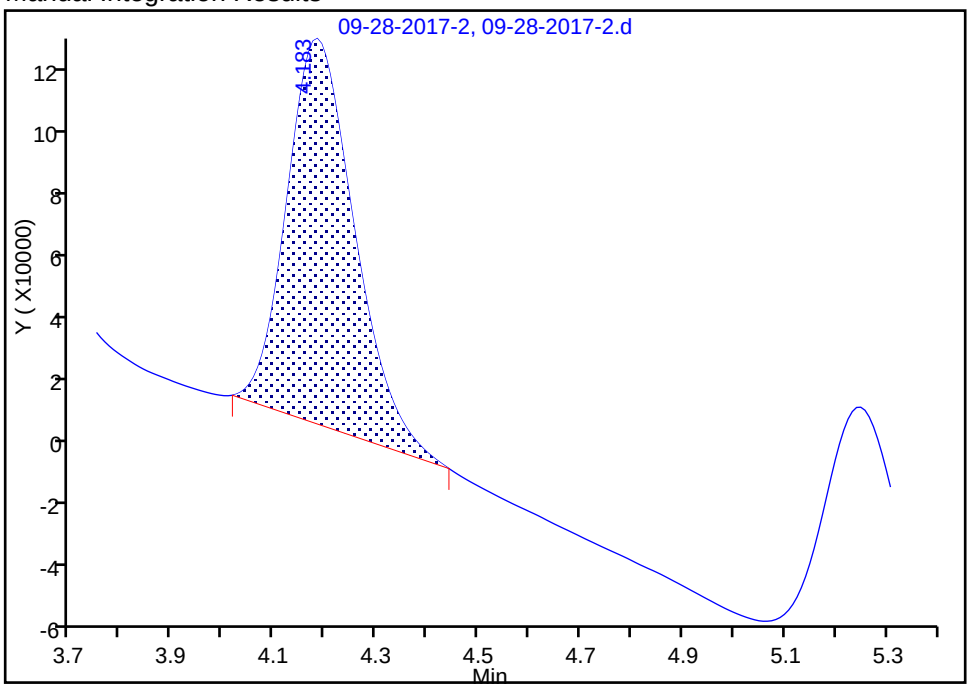
Processing Integration Results

RT: 4.18
Height: 175140
Amount: 0.068024
Amount Units: ug/ml



Manual Integration Results

RT: 4.18
Height: 120970
Amount: 0.042014
Amount Units: ug/ml



Reviewer: reaglec, 28-Sep-2017 15:12:42

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

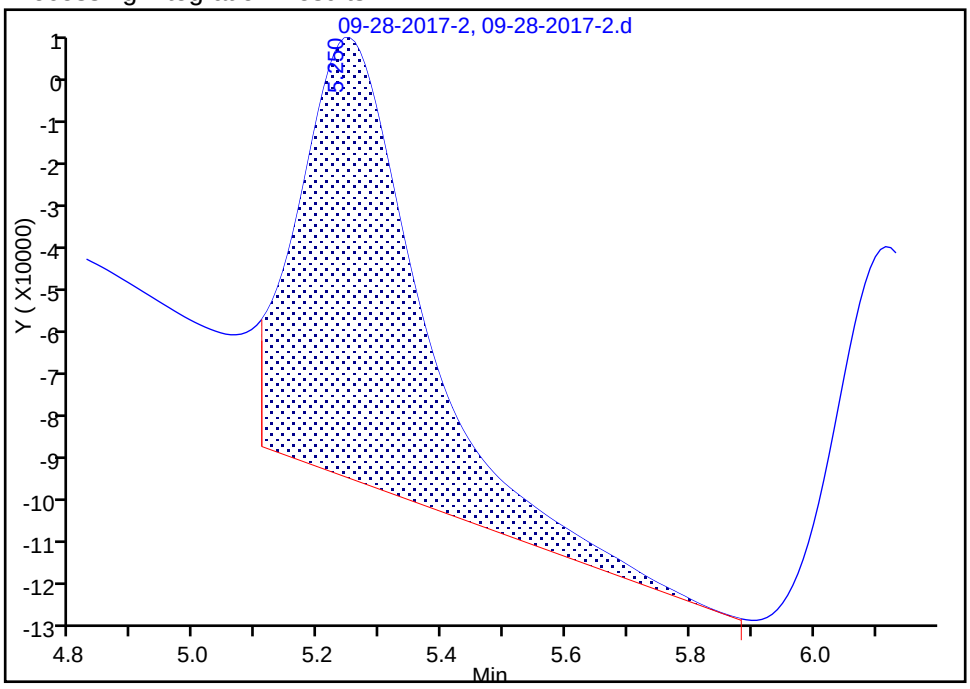
Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-2.d				
Injection Date:	28-Sep-2017 14:23:00	Instrument ID:	CHICS2000		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	50.0 ul	Dil. Factor:	1.0000		
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		
Column:		Detector	0008		

4 Bromide, CAS: 24959-67-9

Signal: 1

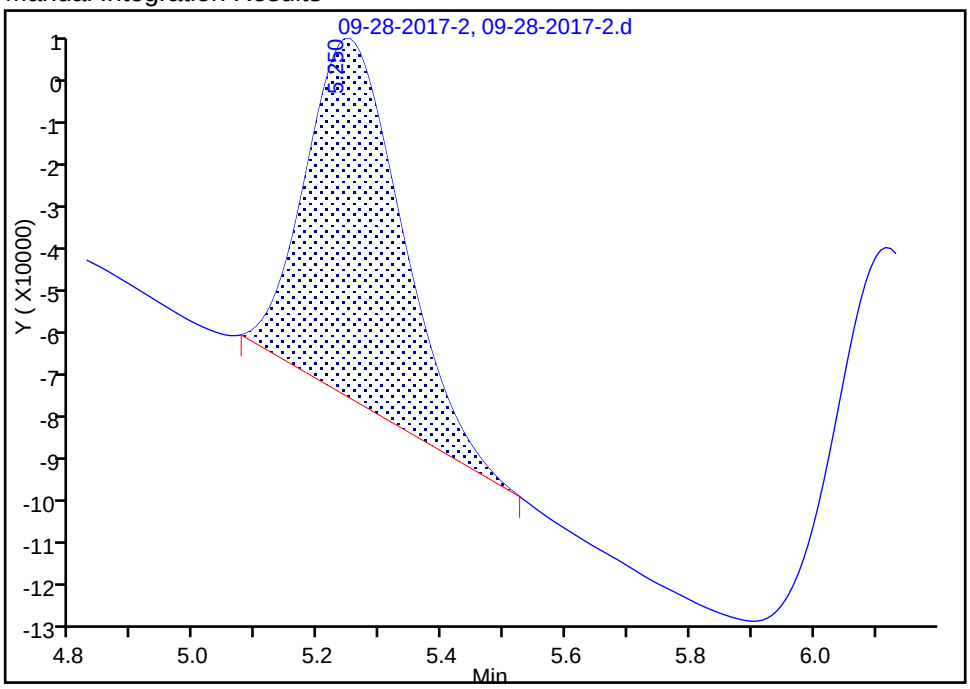
Processing Integration Results

RT: 5.25
Height: 99632
Amount: 0.199969
Amount Units: ug/ml



Manual Integration Results

RT: 5.25
Height: 81234
Amount: 0.202195
Amount Units: ug/ml



Reviewer: reaglec, 28-Sep-2017 15:12:33

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

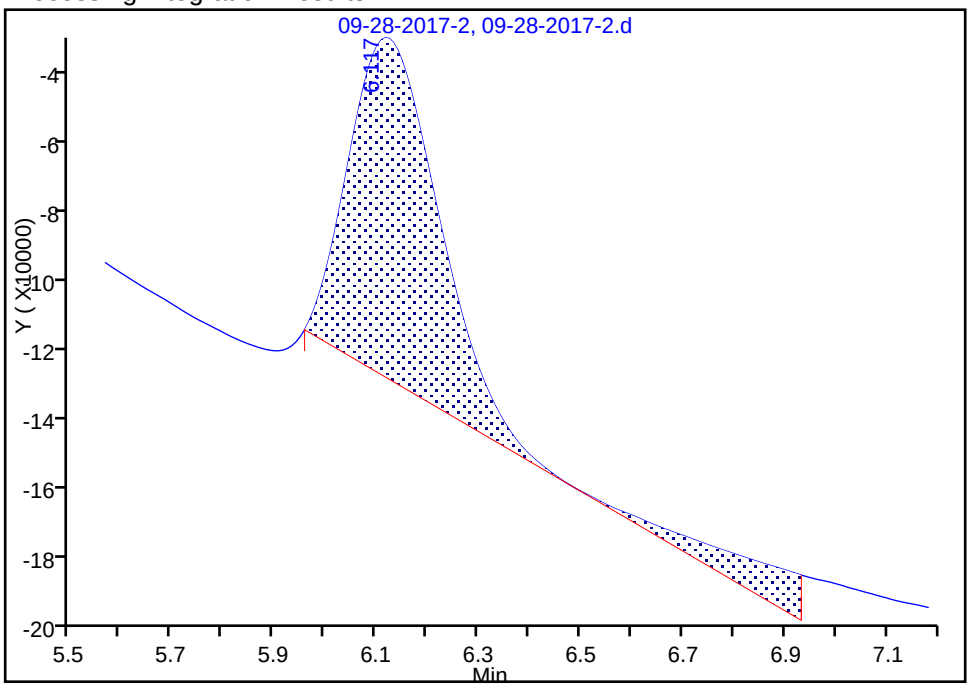
Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-2.d
Injection Date: 28-Sep-2017 14:23:00 Instrument ID: CHICS2000
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Method: 300_9056_CHICS2000 Limit Group: GC Anions ICAL
Column: Detector 0008

5 Nitrate as N, CAS: 14797-55-8

Signal: 1

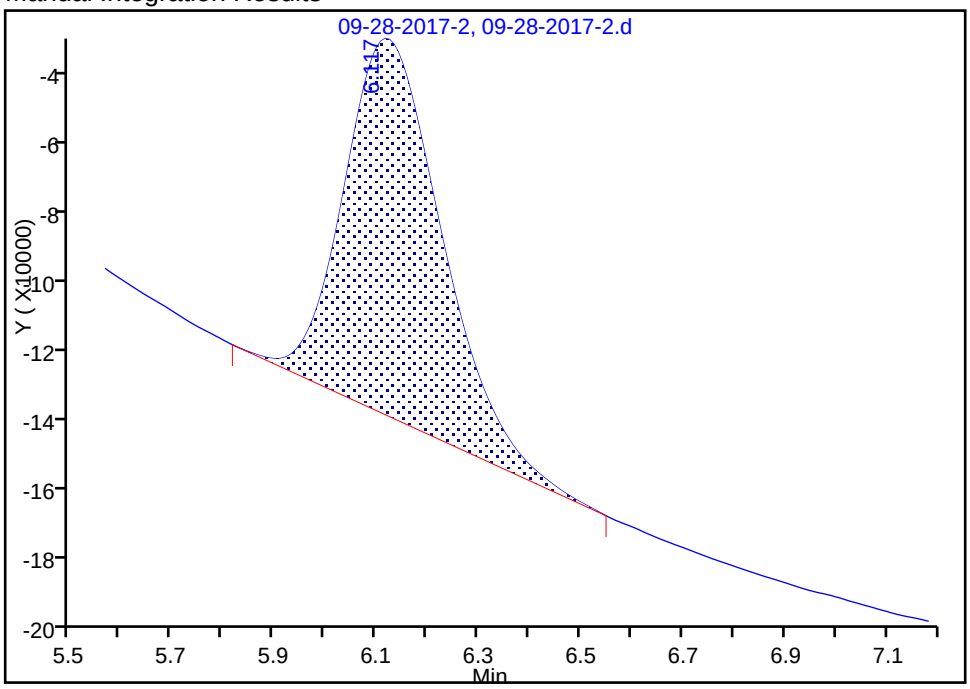
Processing Integration Results

RT: 6.12
Height: 91569
Amount: 0.049908
Amount Units: ug/ml



Manual Integration Results

RT: 6.12
Height: 99290
Amount: 0.050636
Amount Units: ug/ml



Reviewer: reaglec, 28-Sep-2017 15:12:37
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

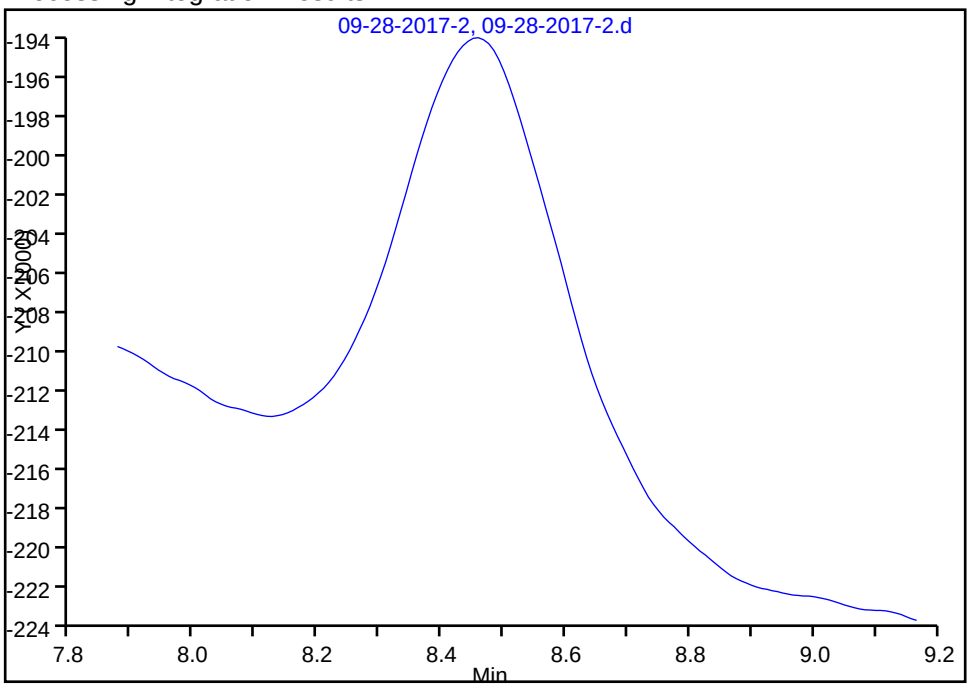
Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-2.d				
Injection Date:	28-Sep-2017 14:23:00	Instrument ID:	CHICS2000		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	50.0 ul	Dil. Factor:	1.0000		
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		
Column:		Detector	0008		

6 Orthophosphate as P, CAS: STL00599

Signal: 1

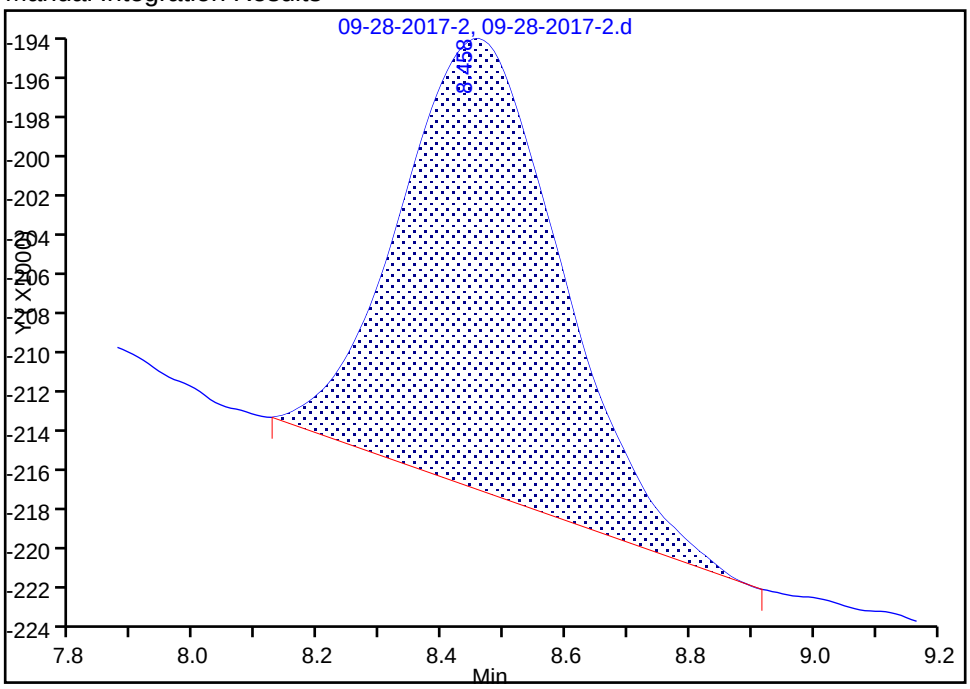
Not Detected
Expected RT: 8.44

Processing Integration Results



Manual Integration Results

RT: 8.46
Height: 22241
Amount: 0.050581
Amount Units: ug/ml



Reviewer: reaglec, 28-Sep-2017 15:12:52
Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

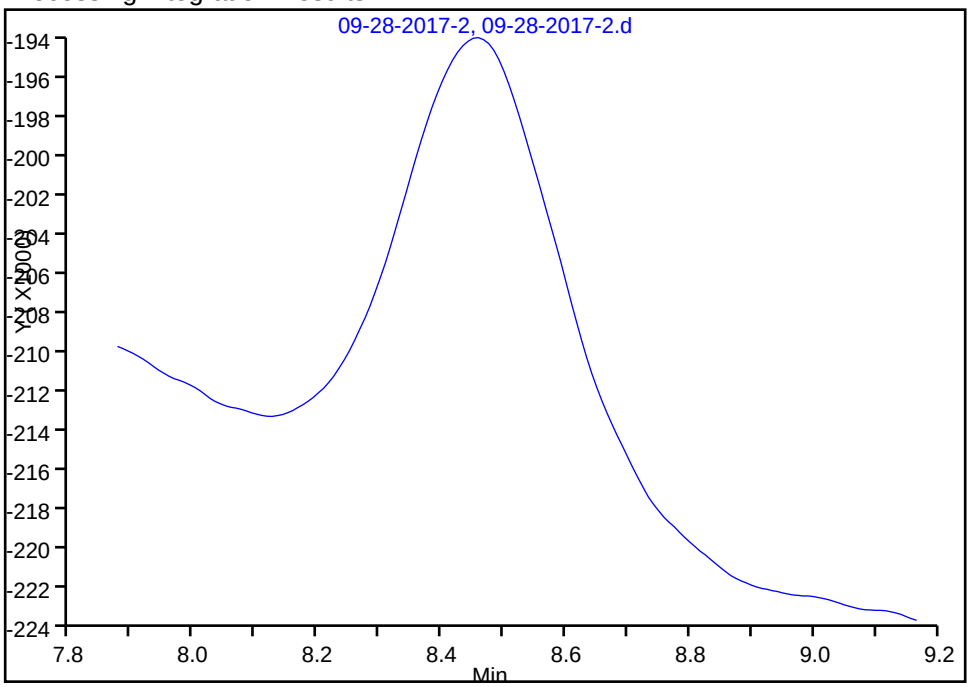
Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-2.d
Injection Date: 28-Sep-2017 14:23:00 Instrument ID: CHICS2000
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Method: 300_9056_CHICS2000 Limit Group: GC Anions ICAL
Column: Detector 0008

6 Orthophosphate as P, CAS: STL00599

Signal: 1

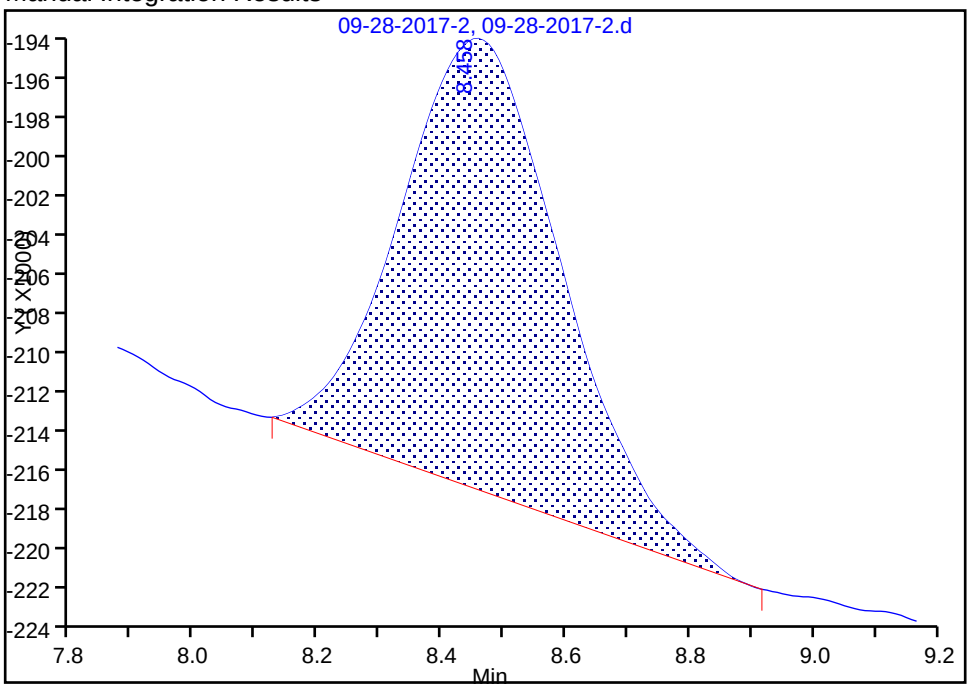
Processing Integration Results

Not Detected
Expected RT: 8.44



Manual Integration Results

RT: 8.46
Height: 22241
Amount: 0.050581
Amount Units: ug/ml



Reviewer: reaglec, 28-Sep-2017 15:13:24
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline Smoothing

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-3.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 28-Sep-2017 14:39:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018640-003
Misc. Info.: 3 IC
Operator ID: Instrument ID: CHICS2000
Sublist: chrom-300_9056_CHICS2000*sub1

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 29-Sep-2017 10:24:16 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK006

First Level Reviewer: reaglec Date: 28-Sep-2017 15:10:40

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.475	2.467	0.008	748247H	0.2500	0.2451	
2 Chloride	3.517	3.517	0.000	9207766H	5.00	4.68	
7 Nitrite as N	4.183	4.183	0.000	662816H	0.2500	0.2302	
4 Bromide	5.250	5.242	0.008	443650H	1.00	0.9746	
5 Nitrate as N	6.108	6.092	0.016	523144H	0.2500	0.2418	
6 Orthophosphate as P	8.450	8.442	0.008	118933H	0.2500	0.2404	
3 Sulfate	10.283	10.258	0.025	2112623H	5.00	4.77	

Reagents:

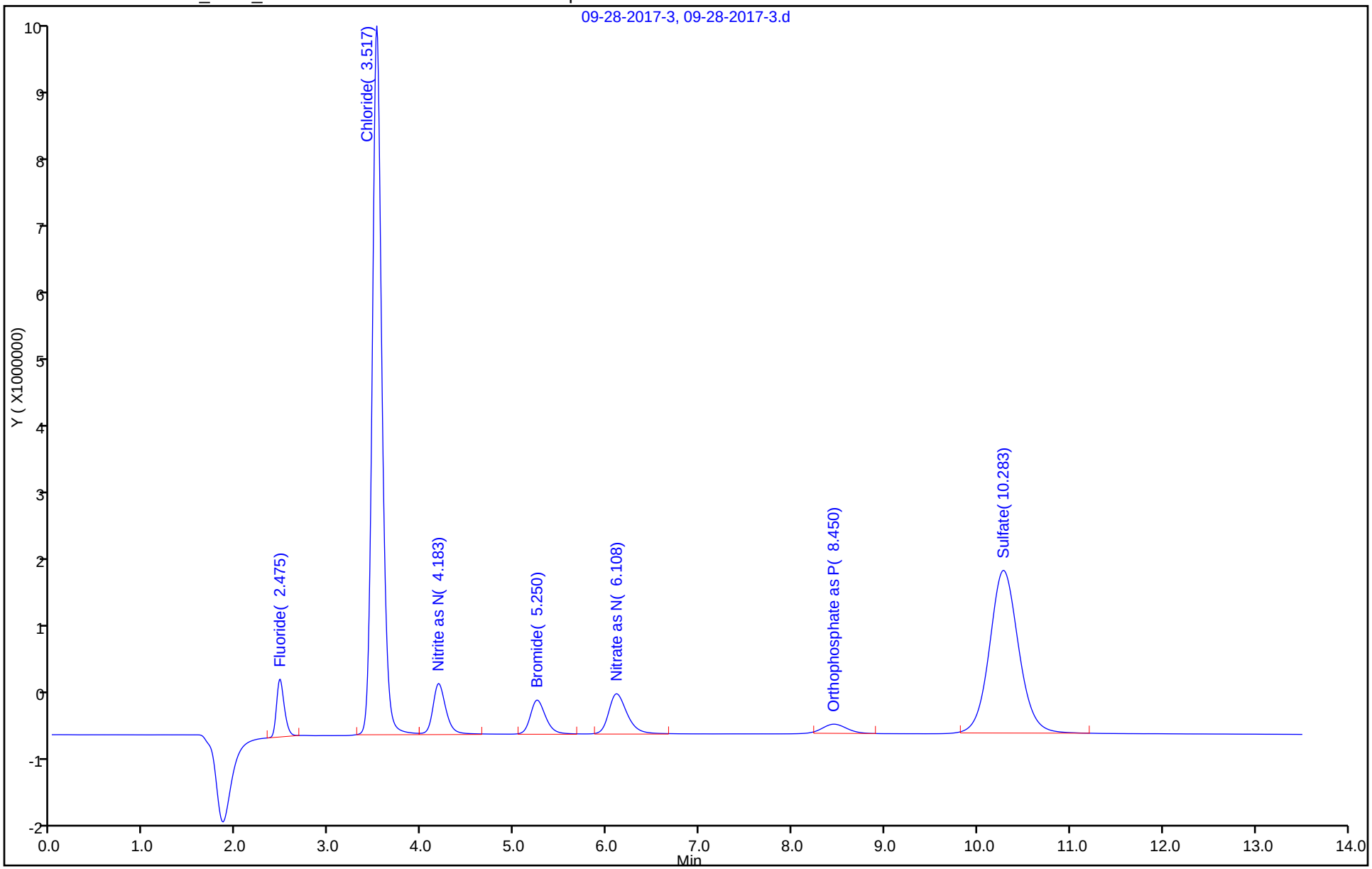
ICSTDL3_00380 Amount Added: 1.00 Units: mL

Report Date: 29-Sep-2017 10:24:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-3.d

Injection Date:	28-Sep-2017 14:39:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-4.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 28-Sep-2017 14:55:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018640-004
Misc. Info.: 4 IC
Operator ID: Instrument ID: CHICS2000
Sublist: chrom-300_9056_CHICS2000*sub1

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 29-Sep-2017 10:24:17 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK006

First Level Reviewer: bachas Date: 29-Sep-2017 08:42:03

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	1476924H	0.5000	0.4836	
2 Chloride	3.517	3.517	0.000	19271569H	10.0	9.56	
7 Nitrite as N	4.183	4.183	0.000	1273116H	0.5000	0.4422	
4 Bromide	5.242	5.242	0.000	871252H	2.00	1.89	
5 Nitrate as N	6.092	6.092	0.000	1027052H	0.5000	0.4691	
6 Orthophosphate as P	8.442	8.442	0.000	238571H	0.5000	0.4752	
3 Sulfate	10.258	10.258	0.000	4026257H	10.0	9.10	

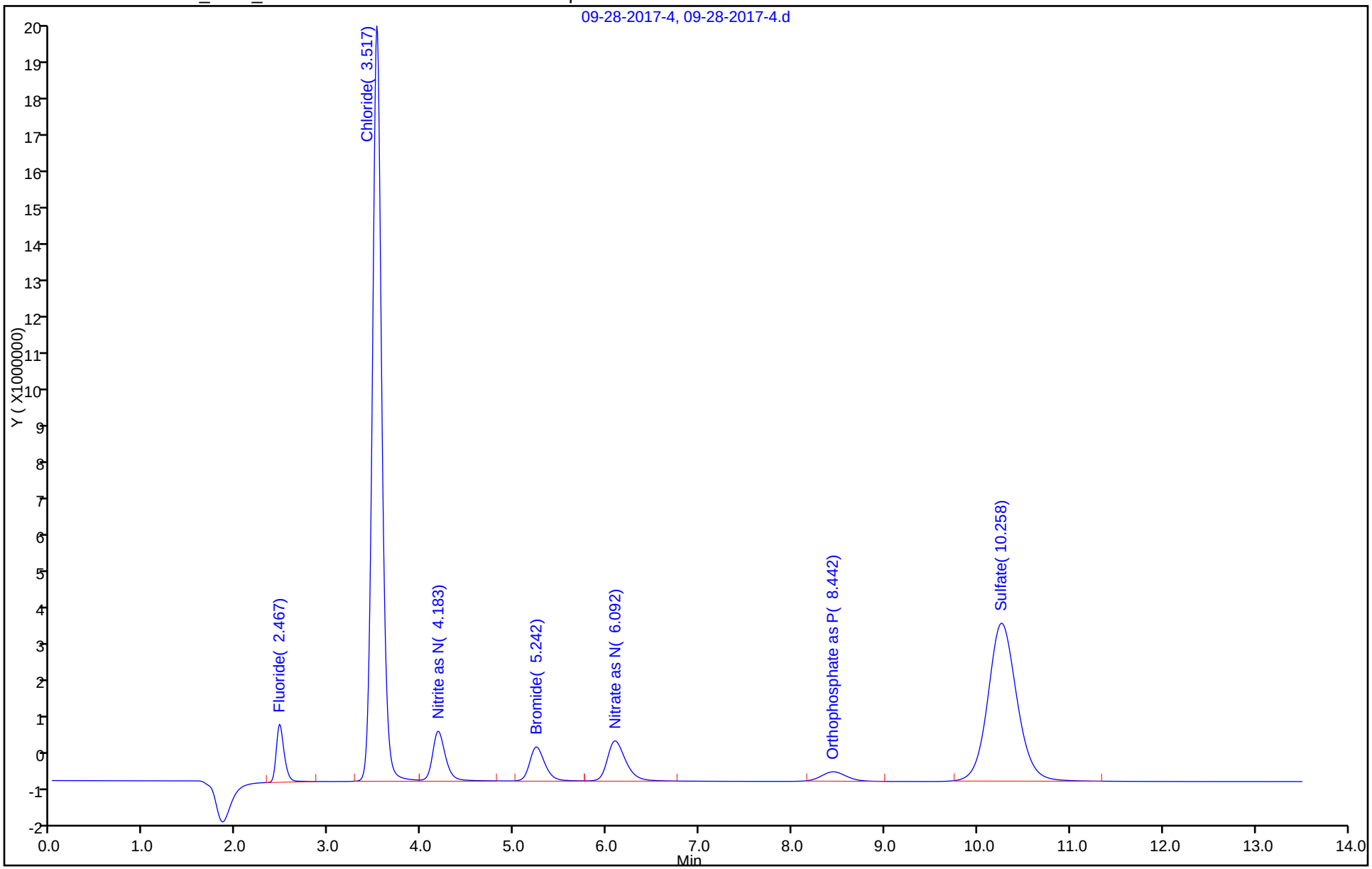
Reagents:

ICSTDL4_00254 Amount Added: 1.00 Units: mL

Report Date: 29-Sep-2017 10:24:17 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-4.d				
Injection Date:	28-Sep-2017 14:55:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ic			Worklist Smp#:	4
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-5.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 28-Sep-2017 15:11:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018640-005
Misc. Info.: 5 IC
Operator ID: Instrument ID: CHICS2000
Sublist: chrom-300_9056_CHICS2000*sub1

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 29-Sep-2017 10:24:18 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK006

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.475	2.467	0.008	3054600H	1.00	1.00	
2 Chloride	3.542	3.517	0.025	44349459H	20.0	21.7	
7 Nitrite as N	4.183	4.183	0.000	2672335H	1.00	0.9281	
4 Bromide	5.242	5.242	0.000	1816055H	4.00	3.90	
5 Nitrate as N	6.075	6.092	-0.017	2149204H	1.00	0.9753	
6 Orthophosphate as P	8.442	8.442	0.000	507050H	1.00	1.00	
3 Sulfate	10.242	10.258	-0.016	8633500H	20.0	19.5	

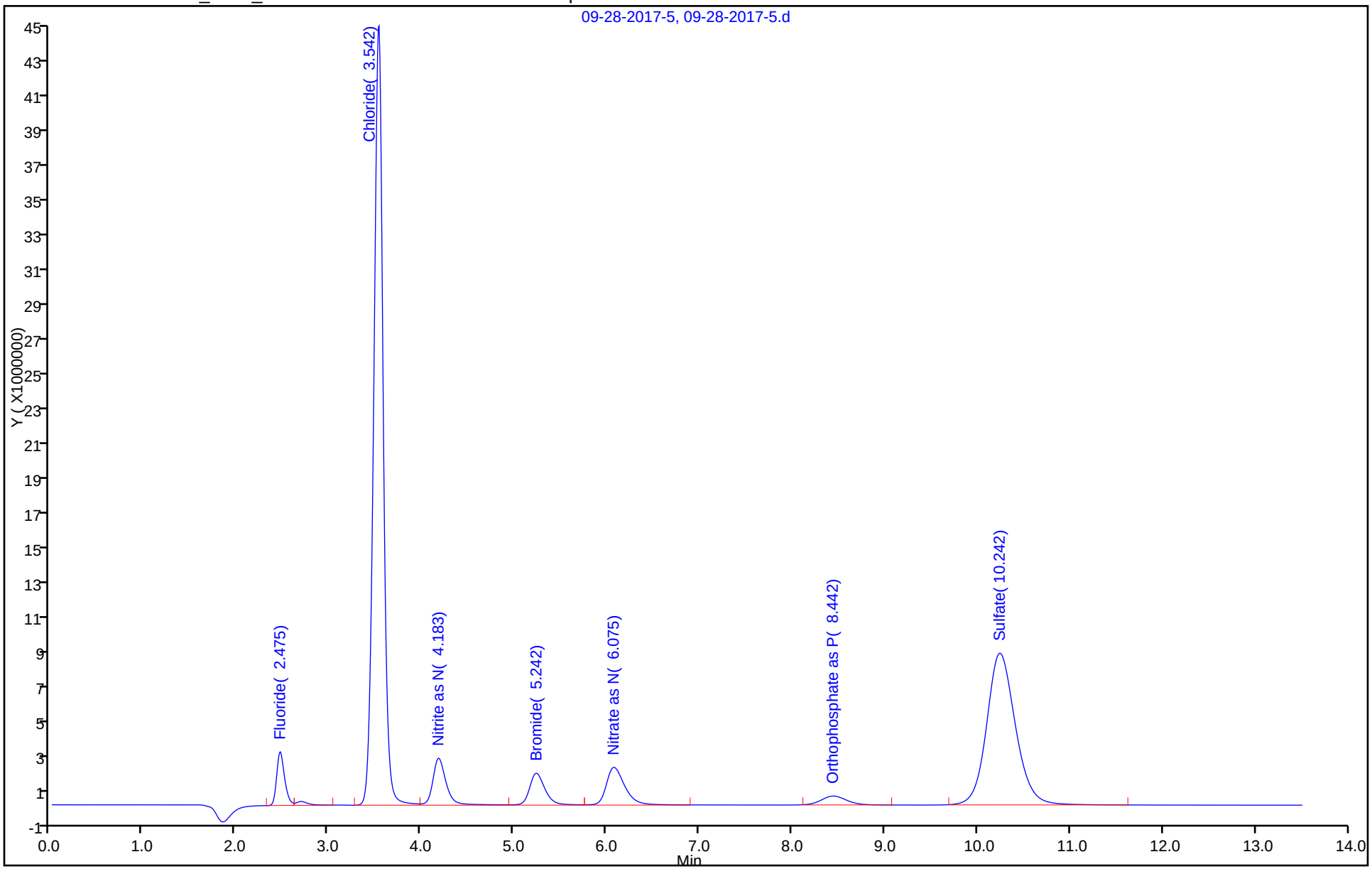
Reagents:

ICSTDL5_00254 Amount Added: 1.00 Units: mL

Report Date: 29-Sep-2017 10:24:18 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-5.d				
Injection Date:	28-Sep-2017 15:11:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ic			Worklist Smp#:	5
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



Report Date: 29-Sep-2017 10:24:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-6.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 28-Sep-2017 15:27:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018640-006
Misc. Info.: 6 IC
Operator ID: Instrument ID: CHICS2000
Sublist: chrom-300_9056_CHICS2000*sub1

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 29-Sep-2017 10:24:19 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK006

First Level Reviewer: reaglec Date: 28-Sep-2017 15:46:04

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.467	2.467	0.000	7706929H	2.50	2.52	
2 Chloride	3.575	3.517	0.058	109750250H	50.0	53.4	
7 Nitrite as N	4.183	4.183	0.000	7089860H	2.50	2.46	
4 Bromide	5.225	5.242	-0.017	4671180H	10.0	9.98	
5 Nitrate as N	6.042	6.092	-0.050	5543899H	2.50	2.51	
6 Orthophosphate as P	8.425	8.442	-0.017	1281376H	2.50	2.52	
3 Sulfate	10.192	10.258	-0.066	23143170H	50.0	52.3	

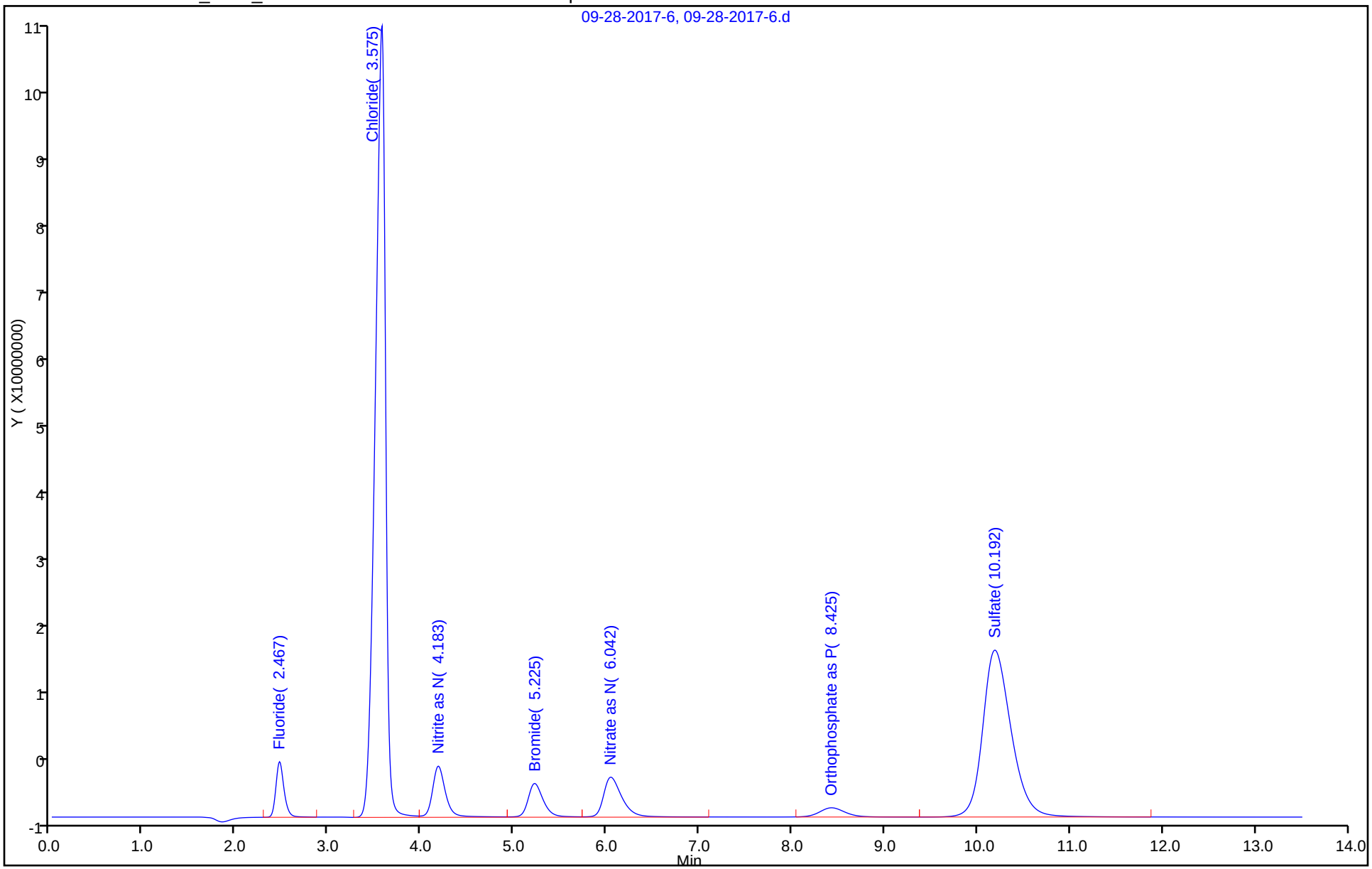
Reagents:

ICSTDL6_00399 Amount Added: 1.00 Units: mL

Report Date: 29-Sep-2017 10:24:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-6.d				
Injection Date:	28-Sep-2017 15:27:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ic			Worklist Smp#:	6
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-7.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 28-Sep-2017 15:42:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018640-007
Misc. Info.: 7 IC
Operator ID: Instrument ID: CHICS2000
Sublist: chrom-300_9056_CHICS2000*sub1

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 29-Sep-2017 10:24:19 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK006

First Level Reviewer: reaglec Date: 28-Sep-2017 21:40:15

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.475	2.467	0.008	11682762H	3.75	3.82	
2 Chloride	3.608	3.517	0.091	155700574H	75.0	75.7	
7 Nitrite as N	4.192	4.183	0.009	10636316H	3.75	3.69	
4 Bromide	5.217	5.242	-0.025	7246666H	15.0	15.5	
5 Nitrate as N	6.033	6.092	-0.059	8599580H	3.75	3.89	
6 Orthophosphate as P	8.425	8.442	-0.017	1951899H	3.75	3.84	
3 Sulfate	10.158	10.258	-0.100	36362314H	75.0	82.2	

Reagents:

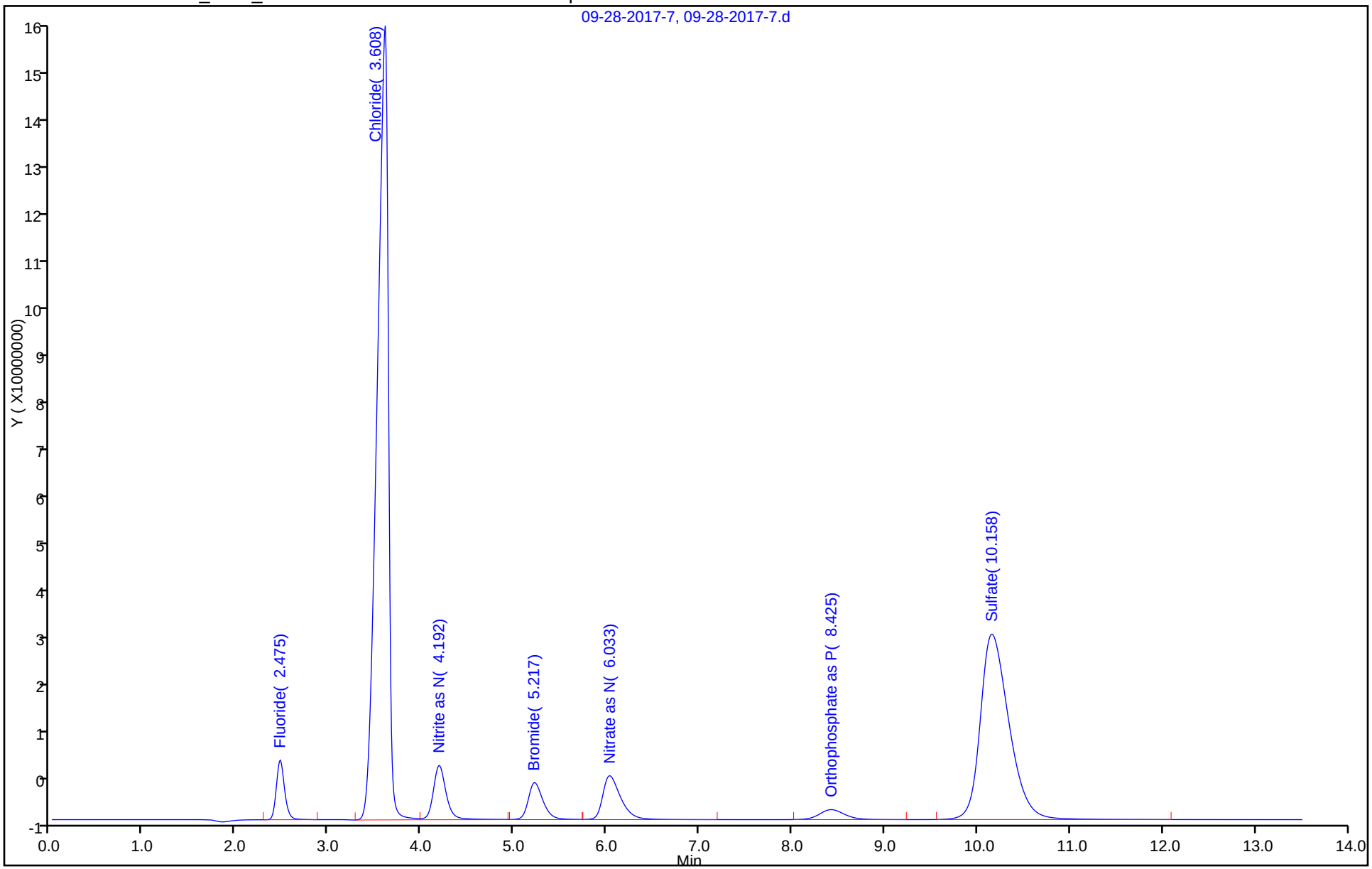
ICSTDL7_00259 Amount Added: 1.00 Units: mL

Report Date: 29-Sep-2017 10:24:20 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-7.d

Injection Date:	28-Sep-2017 15:42:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ic			Worklist Smp#:	7
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 28-Sep-2017 15:58:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018640-008
Misc. Info.: 8 IC
Operator ID: Instrument ID: CHICS2000
Sublist: chrom-300_9056_CHICS2000*sub1

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 29-Sep-2017 10:24:20 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK006

First Level Reviewer: reaglec Date: 28-Sep-2017 16:43:47

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.475	2.467	0.008	15544105H	5.00	5.09	
2 Chloride	3.633	3.517	0.116	192185895H	100.0	93.3	
7 Nitrite as N	4.200	4.183	0.017	14632429H	5.00	5.08	
4 Bromide	5.217	5.242	-0.025	9993268H	20.0	21.3	
5 Nitrate as N	6.017	6.092	-0.075	11820833H	5.00	5.34	
6 Orthophosphate as P	8.417	8.442	-0.025	2649465H	5.00	5.21	
3 Sulfate	10.125	10.258	-0.133	49693751H	100.0	112.3	

Reagents:

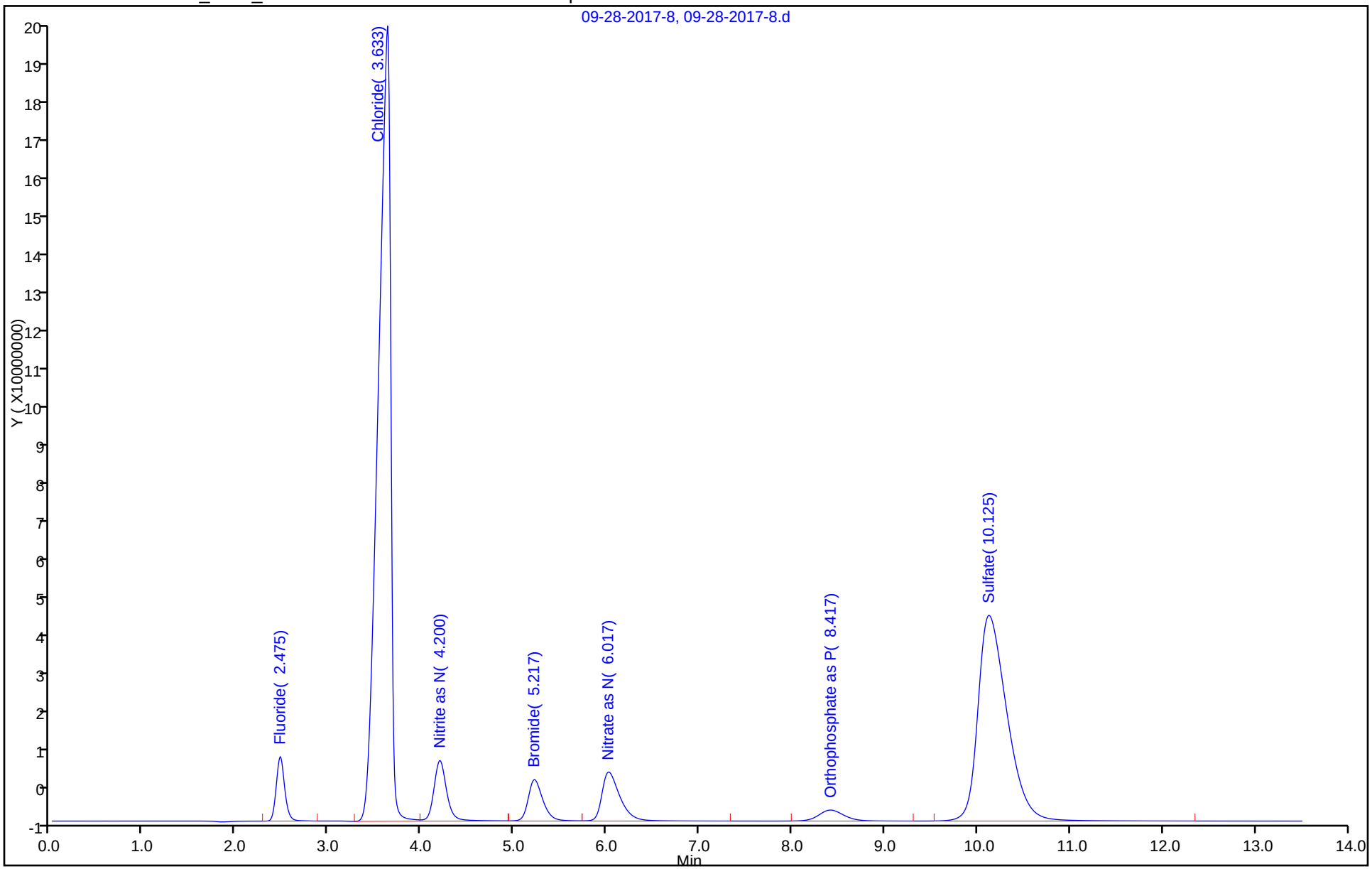
ICSTDL8_00194 Amount Added: 1.00 Units: mL

Report Date: 29-Sep-2017 10:24:20 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Injection Date:	28-Sep-2017 15:58:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ic			Worklist Smp#:	8
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: ICV 180-224419/2 Calibration Date: 09/29/2017 09:55

Instrument ID: CHICS2000 Calib Start Date: 09/28/2017 14:23

GC Column: AS-14 ID: 2.00(mm) Calib End Date: 09/28/2017 15:58

Lab File ID: 09-29-2017-2.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin2		3045275		2.99	3.00	-0.3	10.0
Chloride	Lin2		2118287		61.8	60.0	3.0	10.0
Nitrite as N	LinF		2806257		2.93	3.00	-2.5	10.0
Bromide	Lin2		467796		12.0	12.0	-0.0	10.0
Nitrate as N	Lin2		2141458		2.90	3.00	-3.2	10.0
Orthophosphate as P	Lin2		505146		2.98	3.00	-0.6	10.0
Sulfate	Lin2		464452		63.0	60.0	5.0	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: ICV 180-224419/2 Calibration Date: 09/29/2017 09:55

Instrument ID: CHICS2000 Calib Start Date: 09/28/2017 14:23

GC Column: AS-14 ID: 2.00(mm) Calib End Date: 09/28/2017 15:58

Lab File ID: 09-29-2017-2.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.48	2.13	2.83
Chloride	3.59	3.16	3.86
Nitrite as N	4.18	3.93	4.43
Bromide	5.23	4.89	5.59
Nitrate as N	6.04	5.87	6.37
Orthophosphate as P	8.43	7.92	8.92
Sulfate	10.18	9.91	10.61

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-2.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 29-Sep-2017 09:55:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018654-002
Misc. Info.: 12 ICV
Operator ID: Instrument ID: CHICS2000
Sublist:

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 30-Sep-2017 06:53:35 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK025

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.475	2.475	0.000	9135824H	3.00	2.99	
2 Chloride	3.592	3.508	0.084	127097208H	60.0	61.8	
7 Nitrite as N	4.183	4.183	0.000	8422138H	3.00	2.93	
4 Bromide	5.225	5.242	-0.017	5613551H	12.0	12.0	
5 Nitrate as N	6.042	6.117	-0.075	6424373H	3.00	2.90	
6 Orthophosphate as P	8.425	8.417	0.008	1515437H	3.00	2.98	
3 Sulfate	10.183	10.258	-0.075	27867136H	60.0	63.0	

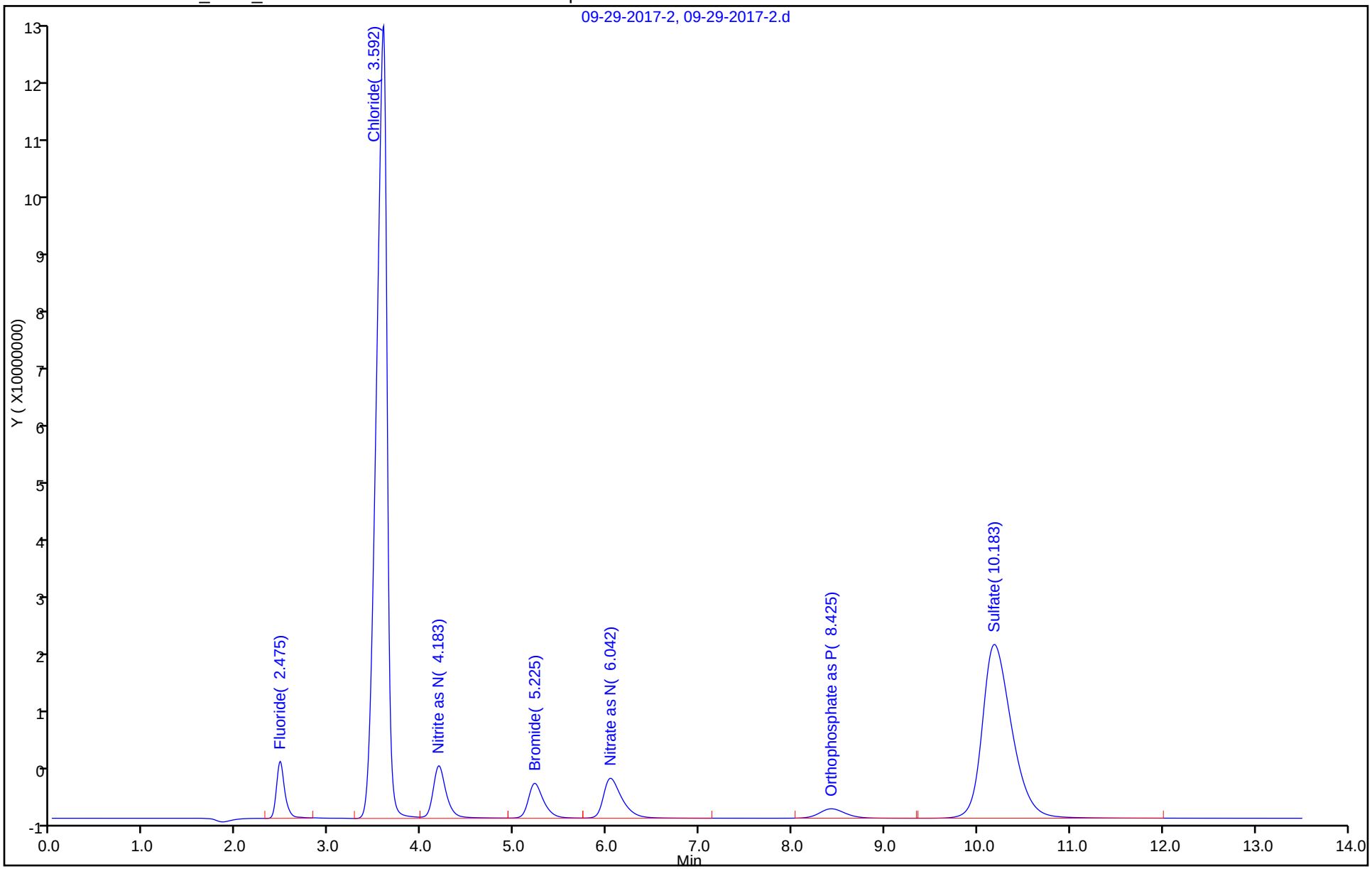
Reagents:

icicv_01951 Amount Added: 1.00 Units: mL

Report Date: 30-Sep-2017 06:54:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-2.d				
Injection Date:	29-Sep-2017 09:55:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	icv			Worklist Smp#:	2
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: CCV 180-224419/3 Calibration Date: 09/29/2017 10:11

Instrument ID: CHICS2000 Calib Start Date: 09/28/2017 14:23

GC Column: AS-14 ID: 2.00(mm) Calib End Date: 09/28/2017 15:58

Lab File ID: 09-29-2017-3.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin2		3121212		2.55	2.50	2.1	10.0
Chloride	Lin2		2208671		53.7	50.0	7.5	10.0
Nitrite as N	LinF		2807201		2.44	2.50	-2.5	10.0
Bromide	Lin2		468547		10.0	10.0	0.2	10.0
Nitrate as N	Lin2		2209231		2.50	2.50	-0.1	10.0
Orthophosphate as P	Lin2		516635		2.54	2.50	1.7	10.0
Sulfate	Lin2		457867		51.8	50.0	3.5	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: CCV 180-224419/3 Calibration Date: 09/29/2017 10:11

Instrument ID: CHICS2000 Calib Start Date: 09/28/2017 14:23

GC Column: AS-14 ID: 2.00(mm) Calib End Date: 09/28/2017 15:58

Lab File ID: 09-29-2017-3.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.48	2.13	2.83
Chloride	3.58	3.23	3.93
Nitrite as N	4.19	3.94	4.44
Bromide	5.23	4.88	5.58
Nitrate as N	6.04	5.79	6.29
Orthophosphate as P	8.43	7.93	8.93
Sulfate	10.20	9.85	10.55

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-3.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 29-Sep-2017 10:11:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018654-003
Misc. Info.: 13 CCV
Operator ID: Instrument ID: CHICS2000
Sublist: chrom-300_9056_CHICS2000*sub1

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 30-Sep-2017 06:54:02 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK025

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.475	2.475	0.000	7803031H	2.50	2.55	
2 Chloride	3.575	3.575	0.000	110433557H	50.0	53.7	
7 Nitrite as N	4.192	4.192	0.000	7018003H	2.50	2.44	
4 Bromide	5.225	5.225	0.000	4685474H	10.0	10.0	
5 Nitrate as N	6.042	6.042	0.000	5523078H	2.50	2.50	
6 Orthophosphate as P	8.425	8.425	0.000	1291587H	2.50	2.54	
3 Sulfate	10.200	10.200	0.000	22893328H	50.0	51.8	

Reagents:

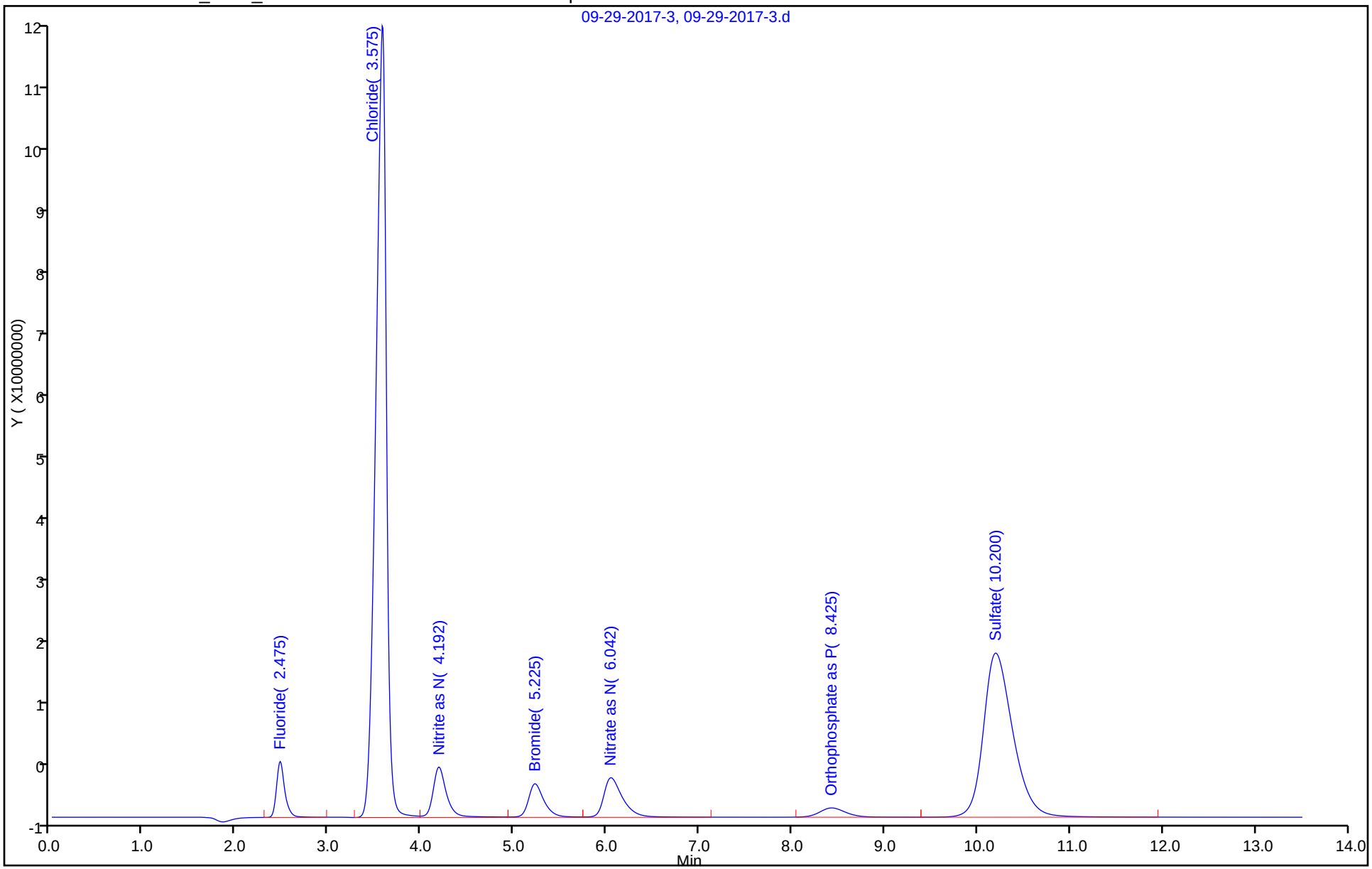
icccv_01909 Amount Added: 1.00 Units: mL

Report Date: 30-Sep-2017 06:54:03 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-3.d

Injection Date:	29-Sep-2017 10:11:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	3
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: CCV 180-224419/18 Calibration Date: 09/29/2017 15:13

Instrument ID: CHICS2000 Calib Start Date: 09/28/2017 14:23

GC Column: AS-14 ID: 2.00(mm) Calib End Date: 09/28/2017 15:58

Lab File ID: 09-29-2017-18.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin2		3084426		2.52	2.50	0.9	10.0
Chloride	Lin2		2185306		53.2	50.0	6.3	10.0
Nitrite as N	LinF		2765076		2.40	2.50	-4.0	10.0
Bromide	Lin2		459857		9.83	10.0	-1.7	10.0
Nitrate as N	Lin2		2164294		2.45	2.50	-2.1	10.0
Orthophosphate as P	Lin2		504791		2.48	2.50	-0.6	10.0
Sulfate	Lin2		446145		50.4	50.0	0.9	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: CCV 180-224419/18 Calibration Date: 09/29/2017 15:13

Instrument ID: CHICS2000 Calib Start Date: 09/28/2017 14:23

GC Column: AS-14 ID: 2.00(mm) Calib End Date: 09/28/2017 15:58

Lab File ID: 09-29-2017-18.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.48	2.13	2.83
Chloride	3.58	3.23	3.93
Nitrite as N	4.19	3.94	4.44
Bromide	5.23	4.88	5.58
Nitrate as N	6.05	5.80	6.30
Orthophosphate as P	8.42	7.92	8.92
Sulfate	10.20	9.85	10.55

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-18.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 29-Sep-2017 15:13:00 ALS Bottle#: 0 Worklist Smp#: 18
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018654-018
Misc. Info.: 28 CCV
Operator ID: Instrument ID: CHICS2000
Sublist: chrom-300_9056_CHICS2000*sub1

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 30-Sep-2017 06:54:12 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK025

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.475	2.475	0.000	7711066H	2.50	2.52	
2 Chloride	3.575	3.575	0.000	109265324H	50.0	53.2	
7 Nitrite as N	4.192	4.192	0.000	6912690H	2.50	2.40	
4 Bromide	5.225	5.225	0.000	4598565H	10.0	9.83	
5 Nitrate as N	6.050	6.050	0.000	5410734H	2.50	2.45	
6 Orthophosphate as P	8.417	8.417	0.000	1261977H	2.50	2.48	
3 Sulfate	10.200	10.200	0.000	22307243H	50.0	50.4	

Reagents:

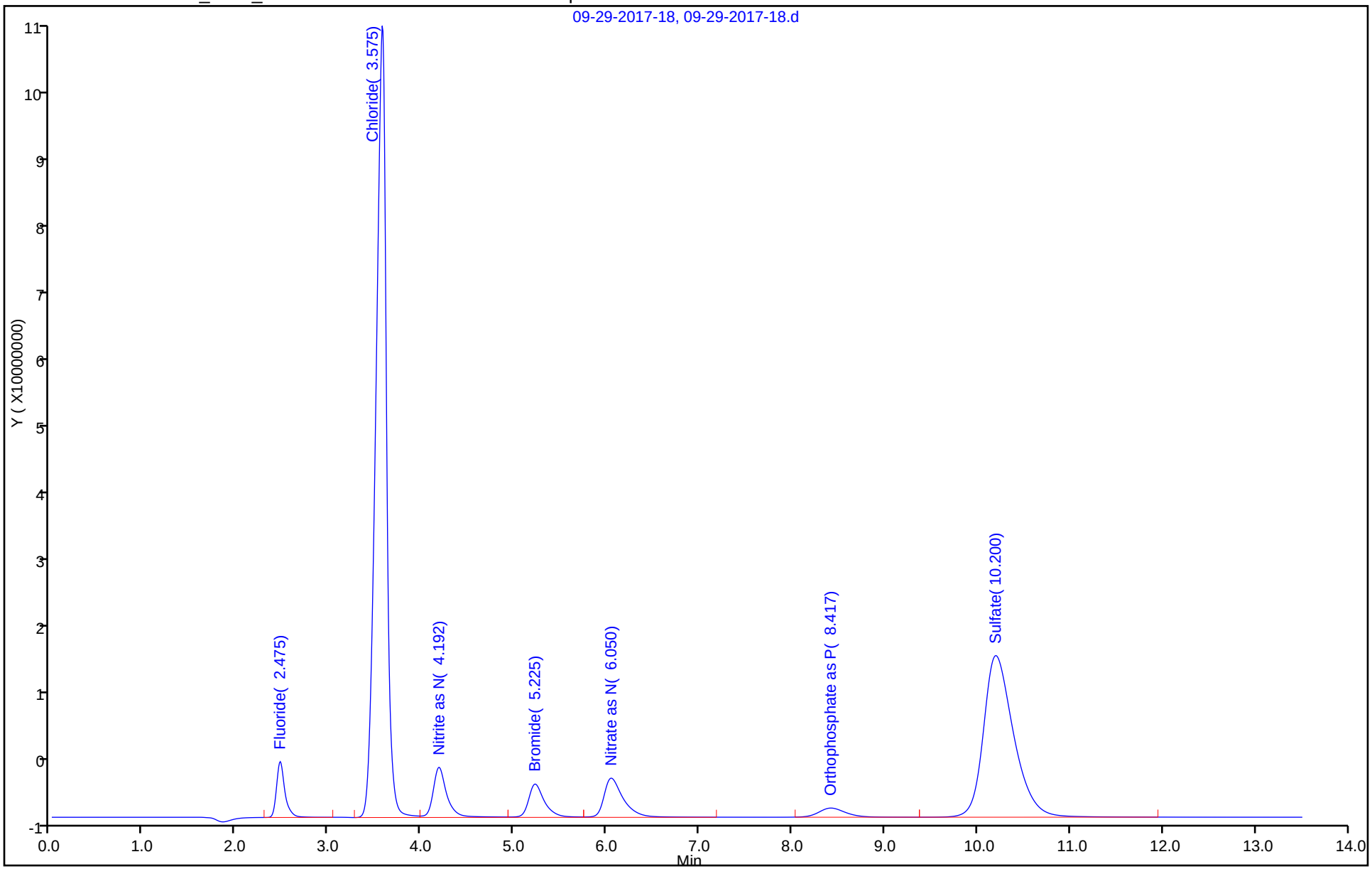
icccv_01909 Amount Added: 1.00 Units: mL

Report Date: 30-Sep-2017 06:54:13 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-18.d

Injection Date:	29-Sep-2017 15:13:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	18
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: CCV 180-224419/30 Calibration Date: 09/29/2017 19:23

Instrument ID: CHICS2000 Calib Start Date: 09/28/2017 14:23

GC Column: AS-14 ID: 2.00(mm) Calib End Date: 09/28/2017 15:58

Lab File ID: 09-29-2017-30.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin2		3029890		2.48	2.50	-0.8	10.0
Chloride	Lin2		2170717		52.8	50.0	5.6	10.0
Nitrite as N	LinF		2745694		2.38	2.50	-4.6	10.0
Bromide	Lin2		456318		9.75	10.0	-2.5	10.0
Nitrate as N	Lin2		2143847		2.42	2.50	-3.1	10.0
Orthophosphate as P	Lin2		498414		2.45	2.50	-1.9	10.0
Sulfate	Lin2		438540		49.6	50.0	-0.9	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: CCV 180-224419/30 Calibration Date: 09/29/2017 19:23

Instrument ID: CHICS2000 Calib Start Date: 09/28/2017 14:23

GC Column: AS-14 ID: 2.00(mm) Calib End Date: 09/28/2017 15:58

Lab File ID: 09-29-2017-30.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.48	2.13	2.83
Chloride	3.58	3.23	3.93
Nitrite as N	4.19	3.94	4.44
Bromide	5.23	4.88	5.58
Nitrate as N	6.06	5.81	6.31
Orthophosphate as P	8.43	7.93	8.93
Sulfate	10.20	9.85	10.55

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-30.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 29-Sep-2017 19:23:00 ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018654-030
Misc. Info.: 40 CCV
Operator ID: Instrument ID: CHICS2000
Sublist: chrom-300_9056_CHICS2000*sub1

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 30-Sep-2017 06:54:18 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK025

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.475	2.475	0.000	7574724H	2.50	2.48	
2 Chloride	3.583	3.583	0.000	108535850H	50.0	52.8	
7 Nitrite as N	4.192	4.192	0.000	6864234H	2.50	2.38	
4 Bromide	5.233	5.233	0.000	4563184H	10.0	9.75	
5 Nitrate as N	6.058	6.058	0.000	5359618H	2.50	2.42	
6 Orthophosphate as P	8.425	8.425	0.000	1246035H	2.50	2.45	
3 Sulfate	10.200	10.200	0.000	21927023H	50.0	49.6	

Reagents:

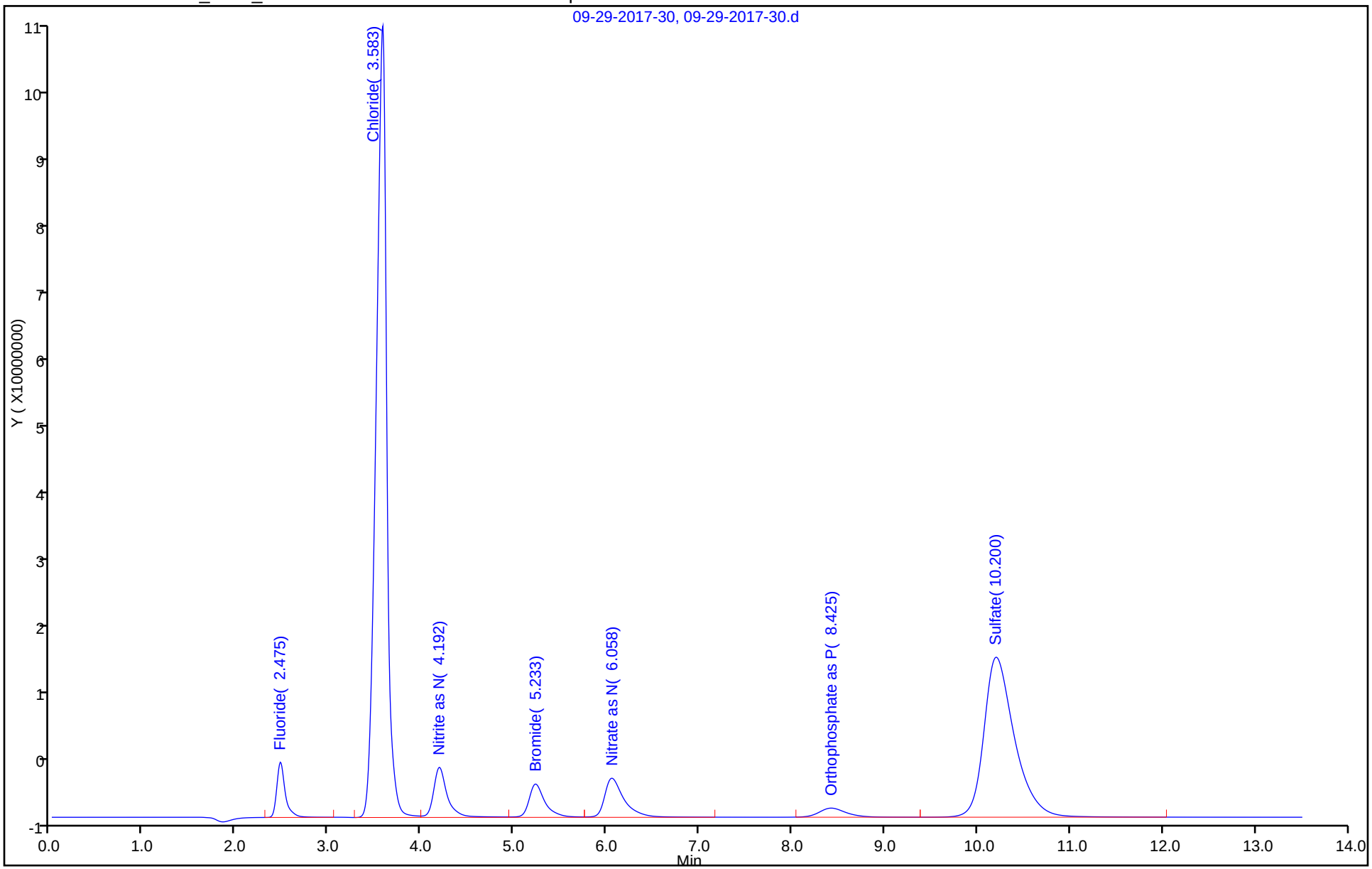
icccv_01909 Amount Added: 1.00 Units: mL

Report Date: 30-Sep-2017 06:54:18 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-30.d

Injection Date:	29-Sep-2017 19:23:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	30
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: CCV 180-224419/42 Calibration Date: 09/29/2017 22:34

Instrument ID: CHICS2000 Calib Start Date: 09/28/2017 14:23

GC Column: AS-14 ID: 2.00(mm) Calib End Date: 09/28/2017 15:58

Lab File ID: 09-29-2017-42.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin2		2997054		2.45	2.50	-1.9	10.0
Chloride	Lin2		2171989		52.8	50.0	5.7	10.0
Nitrite as N	LinF		2745692		2.38	2.50	-4.6	10.0
Bromide	Lin2		456383		9.76	10.0	-2.4	10.0
Nitrate as N	Lin2		2144429		2.42	2.50	-3.0	10.0
Orthophosphate as P	Lin2		499382		2.46	2.50	-1.7	10.0
Sulfate	Lin2		438809		49.6	50.0	-0.8	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: CCV 180-224419/42 Calibration Date: 09/29/2017 22:34

Instrument ID: CHICS2000 Calib Start Date: 09/28/2017 14:23

GC Column: AS-14 ID: 2.00(mm) Calib End Date: 09/28/2017 15:58

Lab File ID: 09-29-2017-42.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.48	2.13	2.83
Chloride	3.58	3.23	3.93
Nitrite as N	4.19	3.94	4.44
Bromide	5.23	4.88	5.58
Nitrate as N	6.05	5.80	6.30
Orthophosphate as P	8.41	7.91	8.91
Sulfate	10.20	9.85	10.55

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-42.d				
Lims ID:	ccv				
Client ID:					
Sample Type:	CCV				
Inject. Date:	29-Sep-2017 22:34:00	ALS Bottle#:	0	Worklist Smp#:	42
Injection Vol:	50.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0018654-042				
Misc. Info.:	52 CCV				
Operator ID:		Instrument ID:	CHICS2000		
Sublist:	chrom-300_9056_CHICS2000*sub1				
Method:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\300_9056_CHICS2000.m				
Limit Group:	GC Anions ICAL				
Last Update:	30-Sep-2017 06:54:23	Calib Date:	28-Sep-2017 15:58:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d				
Column 1 :			Det: 0008		
Process Host:	XAWRK025				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.475	2.475	0.000	7492635H	2.50	2.45	
2 Chloride	3.575	3.575	0.000	108599431H	50.0	52.8	
7 Nitrite as N	4.192	4.192	0.000	6864231H	2.50	2.38	
4 Bromide	5.225	5.225	0.000	4563829H	10.0	9.76	
5 Nitrate as N	6.050	6.050	0.000	5361073H	2.50	2.42	
6 Orthophosphate as P	8.408	8.408	0.000	1248456H	2.50	2.46	
3 Sulfate	10.200	10.200	0.000	21940436H	50.0	49.6	

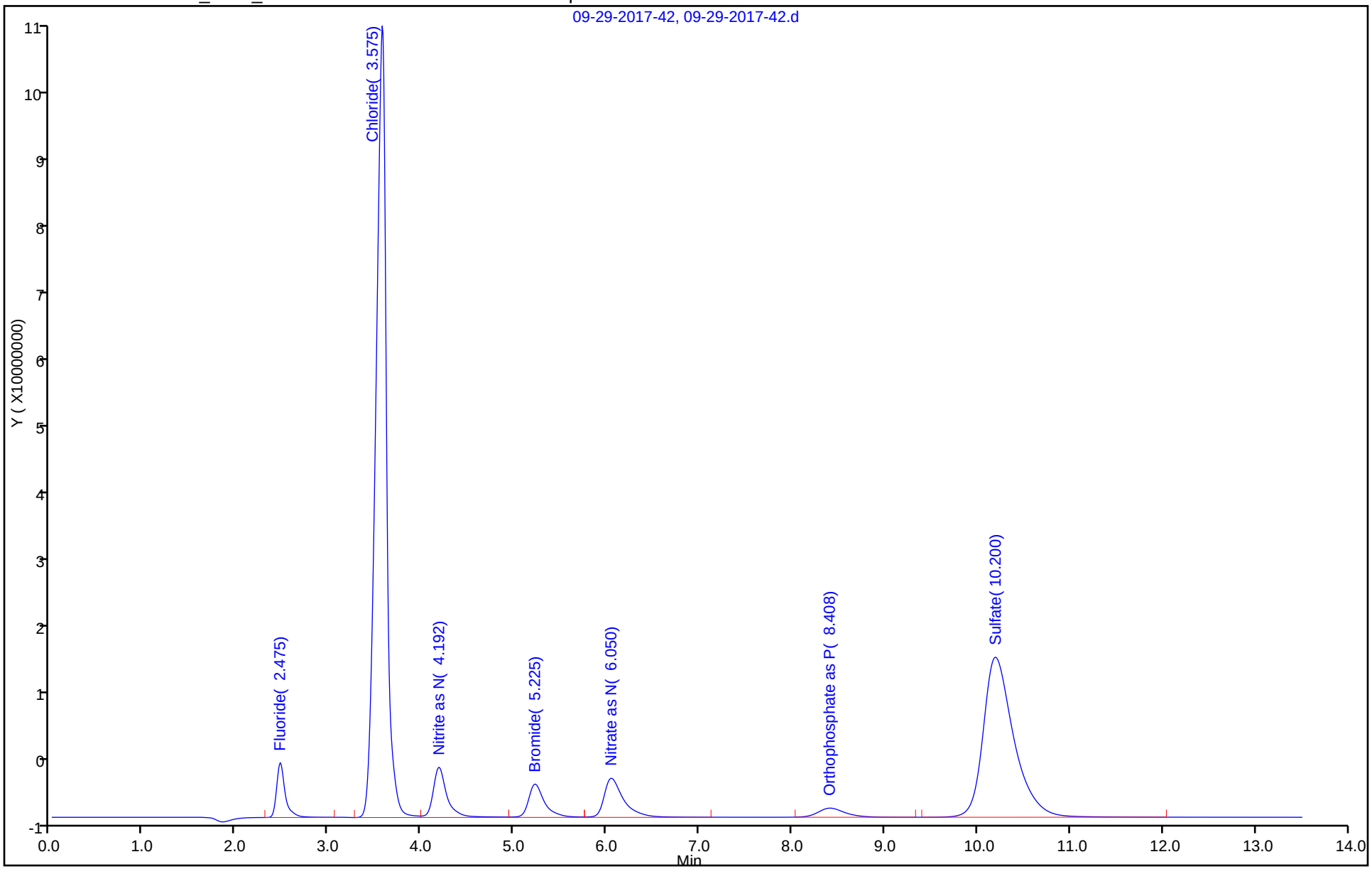
Reagents:

icccv_01909 Amount Added: 1.00 Units: mL

Report Date: 30-Sep-2017 06:54:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-42.d				
Injection Date:	29-Sep-2017 22:34:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	42
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-224419/6

Matrix: Water Lab File ID: 09-29-2017-6.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 09/29/2017 10:59

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 50(uL) GC Column: AS-14 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 224419 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	0.10	U	0.10	0.023
14797-65-0	Nitrite as N	0.050	U	0.050	0.029
16984-48-8	Fluoride	0.10	U	0.10	0.026
16887-00-6	Chloride	1.0	U	1.0	0.71
14808-79-8	Sulfate	1.0	U	1.0	0.38

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-6.d
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 29-Sep-2017 10:59:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018654-006
Misc. Info.: 16 MB
Operator ID: Instrument ID: CHICS2000

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 30-Sep-2017 06:54:02 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK025

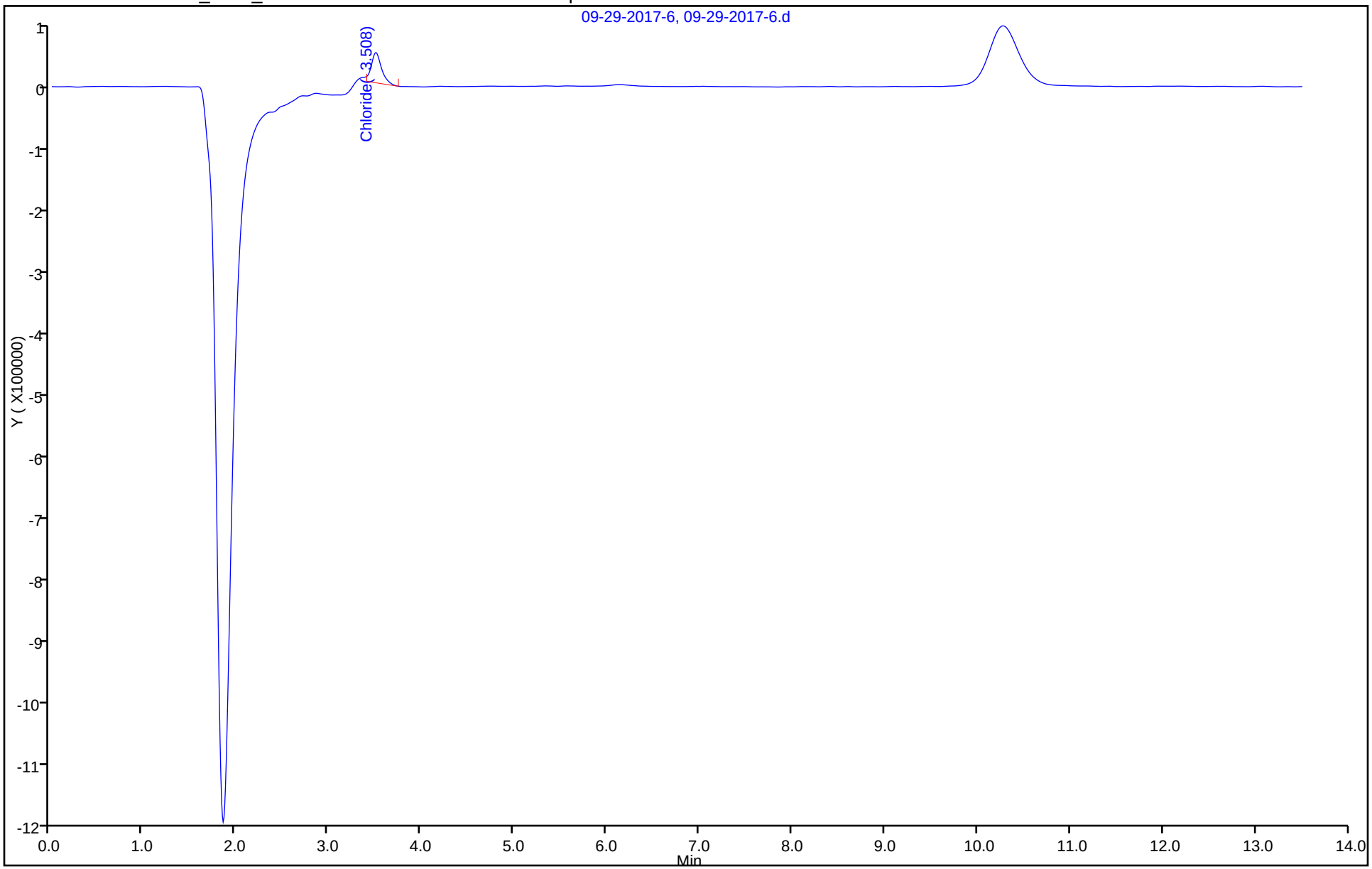
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		2.475				ND	
2 Chloride	3.508	3.575	-0.067	47235H		0.2429	
7 Nitrite as N		4.192				ND	
4 Bromide		5.225				ND	
5 Nitrate as N		6.042				ND	
6 Orthophosphate as P		8.425				ND	
3 Sulfate		10.200				ND	

Report Date: 30-Sep-2017 06:54:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-6.d

Injection Date:	29-Sep-2017 10:59:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	mb			Worklist Smp#:	6
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 180-224419/4

Matrix: Water Lab File ID: 09-29-2017-4.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 09/29/2017 10:27

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 50(uL) GC Column: AS-14 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 224419 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	0.10	U	0.10	0.023
14797-65-0	Nitrite as N	0.050	U	0.050	0.029
16984-48-8	Fluoride	0.10	U	0.10	0.026
16887-00-6	Chloride	1.0	U	1.0	0.71
14808-79-8	Sulfate	1.0	U	1.0	0.38

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-4.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 29-Sep-2017 10:27:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018654-004
Misc. Info.: 14 CCB
Operator ID: Instrument ID: CHICS2000

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 30-Sep-2017 06:54:02 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK025

First Level Reviewer: reaglec Date: 29-Sep-2017 10:47:39

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		2.475				ND	
2 Chloride	3.508	3.575	-0.067	43049H		0.2409	
7 Nitrite as N		4.192				ND	
4 Bromide		5.225				ND	
5 Nitrate as N		6.042				ND	
6 Orthophosphate as P		8.425				ND	
3 Sulfate	10.275	10.200	0.075	92703H		0.2075	M

QC Flag Legend

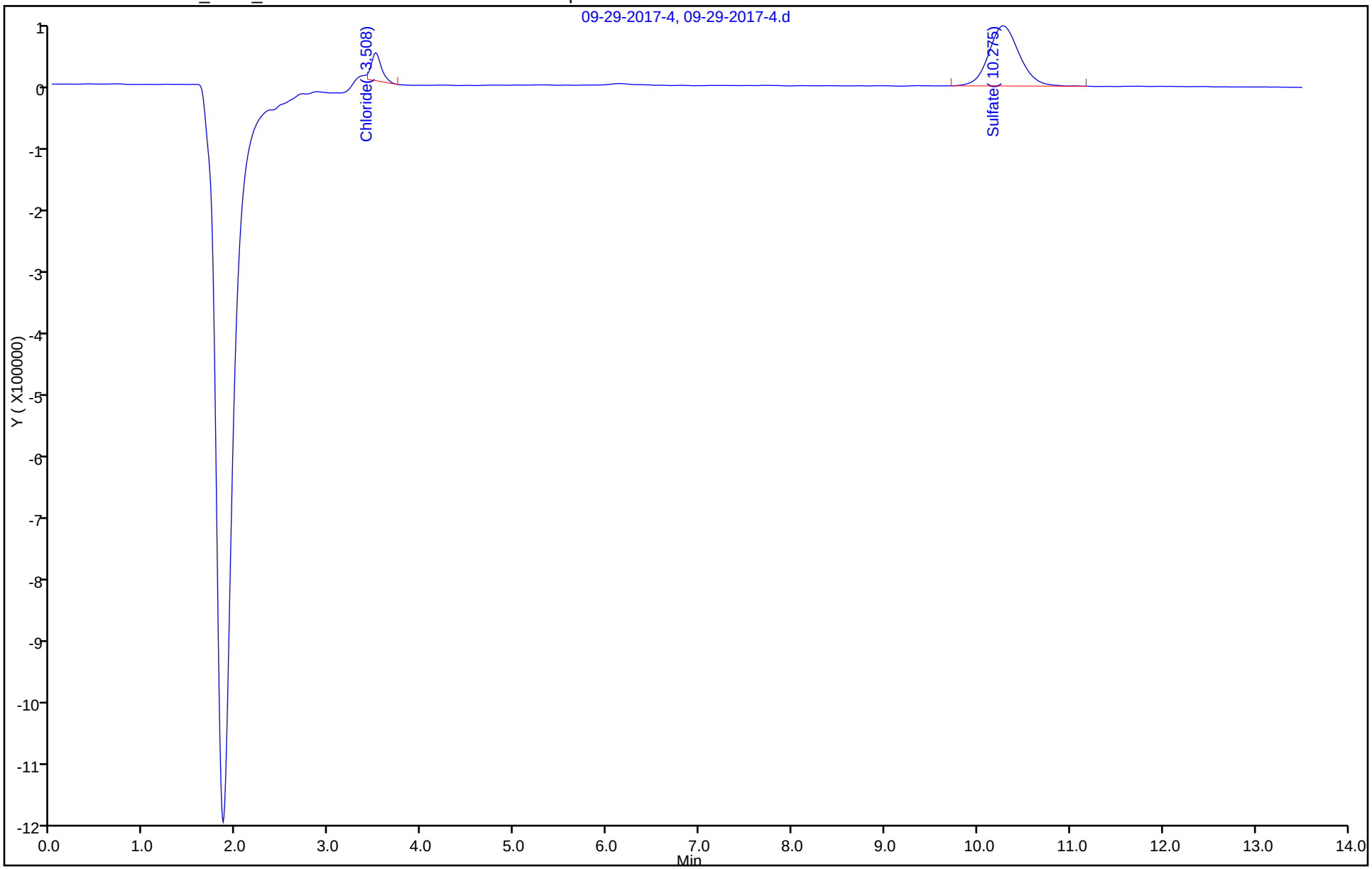
Review Flags
M - Manually Integrated

Report Date: 30-Sep-2017 06:54:04 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-4.d

Injection Date:	29-Sep-2017 10:27:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	4
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

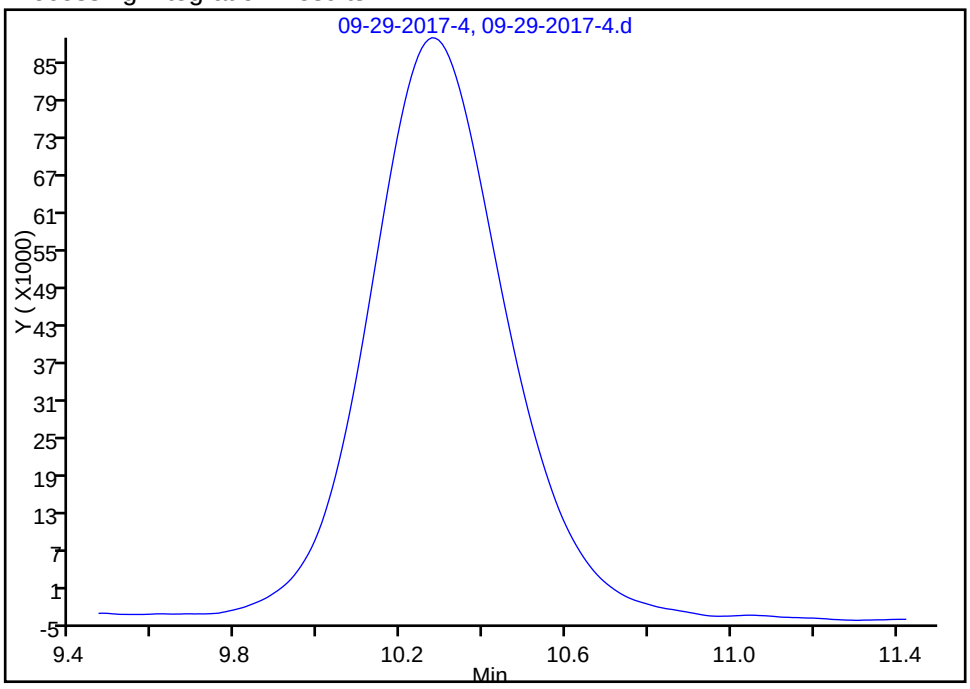
Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-4.d				
Injection Date:	29-Sep-2017 10:27:00	Instrument ID:	CHICS2000		
Lims ID:	ccb				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	50.0 ul	Dil. Factor:	1.0000		
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		
Column:		Detector	0008		

3 Sulfate, CAS: 14808-79-8

Signal: 1

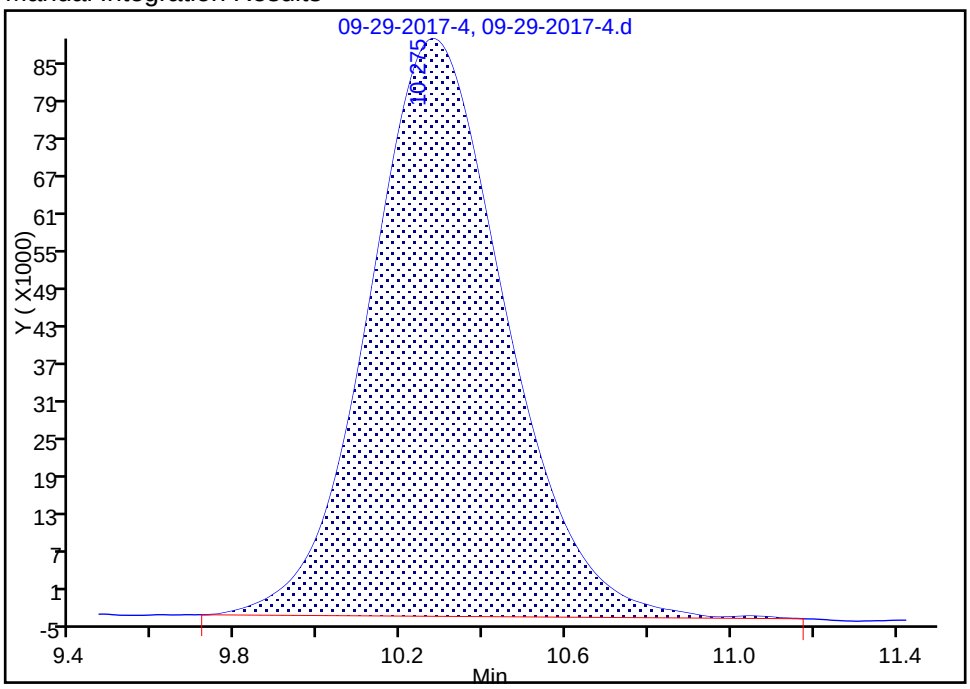
Not Detected
Expected RT: 10.20

Processing Integration Results



Manual Integration Results

RT: 10.28
Height: 92703
Amount: 0.207481
Amount Units: ug/ml



Reviewer: reaglec, 29-Sep-2017 10:47:37
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 180-224419/19

Matrix: Water Lab File ID: 09-29-2017-19.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 09/29/2017 15:29

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 50(uL) GC Column: AS-14 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 224419 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	0.10	U	0.10	0.023
14797-65-0	Nitrite as N	0.050	U	0.050	0.029
16984-48-8	Fluoride	0.10	U	0.10	0.026
16887-00-6	Chloride	1.0	U	1.0	0.71
14808-79-8	Sulfate	1.0	U	1.0	0.38

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-19.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 29-Sep-2017 15:29:00 ALS Bottle#: 0 Worklist Smp#: 19
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018654-019
Misc. Info.: 29 CCB
Operator ID: Instrument ID: CHICS2000

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 30-Sep-2017 06:54:12 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK025

First Level Reviewer: reaglec Date: 29-Sep-2017 16:03:16

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		2.475				ND	
2 Chloride	3.508	3.575	-0.067	42090H		0.2404	
7 Nitrite as N		4.192				ND	
4 Bromide		5.225				ND	
5 Nitrate as N		6.050				ND	
6 Orthophosphate as P		8.417				ND	
3 Sulfate	10.275	10.200	0.075	91581H		0.2049	M

QC Flag Legend

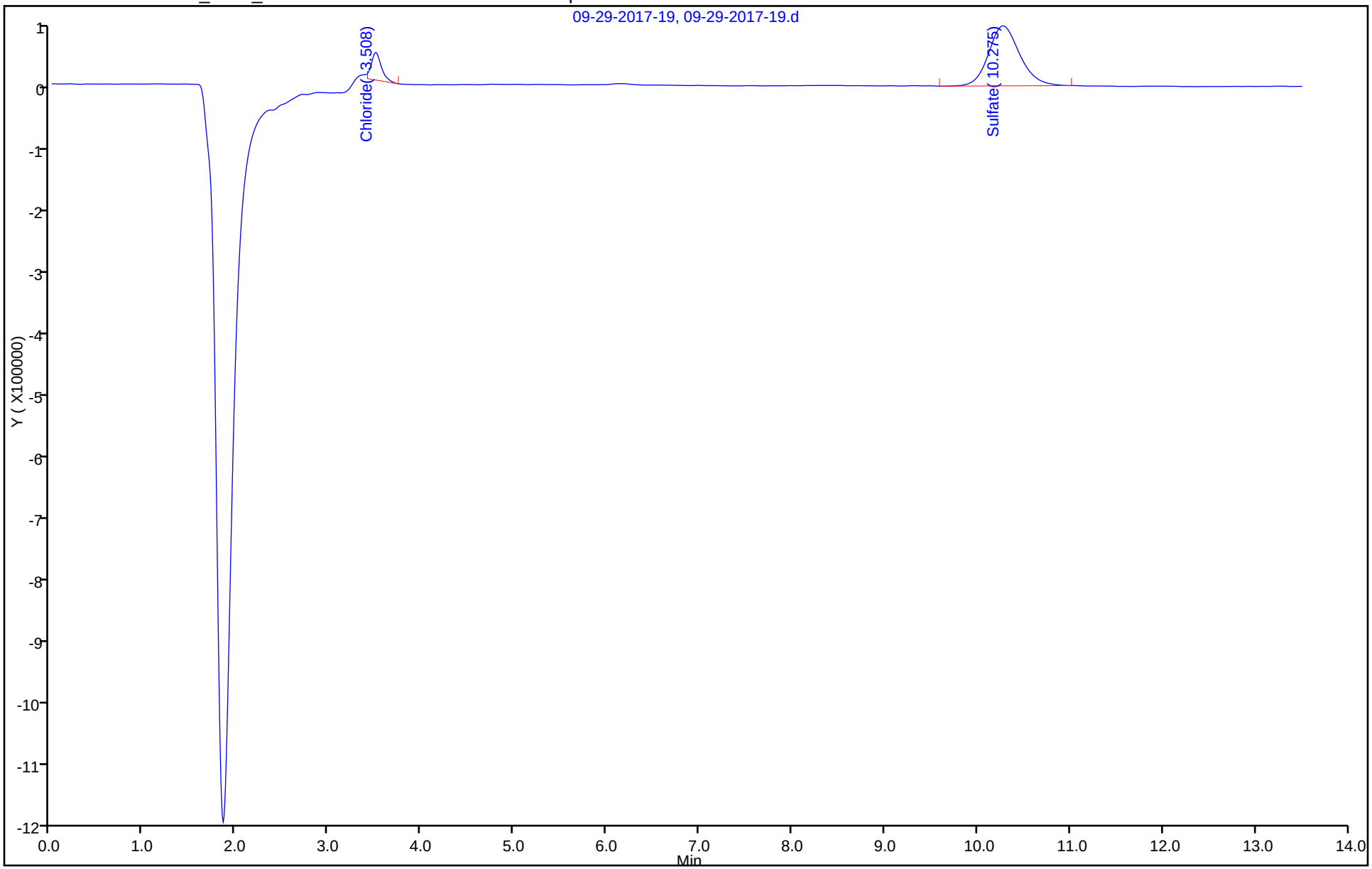
Review Flags
M - Manually Integrated

Report Date: 30-Sep-2017 06:54:13 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-19.d

Injection Date:	29-Sep-2017 15:29:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	19
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

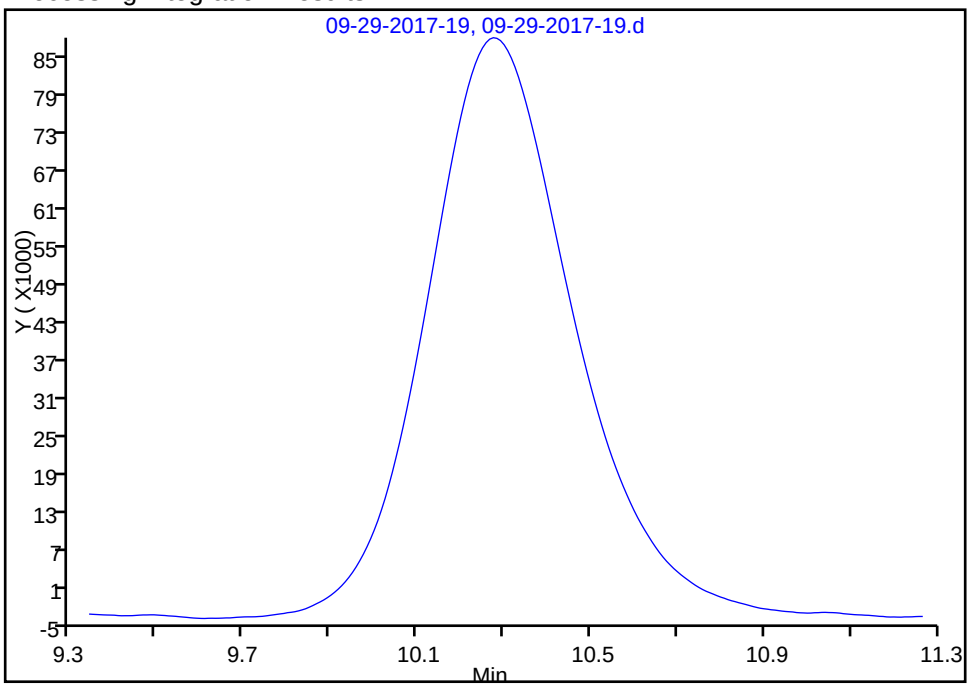
Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-19.d				
Injection Date:	29-Sep-2017 15:29:00	Instrument ID:	CHICS2000		
Lims ID:	ccb				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	50.0 ul	Dil. Factor:	1.0000		
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		
Column:		Detector	0008		

3 Sulfate, CAS: 14808-79-8

Signal: 1

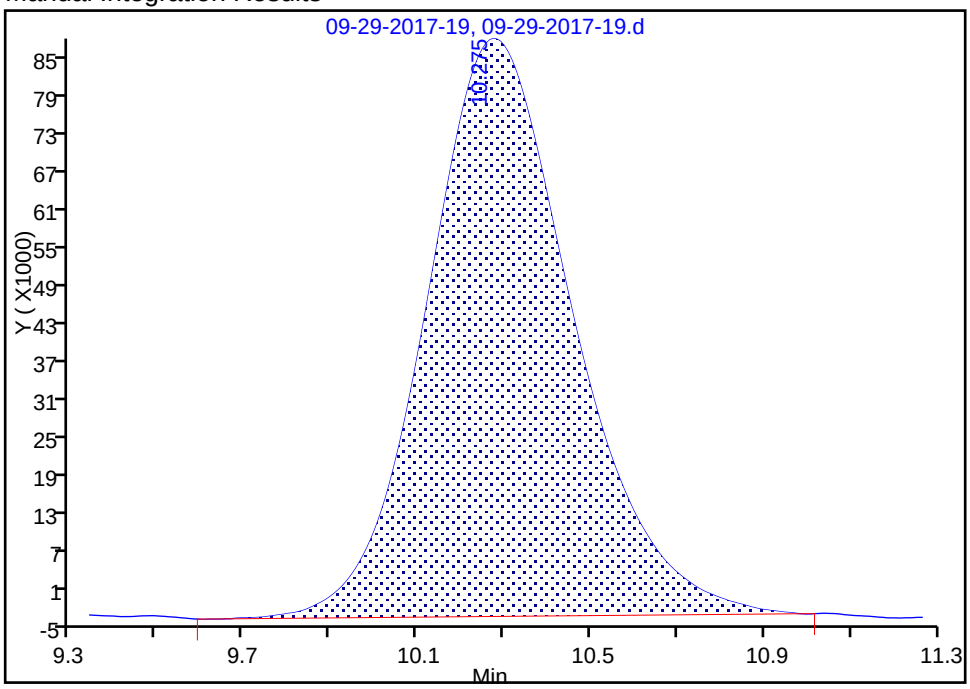
Not Detected
Expected RT: 10.20

Processing Integration Results



Manual Integration Results

RT: 10.28
Height: 91581
Amount: 0.204944
Amount Units: ug/ml



Reviewer: reaglec, 29-Sep-2017 16:03:15
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 180-224419/31

Matrix: Water Lab File ID: 09-29-2017-31.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 09/29/2017 19:39

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 50(uL) GC Column: AS-14 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 224419 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	0.10	U	0.10	0.023
14797-65-0	Nitrite as N	0.050	U	0.050	0.029
16984-48-8	Fluoride	0.10	U	0.10	0.026
16887-00-6	Chloride	1.0	U	1.0	0.71
14808-79-8	Sulfate	1.0	U	1.0	0.38

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-31.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 29-Sep-2017 19:39:00 ALS Bottle#: 0 Worklist Smp#: 31
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018654-031
Misc. Info.: 41 CCB
Operator ID: Instrument ID: CHICS2000

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 30-Sep-2017 06:54:18 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK025

First Level Reviewer: reaglec Date: 30-Sep-2017 05:01:14

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		2.475				ND	
2 Chloride	3.508	3.583	-0.075	45612H		0.2421	
7 Nitrite as N		4.192				ND	
4 Bromide		5.233				ND	
5 Nitrate as N		6.058				ND	
6 Orthophosphate as P		8.425				ND	
3 Sulfate	10.275	10.200	0.075	90519H		0.2025	M

QC Flag Legend

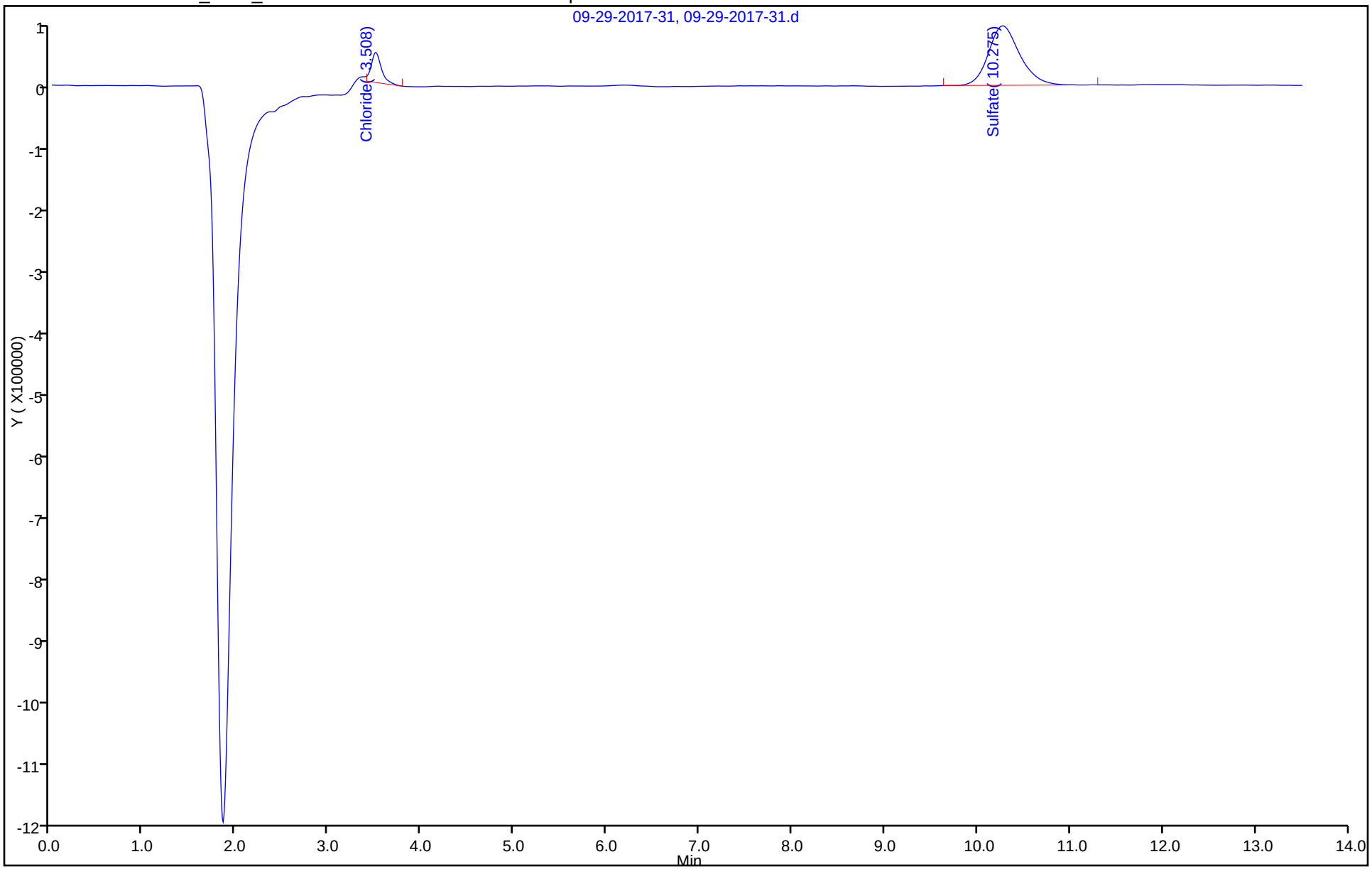
Review Flags
M - Manually Integrated

Report Date: 30-Sep-2017 06:54:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-31.d

Injection Date:	29-Sep-2017 19:39:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	31
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

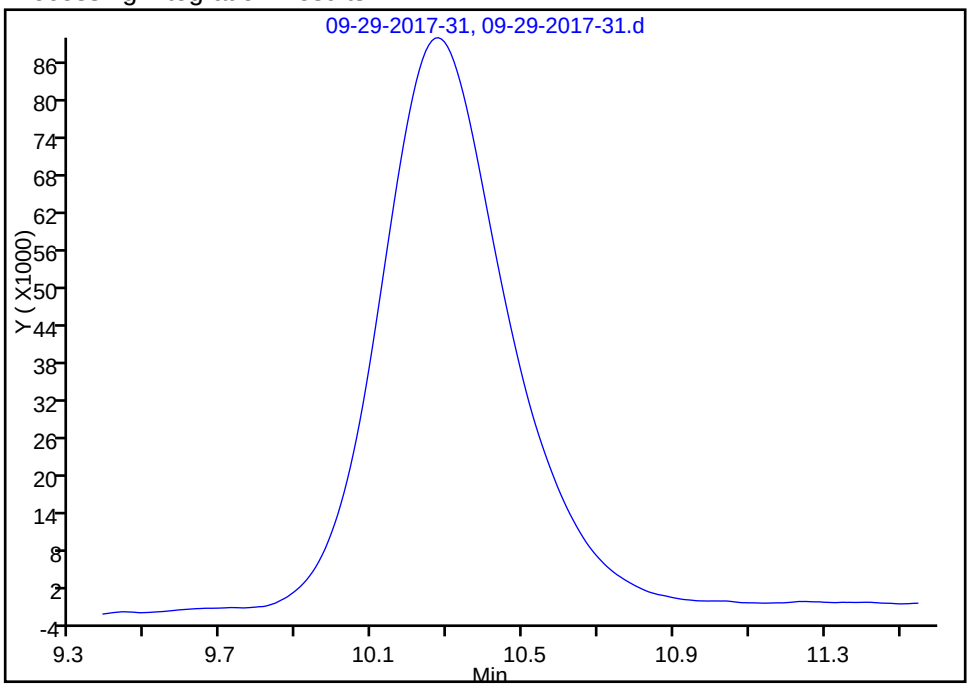
Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-31.d				
Injection Date:	29-Sep-2017 19:39:00	Instrument ID:	CHICS2000		
Lims ID:	ccb				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	31
Injection Vol:	50.0 ul	Dil. Factor:	1.0000		
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		
Column:		Detector	0008		

3 Sulfate, CAS: 14808-79-8

Signal: 1

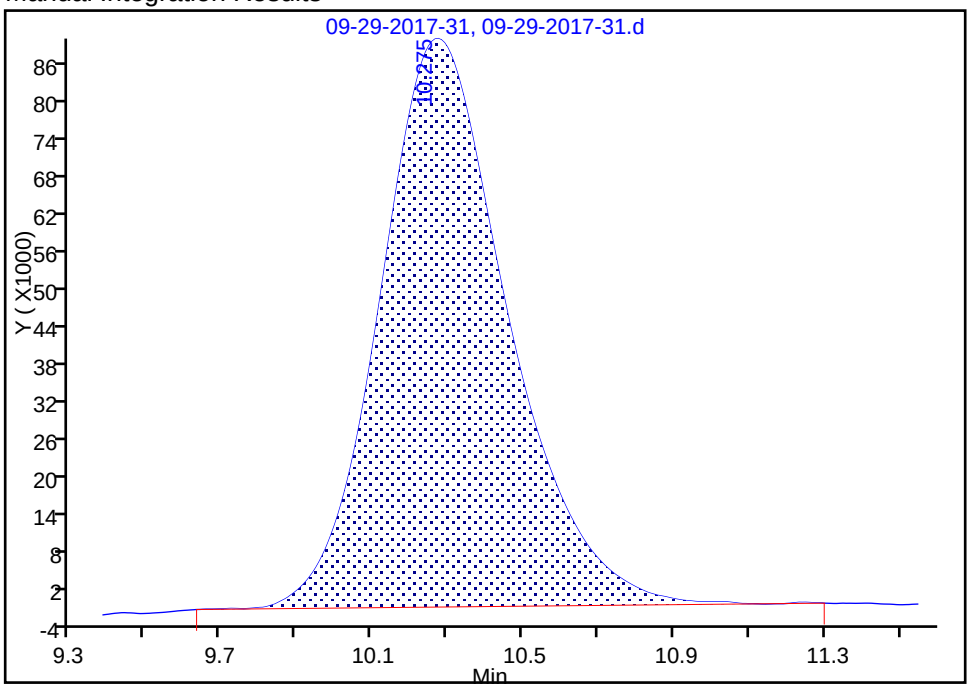
Not Detected
Expected RT: 10.20

Processing Integration Results



Manual Integration Results

RT: 10.28
Height: 90519
Amount: 0.202543
Amount Units: ug/ml



Reviewer: reaglec, 30-Sep-2017 05:01:12
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 180-224419/43

Matrix: Water Lab File ID: 09-29-2017-43.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 09/29/2017 22:50

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 50(uL) GC Column: AS-14 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 224419 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	0.10	U	0.10	0.023
14797-65-0	Nitrite as N	0.050	U	0.050	0.029
16984-48-8	Fluoride	0.10	U	0.10	0.026
16887-00-6	Chloride	1.0	U	1.0	0.71
14808-79-8	Sulfate	1.0	U	1.0	0.38

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-43.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 29-Sep-2017 22:50:00 ALS Bottle#: 0 Worklist Smp#: 43
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018654-043
Misc. Info.: 53 CCB
Operator ID: Instrument ID: CHICS2000

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 30-Sep-2017 06:54:23 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK025

First Level Reviewer: reaglec Date: 30-Sep-2017 06:53:25

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		2.475				ND	
2 Chloride	3.508	3.575	-0.067	43075H		0.2409	
7 Nitrite as N		4.192				ND	
4 Bromide		5.225				ND	
5 Nitrate as N		6.050				ND	
6 Orthophosphate as P		8.408				ND	
3 Sulfate	10.275	10.200	0.075	89379H		0.2000	M

QC Flag Legend

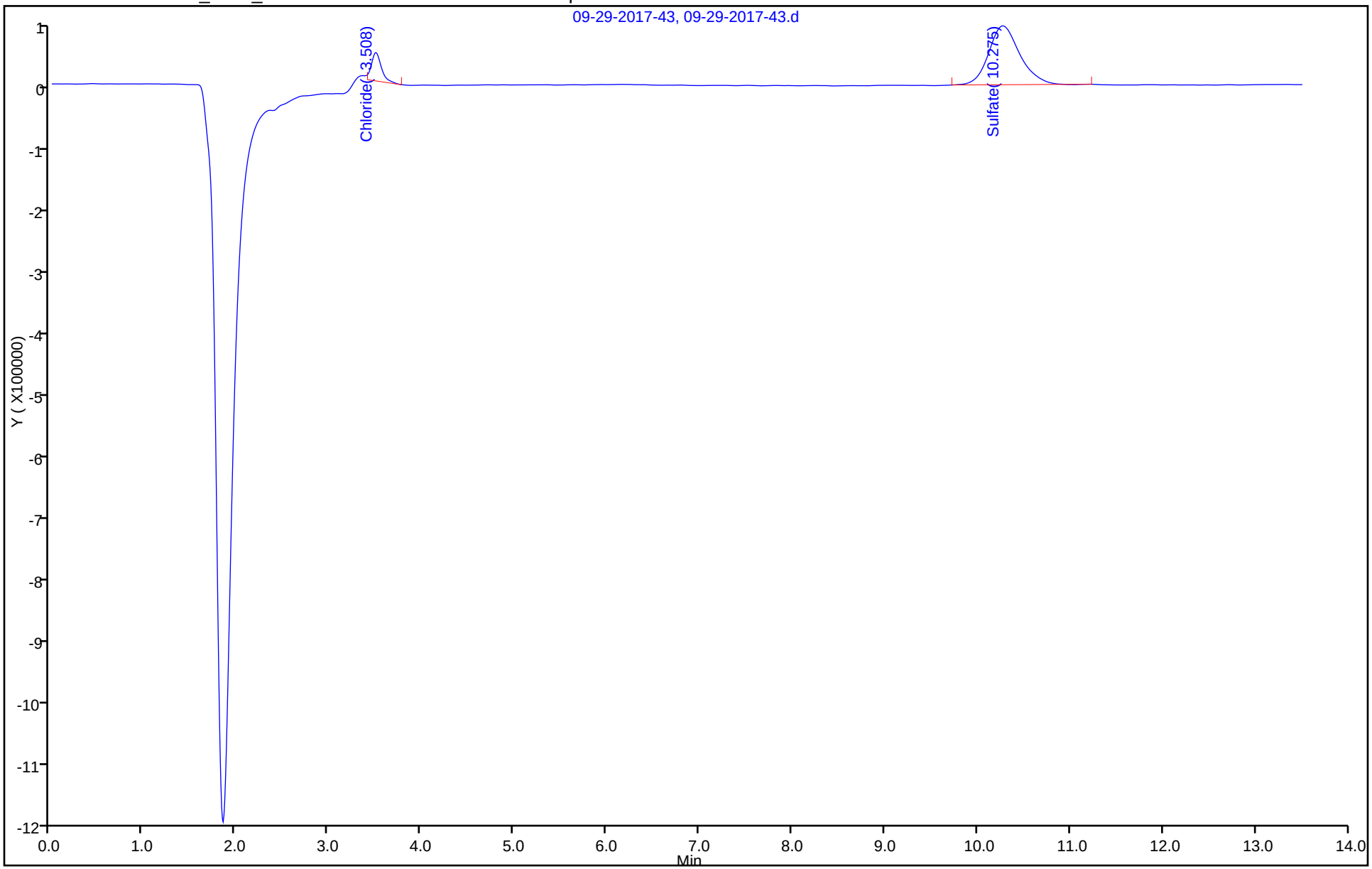
Review Flags
M - Manually Integrated

Report Date: 30-Sep-2017 06:54:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-43.d

Injection Date:	29-Sep-2017 22:50:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	43
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

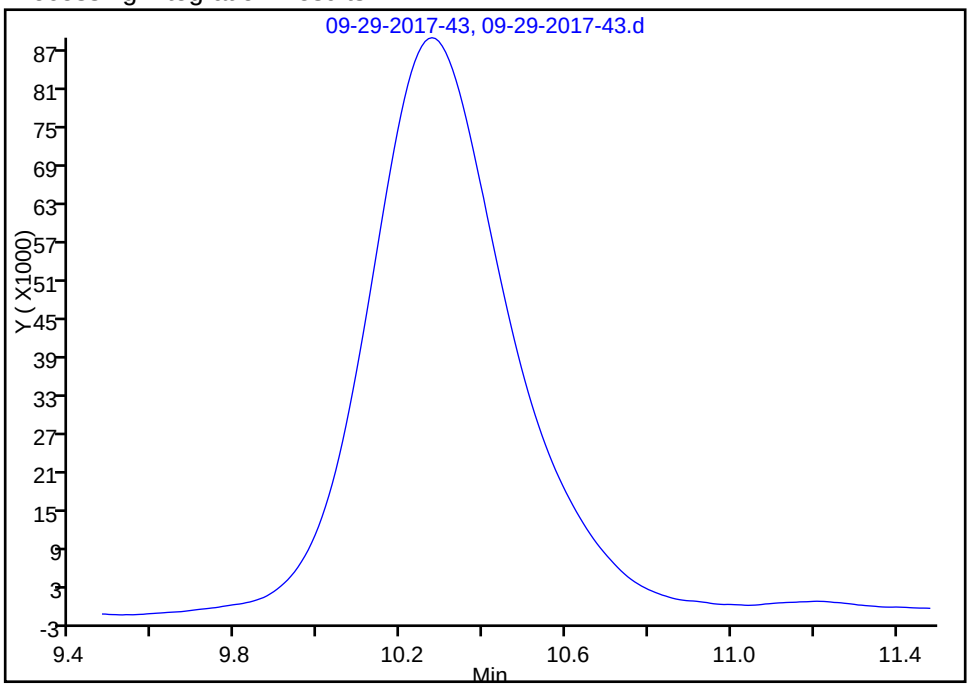
Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-43.d				
Injection Date:	29-Sep-2017 22:50:00	Instrument ID:	CHICS2000		
Lims ID:	ccb				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	43
Injection Vol:	50.0 ul	Dil. Factor:	1.0000		
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		
Column:		Detector	0008		

3 Sulfate, CAS: 14808-79-8

Signal: 1

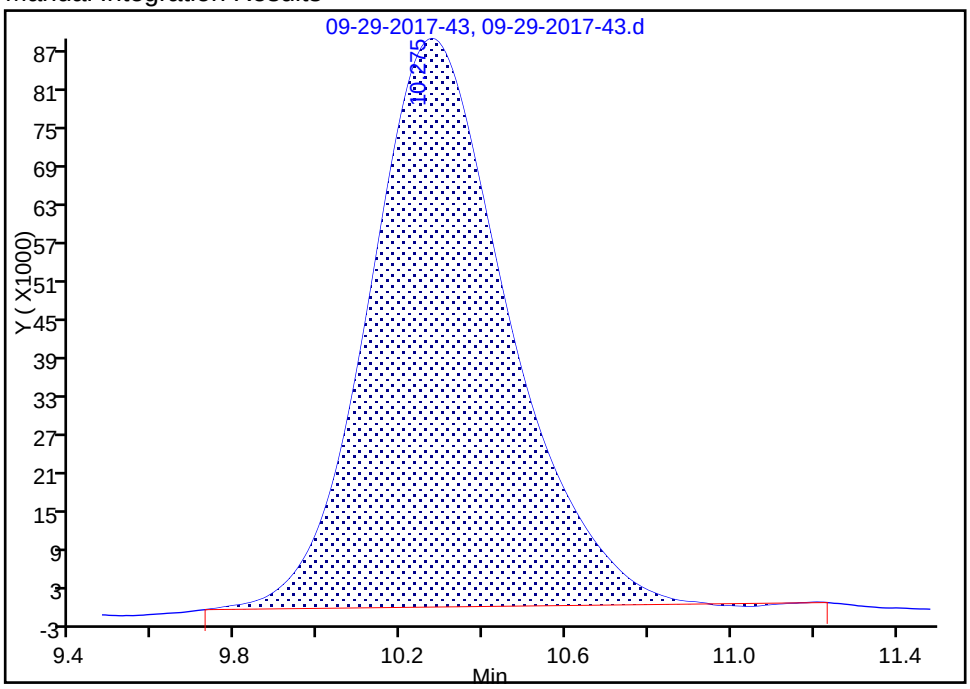
Not Detected
Expected RT: 10.20

Processing Integration Results



Manual Integration Results

RT: 10.28
Height: 89379
Amount: 0.199966
Amount Units: ug/ml



Reviewer: reaglec, 30-Sep-2017 06:53:24
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-224419/5

Matrix: Water Lab File ID: 09-29-2017-5.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 09/29/2017 10:43

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 50(uL) GC Column: AS-14 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 224419 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	1.17		0.10	0.023
14797-65-0	Nitrite as N	1.14		0.050	0.029
16984-48-8	Fluoride	1.21		0.10	0.026
16887-00-6	Chloride	26.1		1.0	0.71
14808-79-8	Sulfate	23.1		1.0	0.38

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-5.d
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 29-Sep-2017 10:43:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 180-0018654-005
Misc. Info.: 15 LCS
Operator ID: Instrument ID: CHICS2000

Method: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\300_9056_CHICS2000.m
Limit Group: GC Anions ICAL
Last Update: 30-Sep-2017 06:54:02 Calib Date: 28-Sep-2017 15:58:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Pittsburgh\ChromData\CHICS2000\20170928-18640.b\09-28-2017-8.d

Column 1 : Det: 0008
Process Host: XAWRK025

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.475	2.475	0.000	3709963H	1.25	1.21	
2 Chloride	3.542	3.575	-0.033	53462606H	25.0	26.1	
7 Nitrite as N	4.183	4.192	-0.009	3283584H	1.25	1.14	
4 Bromide	5.233	5.225	0.008	2188692H	5.00	4.69	
5 Nitrate as N	6.067	6.042	0.025	2577844H	1.25	1.17	
6 Orthophosphate as P	8.433	8.425	0.008	614364H	1.25	1.21	
3 Sulfate	10.242	10.200	0.042	10200124H	25.0	23.1	

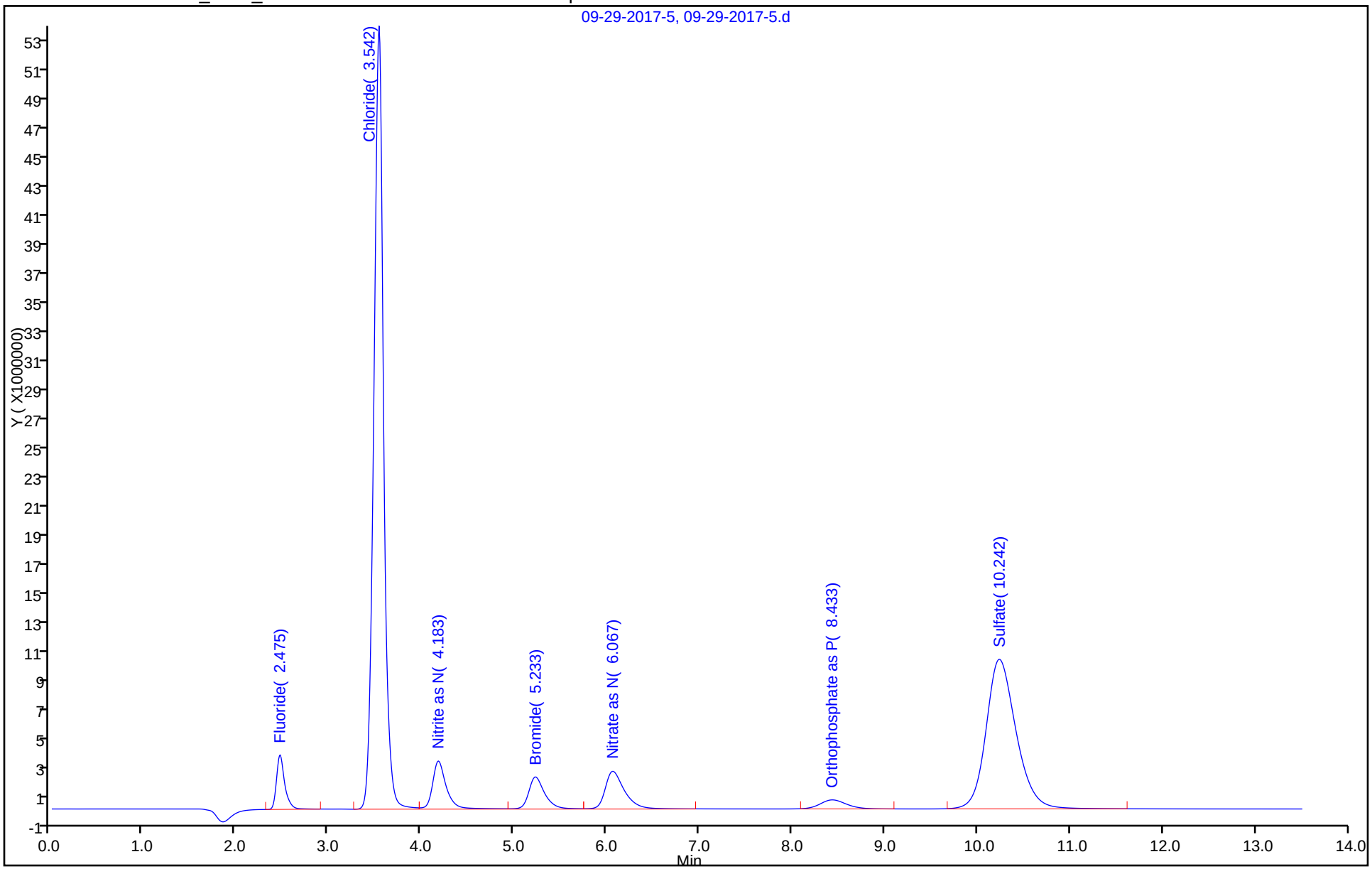
Reagents:

iclcs_00142 Amount Added: 1.00 Units: mL

Report Date: 30-Sep-2017 06:54:05 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Pittsburgh

Data File:	\\ChromNA\Pittsburgh\ChromData\CHICS2000\20170929-18654.b\09-29-2017-5.d				
Injection Date:	29-Sep-2017 10:43:00	Instrument ID:	CHICS2000	Operator ID:	
Lims ID:	lcs			Worklist Smp#:	5
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHICS2000	Limit Group:	GC Anions ICAL		



HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: CHICS2000 Start Date: 09/28/2017 14:23

Analysis Batch Number: 224350 End Date: 09/29/2017 00:43

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 180-224350/2		09/28/2017 14:23	1	09-28-2017-2.d	AS-14 2(mm)
IC 180-224350/3		09/28/2017 14:39	1	09-28-2017-3.d	AS-14 2(mm)
IC 180-224350/4		09/28/2017 14:55	1	09-28-2017-4.d	AS-14 2(mm)
IC 180-224350/5		09/28/2017 15:11	1	09-28-2017-5.d	AS-14 2(mm)
IC 180-224350/6		09/28/2017 15:27	1	09-28-2017-6.d	AS-14 2(mm)
IC 180-224350/7		09/28/2017 15:42	1	09-28-2017-7.d	AS-14 2(mm)
IC 180-224350/8		09/28/2017 15:58	1	09-28-2017-8.d	AS-14 2(mm)
RINSE 180-224350/9		09/28/2017 16:14	1		AS-14 2(mm)
ZZZZZ		09/28/2017 16:30	1		AS-14 2(mm)
ZZZZZ		09/28/2017 16:46	1		AS-14 2(mm)
ICV 180-224350/12		09/28/2017 17:02	1		AS-14 2(mm)
CCV 180-224350/13		09/28/2017 17:18	1		AS-14 2(mm)
CCB 180-224350/14		09/28/2017 17:34	1		AS-14 2(mm)
ZZZZZ		09/28/2017 17:50	1		AS-14 2(mm)
ZZZZZ		09/28/2017 18:05	1		AS-14 2(mm)
CCVL 180-224350/17		09/28/2017 18:21	1		AS-14 2(mm)
ZZZZZ		09/28/2017 18:37	1		AS-14 2(mm)
ZZZZZ		09/28/2017 18:53	5		AS-14 2(mm)
ZZZZZ		09/28/2017 19:09	50		AS-14 2(mm)
ZZZZZ		09/28/2017 19:25	1		AS-14 2(mm)
ZZZZZ		09/28/2017 19:41	10		AS-14 2(mm)
ZZZZZ		09/28/2017 19:57	1		AS-14 2(mm)
ZZZZZ		09/28/2017 20:13	10		AS-14 2(mm)
ZZZZZ		09/28/2017 20:29	5		AS-14 2(mm)
ZZZZZ		09/28/2017 20:44	50		AS-14 2(mm)
ZZZZZ		09/28/2017 21:00	1		AS-14 2(mm)
CCV 180-224350/28		09/28/2017 21:16	1		AS-14 2(mm)
CCB 180-224350/29		09/28/2017 21:32	1		AS-14 2(mm)
ZZZZZ		09/28/2017 21:48	1		AS-14 2(mm)
ZZZZZ		09/28/2017 22:04	1		AS-14 2(mm)
ZZZZZ		09/28/2017 22:20	1		AS-14 2(mm)
ZZZZZ		09/28/2017 22:36	1		AS-14 2(mm)
ZZZZZ		09/28/2017 22:52	1		AS-14 2(mm)
ZZZZZ		09/28/2017 23:07	1		AS-14 2(mm)
ZZZZZ		09/28/2017 23:23	1		AS-14 2(mm)
ZZZZZ		09/28/2017 23:39	1		AS-14 2(mm)
ZZZZZ		09/28/2017 23:55	1		AS-14 2(mm)
CCV 180-224350/39		09/29/2017 00:11	1		AS-14 2(mm)
CCB 180-224350/40		09/29/2017 00:27	1		AS-14 2(mm)
CCVL 180-224350/41		09/29/2017 00:43	1		AS-14 2(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: CHICS2000 Start Date: 09/29/2017 09:55

Analysis Batch Number: 224419 End Date: 09/30/2017 02:17

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ICV 180-224419/2		09/29/2017 09:55	1	09-29-2017-2.d	AS-14 2(mm)
CCV 180-224419/3		09/29/2017 10:11	1	09-29-2017-3.d	AS-14 2(mm)
CCB 180-224419/4		09/29/2017 10:27	1	09-29-2017-4.d	AS-14 2(mm)
LCS 180-224419/5		09/29/2017 10:43	1	09-29-2017-5.d	AS-14 2(mm)
MB 180-224419/6		09/29/2017 10:59	1	09-29-2017-6.d	AS-14 2(mm)
CCVL 180-224419/7		09/29/2017 11:15	1		AS-14 2(mm)
ZZZZZ		09/29/2017 11:31	1		AS-14 2(mm)
ZZZZZ		09/29/2017 11:47	10		AS-14 2(mm)
ZZZZZ		09/29/2017 12:02	1		AS-14 2(mm)
ZZZZZ		09/29/2017 12:18	10		AS-14 2(mm)
ZZZZZ		09/29/2017 12:34	1		AS-14 2(mm)
ZZZZZ		09/29/2017 12:50	10		AS-14 2(mm)
ZZZZZ		09/29/2017 14:10	1		AS-14 2(mm)
ZZZZZ		09/29/2017 14:26	1		AS-14 2(mm)
ZZZZZ		09/29/2017 14:42	1		AS-14 2(mm)
ZZZZZ		09/29/2017 14:58	1		AS-14 2(mm)
CCV 180-224419/18		09/29/2017 15:13	1	09-29-2017-18.d	AS-14 2(mm)
CCB 180-224419/19		09/29/2017 15:29	1	09-29-2017-19.d	AS-14 2(mm)
ZZZZZ		09/29/2017 15:45	1		AS-14 2(mm)
ZZZZZ		09/29/2017 16:25	1		AS-14 2(mm)
ZZZZZ		09/29/2017 16:41	1		AS-14 2(mm)
ZZZZZ		09/29/2017 17:32	1		AS-14 2(mm)
ZZZZZ		09/29/2017 17:48	1		AS-14 2(mm)
ZZZZZ		09/29/2017 18:04	1		AS-14 2(mm)
ZZZZZ		09/29/2017 18:20	1		AS-14 2(mm)
ZZZZZ		09/29/2017 18:36	10		AS-14 2(mm)
ZZZZZ		09/29/2017 18:52	1		AS-14 2(mm)
ZZZZZ		09/29/2017 19:08	10		AS-14 2(mm)
CCV 180-224419/30		09/29/2017 19:23	1	09-29-2017-30.d	AS-14 2(mm)
CCB 180-224419/31		09/29/2017 19:39	1	09-29-2017-31.d	AS-14 2(mm)
ZZZZZ		09/29/2017 19:55	1		AS-14 2(mm)
ZZZZZ		09/29/2017 20:11	10		AS-14 2(mm)
ZZZZZ		09/29/2017 20:27	1		AS-14 2(mm)
ZZZZZ		09/29/2017 20:43	10		AS-14 2(mm)
180-70792-2		09/29/2017 20:59	1	09-29-2017-36.d	AS-14 2(mm)
ZZZZZ		09/29/2017 21:15	1		AS-14 2(mm)
ZZZZZ		09/29/2017 21:31	1		AS-14 2(mm)
ZZZZZ		09/29/2017 21:47	1		AS-14 2(mm)
ZZZZZ		09/29/2017 22:02	1		AS-14 2(mm)
ZZZZZ		09/29/2017 22:18	1		AS-14 2(mm)
CCV 180-224419/42		09/29/2017 22:34	1	09-29-2017-42.d	AS-14 2(mm)
CCB 180-224419/43		09/29/2017 22:50	1	09-29-2017-43.d	AS-14 2(mm)
ZZZZZ		09/29/2017 23:06	1		AS-14 2(mm)
ZZZZZ		09/29/2017 23:22	1		AS-14 2(mm)
ZZZZZ		09/29/2017 23:38	1		AS-14 2(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: CHICS2000 Start Date: 09/29/2017 09:55

Analysis Batch Number: 224419 End Date: 09/30/2017 02:17

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/29/2017 23:54	1		AS-14 2(mm)
ZZZZZ		09/30/2017 00:10	2.5		AS-14 2(mm)
ZZZZZ		09/30/2017 00:26	25		AS-14 2(mm)
ZZZZZ		09/30/2017 00:41	2.5		AS-14 2(mm)
ZZZZZ		09/30/2017 00:57	25		AS-14 2(mm)
ZZZZZ		09/30/2017 01:13	5		AS-14 2(mm)
ZZZZZ		09/30/2017 01:29	50		AS-14 2(mm)
CCV 180-224419/54		09/30/2017 01:45	1		AS-14 2(mm)
CCB 180-224419/55		09/30/2017 02:01	1		AS-14 2(mm)
CCVL 180-224419/56		09/30/2017 02:17	1		AS-14 2(mm)

METALS

COVER PAGE
METALS

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG No.:

Project: Harley Davidson

Client Sample ID	Lab Sample ID
HD-SPBA-CW-22-0/1-0	180-70792-2

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: HD-SPBA-CW-22-0/1-0 Lab Sample ID: 180-70792-2

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG ID.:

Matrix: Water Date Sampled: 09/28/2017 09:40

Reporting Basis: WET Date Received: 09/29/2017 09:15

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	4.4	1.0	0.22	ug/L			1	6020A
7440-43-9	Cadmium	1.0	1.0	0.078	ug/L	U		1	6020A
7440-39-3	Barium	38	10	1.4	ug/L			1	6020A
7440-47-3	Chromium	3.0	2.0	0.38	ug/L			1	6020A
7439-92-1	Lead	1.0	1.0	0.32	ug/L	U		1	6020A
7782-49-2	Selenium	5.0	5.0	1.3	ug/L	U		1	6020A
7440-22-4	Silver	1.0	1.0	0.20	ug/L	U		1	6020A
7440-41-7	Beryllium	1.0	1.0	0.13	ug/L	U		1	6020A
7440-70-2	Calcium	54000	500	74	ug/L			1	6020A
7440-28-0	Thallium	0.11	1.0	0.053	ug/L	J		1	6020A
7440-36-0	Antimony	2.0	2.0	0.44	ug/L	U		1	6020A
7440-02-0	Nickel	1.7	1.0	0.27	ug/L			1	6020A
7440-66-6	Zinc	8.8	5.0	2.7	ug/L			1	6020A
7440-50-8	Copper	1.5	2.0	1.0	ug/L	J		1	6020A
7440-09-7	Potassium	2300	500	96	ug/L			1	6020A
7439-95-4	Magnesium	3400	500	45	ug/L			1	6020A
7440-23-5	Sodium	3300	500	220	ug/L			1	6020A
7440-62-2	Vanadium	6.9	1.0	0.50	ug/L		B	1	6020A
7439-97-6	Mercury	0.20	0.20	0.065	ug/L	U		1	7470A

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

ICV Source: MICVX_00059 Concentration Units: ug/L

CCV Source: MCCV1X_00103

Analyte	ICV 180-225403/5 10/09/2017 17:15				CCV 180-225403/10 10/09/2017 17:50				CCV 180-225403/70 10/09/2017 23:25			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	82.7		80.0	103	103		100	103	104		100	104
Arsenic	83.0		80.0	104	104		100	104	103		100	103
Barium	80.9		80.0	101	96.9		100	97	100		100	100
Beryllium	83.2		80.0	104	108		100	108	106		100	106
Cadmium	81.6		80.0	102	104		100	104	104		100	104
Calcium	38500		40000	96	50400		50000	101	50500		50000	101
Chromium	79.0		80.0	99	92.4		100	92	92.7		100	93
Copper	81.5		80.0	102	102		100	102	102		100	102
Lead	79.6		80.0	100	98.1		100	98	99.7		100	100
Magnesium	38600		40000	96	49500		50000	99	50200		50000	100
Nickel	81.3		80.0	102	99.4		100	99	98.6		100	99
Potassium	38900		40000	97	48900		50000	98	49800		50000	100
Selenium	84.0		80.0	105	109		100	109	107		100	107
Silver	79.9		80.0	100	102		100	102	101		100	101
Sodium	39800		40000	99	51400		50000	103	48500		50000	97
Thallium	80.6		80.0	101	96.4		100	96	101		100	101
Vanadium	77.3		80.0	97	98.9		100	99	101		100	101
Zinc	82.2		80.0	103	108		100	108	104		100	104

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

ICV Source: MICVX_00059 Concentration Units: ug/L

CCV Source: MCCV1X_00103

Analyte	CCV 180-225403/82 10/10/2017 00:35				CCV 180-225403/94 10/10/2017 01:40							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	101		100	101	104		100	104				
Arsenic	103		100	103	104		100	104				
Barium	97.7		100	98	96.9		100	97				
Beryllium	106		100	106	106		100	106				
Cadmium	103		100	103	106		100	106				
Calcium	51100		50000	102	51600		50000	103				
Chromium	91.9		100	92	99.4		100	99				
Copper	101		100	101	105		100	105				
Lead	99.5		100	100	99.2		100	99				
Magnesium	49200		50000	98	48000		50000	96				
Nickel	96.7		100	97	98.3		100	98				
Potassium	49100		50000	98	47800		50000	96				
Selenium	106		100	106	105		100	105				
Silver	99.4		100	99	105		100	105				
Sodium	48800		50000	98	48000		50000	96				
Thallium	99.9		100	100	98.0		100	98				
Vanadium	106		100	106	93.2		100	93				
Zinc	104		100	104	107		100	107				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

ICV Source: MCRIX_00101 Concentration Units: ug/L

CCV Source: MCRIX_00101

Analyte	ICVL 180-225403/7 10/09/2017 17:25				CCVL 180-225403/112 10/10/2017 03:25							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	1.93	J	2.00	97	1.93	J	2.00	96				
Arsenic	1.07		1.00	107	1.03		1.00	103				
Barium	9.96	J	10.0	100	9.54	J	10.0	95				
Beryllium	1.08		1.00	108	1.09		1.00	109				
Cadmium	1.08		1.00	108	1.19		1.00	119				
Calcium	464	J	500	93	494	J	500	99				
Chromium	1.88	J	2.00	94	1.71	J	2.00	85				
Copper	2.46		2.00	123	2.27		2.00	113				
Lead	0.945	J	1.00	94	1.02		1.00	102				
Magnesium	477	J	500	95	496	J	500	99				
Nickel	1.28		1.00	128	1.27		1.00	127				
Potassium	468	J	500	94	461	J	500	92				
Selenium	5.73		5.00	115	4.74	J	5.00	95				
Silver	1.05		1.00	105	1.06		1.00	106				
Sodium	464	J	500	93	475	J	500	95				
Thallium	0.970	J	1.00	97	0.944	J	1.00	94				
Vanadium	0.899	J	1.00	90	0.788	J	1.00	79				
Zinc	5.73		5.00	115	5.47		5.00	109				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

ICV Source: MHgWorkingicv_01616 Concentration Units: ug/L

CCV Source: MHgworkingCal_01654

Analyte	ICV 180-225045/7-A 10/06/2017 06:56				CCV 180-225045/10-A 10/06/2017 07:02				CCV 180-225045/10-A 10/06/2017 07:26			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	2.64		2.50	105	4.95		5.00	99	4.97		5.00	99

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

ICV Source: MHgWorkingicv_01616 Concentration Units: ug/L

CCV Source: MHgworkingCal_01654

Analyte	CCV 180-225045/10-A 10/06/2017 07:51				CCV 180-225045/10-A 10/06/2017 08:15							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	4.95		5.00	99	4.81		5.00	96				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Method: 7470A Instrument ID: K

Lab Sample ID: CRA 180-225045/9-A Concentration Units: ug/L

CRQL Check Standard Source: MHgworkingCal_01654

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.208		104	70-130

Lab Sample ID: CRA 180-225045/9-A Concentration Units: ug/L

CRQL Check Standard Source: MHgworkingCal_01654

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.200		100	70-130

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

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 180-225403/6 10/09/2017 17:20		CCB1 180-225403/11 10/09/2017 17:55		CCB6 180-225403/71 10/09/2017 23:30		CCB7 180-225403/83 10/10/2017 00:40	
		Found	C	Found	C	Found	C	Found	C
Antimony	2.0	2.0	U	2.0	U	2.0	U	2.0	U
Arsenic	1.0	1.0	U	1.0	U	1.0	U	1.0	U
Barium	10	10	U	10	U	10	U	10	U
Beryllium	1.0	1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	1.0	1.0	U	1.0	U	1.0	U	1.0	U
Calcium	500	500	U	500	U	500	U	500	U
Chromium	2.0	2.0	U	2.0	U	2.0	U	2.0	U
Copper	2.0	2.0	U	2.0	U	2.0	U	2.0	U
Lead	1.0	1.0	U	1.0	U	1.0	U	1.0	U
Magnesium	500	500	U	500	U	500	U	500	U
Nickel	1.0	1.0	U	1.0	U	1.0	U	1.0	U
Potassium	500	500	U	500	U	500	U	500	U
Selenium	5.0	5.0	U	5.0	U	5.0	U	5.0	U
Silver	1.0	1.0	U	1.0	U	1.0	U	1.0	U
Sodium	500	500	U	500	U	500	U	500	U
Thallium	1.0	1.0	U	1.0	U	1.0	U	1.0	U
Vanadium	1.0	1.0	U	1.0	U	1.0	U	1.0	U
Zinc	5.0	5.0	U	5.0	U	5.0	U	5.0	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB8 180-225403/95 10/10/2017 01:45							
		Found	C	Found	C	Found	C	Found	C
Antimony	2.0	2.0	U						
Arsenic	1.0	1.0	U						
Barium	10	10	U						
Beryllium	1.0	1.0	U						
Cadmium	1.0	1.0	U						
Calcium	500	500	U						
Chromium	2.0	2.0	U						
Copper	2.0	1.07	J						
Lead	1.0	1.0	U						
Magnesium	500	500	U						
Nickel	1.0	1.0	U						
Potassium	500	500	U						
Selenium	5.0	5.0	U						
Silver	1.0	1.0	U						
Sodium	500	500	U						
Thallium	1.0	1.0	U						
Vanadium	1.0	1.0	U						
Zinc	5.0	5.0	U						

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 180-225045/8-A 10/06/2017 06:58		CCB 180-225045/11-A 10/06/2017 07:04		CCB 180-225045/11-A 10/06/2017 07:28		CCB 180-225045/11-A 10/06/2017 07:53	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	0.20	U	0.20	U	0.20	U	0.20	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 180-225045/11-A 10/06/2017 08:17							
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	0.20	U						

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 180-224718/1-A

Instrument Code: X Batch No.: 225403

CAS No.	Analyte	Concentration	C	Q	Method
7440-38-2	Arsenic	1.0	U		6020A
7440-43-9	Cadmium	1.0	U		6020A
7440-39-3	Barium	10	U		6020A
7440-47-3	Chromium	2.0	U		6020A
7439-92-1	Lead	1.0	U		6020A
7782-49-2	Selenium	5.0	U		6020A
7440-22-4	Silver	1.0	U		6020A
7440-41-7	Beryllium	1.0	U		6020A
7440-70-2	Calcium	500	U		6020A
7440-28-0	Thallium	1.0	U		6020A
7440-36-0	Antimony	2.0	U		6020A
7440-02-0	Nickel	1.0	U		6020A
7440-66-6	Zinc	5.0	U		6020A
7440-50-8	Copper	2.0	U		6020A
7440-09-7	Potassium	500	U		6020A
7439-95-4	Magnesium	500	U		6020A
7440-23-5	Sodium	500	U		6020A
7440-62-2	Vanadium	0.614	J		6020A

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 180-224843/1-A

Instrument Code: K Batch No.: 225095

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	0.20	U		7470A

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: ICSA 180-225403/8 Instrument ID: X

Lab File ID: X71009A.xml ICS Source: MICSAX_00100

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		**0.0510**	
Arsenic		**0.270**	
Barium		**0.0010**	
Beryllium		**0.0180**	
Cadmium		**2.89**	
Calcium	**100000**	**96790**	**97**
Chromium		**1.35**	
Copper		**2.00**	
Lead		**0.0800**	
Magnesium	**100000**	**98450**	**98**
Nickel		**1.01**	
Potassium	**100000**	**93930**	**94**
Selenium		**0.0550**	
Silver		**0.0200**	
Sodium	**100000**	**98680**	**99**
Thallium		**-0.0050**	
Vanadium		**0.723**	
Zinc		**2.16**	
Aluminum	*100000*	*100600*	*101*
Boron		*0.957*	
Cobalt		*0.513*	
Iron	*100000*	*98960*	*99*
Manganese		*0.590*	
Molybdenum	*2000*	*2326*	*116*
Silicon		*25.6*	
Strontium		*0.900*	
Tin		*0.0370*	
Titanium	*2000*	*2143*	*107*

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Lab Sample ID: ICSAB 180-225403/9 Instrument ID: X

Lab File ID: X71009A.xml ICS Source: MICSABX_00095

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Antimony	**20.0**	**19.1**	**96**
Arsenic	**20.0**	**22.9**	**114**
Barium	**20.0**	**18.6**	**93**
Beryllium	**20.0**	**23.3**	**116**
Cadmium	**20.0**	**21.6**	**108**
Calcium	**100000**	**104170**	**104**
Chromium	**20.0**	**20.5**	**102**
Copper	**20.0**	**23.0**	**115**
Lead	**20.0**	**20.6**	**103**
Magnesium	**100000**	**107600**	**108**
Nickel	**20.0**	**21.4**	**107**
Potassium	**100000**	**99963**	**100**
Selenium	**50.0**	**58.2**	**116**
Silver	**20.0**	**20.0**	**100**
Sodium	**100000**	**105933**	**106**
Thallium	**20.0**	**19.8**	**99**
Vanadium	**20.0**	**19.6**	**98**
Zinc	**22.0**	**24.9**	**113**
Aluminum	*100000*	*108467*	*108*
Boron	*50.0*	*54.7*	*109*
Cobalt	*20.0*	*21.2*	*106*
Iron	*100000*	*103600*	*104*
Manganese	*22.0*	*23.6*	*107*
Molybdenum	*2000*	*2263*	*113*
Silicon	*500*	*582*	*116*
Strontium	*25.0*	*20.4*	*82*
Tin	*100*	*92.4*	*92*
Titanium	*2000*	*2315*	*116*

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

FORM IVA-IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 180-224718/2-A

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

Sample Matrix: Water LCS Source: MTAPITTICPMS_00027

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Arsenic	40.0	44.3		111	80	120		6020A
Cadmium	50.0	55.9		112	80	120		6020A
Barium	2000	1930		96	80	120		6020A
Chromium	200	175		88	80	120		6020A
Lead	20.0	20.1		100	80	120		6020A
Selenium	10.0	10.9		109	80	120		6020A
Silver	50.0	51.7		103	80	120		6020A
Beryllium	50.0	54.6		109	80	120		6020A
Calcium	50000	49400		99	80	120		6020A
Thallium	50.0	49.0		98	80	120		6020A
Antimony	500	514		103	80	120		6020A
Nickel	500	473		95	80	120		6020A
Zinc	500	514		103	80	120		6020A
Copper	250	250		100	80	120		6020A
Potassium	50000	47000		94	80	120		6020A
Magnesium	50000	48800		98	80	120		6020A
Sodium	50000	47900		96	80	120		6020A
Vanadium	500	421		84	80	120		6020A

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

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 180-224843/2-A

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

Sample Matrix: Water LCS Source: MHgworkingCal_01654

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	2.50	2.80		112	80	120		7470A

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

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: X

Method: 6020A MDL Date: 01/11/2017 14:22

Prep Method: 3005A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Antimony	121	2	0.4434
Arsenic	75	1	0.2197
Barium	137	10	1.401
Beryllium	9	1	0.1306
Cadmium	111	1	0.0781
Calcium	44	500	73.62
Chromium	52	2	0.3783
Copper	65	2	1.036
Lead	208	1	0.3183
Magnesium	26	500	45.48
Nickel	60	1	0.2711
Potassium	39	500	95.74
Selenium	82	5	1.268
Silver	107	1	0.2004
Sodium	23	500	223.6
Thallium	205	1	0.0531
Vanadium	51	1	0.4979
Zinc	66	5	2.653

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: X

Method: 6020A XMDL Date: 01/11/2017 14:24

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Antimony	206.832121	2	0.4434
Arsenic	189.04275	1	0.2197
Barium	493.409137	10	1.401
Beryllium	313.0429	1	0.1306
Cadmium	226.502111	1	0.0781
Calcium	317.93344	500	73.62
Chromium	267.71652	2	0.3783
Copper	324.75365	2	1.036
Lead	220.353208	1	0.3183
Magnesium	279.07826	500	45.48
Nickel	231.60460	1	0.2711
Potassium	766.49139	500	95.74
Selenium	196.02282	5	1.268
Silver	328.068107	1	0.2004
Sodium	330.23223	500	223.6
Thallium	190.864205	1	0.0531
Vanadium	292.40251	1	0.4979
Zinc	213.85666	5	2.653

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: K

Method: 7470A MDL Date: 02/27/2017 16:39

Prep Method: 7470A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Mercury	253.7	0.2	0.0653

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: K

Method: 7470A XMDL Date: 02/27/2017 16:39

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury	253.7	0.2	0.0653

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Pittsburgh Job No: 180-70792-1

SDG No.:

Instrument ID: X Date: 03/14/2011 22:35

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Arsenic		4500	6020A
Cadmium		13500	6020A
Barium		22500	6020A
Chromium		22500	6020A
Lead		22500	6020A
Selenium		4500	6020A
Silver		2500	6020A
Beryllium		9000	6020A
Calcium		1500000	6020A
Thallium		13500	6020A
Antimony		13500	6020A
Nickel		22500	6020A
Zinc		22500	6020A
Copper		22500	6020A
Potassium		450000	6020A
Magnesium		1500000	6020A
Sodium		1250000	6020A
Vanadium		13500	6020A

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 180-224718/1-A	10/03/2017 10:25	224718		50	50
LCS 180-224718/2-A	10/03/2017 10:25	224718		50	50
180-70792-2	10/03/2017 10:25	224718		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 180-224843/1-A	10/04/2017 09:52	224843		50	50
LCS 180-224843/2-A	10/04/2017 09:52	224843		50	50
180-70792-2	10/04/2017 09:52	224843		50	50

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: X Analysis Method: 6020A

Start Date: 10/09/2017 14:40 End Date: 10/10/2017 12:29

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Be	Ca	Cd	Cr	Cu	K	Mg	Na	Ni	Pb	Sb	Se	Tl	V	Zn								
ITUNE 180-225403/1			14:40																									
STD1 180-225403/2 IC	1		17:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
STD2 180-225403/3 IC	1		17:05	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
STD3 180-225403/4 IC	1		17:10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICV 180-225403/5	1		17:15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICB 180-225403/6	1		17:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICVL 180-225403/7	1		17:25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICSA 180-225403/8	1		17:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICSAB 180-225403/9	1		17:44	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CCV 180-225403/10	1		17:50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CCB1 180-225403/11	1		17:55	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ZZZZZZ			18:01																									
ZZZZZZ			18:06																									
ZZZZZZ			18:11																									
ZZZZZZ			18:16																									
ZZZZZZ			18:21																									
ZZZZZZ			18:26																									
ZZZZZZ			18:31																									
ZZZZZZ			18:36																									
ZZZZZZ			18:41																									
ZZZZZZ			18:46																									
CCV 180-225403/22			18:55																									
CCB2 180-225403/23			19:01																									
ZZZZZZ			19:06																									
ZZZZZZ			19:11																									
ZZZZZZ			19:16																									
ZZZZZZ			19:21																									
ZZZZZZ			19:26																									
ZZZZZZ			19:31																									
ZZZZZZ			19:36																									
ZZZZZZ			19:41																									
ZZZZZZ			19:46																									
ZZZZZZ			19:51																									
CCV 180-225403/34			20:01																									
CCB3 180-225403/35			20:06																									
ZZZZZZ			20:11																									
ZZZZZZ			20:16																									
ZZZZZZ			20:26																									
ZZZZZZ			20:31																									
ZZZZZZ			20:36																									
ZZZZZZ			20:41																									
ZZZZZZ			20:46																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: X Analysis Method: 6020A

Start Date: 10/09/2017 14:40 End Date: 10/10/2017 12:29

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Be	Ca	Cd	Cr	Cu	K	Mg	Na	Ni	Pb	Sb	Se	Tl	V	Zn								
ZZZZZZ			20:51																									
ZZZZZZ			20:56																									
ZZZZZZ			21:01																									
CCV 180-225403/46			21:10																									
CCB4 180-225403/47			21:15																									
ZZZZZZ			21:20																									
ZZZZZZ			21:26																									
ZZZZZZ			21:35																									
ZZZZZZ			21:40																									
ZZZZZZ			21:45																									
ZZZZZZ			21:50																									
ZZZZZZ			21:55																									
ZZZZZZ			22:01																									
ZZZZZZ			22:06																									
ZZZZZZ			22:11																									
CCV 180-225403/58			22:20																									
CCB5 180-225403/59			22:25																									
ZZZZZZ			22:30																									
ZZZZZZ			22:35																									
ZZZZZZ			22:40																									
ZZZZZZ			22:45																									
ZZZZZZ			22:50																									
ZZZZZZ			22:55																									
ZZZZZZ			23:00																									
ZZZZZZ			23:06																									
ZZZZZZ			23:11																									
ZZZZZZ			23:16																									
CCV 180-225403/70	1		23:25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
CCB6 180-225403/71	1		23:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
ZZZZZZ			23:36																									
ZZZZZZ			23:41																									
ZZZZZZ			23:46																									
ZZZZZZ			23:51																									
ZZZZZZ			23:56																									
ZZZZZZ			00:01																									
MB 180-224718/1-A	1	R	00:10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
LCS 180-224718/2-A	1	R	00:16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
180-70792-2	1	D	00:21	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
ZZZZZZ			00:30																									
CCV 180-225403/82	1		00:35	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
CCB7 180-225403/83	1		00:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
ZZZZZZ			00:45																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: X Analysis Method: 6020A

Start Date: 10/09/2017 14:40 End Date: 10/10/2017 12:29

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Be	Ca	Cd	Cr	Cu	K	Mg	Na	Ni	Pb	Sb	Se	Tl	V	Zn								
ZZZZZZ			00:50																									
ZZZZZZ			00:55																									
ZZZZZZ			01:00																									
ZZZZZZ			01:05																									
ZZZZZZ			01:10																									
ZZZZZZ			01:15																									
ZZZZZZ			01:20																									
ZZZZZZ			01:25																									
ZZZZZZ			01:31																									
CCV 180-225403/94	1		01:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCB8 180-225403/95	1		01:45	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ZZZZZZ			01:50																									
ZZZZZZ			01:55																									
ZZZZZZ			02:00																									
ZZZZZZ			02:05																									
ZZZZZZ			02:10																									
ZZZZZZ			02:15																									
ZZZZZZ			02:20																									
ZZZZZZ			02:25																									
ZZZZZZ			02:30																									
ZZZZZZ			02:36																									
CCV 180-225403/106			02:45																									
CCB9 180-225403/107			02:50																									
ZZZZZZ			02:55																									
ZZZZZZ			03:00																									
ZZZZZZ			03:05																									
ZZZZZZ			03:10																									
CCVL 180-225403/112	1		03:25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCV 180-225403/113			03:30																									
CCB10 180-225403/114			03:35																									
ZZZZZZ			12:29																									

Prep Types:
D = Dissolved
R = Total Recoverable

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: K Analysis Method: 7470A

Start Date: 10/06/2017 06:42 End Date: 10/06/2017 10:58

Lab Sample Id	D/F	Type	Time	Analytes
				Hg
IC 180-225045/1-A			06:42	X
IC 180-225045/2-A			06:44	X
IC 180-225045/3-A			06:46	X
IC 180-225045/4-A			06:48	X
IC 180-225045/5-A			06:50	X
IC 180-225045/6-A			06:53	X
ICV 180-225045/7-A	1		06:56	X
ICB 180-225045/8-A	1		06:58	X
CRA 180-225045/9-A	1		07:00	X
CCV 180-225045/10-A	1		07:02	X
CCB 180-225045/11-A	1		07:04	X
MB 180-224843/1-A	1	T	07:06	X
LCS 180-224843/2-A	1	T	07:08	X
ZZZZZZ			07:10	
ZZZZZZ			07:12	
ZZZZZZ			07:14	
ZZZZZZ			07:16	
ZZZZZZ			07:18	
ZZZZZZ			07:20	
ZZZZZZ			07:22	
ZZZZZZ			07:24	
CCV 180-225045/10-A	1		07:26	X
CCB 180-225045/11-A	1		07:28	X
ZZZZZZ			07:30	
ZZZZZZ			07:33	
ZZZZZZ			07:35	
ZZZZZZ			07:37	
ZZZZZZ			07:39	
ZZZZZZ			07:41	
ZZZZZZ			07:43	
ZZZZZZ			07:45	
ZZZZZZ			07:47	
ZZZZZZ			07:49	
CCV 180-225045/10-A	1		07:51	X
CCB 180-225045/11-A	1		07:53	X
180-70792-2	1	D	07:55	X
ZZZZZZ			07:57	
ZZZZZZ			07:59	
ZZZZZZ			08:01	
ZZZZZZ			08:03	
ZZZZZZ			08:05	
ZZZZZZ			08:07	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: K Analysis Method: 7470A

Start Date: 10/06/2017 06:42 End Date: 10/06/2017 10:58

Lab Sample Id	D/F	Type	Time	Analytes
				Hg
ZZZZZZ			08:09	
ZZZZZZ			08:11	
ZZZZZZ			08:13	
CCV 180-225045/10-A	1		08:15	X
CCB 180-225045/11-A	1		08:17	X
ZZZZZZ			08:19	
ZZZZZZ			08:21	
ZZZZZZ			08:23	
ZZZZZZ			08:25	
ZZZZZZ			08:27	
ZZZZZZ			08:29	
ZZZZZZ			08:32	
ZZZZZZ			08:34	
ZZZZZZ			08:36	
ZZZZZZ			08:38	
CCV 180-225045/10-A			08:40	
CCB 180-225045/11-A			08:42	
ZZZZZZ			08:44	
ZZZZZZ			08:46	
ZZZZZZ			08:48	
ZZZZZZ			08:50	
ZZZZZZ			08:52	
ZZZZZZ			08:54	
ZZZZZZ			08:56	
ZZZZZZ			08:58	
ZZZZZZ			09:00	
ZZZZZZ			09:02	
CCV 180-225045/10-A			09:04	
CCB 180-225045/11-A			09:06	
ZZZZZZ			09:08	
ZZZZZZ			09:10	
ZZZZZZ			09:12	
ZZZZZZ			09:14	
ZZZZZZ			09:16	
ZZZZZZ			09:18	
ZZZZZZ			09:20	
ZZZZZZ			09:22	
ZZZZZZ			09:24	
ZZZZZZ			09:26	
CCV 180-225045/10-A			09:29	
CCB 180-225045/11-A			09:31	
ZZZZZZ			09:33	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: K Analysis Method: 7470A

Start Date: 10/06/2017 06:42 End Date: 10/06/2017 10:58

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
ZZZZZZ			09:35																									
ZZZZZZ			09:37																									
ZZZZZZ			09:39																									
ZZZZZZ			09:41																									
ZZZZZZ			09:43																									
ZZZZZZ			09:45																									
ZZZZZZ			09:47																									
ZZZZZZ			09:49																									
ZZZZZZ			09:51																									
CCV 180-225045/10-A			09:53																									
CCB 180-225045/11-A			09:55																									
ZZZZZZ			09:57																									
ZZZZZZ			09:59																									
ZZZZZZ			10:01																									
ZZZZZZ			10:03																									
ZZZZZZ			10:05																									
ZZZZZZ			10:07																									
ZZZZZZ			10:09																									
ZZZZZZ			10:11																									
ZZZZZZ			10:13																									
ZZZZZZ			10:15																									
CCV 180-225045/10-A			10:17																									
CCB 180-225045/11-A			10:19																									
ZZZZZZ			10:22																									
ZZZZZZ			10:24																									
ZZZZZZ			10:26																									
ZZZZZZ			10:28																									
ZZZZZZ			10:30																									
ZZZZZZ			10:32																									
ZZZZZZ			10:34																									
ZZZZZZ			10:36																									
ZZZZZZ			10:38																									
ZZZZZZ			10:40																									
CCV 180-225045/10-A			10:42																									
CCB 180-225045/11-A			10:44																									
ZZZZZZ			10:46																									
ZZZZZZ			10:48																									
ZZZZZZ			10:50																									
ZZZZZZ			10:52																									
CRA 180-225045/9-A	1		10:54	X																								
CCV 180-225045/10-A			10:56																									
CCB 180-225045/11-A			10:58																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: K Analysis Method: 7470A

Start Date: 10/06/2017 06:42 End Date: 10/06/2017 10:58

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

ICP-MS Instrument ID: X Start Date: 10/09/2017 End Date: 10/10/2017

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc	Q	Element Y-89	Q	Element Rh-103	Q	Element In	Q
STD1 180-225403/2 I	17:00	100		100		100		100		100	
STD2 180-225403/3 I	17:05	84		91		89		81		85	
STD3 180-225403/4 I	17:10	98		105		103		101		101	
ICV 180-225403/5	17:15	94		102		104		94		93	
ICB 180-225403/6	17:20	105		108		109		108		108	
ICVL 180-225403/7	17:25	104		118		109		109		108	
ICSA 180-225403/8	17:30	88		103		92		83		109	
ICSAB 180-225403/9	17:44	89		108		111		101		116	
CCV 180-225403/10	17:50	99		116		109		98		99	
CCB1 180-225403/11	17:55	110		120		119		122		118	
CCV 180-225403/70	23:25	98		109		95		92		90	
CCB6 180-225403/71	23:30	100		115		95		93		91	
MB 180-224718/1-A	00:10	100		116		105		106		104	
LCS 180-224718/2-A	00:16	100		111		93		85		83	
180-70792-2	00:21	97		111		96		93		92	
CCV 180-225403/82	00:35	97		107		90		87		85	
CCB7 180-225403/83	00:40	99		112		104		105		105	
CCV 180-225403/94	01:40	99		119		101		96		95	
CCB8 180-225403/95	01:45	94		119		107		112		106	
CCVL 180-225403/112	03:25	98		113		99		90		85	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

ICP-MS Instrument ID: X Start Date: 10/09/2017 End Date: 10/10/2017

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Tb	Q	Element Ho	Q	Element Bi	Q	Element	Q	Element	Q
STD1 180-225403/2 I	17:00	100		100		100					
STD2 180-225403/3 I	17:05	87		87		79					
STD3 180-225403/4 I	17:10	103		102		98					
ICV 180-225403/5	17:15	96		96		87					
ICB 180-225403/6	17:20	105		104		103					
ICVL 180-225403/7	17:25	105		105		104					
ICSA 180-225403/8	17:30	91		78		71					
ICSAB 180-225403/9	17:44	107		102		95					
CCV 180-225403/10	17:50	104		103		88					
CCB1 180-225403/11	17:55	117		115		115					
CCV 180-225403/70	23:25	95		94		85					
CCB6 180-225403/71	23:30	92		91		75					
MB 180-224718/1-A	00:10	104		104		103					
LCS 180-224718/2-A	00:16	90		90		72					
180-70792-2	00:21	98		97		89					
CCV 180-225403/82	00:35	90		88		71					
CCB7 180-225403/83	00:40	105		103		103					
CCV 180-225403/94	01:40	103		103		90					
CCB8 180-225403/95	01:45	110		110		110					
CCVL 180-225403/112	03:25	89		89		76					

METALS BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224718 Batch Start Date: 10/03/17 12:35 Batch Analyst: Kalamasz, Kayla A

Batch Method: 3005A Batch End Date: 10/03/17 16:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MTAPITTICPMS 00027	MTAPITTMSA 00036	MTAPITTMSC 00045	
MB 180-224718/1		3005A, 6020A		50 mL	50 mL				
LCS 180-224718/2		3005A, 6020A		50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL	
180-70792-I-2	HD-SPBA-CW-22-0/ 1-0	3005A, 6020A	D	50 mL	50 mL				

Batch Notes	
Batch Comment	METALS A2
Lot # of hydrochloric acid	2.5mL 2502458
Lot # of Nitric Acid	1.0mL 2484492
Hot Block ID	HB3
Oven, Bath or Block Temperature 1	98
Pipette/Syringe/Dispenser ID	B614292745
Analyst ID - Spike Witness Analyst	KAK
Syringe Filter Lot #	FILTERMATE 15021773-7186
Thermometer ID	32112640 CF0.0 D1
Digestion Tube/Cup ID	ENVEXPRESS 1703076
Uncorrected Temperature	98 Celsius

Basis	Basis Description
D	Dissolved

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

METALS BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224843 Batch Start Date: 10/05/17 12:45 Batch Analyst: Rosenbaum, Ron

Batch Method: 7470A Batch End Date: 10/05/17 14:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MHgworkingCal 01654			
MB 180-224843/1		7470A, 7470A		50 mL	50 mL				
LCS 180-224843/2		7470A, 7470A		50 mL	50 mL	1.25 mL			
180-70792-I-2	HD-SPBA-CW-22-0/ 1-0	7470A, 7470A	D	50 mL	50 mL				

Batch Notes	
Hydroxylamine Hydrochloride ID	3ML 2511067 HG-DISP-C6
Batch Comment	HG-DISP-05C4676
Sulfuric Acid Lot Number	2.5ML 2474491 HG-DISP-7N8924
Lot # of Nitric Acid	1.25ML 2501013 HG-DISP-N1
Hot Block ID	HB1
Potassium Persulfate ID	4ML 2515965 HG-DISP-KS4
Potassium Permanganate ID	7.5ML 2510064 HG-DISP-KMNO4
Oven, Bath or Block Temperature 1	96 Celsius
Pipette/Syringe/Dispenser ID	B637018916 J1102173U
Stannous Chloride ID	2511066
Analyst ID - Spike Witness Analyst	RJR
Temperature	95C
Thermometer ID	IP30-14 CF0.0 A3
Digestion Tube/Cup ID	ENVEXPRESS 1703076
Uncorrected Temperature	96 Celsius

Basis	Basis Description
D	Dissolved

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

METALS BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 225045 Batch Start Date: 10/05/17 12:30 Batch Analyst: Rosenbaum, Ron

Batch Method: 7470A Batch End Date: 10/05/17 14:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MHgworkingCal 01654	MHgWorkingicv 01616		
ICV 180-225045/7		7470A, 7470A		50 mL	50 mL		1.25 mL		
ICB 180-225045/8		7470A, 7470A		50 mL	50 mL				
CRA 180-225045/9		7470A, 7470A		50 mL	50 mL	0.1 mL			
CCV 180-225045/10		7470A, 7470A		50 mL	50 mL	2.5 mL			
CCB 180-225045/11		7470A, 7470A		50 mL	50 mL				

Batch Notes	
Hydroxylamine Hydrochloride ID	3ML 2511067 HG-DISP-C6
Batch Comment	HG-DISP-05C4676
Sulfuric Acid Lot Number	2.5ML 2474491 HG-DISP-7N8924
Lot # of Nitric Acid	1.25ML 2501013 HG-DISP-N1
Hot Block ID	HB1
Potassium Persulfate ID	4ML 2515965 HG-DISP-KS4
Potassium Permanganate ID	7.5ML 2510064 HG-DISP-KMNO4
Oven, Bath or Block Temperature 1	95C Celsius
Pipette/Syringe/Dispenser ID	B637018916 J1102173U
Stannous Chloride ID	2520206
Analyst ID - Spike Witness Analyst	RJR
Temperature	95C
Thermometer ID	IP30-14 CF0.0 3
Digestion Tube/Cup ID	ENVEXPRESS 1703076
Uncorrected Temperature	95C Celsius

Basis	Basis Description

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

Dilution Corrected Concentrations

STD1 2475809 10/9/2017 5:00:53 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:56	99.116%	0.001	-0.010	-0.013	0.000	0.144	-0.122	-0.045
2	17:00:05	100.503%	0.005	-0.006	0.001	0.000	0.440	0.079	0.056
3	17:00:15	100.381%	-0.006	0.016	0.012	0.000	-0.583	0.043	-0.011
x		100.000%	-0.000	0.000	-0.000	0.000	-0.000	0.000	-0.000
σ		0.768%	0.006	0.014	0.013	0.000	0.526	0.107	0.051
%RSD		0.768	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:56	0.045	1.597	0.000	2.077	0.714	0.263	96.496%	-0.005
2	17:00:05	0.019	0.754	0.000	1.295	2.243	0.368	97.556%	0.003
3	17:00:15	-0.065	-2.351	0.000	-3.372	-2.957	-0.630	105.948%	0.002
x		0.000	-0.000	0.000	0.000	-0.000	-0.000	100.000%	-0.000
σ		0.058	2.080	0.000	2.947	2.672	0.548	5.179%	0.004
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	5.179	0.000
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:56	0.007	0.002	0.026	0.099	0.601	0.004	0.019	0.008
2	17:00:05	0.003	-0.002	0.002	-0.015	0.138	0.004	-0.034	-0.012
3	17:00:15	-0.010	0.001	-0.028	-0.084	-0.739	-0.009	0.015	0.004
x		0.000	0.000	-0.000	-0.000	0.000	-0.000	0.000	-0.000
σ		0.009	0.002	0.027	0.092	0.680	0.008	0.029	0.010
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:56	-0.022	-0.140	0.131	0.008	-0.055	-0.208	0.000	-0.000
2	17:00:05	0.034	0.198	-0.099	0.005	0.015	0.068	0.000	0.001
3	17:00:15	-0.012	-0.057	-0.032	-0.013	0.039	0.140	0.000	-0.000
x		0.000	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000
σ		0.030	0.176	0.118	0.011	0.049	0.183	0.000	0.001
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:56	100.056%	-0.002	0.018	99.622%	0.002	0.009	0.000	0.007
2	17:00:05	99.940%	0.016	-0.019	100.274%	-0.007	-0.007	-0.000	-0.003
3	17:00:15	100.003%	-0.014	0.001	100.104%	0.004	-0.002	-0.000	-0.003
x		100.000%	0.000	-0.000	100.000%	-0.000	0.000	-0.000	-0.000
σ		0.058%	0.015	0.019	0.338%	0.006	0.008	0.000	0.006
%RSD		0.058	0.000	0.000	0.338	0.000	0.000	0.000	0.000
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:56	99.663%	-0.010	0.006	-0.009	-0.004	-0.030	100.199%	99.196%
2	17:00:05	99.868%	0.031	-0.004	0.004	0.008	0.018	99.444%	99.832%
3	17:00:15	100.468%	-0.022	-0.001	0.004	-0.004	0.012	100.357%	100.971%
x		100.000%	-0.000	-0.000	0.000	0.000	-0.000	100.000%	100.000%
σ		0.418%	0.028	0.005	0.008	0.007	0.026	0.488%	0.899%
%RSD		0.418	0.000	0.000	0.000	0.000	0.000	0.488	0.899
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	16:59:56	0.002	0.000	-0.002	0.003	-0.000	99.161%		
2	17:00:05	-0.001	0.003	-0.002	-0.013	-0.002	99.844%		
3	17:00:15	-0.001	-0.003	0.004	0.011	0.003	100.994%		
x		-0.000	0.000	-0.000	-0.000	-0.000	100.000%		
σ		0.001	0.003	0.004	0.012	0.003	0.926%		
%RSD		0.000	0.000	0.000	0.000	0.000	0.926		

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:31	82.324%	206.900	0.488	0.260	0.000	104000.000	104200.000	104200.000
2	17:04:40	84.858%	197.600	0.524	0.232	0.000	99140.000	98950.000	98670.000
3	17:04:50	85.524%	195.500	0.493	0.291	0.000	96910.000	96830.000	97100.000
x		84.235%	200.000	0.502	0.261	0.000	100000.000	100000.000	100000.000
σ		1.689%	6.045	0.020	0.029	0.000	3600.000	3805.000	3744.000
%RSD		2.005	3.023	3.883	11.300	0.000	3.600	3.805	3.744

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:31	1045.000	7.517	0.000	104600.000	104400.000	104500.000	87.877%	0.448
2	17:04:40	989.700	5.052	0.000	98490.000	99020.000	98520.000	91.637%	0.479
3	17:04:50	965.300	4.054	0.000	96880.000	96590.000	97030.000	92.935%	0.340
x		1000.000	5.541	0.000	100000.000	100000.000	100000.000	90.816%	0.422
σ		40.830	1.783	0.000	4089.000	3987.000	3930.000	2.627%	0.073
%RSD		4.083	32.170	0.000	4.089	3.987	3.930	2.893	17.310

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:31	205.700	201.500	1043.000	50470.000	50620.000	202.600	200.600	200.000
2	17:04:40	197.000	197.800	985.100	49700.000	49340.000	199.700	200.100	197.400
3	17:04:50	197.300	200.700	971.800	49830.000	50040.000	197.700	199.300	202.600
x		200.000	200.000	1000.000	50000.000	50000.000	200.000	200.000	200.000
σ		4.913	1.950	37.920	410.900	644.300	2.484	0.661	2.578
%RSD		2.457	0.975	3.792	0.822	1.289	1.242	0.331	1.289

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:31	198.700	202.200	199.800	200.900	200.800	202.900	0.000	197.600
2	17:04:40	199.400	199.100	197.400	197.600	200.600	195.800	0.000	199.900
3	17:04:50	201.900	198.700	202.800	201.600	198.600	201.300	0.000	202.500
x		200.000	200.000	200.000	200.000	200.000	200.000	0.000	200.000
σ		1.661	1.918	2.687	2.109	1.173	3.761	0.000	2.433
%RSD		0.830	0.959	1.343	1.054	0.586	1.881	0.000	1.217

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:31	87.678%	0.019	0.098	79.865%	198.600	198.800	199.100	198.900
2	17:04:40	89.304%	0.089	0.079	80.857%	200.600	202.000	198.000	200.800
3	17:04:50	89.265%	0.095	0.088	81.365%	200.800	199.200	202.800	200.300
x		88.749%	0.068	0.088	80.696%	200.000	200.000	200.000	200.000
σ		0.928%	0.042	0.010	0.763%	1.218	1.766	2.532	1.020
%RSD		1.045	62.360	10.880	0.946	0.609	0.883	1.266	0.510

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:31	84.976%	-0.013	0.177	0.165	197.600	199.100	86.584%	86.934%
2	17:04:40	85.271%	0.008	0.153	0.190	198.800	198.500	88.340%	87.504%
3	17:04:50	86.006%	-0.003	0.163	0.140	203.600	202.300	87.228%	87.483%
x		85.418%	-0.003	0.164	0.165	200.000	200.000	87.384%	87.307%
σ		0.530%	0.010	0.012	0.025	3.186	2.042	0.888%	0.323%
%RSD		0.621	356.100	7.444	15.220	1.593	1.021	1.017	0.370

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:31	198.700	199.800	197.000	197.400	198.200	78.555%
2	17:04:40	200.900	199.800	202.000	201.100	200.600	78.933%
3	17:04:50	200.400	200.400	201.100	201.500	201.200	79.222%
x		200.000	200.000	200.000	200.000	200.000	78.904%
σ		1.177	0.353	2.663	2.258	1.560	0.335%
%RSD		0.588	0.177	1.332	1.129	0.780	0.424

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:35	97.211%	0.039	196.400	198.700	0.000	65.760	15.790	15.290
2	17:09:44	98.324%	0.051	203.200	200.400	0.000	71.920	15.580	14.370
3	17:09:54	98.533%	0.028	200.400	200.900	0.000	69.480	15.520	14.800
x		98.023%	0.039	200.000	200.000	0.000	69.060	15.630	14.820
σ		0.710%	0.012	3.406	1.158	0.000	3.105	0.141	0.462
%RSD		0.725	30.140	1.703	0.579	0.000	4.497	0.901	3.121

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:35	1.214	10030.000	0.000	21.880	19.450	247.800	104.298%	200.900
2	17:09:44	1.239	9966.000	0.000	20.130	17.100	258.800	106.594%	199.100
3	17:09:54	1.218	10000.000	0.000	20.410	22.260	248.100	105.044%	200.000
x		1.224	10000.000	0.000	20.810	19.600	251.600	105.312%	200.000
σ		0.013	33.690	0.000	0.943	2.580	6.272	1.171%	0.868
%RSD		1.103	0.337	0.000	4.530	13.160	2.493	1.112	0.434

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:35	0.039	0.046	-0.024	11.010	13.280	0.025	0.119	0.159
2	17:09:44	0.032	0.031	-0.023	10.530	10.180	0.029	0.051	0.175
3	17:09:54	0.000	0.031	-0.004	10.850	14.820	0.032	0.118	0.218
x		0.024	0.036	-0.017	10.800	12.760	0.028	0.096	0.184
σ		0.021	0.009	0.012	0.244	2.364	0.004	0.039	0.031
%RSD		87.530	23.840	67.260	2.262	18.520	13.040	40.370	16.730

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:35	0.243	-0.235	-0.439	0.021	0.076	-0.128	0.000	0.033
2	17:09:44	0.318	0.099	-0.467	0.047	0.060	0.242	0.000	0.059
3	17:09:54	0.154	-0.179	-0.401	0.026	-0.019	0.277	0.000	0.059
x		0.238	-0.105	-0.436	0.031	0.039	0.130	0.000	0.050
σ		0.082	0.179	0.033	0.014	0.051	0.224	0.000	0.015
%RSD		34.360	170.400	7.582	44.740	130.500	171.900	0.000	29.660

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:35	103.058%	201.100	199.600	101.355%	0.027	0.021	0.507	5.863
2	17:09:44	103.482%	199.300	198.700	101.871%	0.038	0.015	0.509	5.960
3	17:09:54	103.188%	199.600	201.700	101.029%	0.007	0.013	0.502	6.015
x		103.243%	200.000	200.000	101.418%	0.024	0.017	0.506	5.946
σ		0.218%	0.948	1.554	0.424%	0.016	0.004	0.004	0.077
%RSD		0.211	0.474	0.777	0.419	66.170	22.970	0.722	1.291

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:35	100.434%	199.600	199.600	200.400	0.016	0.271	102.633%	101.407%
2	17:09:44	102.050%	199.600	197.700	196.300	0.004	0.414	103.039%	102.307%
3	17:09:54	99.558%	200.800	202.700	203.300	0.006	0.277	103.496%	102.296%
x		100.681%	200.000	200.000	200.000	0.009	0.321	103.056%	102.003%
σ		1.264%	0.698	2.561	3.506	0.006	0.081	0.432%	0.516%
%RSD		1.256	0.349	1.281	1.753	74.680	25.210	0.419	0.506

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:35	0.029	0.018	0.023	0.027	0.019	98.916%
2	17:09:44	0.026	0.014	0.002	0.024	0.016	96.639%
3	17:09:54	0.002	0.021	0.016	0.020	0.021	97.158%
x		0.019	0.018	0.014	0.024	0.019	97.571%
σ		0.015	0.004	0.010	0.004	0.003	1.194%
%RSD		79.420	21.110	77.200	15.690	14.250	1.223

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:41	95.603%	81.790	78.020	77.320	0.000	38490.000	37880.000	37010.000
2	17:14:50	92.853%	83.700	81.060	80.100	0.000	40380.000	40150.000	39430.000
3	17:15:00	93.069%	84.050	81.370	81.650	0.000	40480.000	40280.000	39340.000
x		93.842%	103.975%	100.187%	99.613%	0.000	99.460%	98.587%	96.480%
σ		1.529%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		1.630	1.458	2.305	2.756	0.000	2.820	3.426	3.542

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:41	382.900	3886.000	0.000	37420.000	36820.000	37220.000	104.892%	80.220
2	17:14:50	406.700	4101.000	0.000	39520.000	39120.000	38830.000	99.819%	81.670
3	17:15:00	409.600	4121.000	0.000	39630.000	39110.000	39390.000	100.565%	81.190
x		99.935%	100.903%	0.000	97.144%	95.871%	96.209%	101.759%	101.281%
σ		n/a	n/a	0.000	n/a	n/a	n/a	2.739%	n/a
%RSD		3.676	3.230	0.000	3.205	3.463	2.926	2.692	0.913

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:41	75.660	76.780	391.600	19490.000	18950.000	80.140	80.420	80.060
2	17:14:50	77.640	79.850	416.200	19840.000	19360.000	80.320	80.870	82.760
3	17:15:00	78.670	80.240	418.200	19830.000	19390.000	81.600	82.520	84.190
x		96.652%	98.697%	102.162%	98.603%	96.165%	100.855%	101.587%	102.920%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		1.980	2.397	3.630	1.031	1.284	0.989	1.359	2.547

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:41	80.450	80.950	84.760	82.970	85.550	81.970	0.000	76.720
2	17:14:50	81.670	81.800	81.240	82.910	83.260	84.610	0.000	74.330
3	17:15:00	82.480	83.920	85.230	83.080	83.100	82.690	0.000	73.970
x		101.914%	102.782%	104.681%	103.731%	104.963%	103.862%	0.000	93.758%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		1.253	1.855	2.601	0.103	1.633	1.643	0.000	1.998

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:41	102.255%	81.160	83.840	91.235%	80.880	82.690	81.490	86.260
2	17:14:50	104.159%	80.610	80.940	94.133%	78.870	80.120	81.400	83.510
3	17:15:00	105.478%	79.370	81.530	95.025%	79.800	81.100	81.900	83.900
x		103.964%	100.475%	102.628%	93.465%	99.816%	101.630%	101.999%	105.692%
σ		1.620%	n/a	n/a	1.981%	n/a	n/a	n/a	n/a
%RSD		1.558	1.136	1.865	2.120	1.262	1.596	0.328	1.760

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:41	90.858%	84.180	84.570	83.530	81.610	83.150	94.277%	93.473%
2	17:14:50	93.267%	81.430	81.580	81.750	80.410	80.500	96.449%	95.776%
3	17:15:00	94.553%	80.940	82.070	80.930	82.110	79.160	97.988%	97.323%
x		92.893%	102.727%	103.425%	102.591%	101.720%	101.171%	96.238%	95.524%
σ		1.876%	n/a	n/a	n/a	n/a	n/a	1.865%	1.937%
%RSD		2.020	2.122	1.936	1.622	1.077	2.508	1.938	2.028

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:41	83.520	81.920	82.500	79.980	81.370	84.177%
2	17:14:50	81.200	79.830	80.010	77.580	78.820	87.087%
3	17:15:00	81.390	80.060	80.170	76.550	78.660	88.818%
x		102.546%	100.753%	101.117%	97.546%	99.518%	86.694%
σ		n/a	n/a	n/a	n/a	n/a	2.345%
%RSD		1.575	1.421	1.724	2.253	1.913	2.705

ICB 10/9/2017 5:20:43 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:19:48	104.763%	0.028	0.342	0.246	0.000	41.380	10.180	9.046
2	17:19:58	104.710%	0.012	0.214	0.245	0.000	40.120	9.582	9.513
3	17:20:07	105.896%	0.025	0.235	0.272	0.000	36.450	9.417	8.685
x		105.123%	0.021	0.263	0.254	0.000	39.320	9.726	9.081
σ		0.670%	0.008	0.069	0.015	0.000	2.564	0.401	0.415
%RSD		0.637	38.880	26.040	6.059	0.000	6.521	4.121	4.572

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:19:48	0.586	5.512	0.000	26.880	8.223	12.930	106.730%	0.017
2	17:19:58	0.476	5.514	0.000	25.740	10.820	12.920	107.072%	0.032
3	17:20:07	0.445	6.154	0.000	22.900	14.560	11.550	108.922%	0.029
x		0.502	5.727	0.000	25.170	11.200	12.470	107.574%	0.026
σ		0.074	0.370	0.000	2.048	3.187	0.791	1.179%	0.008
%RSD		14.800	6.460	0.000	8.137	28.450	6.348	1.096	30.850

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:19:48	0.014	0.062	-0.035	5.568	7.017	0.018	0.055	0.022
2	17:19:58	0.025	0.034	-0.045	5.522	7.578	0.019	0.007	0.016
3	17:20:07	0.026	0.043	-0.036	5.617	6.807	0.021	0.043	0.034
x		0.022	0.047	-0.039	5.569	7.134	0.019	0.035	0.024
σ		0.007	0.014	0.006	0.048	0.399	0.002	0.025	0.009
%RSD		30.440	30.660	14.660	0.855	5.593	7.942	72.220	39.080

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:19:48	0.029	0.512	0.723	0.047	-0.064	0.528	0.000	0.054
2	17:19:58	0.007	0.792	0.903	0.065	-0.001	-0.243	0.000	0.035
3	17:20:07	-0.009	0.559	0.704	0.049	-0.001	0.307	0.000	0.029
x		0.009	0.621	0.776	0.054	-0.022	0.197	0.000	0.039
σ		0.019	0.150	0.110	0.010	0.036	0.397	0.000	0.013
%RSD		214.600	24.180	14.150	18.770	168.200	201.400	0.000	32.550

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:19:48	108.523%	0.057	0.083	106.587%	0.031	0.028	0.032	0.009
2	17:19:58	109.435%	0.050	0.087	108.733%	0.022	0.016	0.008	0.021
3	17:20:07	109.000%	0.061	0.082	108.612%	0.009	0.009	-0.000	0.015
x		108.986%	0.056	0.084	107.977%	0.021	0.018	0.013	0.015
σ		0.456%	0.006	0.003	1.206%	0.011	0.010	0.017	0.006
%RSD		0.419	10.130	3.021	1.117	52.750	54.380	126.100	40.450

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:19:48	107.091%	0.055	0.057	0.009	0.052	0.103	103.604%	102.846%
2	17:19:58	108.535%	0.040	0.063	0.015	0.190	0.094	105.439%	104.582%
3	17:20:07	108.075%	0.026	0.032	0.018	0.150	0.179	105.950%	105.234%
x		107.900%	0.040	0.051	0.014	0.131	0.125	104.998%	104.221%
σ		0.738%	0.014	0.016	0.004	0.071	0.046	1.234%	1.234%
%RSD		0.684	35.320	32.430	31.580	54.360	36.970	1.175	1.184

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:19:48	0.026	0.029	0.034	0.034	0.038	102.565%
2	17:19:58	0.016	0.017	0.007	0.045	0.029	102.542%
3	17:20:07	0.022	0.025	0.031	0.045	0.041	103.292%
x		0.021	0.024	0.024	0.041	0.036	102.799%
σ		0.005	0.007	0.015	0.007	0.006	0.426%
%RSD		24.890	27.650	61.090	16.130	17.280	0.415

ICVL 2475808 10/9/2017 5:25:51 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:24:54	104.845%	1.082	20.290	20.270	0.000	477.500	500.600	490.000
2	17:25:04	103.944%	1.062	20.420	20.430	0.000	435.600	466.400	449.600
3	17:25:13	102.849%	1.086	20.280	20.860	0.000	478.200	507.500	491.100
x		103.879%	107.663%	406.593%	410.416%	0.000	579.722%	491.495%	476.903%
σ		0.999%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		0.962	1.167	0.373	1.497	0.000	5.264	4.485	4.967
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:24:54	31.730	521.000	0.000	486.500	526.100	484.300	113.361%	5.248
2	17:25:04	29.410	504.200	0.000	435.500	475.500	433.600	125.628%	4.745
3	17:25:13	32.170	528.200	0.000	480.500	505.600	474.300	114.805%	5.570
x		103.674%	103.561%	0.000	467.489%	502.411%	464.056%	117.931%	103.748%
σ		n/a	n/a	0.000	n/a	n/a	n/a	6.704%	n/a
%RSD		4.761	2.374	0.000	5.965	5.062	5.788	5.685	8.010
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:24:54	0.941	1.958	5.089	47.910	52.710	0.517	1.372	2.337
2	17:25:04	0.873	1.796	4.636	44.700	45.370	0.489	1.137	2.196
3	17:25:13	0.882	1.897	5.040	48.580	52.060	0.527	1.344	2.268
x		89.856%	94.193%	98.432%	94.128%	100.093%	102.207%	128.416%	113.343%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		4.093	4.358	5.054	4.410	8.119	3.879	9.989	3.107
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:24:54	2.382	6.246	5.859	1.020	5.730	5.324	0.000	4.917
2	17:25:04	2.552	5.335	5.163	1.012	5.541	5.200	0.000	4.916
3	17:25:13	2.437	5.620	5.204	1.177	5.926	5.272	0.000	5.148
x		122.849%	114.674%	108.175%	107.005%	114.653%	105.302%	0.000	99.872%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		3.523	8.130	7.220	8.698	3.363	1.181	0.000	2.686
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:24:54	110.652%	5.315	5.153	109.394%	1.034	1.016	1.071	1.253
2	17:25:04	110.020%	5.306	5.028	109.384%	1.054	1.192	1.066	1.232
3	17:25:13	107.333%	5.447	5.338	108.946%	1.057	0.950	1.115	1.360
x		109.335%	107.116%	103.463%	109.241%	104.829%	105.286%	108.416%	128.195%
σ		1.762%	n/a	n/a	0.256%	n/a	n/a	n/a	n/a
%RSD		1.612	1.472	3.017	0.234	1.202	11.880	2.474	5.337
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:24:54	107.373%	5.207	1.805	1.968	10.280	9.782	105.428%	104.419%
2	17:25:04	108.153%	5.272	1.902	1.867	9.407	10.220	104.066%	104.843%
3	17:25:13	106.981%	5.243	2.084	1.972	9.585	9.881	105.992%	105.035%
x		107.502%	104.814%	96.515%	96.772%	97.568%	99.596%	105.162%	104.766%
σ		0.597%	n/a	n/a	n/a	n/a	n/a	0.990%	0.315%
%RSD		0.555	0.619	7.330	3.074	4.713	2.278	0.942	0.301
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	17:24:54	0.873	0.934	0.943	0.874	0.916	104.838%		
2	17:25:04	0.934	1.008	0.968	0.952	0.941	103.042%		
3	17:25:13	0.995	0.969	0.956	1.001	0.977	103.989%		
x		93.409%	97.023%	95.559%	94.230%	94.476%	103.956%		
σ		n/a	n/a	n/a	n/a	n/a	0.898%		
%RSD		6.540	3.834	1.340	6.808	3.263	0.864		

ICSA 2446375 10/9/2017 5:30:58 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:30:03	87.850%	0.014	0.449	0.953	0.000	98300.000	99860.000	97910.000
2	17:30:12	87.541%	0.014	0.460	0.907	0.000	98360.000	101000.000	98570.000
3	17:30:22	87.210%	0.025	0.633	1.010	0.000	99380.000	102000.000	98880.000
x		87.534%	0.018	0.514	0.957	0.000	98680.000	101000.000	98450.000
σ		0.320%	0.006	0.103	0.052	0.000	609.400	1070.000	492.100
%RSD		0.365	36.050	20.060	5.432	0.000	0.618	1.060	0.500

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:30:03	99940.000	25.590	0.000	94190.000	94640.000	96580.000	101.926%	2142.000
2	17:30:12	100400.000	25.520	0.000	93720.000	94840.000	97330.000	102.902%	2154.000
3	17:30:22	101400.000	25.670	0.000	93880.000	94890.000	96460.000	102.762%	2132.000
x		100600.000	25.600	0.000	93930.000	94790.000	96790.000	102.530%	2143.000
σ		764.200	0.075	0.000	236.200	133.900	467.200	0.528%	10.950
%RSD		0.760	0.294	0.000	0.252	0.141	0.483	0.515	0.511

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:30:03	0.698	1.343	0.555	98600.000	98230.000	0.484	1.022	0.596
2	17:30:12	0.746	1.303	0.578	97190.000	96170.000	0.516	1.001	0.470
3	17:30:22	0.723	1.412	0.636	101100.000	100200.000	0.541	0.991	0.463
x		0.723	1.353	0.590	98960.000	98200.000	0.513	1.005	0.510
σ		0.024	0.055	0.042	1963.000	2022.000	0.029	0.016	0.075
%RSD		3.344	4.073	7.086	1.984	2.059	5.583	1.567	14.750

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:30:03	2.067	2.242	-0.003	0.261	-0.003	-0.181	0.000	0.919
2	17:30:12	1.916	2.062	0.397	0.284	0.080	-0.861	0.000	0.842
3	17:30:22	2.027	2.166	0.037	0.265	0.088	-0.520	0.000	0.938
x		2.003	2.157	0.144	0.270	0.055	-0.521	0.000	0.900
σ		0.079	0.091	0.220	0.013	0.050	0.340	0.000	0.051
%RSD		3.926	4.200	153.000	4.638	91.120	65.360	0.000	5.619

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:30:03	90.720%	2227.000	2335.000	81.667%	0.017	0.023	2.905	2.008
2	17:30:12	94.048%	2161.000	2271.000	83.883%	0.016	0.070	2.867	1.983
3	17:30:22	89.881%	2293.000	2372.000	81.819%	0.025	0.024	2.903	2.182
x		91.550%	2227.000	2326.000	82.456%	0.020	0.039	2.892	2.057
σ		2.204%	65.980	50.640	1.238%	0.005	0.027	0.021	0.108
%RSD		2.408	2.963	2.177	1.501	24.180	68.880	0.739	5.266

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:30:03	108.664%	0.052	0.049	0.038	-0.057	-0.016	89.093%	77.707%
2	17:30:12	111.588%	0.019	0.062	0.033	0.015	-0.008	93.118%	78.659%
3	17:30:22	107.572%	0.039	0.043	0.038	-0.057	0.027	89.896%	77.750%
x		109.275%	0.037	0.051	0.036	-0.033	0.001	90.702%	78.038%
σ		2.076%	0.017	0.010	0.003	0.041	0.023	2.130%	0.537%
%RSD		1.900	44.900	19.420	7.578	126.000	2154.000	2.349	0.689

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:30:03	0.000	-0.003	0.075	0.103	0.073	71.206%
2	17:30:12	-0.011	-0.004	0.088	0.096	0.092	72.219%
3	17:30:22	-0.005	-0.006	0.109	0.090	0.075	68.867%
x		-0.005	-0.005	0.091	0.096	0.080	70.764%
σ		0.006	0.002	0.017	0.007	0.011	1.719%
%RSD		109.700	37.250	18.500	7.028	13.730	2.429

ICSAB 2446376 10/9/2017 5:44:58 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:44:03	88.665%	23.020	53.270	54.800	0.000	108200.000	113000.000	109700.000
2	17:44:12	90.262%	23.170	52.040	53.750	0.000	107900.000	112700.000	109700.000
3	17:44:22	89.113%	23.690	54.690	55.570	0.000	101700.000	106500.000	103400.000
x		89.347%	116.463%	106.664%	109.409%	0.000	105.940%	110.739%	107.614%
σ		0.823%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		0.922	1.504	2.489	1.673	0.000	3.433	3.312	3.406

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:44:03	111100.000	618.600	0.000	102800.000	103600.000	106900.000	104.296%	2358.000
2	17:44:12	110300.000	523.100	0.000	102300.000	103400.000	106100.000	105.467%	2370.000
3	17:44:22	104000.000	604.600	0.000	94790.000	96740.000	99510.000	113.135%	2216.000
x		108.481%	116.416%	0.000	99.978%	101.243%	104.165%	107.633%	115.727%
σ		n/a	n/a	0.000	n/a	n/a	n/a	4.801%	n/a
%RSD		3.597	8.856	0.000	4.505	3.853	3.889	4.460	3.702

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:44:03	19.860	20.760	24.350	105300.000	99790.000	21.350	21.340	21.630
2	17:44:12	19.570	21.150	23.780	105500.000	99700.000	21.320	21.620	22.080
3	17:44:22	19.280	19.450	22.710	100000.000	96030.000	20.920	21.200	20.600
x		97.851%	102.273%	118.047%	103.623%	98.506%	105.975%	106.920%	107.178%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		1.498	4.343	3.523	3.027	2.174	1.135	0.994	3.540

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:44:03	23.590	25.080	24.400	22.380	58.920	56.970	0.000	20.400
2	17:44:12	23.260	25.120	24.700	23.380	59.440	58.780	0.000	20.460
3	17:44:22	22.040	24.600	22.770	22.820	56.260	55.040	0.000	20.450
x		114.814%	99.725%	95.835%	114.300%	116.413%	113.862%	0.000	102.179%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		3.552	1.168	4.351	2.206	2.934	3.288	0.000	0.162

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:44:03	111.479%	2173.000	2266.000	99.933%	20.260	19.910	21.100	22.820
2	17:44:12	110.742%	2187.000	2263.000	100.504%	19.870	20.070	21.310	23.740
3	17:44:22	111.387%	2181.000	2261.000	101.590%	19.810	19.560	22.270	23.280
x		111.202%	109.015%	113.161%	100.676%	99.910%	99.232%	107.807%	116.410%
σ		0.401%	n/a	n/a	0.841%	n/a	n/a	n/a	n/a
%RSD		0.361	0.319	0.103	0.836	1.209	1.292	2.878	1.967

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:44:03	115.962%	91.170	19.390	18.470	18.010	18.470	106.851%	100.539%
2	17:44:12	115.906%	91.810	19.090	19.160	18.830	19.140	107.195%	100.876%
3	17:44:22	115.871%	94.070	18.960	19.430	18.720	18.170	107.888%	103.261%
x		115.913%	92.352%	95.727%	95.100%	92.607%	92.964%	107.311%	101.559%
σ		0.046%	n/a	n/a	n/a	n/a	n/a	0.528%	1.484%
%RSD		0.040	1.651	1.143	2.598	2.399	2.694	0.492	1.461

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:44:03	19.700	19.740	20.240	20.800	20.500	94.906%
2	17:44:12	19.700	19.620	20.310	20.760	20.610	94.960%
3	17:44:22	19.840	19.910	20.390	20.490	20.630	96.002%
x		98.721%	98.779%	101.562%	103.423%	102.889%	95.289%
σ		n/a	n/a	n/a	n/a	n/a	0.618%
%RSD		0.402	0.732	0.378	0.820	0.344	0.648

CCV 2475807 10/9/2017 5:50:51 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:49:54	98.894%	107.900	99.920	102.000	0.000	51520.000	51520.000	49170.000
2	17:50:04	99.059%	108.400	103.800	102.800	0.000	50900.000	50930.000	48890.000
3	17:50:13	97.624%	108.500	101.400	104.500	0.000	51780.000	52550.000	50290.000
x		98.526%	108.268%	101.737%	103.123%	0.000	102.799%	103.332%	98.903%
σ		0.785%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		0.797	0.325	1.946	1.240	0.000	0.877	1.588	1.499
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:49:54	494.400	5215.000	0.000	48520.000	47620.000	50000.000	116.162%	97.370
2	17:50:04	493.000	5249.000	0.000	48950.000	48250.000	50200.000	117.839%	96.310
3	17:50:13	508.400	5330.000	0.000	49270.000	48930.000	51090.000	114.928%	99.200
x		99.724%	105.293%	0.000	97.828%	96.532%	100.857%	116.310%	97.629%
σ		n/a	n/a	0.000	n/a	n/a	n/a	1.461%	n/a
%RSD		1.707	1.121	0.000	0.773	1.358	1.150	1.256	1.498
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:49:54	98.790	91.230	521.200	24400.000	23890.000	96.960	98.310	99.790
2	17:50:04	98.530	91.210	515.500	24050.000	23920.000	99.250	99.550	100.600
3	17:50:13	99.380	94.770	533.900	24700.000	24360.000	99.170	100.300	103.100
x		98.901%	92.403%	104.708%	97.532%	96.221%	98.461%	99.404%	101.165%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		0.442	2.217	1.797	1.344	1.092	1.316	1.032	1.687
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:49:54	100.600	108.500	106.800	103.400	108.100	108.500	0.000	96.520
2	17:50:04	102.200	106.300	105.900	104.100	108.800	111.100	0.000	95.570
3	17:50:13	103.300	107.900	106.500	104.400	110.000	106.800	0.000	95.730
x		102.034%	107.570%	106.416%	103.961%	108.951%	108.823%	0.000	95.943%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		1.304	1.054	0.446	0.507	0.926	1.990	0.000	0.530
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:49:54	108.335%	102.900	105.300	96.386%	102.000	103.900	104.300	106.500
2	17:50:04	109.321%	104.300	107.100	98.572%	103.000	103.500	103.200	106.700
3	17:50:13	110.573%	102.700	106.500	99.294%	101.800	102.600	103.800	106.700
x		109.410%	103.310%	106.293%	98.084%	102.272%	103.350%	103.769%	106.605%
σ		1.122%	n/a	n/a	1.514%	n/a	n/a	n/a	n/a
%RSD		1.025	0.809	0.869	1.544	0.615	0.625	0.504	0.104
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:49:54	97.190%	101.800	102.600	102.200	96.110	95.570	102.991%	100.924%
2	17:50:04	99.126%	102.000	102.400	103.800	98.790	96.610	103.789%	102.499%
3	17:50:13	100.606%	101.000	103.500	101.400	96.700	98.480	104.469%	104.345%
x		98.974%	101.592%	102.848%	102.438%	97.199%	96.889%	103.750%	102.589%
σ		1.713%	n/a	n/a	n/a	n/a	n/a	0.740%	1.712%
%RSD		1.731	0.534	0.597	1.209	1.448	1.525	0.713	1.669
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	17:49:54	97.900	96.480	98.940	98.370	98.020	84.435%		
2	17:50:04	98.960	96.100	99.620	96.350	97.560	88.281%		
3	17:50:13	99.700	96.510	99.510	98.800	98.580	90.536%		
x		98.852%	96.363%	99.355%	97.842%	98.051%	87.751%		
σ		n/a	n/a	n/a	n/a	n/a	3.085%		
%RSD		0.919	0.236	0.370	1.335	0.517	3.516		

CCB1 10/9/2017 5:55:58 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:02	110.504%	0.009	0.259	0.312	0.000	71.340	10.400	9.994
2	17:55:12	107.855%	0.032	0.292	0.312	0.000	67.300	10.140	10.280
3	17:55:21	110.134%	0.012	0.274	0.293	0.000	64.390	10.430	9.767
x		109.498%	0.018	0.275	0.306	0.000	67.680	10.320	10.010
σ		1.435%	0.012	0.016	0.011	0.000	3.490	0.158	0.255
%RSD		1.310	69.300	5.906	3.541	0.000	5.158	1.527	2.549
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:02	0.415	0.601	0.000	26.690	11.200	11.790	120.341%	0.031
2	17:55:12	0.389	1.291	0.000	26.270	11.620	12.690	119.334%	-0.009
3	17:55:21	0.432	0.457	0.000	24.830	9.261	11.840	121.117%	0.057
x		0.412	0.783	0.000	25.930	10.690	12.110	120.264%	0.026
σ		0.022	0.446	0.000	0.977	1.257	0.507	0.894%	0.033
%RSD		5.314	56.920	0.000	3.769	11.750	4.186	0.744	126.100
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:02	0.008	0.034	-0.010	6.247	6.160	0.017	0.043	0.045
2	17:55:12	0.013	0.043	-0.035	5.812	8.145	0.027	0.062	0.016
3	17:55:21	0.018	0.045	-0.037	5.880	7.766	0.014	0.052	0.052
x		0.013	0.041	-0.027	5.980	7.357	0.019	0.053	0.038
σ		0.005	0.006	0.015	0.234	1.054	0.007	0.009	0.019
%RSD		41.560	13.910	54.910	3.913	14.320	36.020	18.080	50.000
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:02	0.110	0.692	0.596	0.054	0.043	-0.011	0.000	0.047
2	17:55:12	0.090	0.863	0.714	0.014	0.087	-0.608	0.000	0.034
3	17:55:21	0.043	0.955	0.326	0.057	0.068	0.555	0.000	0.038
x		0.081	0.837	0.546	0.042	0.066	-0.021	0.000	0.040
σ		0.034	0.133	0.199	0.024	0.022	0.581	0.000	0.007
%RSD		41.880	15.920	36.440	58.290	33.360	2710.000	0.000	16.500
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:02	118.976%	0.228	0.296	121.292%	0.016	0.031	0.029	0.019
2	17:55:12	121.040%	0.258	0.253	123.155%	0.006	0.020	0.028	0.036
3	17:55:21	118.126%	0.374	0.231	121.850%	0.018	0.016	0.050	0.022
x		119.381%	0.287	0.260	122.099%	0.014	0.022	0.036	0.026
σ		1.498%	0.077	0.033	0.956%	0.006	0.008	0.013	0.009
%RSD		1.255	26.960	12.620	0.783	45.870	35.020	35.370	34.710
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:02	117.472%	0.066	0.065	0.038	0.101	0.124	116.141%	114.609%
2	17:55:12	118.860%	0.052	0.056	0.078	0.170	0.104	118.895%	116.997%
3	17:55:21	116.693%	0.052	0.045	0.066	0.202	0.118	116.917%	113.479%
x		117.675%	0.057	0.055	0.060	0.158	0.115	117.318%	115.028%
σ		1.098%	0.008	0.010	0.021	0.052	0.010	1.420%	1.796%
%RSD		0.933	14.460	17.690	34.250	32.920	8.627	1.210	1.561
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	17:55:02	0.032	0.021	0.032	0.054	0.034	112.509%		
2	17:55:12	0.030	0.029	0.050	0.009	0.035	117.720%		
3	17:55:21	0.017	0.018	0.050	0.036	0.031	113.380%		
x		0.026	0.023	0.044	0.033	0.033	114.536%		
σ		0.008	0.005	0.010	0.022	0.002	2.791%		
%RSD		31.610	22.820	23.710	67.890	6.711	2.437		

MB 180-224906/1-A 10/9/2017 6:01:03 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:08	106.661%	-0.001	0.139	0.258	0.000	5.708	0.367	0.167
2	18:00:18	108.607%	0.007	0.177	0.182	0.000	3.284	0.231	0.149
3	18:00:27	106.705%	0.004	0.165	0.252	0.000	1.677	0.360	0.098
x		107.324%	0.003	0.160	0.231	0.000	3.556	0.319	0.138
σ		1.111%	0.004	0.020	0.042	0.000	2.029	0.076	0.035
%RSD		1.035	136.200	12.280	18.220	0.000	57.060	23.940	25.690

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:08	-0.116	1.113	0.000	9.752	0.291	4.101	114.758%	0.101
2	18:00:18	-0.112	1.128	0.000	7.823	2.817	2.872	117.267%	0.048
3	18:00:27	-0.147	1.055	0.000	7.142	0.377	3.721	117.637%	0.110
x		-0.125	1.098	0.000	8.239	1.162	3.564	116.554%	0.086
σ		0.019	0.038	0.000	1.354	1.434	0.629	1.567%	0.033
%RSD		15.540	3.500	0.000	16.440	123.500	17.650	1.344	38.660

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:08	1.889	0.936	-0.127	-1.568	-0.858	0.002	-0.012	0.010
2	18:00:18	1.726	0.892	-0.117	-1.699	-3.247	-0.012	0.019	0.050
3	18:00:27	1.569	0.814	-0.115	-1.631	-2.293	-0.010	0.047	0.017
x		1.728	0.881	-0.120	-1.633	-2.133	-0.007	0.018	0.026
σ		0.160	0.062	0.006	0.066	1.203	0.008	0.029	0.022
%RSD		9.275	6.994	5.245	4.015	56.390	109.500	163.800	84.590

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:08	0.079	-0.187	0.152	0.116	-0.043	0.711	0.000	-0.007
2	18:00:18	0.062	0.072	0.059	0.126	0.062	0.189	0.000	0.000
3	18:00:27	0.047	-0.201	-0.123	0.074	0.079	0.017	0.000	-0.004
x		0.062	-0.105	0.029	0.105	0.033	0.305	0.000	-0.004
σ		0.016	0.154	0.140	0.028	0.066	0.361	0.000	0.004
%RSD		26.250	146.000	477.400	26.150	203.100	118.400	0.000	102.100

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:08	111.950%	0.210	0.120	116.899%	-0.002	0.006	-0.000	-0.004
2	18:00:18	106.909%	0.117	0.139	110.591%	0.001	0.019	-0.000	-0.007
3	18:00:27	112.223%	0.095	0.137	114.676%	-0.002	-0.003	0.007	0.002
x		110.361%	0.141	0.132	114.055%	-0.001	0.007	0.002	-0.003
σ		2.992%	0.061	0.011	3.200%	0.002	0.011	0.004	0.005
%RSD		2.711	43.420	8.005	2.805	150.900	149.500	177.800	171.400

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:08	112.190%	0.094	0.021	0.020	-0.024	0.000	110.038%	110.067%
2	18:00:18	105.659%	0.118	0.036	0.019	-0.040	-0.040	105.295%	104.853%
3	18:00:27	110.504%	0.011	0.025	0.023	-0.072	-0.015	107.931%	108.382%
x		109.451%	0.074	0.027	0.021	-0.045	-0.018	107.755%	107.767%
σ		3.391%	0.056	0.008	0.002	0.024	0.020	2.376%	2.661%
%RSD		3.098	75.470	28.060	11.590	53.740	111.000	2.205	2.469

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:08	-0.007	0.003	-0.004	-0.003	-0.006	107.831%
2	18:00:18	0.007	0.007	-0.006	-0.002	-0.005	103.411%
3	18:00:27	0.009	-0.003	-0.007	0.005	-0.004	105.353%
x		0.003	0.002	-0.006	0.000	-0.005	105.532%
σ		0.009	0.005	0.002	0.004	0.001	2.215%
%RSD		315.400	209.500	25.840	2640.000	23.100	2.099

LCS 180-224906/2-A 10/9/2017 6:06:08 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:05:12	106.795%	50.100	1064.000	1073.000	0.000	53200.000	53420.000	52580.000
2	18:05:22	108.382%	50.540	1054.000	1062.000	0.000	49440.000	50640.000	49610.000
3	18:05:31	109.588%	50.240	1053.000	1069.000	0.000	49450.000	50480.000	49730.000
x		108.255%	50.290	1057.000	1068.000	0.000	50700.000	51510.000	50640.000
σ		1.401%	0.228	6.218	5.521	0.000	2171.000	1653.000	1681.000
%RSD		1.294	0.452	0.588	0.517	0.000	4.283	3.208	3.319

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:05:12	2147.000	9530.000	0.000	50410.000	50860.000	51620.000	104.505%	1029.000
2	18:05:22	2010.000	9234.000	0.000	47270.000	47390.000	48330.000	113.098%	955.400
3	18:05:31	2023.000	9239.000	0.000	47570.000	47910.000	48040.000	113.768%	965.000
x		2060.000	9334.000	0.000	48420.000	48720.000	49330.000	110.457%	983.200
σ		75.270	169.500	0.000	1732.000	1873.000	1991.000	5.166%	40.070
%RSD		3.654	1.816	0.000	3.577	3.845	4.036	4.677	4.076

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:05:12	487.400	203.800	513.500	996.400	1368.000	518.300	511.600	263.800
2	18:05:22	455.200	189.400	518.300	944.000	1293.000	499.100	494.300	253.300
3	18:05:31	456.800	189.000	517.700	927.000	1286.000	495.900	482.600	250.400
x		466.500	194.100	516.500	955.800	1316.000	504.400	496.200	255.800
σ		18.130	8.466	2.658	36.130	45.760	12.120	14.580	7.033
%RSD		3.887	4.362	0.515	3.781	3.477	2.403	2.939	2.749

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:05:12	262.400	475.500	489.600	45.980	8.898	9.157	0.000	1035.000
2	18:05:22	252.700	463.300	482.000	45.320	9.223	12.390	0.000	1034.000
3	18:05:31	249.700	460.600	470.000	43.970	10.170	9.786	0.000	1034.000
x		254.900	466.500	480.500	45.090	9.430	10.440	0.000	1034.000
σ		6.613	7.948	9.888	1.026	0.661	1.713	0.000	0.841
%RSD		2.594	1.704	2.058	2.275	7.005	16.400	0.000	0.081

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:05:12	96.920%	1076.000	1120.000	89.933%	52.090	53.850	50.870	109.700
2	18:05:22	97.075%	1100.000	1144.000	88.912%	52.330	53.460	52.430	110.100
3	18:05:31	97.523%	1086.000	1124.000	89.148%	52.600	53.130	52.290	109.100
x		97.173%	1087.000	1129.000	89.331%	52.340	53.480	51.860	109.600
σ		0.313%	12.090	12.580	0.535%	0.258	0.358	0.863	0.488
%RSD		0.322	1.111	1.113	0.599	0.493	0.669	1.665	0.445

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:05:12	90.218%	2183.000	489.800	497.300	2017.000	2019.000	96.172%	95.481%
2	18:05:22	90.546%	2198.000	494.300	495.800	1999.000	2010.000	96.206%	94.390%
3	18:05:31	90.045%	2158.000	489.100	493.500	1972.000	1993.000	96.154%	95.075%
x		90.269%	2180.000	491.100	495.600	1996.000	2008.000	96.177%	94.982%
σ		0.254%	20.250	2.822	1.914	22.700	13.110	0.026%	0.551%
%RSD		0.282	0.929	0.575	0.386	1.138	0.653	0.027	0.580

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:05:12	51.610	50.260	21.110	21.050	20.870	82.149%
2	18:05:22	52.810	50.880	21.030	21.660	20.980	80.854%
3	18:05:31	51.400	50.310	21.030	20.760	21.010	80.697%
x		51.940	50.480	21.060	21.160	20.950	81.234%
σ		0.763	0.345	0.048	0.461	0.074	0.797%
%RSD		1.469	0.684	0.229	2.176	0.352	0.981

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:10:16	109.435%	2.741	125.300	126.500	0.000	35440.000	23820.000	23560.000
2	18:10:26	108.630%	2.674	128.900	129.000	0.000	34880.000	23560.000	23170.000
3	18:10:35	112.153%	2.710	124.100	125.300	0.000	34670.000	23270.000	23010.000
x		110.073%	2.708	126.100	127.000	0.000	35000.000	23550.000	23250.000
σ		1.846%	0.034	2.504	1.907	0.000	400.700	276.900	279.500
%RSD		1.677	1.256	1.986	1.502	0.000	1.145	1.176	1.202
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:10:16	44550.000	4711.000	0.000	14430.000	27420.000	27530.000	107.778%	3259.000
2	18:10:26	44130.000	4758.000	0.000	14200.000	27140.000	27010.000	110.890%	3211.000
3	18:10:35	44080.000	4694.000	0.000	14030.000	26820.000	26810.000	112.327%	3203.000
x		44250.000	4721.000	0.000	14220.000	27130.000	27120.000	110.331%	3224.000
σ		256.300	33.390	0.000	202.200	302.300	371.600	2.325%	30.520
%RSD		0.579	0.707	0.000	1.422	1.115	1.371	2.108	0.947
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:10:16	155.300	167.500	890.100	125300.000	122200.000	29.450	159.500	81.120
2	18:10:26	160.000	167.100	879.700	123100.000	120500.000	29.170	156.500	81.430
3	18:10:35	153.400	162.200	870.700	123100.000	120400.000	28.610	155.700	81.290
x		156.200	165.600	880.100	123800.000	121000.000	29.080	157.200	81.280
σ		3.428	2.954	9.703	1260.000	1022.000	0.426	1.978	0.156
%RSD		2.195	1.784	1.102	1.018	0.845	1.464	1.258	0.192
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:10:16	83.070	279.200	283.200	50.530	2.916	11.630	0.000	165.200
2	18:10:26	83.850	282.700	280.600	50.500	3.395	7.970	0.000	164.200
3	18:10:35	81.900	278.000	277.400	50.450	2.899	10.940	0.000	163.000
x		82.940	280.000	280.400	50.490	3.070	10.180	0.000	164.100
σ		0.979	2.433	2.902	0.038	0.282	1.945	0.000	1.132
%RSD		1.181	0.869	1.035	0.075	9.173	19.110	0.000	0.690
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:10:16	0.000	13.650	14.560	85.069%	0.466	0.501	1.184	2.294
2	18:10:26	0.000	13.620	13.640	86.361%	0.511	0.426	0.980	2.275
3	18:10:35	0.000	13.660	14.180	87.655%	0.544	0.500	1.236	2.255
x		0.000	13.640	14.120	86.362%	0.507	0.476	1.133	2.275
σ		0.000	0.017	0.464	1.293%	0.039	0.043	0.135	0.019
%RSD		0.000	0.127	3.287	1.497	7.766	9.051	11.930	0.850
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:10:16	86.953%	39.860	1.037	0.925	138.400	140.600	95.745%	93.820%
2	18:10:26	88.442%	40.660	0.908	0.993	142.200	142.700	97.188%	95.069%
3	18:10:35	89.488%	40.380	0.954	1.029	141.600	143.200	97.379%	96.283%
x		88.294%	40.300	0.966	0.982	140.700	142.200	96.771%	95.057%
σ		1.274%	0.404	0.065	0.053	2.050	1.348	0.894%	1.232%
%RSD		1.443	1.003	6.773	5.394	1.456	0.948	0.924	1.296
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	18:10:16	0.802	0.758	67.050	62.040	64.480	76.916%		
2	18:10:26	0.718	0.757	69.080	61.360	65.080	78.743%		
3	18:10:35	0.734	0.811	68.170	61.770	64.750	80.218%		
x		0.751	0.775	68.100	61.720	64.770	78.626%		
σ		0.045	0.031	1.017	0.342	0.296	1.654%		
%RSD		5.947	3.985	1.493	0.553	0.457	2.103		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:15:21	118.037%	11.050	16.140	16.160	0.000	489.400	12080.000	12170.000
2	18:15:30	116.406%	11.270	17.170	16.640	0.000	449.900	11110.000	11250.000
3	18:15:40	113.993%	11.520	17.130	17.010	0.000	449.600	11240.000	11390.000
x		116.145%	11.280	16.810	16.610	0.000	463.000	11470.000	11600.000
σ		2.035%	0.236	0.581	0.430	0.000	22.900	524.500	493.400
%RSD		1.752	2.087	3.456	2.593	0.000	4.946	4.571	4.253

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:15:21	52800.000	5826.000	0.000	6434.000	11240.000	10280.000	102.625%	659.400
2	18:15:30	48530.000	5591.000	0.000	5896.000	10450.000	9527.000	111.975%	609.700
3	18:15:40	49370.000	5681.000	0.000	5943.000	10620.000	9510.000	111.353%	612.300
x		50230.000	5699.000	0.000	6091.000	10770.000	9771.000	108.651%	627.100
σ		2259.000	118.700	0.000	297.800	415.800	437.600	5.228%	27.950
%RSD		4.497	2.083	0.000	4.890	3.861	4.479	4.812	4.456

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:15:21	99.010	88.940	5586.000	161800.000	157000.000	259.700	374.200	313.600
2	18:15:30	88.470	83.710	5209.000	150100.000	145300.000	243.300	349.500	295.600
3	18:15:40	91.490	82.110	5255.000	151300.000	148300.000	246.700	353.400	299.000
x		92.990	84.920	5350.000	154400.000	150200.000	249.900	359.000	302.700
σ		5.429	3.574	206.000	6394.000	6069.000	8.686	13.250	9.559
%RSD		5.838	4.209	3.850	4.141	4.041	3.476	3.691	3.158

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:15:21	310.200	1338.000	1372.000	67.710	20.060	18.940	0.000	89.370
2	18:15:30	298.800	1279.000	1290.000	65.870	19.270	21.680	0.000	87.380
3	18:15:40	297.600	1275.000	1311.000	66.340	19.380	20.680	0.000	86.890
x		302.200	1297.000	1324.000	66.640	19.570	20.430	0.000	87.880
σ		6.934	35.370	42.510	0.956	0.425	1.386	0.000	1.316
%RSD		2.294	2.726	3.211	1.435	2.172	6.784	0.000	1.497

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:15:21	0.000	8.955	9.036	85.317%	1.932	1.765	3.667	5.398
2	18:15:30	0.000	8.492	8.783	86.238%	1.935	1.891	3.888	5.034
3	18:15:40	0.000	8.952	9.080	86.148%	1.756	1.736	3.917	5.186
x		0.000	8.800	8.966	85.901%	1.874	1.797	3.824	5.206
σ		0.000	0.267	0.160	0.508%	0.103	0.082	0.137	0.183
%RSD		0.000	3.029	1.786	0.591	5.489	4.581	3.578	3.513

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:15:21	88.662%	53.600	3.935	3.790	469.600	463.100	95.155%	95.265%
2	18:15:30	89.260%	54.710	3.817	3.949	462.900	463.600	96.320%	95.722%
3	18:15:40	88.641%	54.700	3.779	3.999	467.600	467.800	95.986%	95.754%
x		88.854%	54.340	3.844	3.913	466.700	464.800	95.820%	95.580%
σ		0.351%	0.636	0.081	0.109	3.406	2.589	0.600%	0.274%
%RSD		0.395	1.171	2.116	2.788	0.730	0.557	0.626	0.286

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:15:21	1.338	1.262	245.600	227.300	236.100	80.029%
2	18:15:30	1.358	1.387	246.700	228.700	237.600	80.692%
3	18:15:40	1.314	1.344	247.500	226.000	237.100	81.051%
x		1.337	1.331	246.600	227.400	237.000	80.590%
σ		0.022	0.064	0.953	1.346	0.763	0.518%
%RSD		1.648	4.794	0.386	0.592	0.322	0.643

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:20:27	101.146%	13.850	18.790	18.150	0.000	565.400	18300.000	18410.000
2	18:20:36	103.123%	13.770	17.710	17.910	0.000	561.100	18190.000	18290.000
3	18:20:46	103.183%	13.830	19.010	17.840	0.000	564.100	18280.000	18380.000
x		102.484%	13.810	18.510	17.970	0.000	563.500	18260.000	18360.000
σ		1.159%	0.040	0.696	0.163	0.000	2.239	57.600	61.240
%RSD		1.131	0.293	3.758	0.904	0.000	0.397	0.316	0.334

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:20:27	72630.000	4639.000	0.000	7282.000	15840.000	14720.000	102.581%	792.200
2	18:20:36	72660.000	4551.000	0.000	7333.000	15850.000	14610.000	103.981%	789.600
3	18:20:46	72760.000	4615.000	0.000	7240.000	15800.000	13960.000	104.311%	794.300
x		72680.000	4602.000	0.000	7285.000	15830.000	14430.000	103.624%	792.100
σ		67.290	45.560	0.000	46.400	25.500	414.100	0.919%	2.332
%RSD		0.093	0.990	0.000	0.637	0.161	2.870	0.887	0.294

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:20:27	124.600	121.000	7500.000	207400.000	202500.000	315.600	456.800	367.600
2	18:20:36	124.100	119.200	7481.000	207500.000	203200.000	312.700	457.200	370.200
3	18:20:46	125.800	120.100	7496.000	211100.000	206100.000	320.900	466.800	373.500
x		124.800	120.100	7492.000	208700.000	203900.000	316.400	460.200	370.400
σ		0.860	0.938	9.925	2088.000	1873.000	4.166	5.666	2.939
%RSD		0.689	0.781	0.133	1.001	0.918	1.317	1.231	0.793

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:20:27	371.000	1605.000	1616.000	78.970	23.810	27.140	0.000	118.200
2	18:20:36	367.000	1598.000	1625.000	79.320	23.100	24.680	0.000	118.100
3	18:20:46	373.100	1632.000	1669.000	82.100	23.950	27.750	0.000	121.500
x		370.300	1612.000	1637.000	80.130	23.620	26.520	0.000	119.300
σ		3.086	17.850	28.280	1.716	0.456	1.622	0.000	1.950
%RSD		0.833	1.107	1.728	2.142	1.931	6.114	0.000	1.635

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:20:27	0.000	9.271	9.404	80.782%	2.890	2.644	5.318	7.088
2	18:20:36	0.000	9.895	9.561	81.746%	2.934	2.880	5.484	6.993
3	18:20:46	0.000	9.789	9.880	80.039%	2.702	2.869	5.131	6.843
x		0.000	9.652	9.615	80.856%	2.842	2.798	5.311	6.975
σ		0.000	0.334	0.242	0.856%	0.123	0.133	0.176	0.123
%RSD		0.000	3.460	2.520	1.058	4.321	4.764	3.319	1.769

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:20:27	84.286%	54.560	3.461	3.468	680.700	667.800	94.025%	93.480%
2	18:20:36	84.910%	54.330	3.622	3.464	680.700	669.800	96.212%	95.815%
3	18:20:46	84.481%	55.860	3.543	3.455	689.600	685.500	95.743%	93.764%
x		84.559%	54.920	3.542	3.463	683.700	674.400	95.327%	94.353%
σ		0.319%	0.827	0.080	0.007	5.177	9.667	1.151%	1.274%
%RSD		0.377	1.506	2.271	0.196	0.757	1.433	1.207	1.350

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:20:27	1.522	1.562	286.200	267.600	276.000	76.908%
2	18:20:36	1.678	1.637	285.800	265.500	275.200	77.513%
3	18:20:46	1.775	1.610	295.900	273.500	284.100	76.942%
x		1.658	1.603	289.300	268.800	278.400	77.121%
σ		0.128	0.038	5.709	4.153	4.905	0.340%
%RSD		7.697	2.348	1.974	1.545	1.762	0.441

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:32	95.820%	14.460	16.900	16.760	0.000	509.600	17640.000	17540.000
2	18:25:42	94.096%	14.890	17.290	17.200	0.000	513.600	17990.000	17900.000
3	18:25:51	95.130%	14.690	16.750	16.660	0.000	519.500	18120.000	18080.000
x		95.015%	14.680	16.980	16.870	0.000	514.300	17910.000	17840.000
σ		0.868%	0.219	0.280	0.287	0.000	4.965	248.700	272.000
%RSD		0.913	1.491	1.649	1.701	0.000	0.965	1.389	1.525
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:32	73420.000	4012.000	0.000	6956.000	14610.000	12960.000	97.887%	770.300
2	18:25:42	74240.000	4108.000	0.000	6967.000	14380.000	12980.000	97.923%	781.500
3	18:25:51	74300.000	4109.000	0.000	6943.000	14330.000	13000.000	97.985%	782.600
x		73990.000	4076.000	0.000	6955.000	14440.000	12980.000	97.932%	778.100
σ		495.100	55.670	0.000	12.180	151.500	20.540	0.050%	6.830
%RSD		0.669	1.366	0.000	0.175	1.049	0.158	0.051	0.878
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:32	125.400	127.600	7396.000	202600.000	203300.000	331.200	471.700	348.100
2	18:25:42	128.500	129.800	7576.000	204600.000	204500.000	331.800	474.800	351.100
3	18:25:51	124.400	126.200	7588.000	202900.000	204000.000	332.700	472.700	347.600
x		126.100	127.800	7520.000	203300.000	204000.000	331.900	473.100	348.900
σ		2.135	1.820	107.800	1077.000	594.200	0.792	1.594	1.847
%RSD		1.693	1.424	1.433	0.530	0.291	0.239	0.337	0.529
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:32	350.300	1768.000	1812.000	83.550	19.260	23.360	0.000	109.500
2	18:25:42	354.800	1782.000	1813.000	83.410	20.620	20.300	0.000	110.400
3	18:25:51	349.200	1785.000	1819.000	83.350	19.390	24.000	0.000	111.100
x		351.400	1779.000	1814.000	83.440	19.760	22.550	0.000	110.300
σ		2.930	9.049	3.789	0.101	0.753	1.980	0.000	0.797
%RSD		0.834	0.509	0.209	0.121	3.811	8.778	0.000	0.723
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:32	0.000	10.450	10.400	73.852%	3.964	4.162	7.212	8.365
2	18:25:42	0.000	10.450	10.250	73.741%	4.162	4.140	7.113	8.774
3	18:25:51	0.000	10.200	10.770	73.898%	4.215	4.356	7.070	8.524
x		0.000	10.370	10.470	73.830%	4.114	4.220	7.132	8.554
σ		0.000	0.144	0.270	0.081%	0.133	0.119	0.073	0.206
%RSD		0.000	1.391	2.575	0.109	3.220	2.819	1.026	2.411
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:32	76.593%	48.770	3.322	3.454	668.400	661.300	90.817%	89.545%
2	18:25:42	76.627%	48.210	3.557	3.556	664.000	663.200	89.516%	87.967%
3	18:25:51	76.695%	48.170	3.453	3.398	656.300	655.100	91.155%	88.899%
x		76.638%	48.390	3.444	3.469	662.900	659.900	90.496%	88.804%
σ		0.052%	0.336	0.118	0.080	6.110	4.191	0.865%	0.793%
%RSD		0.068	0.694	3.412	2.301	0.922	0.635	0.956	0.893
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	18:25:32	1.652	1.575	311.800	285.000	298.500	66.801%		
2	18:25:42	1.672	1.667	311.500	288.200	298.800	65.626%		
3	18:25:51	1.547	1.619	309.800	283.400	296.000	65.531%		
x		1.623	1.620	311.000	285.500	297.800	65.986%		
σ		0.067	0.046	1.102	2.418	1.522	0.708%		
%RSD		4.135	2.841	0.354	0.847	0.511	1.072		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:40	89.889%	15.090	21.480	21.300	0.000	540.600	18890.000	18910.000
2	18:30:49	91.970%	14.810	21.100	20.970	0.000	533.800	18830.000	18890.000
3	18:30:59	91.977%	14.490	21.550	21.370	0.000	535.800	18800.000	18930.000
x		91.279%	14.800	21.380	21.210	0.000	536.700	18840.000	18910.000
σ		1.204%	0.298	0.244	0.212	0.000	3.466	46.610	21.850
%RSD		1.319	2.013	1.141	0.998	0.000	0.646	0.247	0.116
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:40	78940.000	4931.000	0.000	7866.000	15980.000	14510.000	99.403%	858.800
2	18:30:49	79040.000	4957.000	0.000	7818.000	15970.000	14480.000	101.433%	852.800
3	18:30:59	79280.000	4975.000	0.000	7814.000	15840.000	14430.000	101.609%	849.800
x		79090.000	4954.000	0.000	7833.000	15930.000	14480.000	100.815%	853.800
σ		176.400	22.270	0.000	29.090	78.770	41.450	1.226%	4.589
%RSD		0.223	0.450	0.000	0.371	0.495	0.286	1.216	0.537
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:40	134.300	135.400	8656.000	215900.000	211700.000	330.600	486.500	379.000
2	18:30:49	132.400	130.800	8626.000	210600.000	205200.000	325.300	473.200	371.600
3	18:30:59	129.000	129.200	8712.000	210900.000	206300.000	324.500	474.700	369.100
x		131.900	131.800	8665.000	212500.000	207700.000	326.800	478.100	373.200
σ		2.704	3.204	43.540	2950.000	3477.000	3.309	7.262	5.170
%RSD		2.050	2.431	0.503	1.388	1.674	1.013	1.519	1.385
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:40	379.900	1798.000	1827.000	81.830	19.950	19.960	0.000	125.100
2	18:30:49	372.700	1753.000	1773.000	78.460	19.010	24.730	0.000	122.100
3	18:30:59	368.800	1747.000	1775.000	79.150	19.780	24.340	0.000	120.000
x		373.800	1766.000	1792.000	79.810	19.580	23.010	0.000	122.400
σ		5.642	27.730	30.710	1.781	0.504	2.650	0.000	2.579
%RSD		1.509	1.570	1.713	2.231	2.575	11.520	0.000	2.106
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:40	0.000	10.400	10.300	77.799%	4.296	3.941	6.938	8.666
2	18:30:49	0.000	10.100	10.200	81.198%	3.912	3.825	7.057	8.197
3	18:30:59	0.000	10.240	9.636	82.713%	3.790	3.999	7.092	8.225
x		0.000	10.250	10.050	80.570%	3.999	3.922	7.029	8.363
σ		0.000	0.152	0.359	2.516%	0.264	0.089	0.081	0.263
%RSD		0.000	1.481	3.576	3.123	6.597	2.258	1.151	3.146
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:40	81.334%	57.300	3.918	3.875	748.900	746.600	96.472%	94.228%
2	18:30:49	85.401%	53.920	3.632	3.737	708.800	710.800	100.070%	98.267%
3	18:30:59	86.896%	54.420	3.686	3.370	707.400	702.600	101.084%	100.207%
x		84.544%	55.210	3.745	3.661	721.700	720.000	99.209%	97.567%
σ		2.879%	1.821	0.152	0.261	23.590	23.400	2.424%	3.050%
%RSD		3.405	3.299	4.048	7.128	3.269	3.250	2.443	3.126
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	18:30:40	1.787	1.816	319.200	296.400	308.000	77.085%		
2	18:30:49	1.739	1.752	312.900	288.100	299.800	79.437%		
3	18:30:59	1.733	1.698	305.900	282.000	293.800	81.173%		
x		1.753	1.756	312.700	288.800	300.500	79.232%		
σ		0.030	0.059	6.638	7.234	7.127	2.052%		
%RSD		1.688	3.369	2.123	2.505	2.372	2.590		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:46	91.682%	13.820	17.420	17.860	0.000	543.000	14970.000	15210.000
2	18:35:55	91.921%	13.920	17.640	18.050	0.000	543.800	15250.000	15260.000
3	18:36:05	90.809%	14.240	18.480	17.700	0.000	544.800	15200.000	15270.000
x		91.470%	13.990	17.850	17.870	0.000	543.900	15140.000	15250.000
σ		0.585%	0.218	0.559	0.176	0.000	0.942	148.300	31.240
%RSD		0.640	1.559	3.134	0.983	0.000	0.173	0.979	0.205
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:46	62500.000	5540.000	0.000	7183.000	12640.000	11500.000	103.952%	755.200
2	18:35:55	63200.000	5600.000	0.000	7204.000	12490.000	11520.000	104.913%	758.400
3	18:36:05	63150.000	5615.000	0.000	7144.000	12680.000	11490.000	105.486%	762.000
x		62950.000	5585.000	0.000	7177.000	12600.000	11500.000	104.784%	758.500
σ		392.700	39.900	0.000	30.360	98.910	17.800	0.775%	3.389
%RSD		0.624	0.714	0.000	0.423	0.785	0.155	0.740	0.447
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:46	108.100	101.800	6497.000	189300.000	185500.000	299.700	450.000	323.500
2	18:35:55	108.800	101.700	6594.000	189700.000	184200.000	300.800	456.500	323.000
3	18:36:05	108.300	100.600	6624.000	190500.000	186900.000	302.400	457.300	322.600
x		108.400	101.400	6572.000	189800.000	185600.000	300.900	454.600	323.000
σ		0.372	0.698	66.540	581.800	1322.000	1.374	4.019	0.443
%RSD		0.343	0.688	1.013	0.306	0.712	0.457	0.884	0.137
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:46	324.100	1505.000	1524.000	78.820	18.140	19.300	0.000	103.100
2	18:35:55	318.400	1506.000	1522.000	79.840	18.770	21.910	0.000	103.600
3	18:36:05	326.100	1514.000	1532.000	81.090	18.820	19.220	0.000	103.900
x		322.900	1508.000	1526.000	79.920	18.580	20.140	0.000	103.500
σ		3.998	4.861	5.104	1.140	0.378	1.531	0.000	0.418
%RSD		1.238	0.322	0.335	1.426	2.035	7.601	0.000	0.404
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:46	0.000	9.613	9.703	85.140%	2.083	2.191	4.569	5.355
2	18:35:55	0.000	9.366	9.945	86.433%	2.149	2.104	4.208	5.305
3	18:36:05	0.000	9.433	9.554	86.247%	2.158	2.016	4.510	5.432
x		0.000	9.471	9.734	85.940%	2.130	2.104	4.429	5.364
σ		0.000	0.128	0.197	0.699%	0.041	0.088	0.194	0.064
%RSD		0.000	1.347	2.025	0.813	1.920	4.174	4.375	1.189
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:46	88.270%	44.090	3.462	3.487	554.100	552.700	98.231%	98.479%
2	18:35:55	89.120%	44.850	3.600	3.423	547.800	550.200	98.759%	99.562%
3	18:36:05	89.693%	44.260	3.596	3.501	554.100	548.400	100.122%	100.204%
x		89.028%	44.400	3.552	3.470	552.000	550.400	99.037%	99.415%
σ		0.716%	0.401	0.079	0.041	3.634	2.191	0.976%	0.872%
%RSD		0.804	0.903	2.214	1.187	0.658	0.398	0.985	0.877
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	18:35:46	1.665	1.499	249.400	233.400	241.900	81.955%		
2	18:35:55	1.622	1.527	250.100	233.100	241.300	82.835%		
3	18:36:05	1.634	1.476	247.000	231.600	240.300	83.698%		
x		1.641	1.501	248.900	232.700	241.200	82.829%		
σ		0.022	0.026	1.609	0.935	0.798	0.871%		
%RSD		1.359	1.711	0.646	0.402	0.331	1.052		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:40:52	86.216%	15.400	30.010	29.370	0.000	616.400	25900.000	25910.000
2	18:41:02	86.740%	15.450	29.480	29.480	0.000	620.900	26420.000	26490.000
3	18:41:11	86.796%	15.590	29.780	29.230	0.000	622.000	26480.000	26540.000
x		86.584%	15.480	29.760	29.360	0.000	619.800	26260.000	26310.000
σ		0.320%	0.100	0.267	0.124	0.000	2.999	319.600	350.200
%RSD		0.369	0.644	0.899	0.423	0.000	0.484	1.217	1.331

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:40:52	99470.000	4827.000	0.000	9122.000	20370.000	18510.000	104.201%	937.600
2	18:41:02	101100.000	4892.000	0.000	9203.000	20550.000	18720.000	104.375%	944.000
3	18:41:11	101700.000	4884.000	0.000	9171.000	20610.000	18950.000	104.475%	947.300
x		100800.000	4868.000	0.000	9165.000	20510.000	18730.000	104.351%	943.000
σ		1170.000	35.630	0.000	41.020	125.700	220.500	0.139%	4.966
%RSD		1.161	0.732	0.000	0.448	0.613	1.178	0.133	0.527

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:40:52	151.200	153.200	9949.000	247100.000	247100.000	321.200	487.200	324.100
2	18:41:02	152.400	151.500	10030.000	247700.000	247800.000	324.500	493.100	324.600
3	18:41:11	156.500	155.700	10190.000	247900.000	247500.000	321.800	492.700	326.800
x		153.400	153.500	10060.000	247600.000	247400.000	322.500	491.000	325.100
σ		2.781	2.128	124.000	417.200	354.600	1.731	3.284	1.448
%RSD		1.813	1.387	1.234	0.169	0.143	0.537	0.669	0.445

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:40:52	325.300	1751.000	1776.000	74.970	15.670	19.140	0.000	152.700
2	18:41:02	327.000	1761.000	1800.000	74.840	14.300	16.710	0.000	153.800
3	18:41:11	328.000	1766.000	1799.000	76.090	14.920	18.400	0.000	152.300
x		326.800	1759.000	1791.000	75.300	14.960	18.080	0.000	152.900
σ		1.325	7.782	13.460	0.689	0.688	1.244	0.000	0.802
%RSD		0.405	0.442	0.751	0.915	4.599	6.876	0.000	0.525

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:40:52	0.000	8.272	8.747	79.462%	2.503	2.587	5.760	7.144
2	18:41:02	0.000	7.817	8.945	79.291%	2.531	2.620	5.729	7.155
3	18:41:11	0.000	8.293	8.441	79.286%	2.580	2.718	5.910	7.118
x		0.000	8.127	8.711	79.346%	2.538	2.642	5.800	7.139
σ		0.000	0.269	0.254	0.100%	0.039	0.068	0.097	0.019
%RSD		0.000	3.311	2.915	0.126	1.525	2.582	1.669	0.270

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:40:52	83.590%	54.450	3.451	3.401	899.800	891.900	101.469%	99.485%
2	18:41:02	83.461%	55.370	3.338	3.546	910.100	903.200	100.598%	100.308%
3	18:41:11	83.363%	55.300	3.277	3.392	906.900	894.000	100.315%	100.056%
x		83.471%	55.040	3.355	3.447	905.600	896.400	100.794%	99.950%
σ		0.114%	0.514	0.088	0.087	5.266	5.981	0.601%	0.422%
%RSD		0.136	0.933	2.637	2.511	0.582	0.667	0.597	0.422

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:40:52	1.754	1.641	324.200	300.200	313.200	78.697%
2	18:41:02	1.705	1.649	322.200	299.700	311.600	78.142%
3	18:41:11	1.762	1.687	322.800	297.400	312.100	76.652%
x		1.740	1.659	323.100	299.100	312.300	77.830%
σ		0.031	0.024	0.984	1.490	0.850	1.057%
%RSD		1.771	1.462	0.304	0.498	0.272	1.359

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:00	91.933%	14.550	18.470	18.720	0.000	467.500	14170.000	14110.000
2	18:46:10	92.059%	14.540	18.430	18.310	0.000	466.500	14300.000	14210.000
3	18:46:19	91.890%	14.820	19.040	18.410	0.000	472.800	14570.000	14460.000
x		91.961%	14.640	18.640	18.480	0.000	468.900	14350.000	14260.000
σ		0.088%	0.161	0.342	0.215	0.000	3.355	200.600	177.000
%RSD		0.096	1.102	1.835	1.161	0.000	0.716	1.398	1.242

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:00	60440.000	5285.000	0.000	6645.000	12720.000	11570.000	100.958%	681.900
2	18:46:10	61120.000	5317.000	0.000	6631.000	12660.000	11610.000	101.627%	686.800
3	18:46:19	61990.000	5405.000	0.000	6742.000	13020.000	11800.000	100.312%	693.500
x		61180.000	5336.000	0.000	6673.000	12800.000	11660.000	100.966%	687.400
σ		777.600	61.840	0.000	60.760	191.100	126.000	0.657%	5.813
%RSD		1.271	1.159	0.000	0.911	1.493	1.081	0.651	0.846

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:00	105.600	104.800	7128.000	178000.000	176600.000	337.500	445.200	349.200
2	18:46:10	107.700	107.900	7147.000	179200.000	177600.000	340.200	450.200	352.600
3	18:46:19	108.000	107.800	7325.000	180100.000	177600.000	343.600	453.200	354.000
x		107.100	106.800	7200.000	179100.000	177300.000	340.400	449.500	351.900
σ		1.291	1.748	108.500	1076.000	570.800	3.069	4.008	2.463
%RSD		1.205	1.636	1.507	0.601	0.322	0.902	0.892	0.700

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:00	348.600	1554.000	1584.000	78.410	22.590	23.950	0.000	108.500
2	18:46:10	354.500	1570.000	1587.000	78.750	23.130	22.300	0.000	109.500
3	18:46:19	355.500	1577.000	1592.000	79.540	22.600	22.310	0.000	107.700
x		352.900	1567.000	1588.000	78.900	22.780	22.850	0.000	108.600
σ		3.739	11.690	4.049	0.578	0.310	0.947	0.000	0.894
%RSD		1.059	0.746	0.255	0.733	1.360	4.143	0.000	0.824

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:00	0.000	9.857	10.150	80.741%	3.081	2.765	5.829	6.511
2	18:46:10	0.000	10.100	10.240	82.234%	2.958	2.829	6.066	6.937
3	18:46:19	0.000	10.120	10.260	84.303%	2.889	2.784	5.800	6.652
x		0.000	10.030	10.220	82.426%	2.976	2.792	5.898	6.700
σ		0.000	0.148	0.060	1.789%	0.097	0.033	0.146	0.217
%RSD		0.000	1.475	0.583	2.170	3.265	1.172	2.467	3.235

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:00	83.873%	51.910	3.819	3.882	578.800	568.400	97.658%	97.719%
2	18:46:10	84.368%	52.220	3.844	3.922	588.200	583.000	99.602%	97.404%
3	18:46:19	87.553%	51.440	3.908	4.087	570.500	570.300	101.047%	101.287%
x		85.265%	51.860	3.857	3.963	579.200	573.900	99.436%	98.803%
σ		1.997%	0.393	0.046	0.109	8.850	7.928	1.701%	2.157%
%RSD		2.343	0.759	1.194	2.740	1.528	1.381	1.710	2.183

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:00	1.701	1.679	291.900	265.900	279.100	78.053%
2	18:46:10	1.779	1.637	297.400	272.800	284.900	80.269%
3	18:46:19	1.646	1.642	291.500	268.600	280.500	82.331%
x		1.709	1.653	293.600	269.100	281.500	80.218%
σ		0.067	0.023	3.343	3.497	3.047	2.140%
%RSD		3.920	1.377	1.139	1.300	1.082	2.667

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:55:04	85.746%	108.000	102.400	102.500	0.000	46550.000	48210.000	48520.000
2	18:55:14	86.528%	107.000	99.780	101.900	0.000	49860.000	52690.000	52390.000
3	18:55:23	87.189%	106.700	100.700	102.600	0.000	46650.000	48650.000	48720.000
x		86.488%	107.227%	100.952%	102.320%	0.000	95.373%	99.696%	99.754%
σ		0.722%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		0.835	0.617	1.310	0.380	0.000	3.948	4.949	4.375
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:55:04	453.700	5132.000	0.000	46500.000	46140.000	46200.000	105.311%	94.460
2	18:55:14	536.900	5307.000	0.000	50770.000	49720.000	50260.000	97.560%	102.200
3	18:55:23	494.800	5073.000	0.000	46480.000	46180.000	46470.000	106.092%	94.330
x		99.028%	103.415%	0.000	95.828%	94.699%	95.287%	102.988%	96.980%
σ		n/a	n/a	0.000	n/a	n/a	n/a	4.717%	n/a
%RSD		8.400	2.350	0.000	5.158	4.341	4.767	4.580	4.620
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:55:04	89.590	91.490	478.700	24410.000	23570.000	95.800	98.570	99.770
2	18:55:14	95.870	99.010	517.600	25650.000	24820.000	102.400	103.200	104.800
3	18:55:23	89.700	92.100	479.900	24470.000	23720.000	96.120	98.130	100.700
x		91.720%	94.202%	98.410%	99.374%	96.145%	98.093%	99.970%	101.782%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		3.924	4.435	4.494	2.820	2.835	3.771	2.814	2.639
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:55:04	99.400	106.600	106.000	102.400	105.700	106.000	0.000	99.200
2	18:55:14	106.500	110.400	110.800	104.700	107.900	107.900	0.000	100.700
3	18:55:23	99.890	104.500	107.900	103.000	104.100	104.300	0.000	99.630
x		101.930%	107.181%	108.241%	103.399%	105.921%	106.082%	0.000	99.855%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		3.888	2.830	2.229	1.153	1.799	1.707	0.000	0.791
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:55:04	95.697%	105.800	108.300	90.380%	101.200	102.500	102.700	105.500
2	18:55:14	96.383%	105.700	108.400	90.853%	102.000	103.200	104.200	105.800
3	18:55:23	96.784%	106.900	106.900	92.458%	101.300	103.200	104.900	106.500
x		96.288%	106.138%	107.847%	91.230%	101.504%	102.963%	103.922%	105.910%
σ		0.550%	n/a	n/a	1.089%	n/a	n/a	n/a	n/a
%RSD		0.571	0.643	0.784	1.194	0.433	0.417	1.069	0.475
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:55:04	94.271%	101.600	101.300	102.100	96.080	96.050	94.827%	95.102%
2	18:55:14	94.863%	102.200	101.100	103.100	96.990	99.470	93.820%	94.828%
3	18:55:23	94.980%	101.300	101.000	101.200	98.250	99.010	96.334%	95.028%
x		94.705%	101.665%	101.114%	102.159%	97.110%	98.177%	94.994%	94.986%
σ		0.380%	n/a	n/a	n/a	n/a	n/a	1.266%	0.142%
%RSD		0.401	0.438	0.180	0.950	1.122	1.894	1.332	0.150
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	18:55:04	98.940	98.180	98.660	98.100	98.420	88.183%		
2	18:55:14	99.040	97.850	97.270	98.360	97.770	88.862%		
3	18:55:23	98.800	98.530	98.940	98.200	97.980	89.022%		
x		98.927%	98.186%	98.293%	98.222%	98.057%	88.689%		
σ		n/a	n/a	n/a	n/a	n/a	0.446%		
%RSD		0.126	0.347	0.910	0.134	0.336	0.503		

CCB2 10/9/2017 7:01:07 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:00:11	93.992%	0.041	0.350	0.287	0.000	28.150	11.350	11.050
2	19:00:20	95.755%	0.023	0.228	0.225	0.000	26.110	11.160	10.810
3	19:00:30	97.830%	0.011	0.182	0.269	0.000	26.440	10.690	10.260
x		95.859%	0.025	0.254	0.260	0.000	26.900	11.070	10.710
σ		1.921%	0.015	0.087	0.032	0.000	1.096	0.340	0.403
%RSD		2.004	60.500	34.350	12.360	0.000	4.076	3.074	3.761

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:00:11	0.557	0.745	0.000	36.400	19.510	13.450	105.243%	-0.005
2	19:00:20	0.445	-0.273	0.000	33.030	18.250	11.600	106.727%	0.024
3	19:00:30	0.543	-0.570	0.000	32.930	12.990	11.760	108.025%	0.008
x		0.515	-0.032	0.000	34.120	16.920	12.270	106.665%	0.009
σ		0.061	0.690	0.000	1.977	3.457	1.026	1.392%	0.015
%RSD		11.780	2131.000	0.000	5.794	20.430	8.362	1.305	159.600

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:00:11	0.030	0.045	0.171	6.697	5.509	0.004	0.026	0.045
2	19:00:20	0.048	0.032	0.175	6.514	7.157	0.029	0.091	0.047
3	19:00:30	0.004	0.039	0.145	5.672	4.049	0.026	0.055	0.007
x		0.027	0.039	0.164	6.294	5.572	0.020	0.057	0.033
σ		0.022	0.007	0.016	0.547	1.555	0.014	0.033	0.022
%RSD		81.690	16.990	9.946	8.687	27.910	69.110	57.030	67.190

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:00:11	-0.039	0.493	0.362	0.052	-0.044	0.083	0.000	0.034
2	19:00:20	0.047	0.827	0.423	0.064	-0.002	-0.132	0.000	0.049
3	19:00:30	0.025	0.407	0.811	0.053	-0.022	0.102	0.000	0.042
x		0.011	0.576	0.532	0.056	-0.023	0.017	0.000	0.042
σ		0.045	0.222	0.244	0.007	0.021	0.130	0.000	0.007
%RSD		408.600	38.590	45.790	12.210	91.590	743.500	0.000	17.530

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:00:11	100.502%	0.059	0.109	98.238%	0.010	0.022	0.044	0.018
2	19:00:20	99.716%	0.139	0.137	96.880%	0.031	0.051	0.061	0.021
3	19:00:30	105.433%	0.071	0.085	102.848%	0.011	0.035	0.016	0.023
x		101.883%	0.090	0.110	99.322%	0.017	0.036	0.040	0.021
σ		3.099%	0.043	0.026	3.128%	0.012	0.014	0.022	0.003
%RSD		3.041	48.160	23.540	3.149	70.280	40.150	55.690	13.000

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:00:11	96.889%	0.089	0.092	0.075	0.086	0.069	100.093%	98.337%
2	19:00:20	97.583%	0.058	0.067	0.045	0.118	0.160	99.723%	98.274%
3	19:00:30	102.547%	0.057	0.031	0.051	0.212	0.172	103.924%	104.374%
x		99.006%	0.068	0.063	0.057	0.139	0.134	101.247%	100.328%
σ		3.086%	0.018	0.031	0.016	0.066	0.056	2.326%	3.504%
%RSD		3.117	26.620	48.270	28.010	47.330	42.110	2.298	3.492

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:00:11	0.032	0.021	-0.000	0.013	0.015	92.209%
2	19:00:20	0.016	0.026	0.053	0.045	0.038	91.018%
3	19:00:30	0.024	0.017	0.006	0.029	0.034	95.615%
x		0.024	0.021	0.020	0.029	0.029	92.947%
σ		0.008	0.005	0.029	0.016	0.012	2.386%
%RSD		32.560	22.210	149.500	53.970	42.310	2.567

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:05:18	92.420%	14.640	15.840	16.310	0.000	523.000	14560.000	14460.000
2	19:05:28	86.855%	16.810	18.610	18.540	0.000	598.800	16610.000	16520.000
3	19:05:37	94.622%	14.610	16.520	16.020	0.000	528.200	14780.000	14730.000
x		91.299%	15.350	16.990	16.960	0.000	550.000	15320.000	15240.000
σ		4.003%	1.263	1.442	1.377	0.000	42.380	1125.000	1122.000
%RSD		4.384	8.229	8.487	8.120	0.000	7.705	7.346	7.365
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:05:18	56980.000	4399.000	0.000	6997.000	13360.000	12090.000	104.060%	714.300
2	19:05:28	65050.000	4975.000	0.000	7986.000	15320.000	13850.000	96.379%	824.900
3	19:05:37	57720.000	4380.000	0.000	7071.000	13430.000	12170.000	104.671%	736.400
x		59920.000	4585.000	0.000	7351.000	14040.000	12700.000	101.703%	758.600
σ		4462.000	338.400	0.000	550.700	1110.000	991.800	4.621%	58.500
%RSD		7.447	7.381	0.000	7.491	7.905	7.809	4.544	7.712
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:05:18	100.800	91.020	6014.000	185700.000	181400.000	308.900	430.300	326.200
2	19:05:28	110.600	97.280	6844.000	194000.000	191300.000	326.000	451.400	340.300
3	19:05:37	98.160	90.110	6141.000	184500.000	181300.000	309.400	426.500	327.400
x		103.200	92.810	6333.000	188000.000	184700.000	314.800	436.100	331.300
σ		6.565	3.901	446.900	5181.000	5738.000	9.705	13.420	7.810
%RSD		6.362	4.204	7.057	2.755	3.108	3.083	3.079	2.357
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:05:18	325.000	1492.000	1507.000	75.170	21.730	25.640	0.000	110.700
2	19:05:28	342.200	1566.000	1583.000	77.810	21.820	25.780	0.000	112.700
3	19:05:37	324.200	1490.000	1518.000	75.960	20.310	21.490	0.000	111.200
x		330.500	1516.000	1536.000	76.310	21.290	24.300	0.000	111.500
σ		10.180	43.250	40.990	1.353	0.845	2.439	0.000	1.040
%RSD		3.081	2.853	2.668	1.774	3.969	10.040	0.000	0.933
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:05:18	0.000	9.614	9.387	81.629%	1.803	1.716	3.789	5.826
2	19:05:28	0.000	9.858	9.816	83.534%	1.788	1.719	4.041	5.758
3	19:05:37	0.000	9.198	9.608	84.078%	1.808	1.640	3.738	5.540
x		0.000	9.557	9.604	83.081%	1.800	1.692	3.856	5.708
σ		0.000	0.334	0.215	1.286%	0.011	0.045	0.162	0.149
%RSD		0.000	3.492	2.238	1.548	0.599	2.665	4.211	2.619
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:05:18	84.930%	64.760	3.658	3.865	560.700	563.600	97.437%	95.794%
2	19:05:28	86.222%	63.800	4.015	3.756	561.200	553.900	99.343%	97.870%
3	19:05:37	87.116%	63.710	3.699	3.855	560.700	554.900	100.546%	99.629%
x		86.089%	64.090	3.791	3.825	560.900	557.500	99.109%	97.765%
σ		1.099%	0.584	0.195	0.060	0.317	5.324	1.567%	1.920%
%RSD		1.277	0.911	5.153	1.573	0.056	0.955	1.582	1.964
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	19:05:18	1.692	1.500	252.500	231.700	243.700	80.235%		
2	19:05:28	1.531	1.443	252.700	229.800	240.900	82.453%		
3	19:05:37	1.482	1.481	246.900	230.100	239.800	82.995%		
x		1.568	1.475	250.700	230.600	241.500	81.894%		
σ		0.110	0.029	3.271	1.029	2.049	1.463%		
%RSD		7.025	1.989	1.305	0.446	0.848	1.786		

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:10:24	89.536%	15.430	18.870	19.000	0.000	387.600	16300.000	16250.000
2	19:10:33	88.051%	15.600	19.490	19.110	0.000	390.100	16340.000	16350.000
3	19:10:43	88.811%	15.590	20.100	19.370	0.000	423.000	17830.000	17760.000
x		88.799%	15.540	19.490	19.160	0.000	400.300	16820.000	16790.000
σ		0.743%	0.093	0.616	0.189	0.000	19.750	869.900	847.200
%RSD		0.836	0.600	3.161	0.987	0.000	4.934	5.171	5.047

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:10:24	68750.000	5535.000	0.000	7406.000	13110.000	11810.000	108.564%	815.300
2	19:10:33	69100.000	5624.000	0.000	7428.000	13090.000	11750.000	109.189%	817.800
3	19:10:43	74890.000	5884.000	0.000	8004.000	14120.000	12650.000	101.793%	880.500
x		70910.000	5681.000	0.000	7613.000	13440.000	12070.000	106.515%	837.900
σ		3446.000	181.200	0.000	339.400	590.400	505.300	4.102%	36.970
%RSD		4.860	3.189	0.000	4.458	4.393	4.186	3.851	4.412

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:10:24	117.300	120.500	6532.000	201800.000	196100.000	343.300	512.900	323.900
2	19:10:33	121.200	122.100	6665.000	202400.000	199100.000	347.000	521.600	327.200
3	19:10:43	115.000	119.000	7171.000	198600.000	197200.000	338.100	499.800	313.900
x		117.800	120.500	6790.000	200900.000	197400.000	342.800	511.400	321.700
σ		3.120	1.561	336.800	2027.000	1528.000	4.455	11.000	6.917
%RSD		2.648	1.295	4.960	1.009	0.774	1.300	2.151	2.150

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:10:24	324.000	1726.000	1757.000	77.870	18.440	18.210	0.000	104.500
2	19:10:33	328.700	1747.000	1770.000	79.680	19.040	19.600	0.000	106.400
3	19:10:43	314.700	1690.000	1697.000	73.570	18.130	20.380	0.000	96.640
x		322.500	1721.000	1741.000	77.040	18.540	19.400	0.000	102.500
σ		7.155	28.630	38.800	3.139	0.465	1.101	0.000	5.156
%RSD		2.219	1.663	2.228	4.074	2.507	5.675	0.000	5.031

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:10:24	0.000	8.806	9.593	83.199%	3.539	3.382	6.026	7.169
2	19:10:33	0.000	9.261	9.941	82.719%	3.692	3.674	6.520	8.245
3	19:10:43	0.000	8.041	8.743	89.716%	3.178	3.139	5.744	6.632
x		0.000	8.702	9.426	85.211%	3.469	3.398	6.096	7.349
σ		0.000	0.617	0.617	3.908%	0.264	0.268	0.393	0.821
%RSD		0.000	7.085	6.541	4.587	7.602	7.891	6.445	11.170

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:10:24	87.081%	57.910	4.727	4.413	620.500	619.200	98.354%	97.783%
2	19:10:33	85.986%	58.710	4.690	4.774	636.600	630.600	98.042%	97.176%
3	19:10:43	93.017%	51.000	4.242	4.126	556.400	548.300	104.097%	103.972%
x		88.695%	55.880	4.553	4.438	604.500	599.400	100.164%	99.644%
σ		3.783%	4.241	0.270	0.324	42.450	44.560	3.410%	3.761%
%RSD		4.265	7.591	5.927	7.311	7.022	7.435	3.404	3.774

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:10:24	1.647	1.641	288.800	268.000	278.400	80.773%
2	19:10:33	1.597	1.619	295.800	273.800	285.900	80.478%
3	19:10:43	1.589	1.462	255.600	236.700	245.800	88.305%
x		1.611	1.574	280.100	259.500	270.000	83.185%
σ		0.032	0.098	21.460	19.960	21.320	4.437%
%RSD		1.967	6.201	7.661	7.692	7.894	5.333

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:15:27	85.601%	15.960	24.400	24.550	0.000	423.200	17080.000	17100.000
2	19:15:36	86.476%	16.040	25.040	24.070	0.000	428.800	17380.000	17380.000
3	19:15:46	89.824%	15.600	23.960	23.800	0.000	429.200	17390.000	17490.000
x		87.300%	15.860	24.460	24.140	0.000	427.100	17280.000	17320.000
σ		2.229%	0.233	0.541	0.381	0.000	3.402	175.400	200.800
%RSD		2.553	1.471	2.212	1.576	0.000	0.797	1.015	1.159

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:15:27	76610.000	6498.000	0.000	7629.000	15900.000	14270.000	105.890%	876.500
2	19:15:36	77750.000	6568.000	0.000	7634.000	15720.000	14320.000	106.226%	883.100
3	19:15:46	77740.000	6471.000	0.000	7622.000	15640.000	14420.000	106.996%	892.500
x		77370.000	6512.000	0.000	7628.000	15750.000	14340.000	106.371%	884.100
σ		655.800	49.940	0.000	6.190	129.100	77.870	0.567%	8.018
%RSD		0.848	0.767	0.000	0.081	0.820	0.543	0.533	0.907

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:15:27	131.200	134.400	9816.000	196400.000	194700.000	281.400	413.400	352.600
2	19:15:36	132.100	134.200	10000.000	198100.000	194600.000	282.400	416.100	352.400
3	19:15:46	127.400	131.200	10000.000	198600.000	196400.000	282.600	411.500	353.000
x		130.200	133.200	9942.000	197700.000	195200.000	282.100	413.700	352.600
σ		2.458	1.770	108.400	1167.000	992.100	0.664	2.327	0.329
%RSD		1.888	1.329	1.090	0.591	0.508	0.235	0.563	0.093

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:15:27	357.400	1599.000	1610.000	72.210	18.620	22.120	0.000	116.700
2	19:15:36	356.600	1605.000	1636.000	73.130	19.070	18.700	0.000	116.600
3	19:15:46	358.900	1609.000	1646.000	74.510	19.660	22.560	0.000	119.300
x		357.600	1604.000	1631.000	73.280	19.120	21.120	0.000	117.500
σ		1.163	5.252	18.800	1.158	0.522	2.112	0.000	1.556
%RSD		0.325	0.327	1.153	1.580	2.729	10.000	0.000	1.324

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:15:27	0.000	8.607	8.592	82.046%	4.946	5.010	7.853	10.220
2	19:15:36	0.000	8.905	8.785	82.164%	5.043	4.923	7.129	10.220
3	19:15:46	0.000	8.780	8.843	81.171%	5.123	4.778	7.040	10.430
x		0.000	8.764	8.740	81.794%	5.037	4.904	7.340	10.290
σ		0.000	0.150	0.131	0.543%	0.089	0.117	0.446	0.120
%RSD		0.000	1.708	1.500	0.663	1.760	2.393	6.074	1.161

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:15:27	84.867%	111.300	3.313	3.701	683.700	682.900	99.509%	99.084%
2	19:15:36	85.790%	110.000	3.436	3.478	679.700	675.400	100.820%	99.257%
3	19:15:46	84.988%	109.000	3.527	3.484	678.700	681.200	101.515%	101.280%
x		85.215%	110.100	3.425	3.554	680.700	679.800	100.615%	99.874%
σ		0.502%	1.155	0.108	0.127	2.623	3.960	1.019%	1.221%
%RSD		0.589	1.049	3.138	3.572	0.385	0.583	1.012	1.223

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:15:27	1.639	1.627	325.300	298.700	312.100	80.794%
2	19:15:36	1.713	1.555	323.400	294.900	309.700	81.905%
3	19:15:46	1.694	1.512	321.600	296.300	309.100	81.077%
x		1.682	1.565	323.400	296.600	310.300	81.259%
σ		0.038	0.058	1.843	1.928	1.575	0.577%
%RSD		2.278	3.700	0.570	0.650	0.508	0.710

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:20:31	82.541%	18.190	25.700	25.230	0.000	576.600	19820.000	19630.000
2	19:20:40	86.595%	16.810	23.770	23.690	0.000	547.700	18960.000	18940.000
3	19:20:50	87.447%	16.840	22.750	23.070	0.000	556.000	19230.000	19000.000
x		85.528%	17.280	24.070	23.990	0.000	560.100	19340.000	19190.000
σ		2.621%	0.791	1.500	1.113	0.000	14.880	442.400	385.800
%RSD		3.065	4.575	6.229	4.640	0.000	2.656	2.287	2.010

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:20:31	81930.000	6749.000	0.000	8651.000	18160.000	16370.000	97.134%	926.400
2	19:20:40	78820.000	6412.000	0.000	8269.000	17050.000	15560.000	100.499%	886.300
3	19:20:50	79250.000	6380.000	0.000	8255.000	16960.000	16430.000	100.540%	887.400
x		80000.000	6514.000	0.000	8392.000	17390.000	16120.000	99.391%	900.000
σ		1688.000	204.500	0.000	224.600	668.900	485.900	1.955%	22.830
%RSD		2.110	3.140	0.000	2.677	3.847	3.015	1.967	2.537

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:20:31	135.700	135.200	9638.000	222300.000	219800.000	331.000	484.200	384.700
2	19:20:40	127.800	132.300	9327.000	216800.000	214600.000	323.000	468.800	377.300
3	19:20:50	132.200	133.400	9382.000	218500.000	214700.000	325.200	478.800	383.000
x		131.900	133.600	9449.000	219200.000	216400.000	326.400	477.300	381.700
σ		3.938	1.475	166.000	2790.000	2966.000	4.115	7.804	3.862
%RSD		2.986	1.104	1.757	1.273	1.371	1.261	1.635	1.012

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:20:31	383.800	1836.000	1862.000	84.360	21.090	25.650	0.000	135.400
2	19:20:40	377.600	1803.000	1846.000	82.990	21.820	24.910	0.000	134.600
3	19:20:50	384.700	1824.000	1860.000	82.530	21.460	25.790	0.000	134.300
x		382.000	1821.000	1856.000	83.290	21.460	25.450	0.000	134.800
σ		3.842	17.050	8.573	0.952	0.363	0.476	0.000	0.609
%RSD		1.006	0.937	0.462	1.143	1.693	1.871	0.000	0.452

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:20:31	0.000	9.885	10.430	76.361%	3.941	3.706	6.639	8.540
2	19:20:40	0.000	10.210	10.350	78.748%	3.928	4.048	6.958	8.317
3	19:20:50	0.000	9.870	10.500	79.404%	3.672	3.887	6.784	8.610
x		0.000	9.988	10.430	78.171%	3.847	3.880	6.793	8.489
σ		0.000	0.193	0.075	1.602%	0.152	0.171	0.160	0.153
%RSD		0.000	1.927	0.723	2.049	3.945	4.402	2.353	1.804

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:20:31	79.581%	67.620	4.135	3.934	797.800	783.600	95.975%	94.861%
2	19:20:40	81.412%	67.490	4.071	3.951	800.500	793.700	98.038%	97.244%
3	19:20:50	83.670%	66.680	3.799	3.965	797.900	789.600	99.476%	99.054%
x		81.554%	67.260	4.002	3.950	798.700	789.000	97.830%	97.053%
σ		2.048%	0.510	0.179	0.016	1.520	5.113	1.759%	2.103%
%RSD		2.511	0.758	4.462	0.394	0.190	0.648	1.799	2.167

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:20:31	1.780	1.641	335.200	304.800	319.400	71.242%
2	19:20:40	1.556	1.599	332.200	303.700	319.000	75.064%
3	19:20:50	1.554	1.612	331.800	305.700	319.200	77.993%
x		1.630	1.617	333.000	304.700	319.200	74.766%
σ		0.130	0.022	1.879	1.022	0.211	3.385%
%RSD		7.969	1.342	0.564	0.335	0.066	4.528

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:25:37	90.471%	14.220	17.170	17.110	0.000	484.200	13650.000	13610.000
2	19:25:47	88.231%	14.370	17.350	17.040	0.000	487.800	13820.000	13880.000
3	19:25:56	89.356%	14.140	17.990	17.170	0.000	483.400	13730.000	13760.000
x		89.353%	14.240	17.500	17.110	0.000	485.100	13730.000	13750.000
σ		1.120%	0.115	0.434	0.065	0.000	2.364	82.200	135.200
%RSD		1.253	0.806	2.480	0.383	0.000	0.487	0.599	0.983

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:25:37	55460.000	5410.000	0.000	6445.000	12600.000	11590.000	106.346%	757.000
2	19:25:47	55990.000	5559.000	0.000	6404.000	12630.000	11570.000	106.999%	764.400
3	19:25:56	55850.000	5556.000	0.000	6383.000	12650.000	11500.000	108.068%	765.900
x		55770.000	5509.000	0.000	6411.000	12620.000	11550.000	107.138%	762.400
σ		272.500	85.110	0.000	31.270	25.170	48.000	0.869%	4.739
%RSD		0.489	1.545	0.000	0.488	0.199	0.416	0.811	0.622

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:25:37	100.400	93.890	7048.000	173000.000	170400.000	267.900	391.400	302.500
2	19:25:47	94.480	93.970	7201.000	175200.000	171300.000	270.700	391.000	306.000
3	19:25:56	98.490	93.820	7185.000	172700.000	169400.000	266.300	388.300	305.600
x		97.770	93.890	7144.000	173600.000	170400.000	268.300	390.200	304.700
σ		3.003	0.077	83.690	1360.000	960.700	2.225	1.697	1.914
%RSD		3.071	0.082	1.171	0.783	0.564	0.829	0.435	0.628

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:25:37	302.200	1433.000	1458.000	66.500	18.040	16.080	0.000	97.150
2	19:25:47	304.000	1441.000	1474.000	65.790	17.650	23.340	0.000	97.340
3	19:25:56	305.600	1428.000	1448.000	66.450	17.200	22.810	0.000	95.220
x		303.900	1434.000	1460.000	66.250	17.630	20.740	0.000	96.570
σ		1.690	6.816	13.010	0.398	0.422	4.049	0.000	1.171
%RSD		0.556	0.475	0.891	0.600	2.393	19.520	0.000	1.212

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:25:37	0.000	8.704	8.766	86.619%	2.448	2.280	4.450	6.152
2	19:25:47	0.000	8.279	8.673	87.014%	2.423	2.485	4.427	6.043
3	19:25:56	0.000	8.438	8.617	88.495%	2.427	2.314	4.690	6.117
x		0.000	8.474	8.685	87.376%	2.433	2.360	4.522	6.104
σ		0.000	0.215	0.075	0.989%	0.013	0.110	0.146	0.056
%RSD		0.000	2.535	0.863	1.132	0.546	4.650	3.217	0.911

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:25:37	89.573%	58.990	3.501	3.499	528.100	525.300	100.991%	101.260%
2	19:25:47	90.369%	60.260	3.657	3.470	533.400	524.400	101.542%	100.944%
3	19:25:56	91.655%	58.950	3.564	3.541	530.000	532.600	101.677%	102.582%
x		90.532%	59.400	3.574	3.504	530.500	527.500	101.403%	101.596%
σ		1.051%	0.743	0.078	0.035	2.670	4.490	0.363%	0.869%
%RSD		1.160	1.251	2.191	1.007	0.503	0.851	0.358	0.855

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:25:37	1.306	1.463	242.400	221.500	232.500	84.778%
2	19:25:47	1.377	1.396	238.700	221.100	230.400	86.362%
3	19:25:56	1.384	1.315	242.100	224.000	232.000	86.006%
x		1.356	1.392	241.000	222.200	231.600	85.715%
σ		0.043	0.074	2.060	1.540	1.066	0.831%
%RSD		3.192	5.328	0.855	0.693	0.460	0.970

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:30:40	82.911%	9.870	138.500	137.700	0.000	44820.000	26670.000	26870.000
2	19:30:50	85.905%	9.605	132.900	135.100	0.000	44400.000	26750.000	26720.000
3	19:30:59	85.298%	9.688	134.300	135.100	0.000	44460.000	26760.000	26850.000
x		84.705%	9.721	135.300	136.000	0.000	44560.000	26730.000	26820.000
σ		1.583%	0.135	2.947	1.502	0.000	230.900	51.880	83.840
%RSD		1.869	1.393	2.179	1.104	0.000	0.518	0.194	0.313

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:30:40	76500.000	6847.000	0.000	12000.000	11460.000	10100.000	111.151%	7258.000
2	19:30:50	76160.000	6774.000	0.000	11970.000	11500.000	10080.000	112.630%	7261.000
3	19:30:59	76260.000	6776.000	0.000	11930.000	11460.000	10040.000	113.262%	7300.000
x		76310.000	6799.000	0.000	11960.000	11470.000	10070.000	112.348%	7273.000
σ		179.300	41.460	0.000	35.880	23.440	28.560	1.084%	23.370
%RSD		0.235	0.610	0.000	0.300	0.204	0.284	0.965	0.321

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:30:40	782.400	680.200	6010.000	284700.000	283100.000	104.800	186.600	417.300
2	19:30:50	805.400	782.400	6012.000	287000.000	284300.000	106.000	188.700	418.000
3	19:30:59	814.900	782.600	6052.000	283900.000	284100.000	106.700	189.500	417.100
x		800.900	748.400	6025.000	285200.000	283800.000	105.900	188.300	417.500
σ		16.740	59.060	23.850	1613.000	594.300	0.963	1.514	0.458
%RSD		2.090	7.892	0.396	0.566	0.209	0.910	0.804	0.110

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:30:40	418.800	1652.000	1676.000	167.400	14.820	21.240	0.000	246.000
2	19:30:50	425.800	1660.000	1685.000	168.800	15.120	20.290	0.000	244.500
3	19:30:59	423.700	1667.000	1692.000	167.900	15.680	23.530	0.000	245.600
x		422.800	1659.000	1684.000	168.000	15.210	21.690	0.000	245.400
σ		3.575	7.645	8.230	0.708	0.434	1.666	0.000	0.754
%RSD		0.846	0.461	0.489	0.422	2.853	7.682	0.000	0.307

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:30:40	0.000	19.180	19.250	80.814%	3.552	3.796	3.461	6.122
2	19:30:50	0.000	19.470	19.690	81.238%	3.504	3.799	3.272	6.393
3	19:30:59	0.000	19.830	19.490	82.229%	3.550	3.583	3.241	6.164
x		0.000	19.490	19.470	81.427%	3.535	3.726	3.324	6.226
σ		0.000	0.324	0.222	0.726%	0.027	0.124	0.119	0.146
%RSD		0.000	1.660	1.138	0.892	0.765	3.320	3.591	2.340

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:30:40	84.807%	135.700	13.290	13.510	275.800	271.200	97.842%	98.044%
2	19:30:50	86.412%	133.700	13.680	13.190	271.700	271.900	99.395%	97.282%
3	19:30:59	86.709%	135.700	13.150	13.090	273.000	270.100	100.369%	99.404%
x		85.976%	135.000	13.370	13.260	273.500	271.100	99.202%	98.243%
σ		1.023%	1.180	0.275	0.217	2.094	0.894	1.274%	1.075%
%RSD		1.190	0.874	2.059	1.635	0.766	0.330	1.285	1.094

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:30:40	1.078	1.095	550.500	508.700	531.300	78.362%
2	19:30:50	1.132	1.142	544.300	505.500	526.500	79.614%
3	19:30:59	1.229	1.073	548.000	509.100	529.800	79.934%
x		1.146	1.103	547.600	507.800	529.200	79.303%
σ		0.076	0.035	3.128	1.954	2.437	0.831%
%RSD		6.657	3.180	0.571	0.385	0.461	1.048

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:48	90.049%	1.979	27.140	27.870	0.000	11120.000	6501.000	6432.000
2	19:35:57	89.761%	2.010	27.170	28.250	0.000	10980.000	6485.000	6441.000
3	19:36:07	91.013%	2.004	27.670	27.480	0.000	10970.000	6460.000	6405.000
x		90.274%	1.998	27.330	27.870	0.000	11020.000	6482.000	6426.000
σ		0.656%	0.016	0.297	0.387	0.000	84.870	20.690	18.560
%RSD		0.726	0.812	1.087	1.388	0.000	0.770	0.319	0.289

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:48	18610.000	1550.000	0.000	2902.000	2696.000	2407.000	109.926%	1812.000
2	19:35:57	18500.000	1546.000	0.000	2853.000	2653.000	2365.000	112.229%	1782.000
3	19:36:07	18430.000	1529.000	0.000	2832.000	2720.000	2365.000	111.527%	1777.000
x		18510.000	1542.000	0.000	2862.000	2690.000	2379.000	111.227%	1790.000
σ		93.610	10.990	0.000	36.120	34.340	23.880	1.180%	18.920
%RSD		0.506	0.713	0.000	1.262	1.277	1.004	1.061	1.057

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:48	166.000	160.800	1517.000	61950.000	59270.000	-42.120	39.350	88.110
2	19:35:57	161.000	154.400	1511.000	60280.000	58030.000	-34.670	39.200	86.960
3	19:36:07	163.400	157.900	1499.000	60890.000	58650.000	-29.450	39.030	88.510
x		163.500	157.700	1509.000	61040.000	58650.000	-35.410	39.190	87.860
σ		2.478	3.182	9.169	845.500	620.400	6.365	0.158	0.806
%RSD		1.516	2.017	0.608	1.385	1.058	17.970	0.402	0.918

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:48	88.350	368.200	366.700	31.900	2.705	4.248	0.000	38.060
2	19:35:57	88.680	366.200	364.500	32.420	2.993	4.534	0.000	38.680
3	19:36:07	89.140	367.400	371.000	31.920	2.678	4.826	0.000	38.080
x		88.720	367.300	367.400	32.080	2.792	4.536	0.000	38.270
σ		0.397	0.992	3.321	0.297	0.175	0.289	0.000	0.356
%RSD		0.447	0.270	0.904	0.927	6.262	6.370	0.000	0.929

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:48	122.220%	3.271	3.640	93.121%	0.679	0.793	0.610	1.247
2	19:35:57	120.942%	3.482	3.704	92.385%	0.727	0.763	0.656	1.244
3	19:36:07	119.766%	3.567	3.676	91.528%	0.598	0.783	0.683	1.214
x		120.976%	3.440	3.673	92.345%	0.668	0.780	0.650	1.235
σ		1.227%	0.152	0.032	0.797%	0.065	0.015	0.037	0.018
%RSD		1.014	4.429	0.867	0.863	9.769	1.976	5.636	1.498

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:48	93.696%	27.600	2.754	2.671	55.960	56.060	101.450%	101.648%
2	19:35:57	91.959%	27.200	2.970	2.805	56.860	56.730	102.018%	100.723%
3	19:36:07	90.856%	27.650	2.784	3.079	57.190	56.750	99.983%	99.050%
x		92.170%	27.480	2.836	2.852	56.670	56.510	101.150%	100.474%
σ		1.432%	0.246	0.117	0.208	0.639	0.392	1.050%	1.317%
%RSD		1.553	0.893	4.111	7.296	1.127	0.694	1.038	1.311

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:48	0.209	0.222	107.300	99.920	103.700	88.163%
2	19:35:57	0.248	0.211	108.000	98.100	102.500	87.238%
3	19:36:07	0.158	0.236	109.900	101.400	104.600	83.958%
x		0.205	0.223	108.400	99.800	103.600	86.453%
σ		0.045	0.013	1.314	1.633	1.058	2.210%
%RSD		22.040	5.749	1.212	1.637	1.021	2.556

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:51	73.290%	67.170	1217.000	1226.000	0.000	76760.000	65620.000	65090.000
2	19:41:00	74.627%	66.920	1204.000	1212.000	0.000	76010.000	65410.000	65100.000
3	19:41:10	77.598%	64.630	1166.000	1180.000	0.000	76180.000	65700.000	65050.000
x		75.172%	66.240	1196.000	1206.000	0.000	76320.000	65580.000	65080.000
σ		2.205%	1.403	26.490	23.870	0.000	392.100	151.700	29.520
%RSD		2.933	2.119	2.215	1.979	0.000	0.514	0.231	0.045

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:51	137300.000	15820.000	0.000	51410.000	49410.000	48300.000	108.952%	11020.000
2	19:41:00	136600.000	15770.000	0.000	50600.000	49030.000	48100.000	111.441%	10950.000
3	19:41:10	137100.000	15540.000	0.000	50830.000	49000.000	48300.000	111.791%	11030.000
x		137000.000	15710.000	0.000	50950.000	49150.000	48230.000	110.728%	11000.000
σ		358.800	148.500	0.000	422.000	231.300	115.200	1.548%	43.290
%RSD		0.262	0.945	0.000	0.828	0.471	0.239	1.398	0.394

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:51	1375.000	1006.000	5709.000	304000.000	305400.000	533.100	634.100	657.900
2	19:41:00	1351.000	1012.000	5729.000	301300.000	302000.000	528.000	624.300	655.900
3	19:41:10	1365.000	1024.000	5760.000	305300.000	305500.000	533.400	638.500	661.900
x		1364.000	1014.000	5733.000	303500.000	304300.000	531.500	632.300	658.600
σ		12.330	8.996	25.760	2038.000	1981.000	3.017	7.279	3.030
%RSD		0.904	0.887	0.449	0.671	0.651	0.568	1.151	0.460

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:51	666.500	2323.000	2375.000	226.800	25.420	40.290	0.000	1330.000
2	19:41:00	665.900	2324.000	2374.000	226.900	27.010	30.920	0.000	1202.000
3	19:41:10	671.500	2344.000	2366.000	227.100	27.170	30.220	0.000	1323.000
x		667.900	2330.000	2372.000	227.000	26.530	33.810	0.000	1285.000
σ		3.068	12.320	5.234	0.168	0.967	5.628	0.000	71.970
%RSD		0.459	0.529	0.221	0.074	3.643	16.650	0.000	5.601

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:51	0.000	1037.000	1084.000	73.755%	50.570	50.870	52.570	104.300
2	19:41:00	0.000	1028.000	1082.000	75.436%	51.020	50.000	51.690	105.300
3	19:41:10	0.000	1035.000	1086.000	76.671%	50.490	51.210	51.650	106.300
x		0.000	1033.000	1084.000	75.287%	50.700	50.690	51.970	105.300
σ		0.000	4.685	1.860	1.464%	0.283	0.622	0.519	1.034
%RSD		0.000	0.454	0.172	1.944	0.558	1.228	0.999	0.982

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:51	78.793%	2066.000	334.200	341.900	2164.000	2164.000	95.736%	95.630%
2	19:41:00	80.633%	2061.000	334.200	338.400	2137.000	2145.000	98.495%	95.594%
3	19:41:10	82.107%	2053.000	335.300	335.400	2154.000	2140.000	98.825%	97.674%
x		80.511%	2060.000	334.600	338.600	2152.000	2150.000	97.685%	96.299%
σ		1.660%	6.716	0.655	3.272	14.020	12.780	1.696%	1.191%
%RSD		2.062	0.326	0.196	0.967	0.651	0.594	1.736	1.237

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:51	49.350	47.540	588.000	541.100	567.100	73.025%
2	19:41:00	48.520	47.670	589.200	544.100	567.900	74.067%
3	19:41:10	47.370	47.910	589.900	540.400	566.200	75.395%
x		48.410	47.700	589.000	541.900	567.100	74.163%
σ		0.996	0.188	0.962	1.951	0.836	1.188%
%RSD		2.058	0.394	0.163	0.360	0.147	1.601

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:57	78.011%	66.490	1199.000	1222.000	0.000	76190.000	68230.000	68010.000
2	19:46:07	75.617%	70.300	1276.000	1287.000	0.000	79780.000	72370.000	72060.000
3	19:46:16	80.335%	65.300	1172.000	1195.000	0.000	76070.000	69460.000	68890.000
x		77.988%	67.360	1216.000	1235.000	0.000	77350.000	70020.000	69650.000
σ		2.359%	2.614	54.260	47.100	0.000	2109.000	2123.000	2126.000
%RSD		3.025	3.880	4.463	3.815	0.000	2.726	3.032	3.053

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:57	143200.000	14680.000	0.000	52860.000	50420.000	48790.000	114.934%	10340.000
2	19:46:07	150000.000	15560.000	0.000	55280.000	52290.000	51230.000	113.181%	10830.000
3	19:46:16	144400.000	14590.000	0.000	52390.000	50050.000	48840.000	117.351%	10380.000
x		145900.000	14940.000	0.000	53510.000	50920.000	49620.000	115.155%	10520.000
σ		3633.000	538.900	0.000	1553.000	1197.000	1392.000	2.094%	271.300
%RSD		2.490	3.607	0.000	2.903	2.352	2.806	1.818	2.579

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:57	1391.000	1088.000	6686.000	326600.000	329700.000	543.000	645.500	694.100
2	19:46:07	1430.000	1106.000	7032.000	335900.000	336700.000	551.600	656.900	708.400
3	19:46:16	1382.000	1074.000	6772.000	328800.000	331900.000	548.300	646.100	700.000
x		1401.000	1089.000	6830.000	330500.000	332800.000	547.600	649.500	700.800
σ		26.030	16.120	180.100	4851.000	3573.000	4.310	6.440	7.193
%RSD		1.858	1.480	2.636	1.468	1.074	0.787	0.991	1.026

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:57	705.500	2334.000	2355.000	233.800	27.850	28.200	0.000	1193.000
2	19:46:07	710.100	2371.000	2404.000	234.500	26.720	39.160	0.000	1197.000
3	19:46:16	703.700	2325.000	2393.000	234.000	27.310	33.330	0.000	1196.000
x		706.400	2343.000	2384.000	234.100	27.290	33.560	0.000	1195.000
σ		3.294	23.870	25.720	0.362	0.567	5.482	0.000	2.197
%RSD		0.466	1.019	1.079	0.155	2.077	16.330	0.000	0.184

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:57	0.000	1041.000	1097.000	75.750%	51.450	52.260	51.510	107.100
2	19:46:07	0.000	1052.000	1093.000	77.029%	52.860	52.480	53.050	108.500
3	19:46:16	0.000	1047.000	1104.000	77.233%	52.270	53.160	52.660	109.300
x		0.000	1047.000	1098.000	76.671%	52.190	52.630	52.410	108.300
σ		0.000	5.307	5.450	0.804%	0.709	0.471	0.799	1.113
%RSD		0.000	0.507	0.496	1.049	1.359	0.894	1.525	1.028

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:57	81.196%	2083.000	332.100	335.500	2168.000	2164.000	96.586%	96.164%
2	19:46:07	81.702%	2110.000	337.900	338.100	2185.000	2181.000	97.126%	96.419%
3	19:46:16	82.215%	2107.000	338.100	337.800	2160.000	2163.000	98.443%	97.997%
x		81.704%	2100.000	336.000	337.100	2171.000	2169.000	97.385%	96.860%
σ		0.510%	14.420	3.430	1.474	12.820	10.190	0.955%	0.993%
%RSD		0.624	0.687	1.021	0.437	0.591	0.470	0.981	1.025

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:57	48.300	48.610	682.700	635.500	662.600	73.438%
2	19:46:07	47.510	48.450	682.100	635.400	666.200	73.906%
3	19:46:16	49.020	48.760	686.900	636.700	665.100	74.460%
x		48.270	48.610	683.900	635.900	664.600	73.934%
σ		0.757	0.154	2.606	0.756	1.879	0.512%
%RSD		1.568	0.318	0.381	0.119	0.283	0.692

180-70871-A-1-D PDS 10/9/2017 7:51:57 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:02	82.463%	65.000	1243.000	1261.000	0.000	86080.000	70960.000	70410.000
2	19:51:12	81.550%	66.280	1275.000	1292.000	0.000	86280.000	71910.000	71050.000
3	19:51:21	83.438%	65.440	1255.000	1262.000	0.000	86470.000	71470.000	70730.000
x		82.484%	65.570	1258.000	1272.000	0.000	86280.000	71440.000	70730.000
σ		0.944%	0.648	16.530	17.720	0.000	196.000	476.600	320.800
%RSD		1.145	0.989	1.314	1.394	0.000	0.227	0.667	0.454
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:02	77540.000	16530.000	0.000	53760.000	53970.000	54150.000	111.455%	8282.000
2	19:51:12	78550.000	16760.000	0.000	54030.000	54150.000	54140.000	111.785%	8275.000
3	19:51:21	78030.000	16590.000	0.000	53650.000	54000.000	54170.000	113.034%	8328.000
x		78040.000	16630.000	0.000	53810.000	54040.000	54150.000	112.091%	8295.000
σ		505.500	119.700	0.000	197.200	98.360	17.960	0.833%	29.030
%RSD		0.648	0.720	0.000	0.366	0.182	0.033	0.743	0.350
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:02	1237.000	930.300	6458.000	276300.000	276800.000	563.900	636.700	637.200
2	19:51:12	1228.000	930.900	6535.000	278500.000	278500.000	564.900	632.200	642.400
3	19:51:21	1228.000	913.700	6456.000	276000.000	279200.000	569.300	635.400	638.600
x		1231.000	925.000	6483.000	276900.000	278200.000	566.100	634.800	639.400
σ		5.258	9.786	45.100	1330.000	1210.000	2.872	2.346	2.692
%RSD		0.427	1.058	0.696	0.480	0.435	0.507	0.370	0.421
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:02	642.300	2051.000	2089.000	210.100	24.520	32.500	0.000	1220.000
2	19:51:12	649.400	2070.000	2126.000	212.400	24.510	28.390	0.000	1234.000
3	19:51:21	649.100	2084.000	2125.000	212.300	24.310	35.280	0.000	1320.000
x		646.900	2069.000	2113.000	211.600	24.450	32.060	0.000	1258.000
σ		4.000	16.610	20.900	1.330	0.119	3.464	0.000	54.330
%RSD		0.618	0.803	0.989	0.629	0.488	10.810	0.000	4.319
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:02	0.000	1110.000	1158.000	77.262%	46.050	47.200	52.760	111.000
2	19:51:12	0.000	1112.000	1154.000	77.195%	46.900	47.010	54.480	111.900
3	19:51:21	0.000	1114.000	1155.000	77.633%	46.910	47.530	54.630	112.600
x		0.000	1112.000	1156.000	77.364%	46.620	47.250	53.960	111.900
σ		0.000	1.841	2.162	0.236%	0.492	0.263	1.041	0.810
%RSD		0.000	0.166	0.187	0.305	1.056	0.556	1.930	0.724
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:02	81.031%	2186.000	487.000	491.700	2115.000	2121.000	97.811%	96.651%
2	19:51:12	80.335%	2206.000	494.800	498.900	2136.000	2133.000	97.940%	96.631%
3	19:51:21	80.654%	2209.000	493.100	497.200	2119.000	2130.000	98.426%	97.271%
x		80.673%	2200.000	491.600	496.000	2123.000	2128.000	98.059%	96.851%
σ		0.348%	12.770	4.114	3.753	11.010	6.456	0.324%	0.364%
%RSD		0.432	0.580	0.837	0.757	0.518	0.303	0.331	0.376
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	19:51:02	51.690	50.500	548.900	509.200	531.300	74.344%		
2	19:51:12	50.970	50.270	550.500	510.700	532.700	73.698%		
3	19:51:21	51.710	50.030	553.500	511.600	532.800	73.191%		
x		51.460	50.270	551.000	510.500	532.300	73.744%		
σ		0.421	0.231	2.348	1.208	0.827	0.578%		
%RSD		0.819	0.459	0.426	0.237	0.155	0.784		

CCV 2475807 10/9/2017 8:01:03 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:00:06	90.477%	108.700	102.800	102.700	0.000	50170.000	51860.000	51070.000
2	20:00:15	93.281%	106.400	101.100	100.800	0.000	49640.000	51780.000	50690.000
3	20:00:24	93.202%	106.800	99.240	101.200	0.000	50030.000	52440.000	51660.000
x		92.320%	107.298%	101.056%	101.563%	0.000	99.894%	104.055%	102.277%
σ		1.597%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		1.730	1.110	1.763	0.968	0.000	0.551	0.691	0.956
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:00:06	490.000	5396.000	0.000	50380.000	49220.000	50810.000	105.945%	101.800
2	20:00:15	490.200	5323.000	0.000	50020.000	49310.000	50580.000	107.057%	101.600
3	20:00:24	526.500	5380.000	0.000	50350.000	49580.000	50870.000	106.502%	103.600
x		100.450%	107.327%	0.000	100.496%	98.746%	101.505%	106.501%	102.303%
σ		n/a	n/a	0.000	n/a	n/a	n/a	0.556%	n/a
%RSD		4.187	0.715	0.000	0.402	0.375	0.307	0.522	1.073
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:00:06	92.080	95.980	519.300	25290.000	24350.000	98.830	101.500	105.000
2	20:00:15	93.010	95.940	522.200	25040.000	24240.000	100.000	103.000	103.500
3	20:00:24	94.500	98.790	523.700	25770.000	25000.000	102.400	103.800	105.700
x		93.199%	96.904%	104.346%	101.469%	98.120%	100.425%	102.797%	104.725%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		1.310	1.690	0.431	1.466	1.689	1.830	1.139	1.074
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:00:06	104.100	105.700	106.800	101.600	104.900	104.700	0.000	94.880
2	20:00:15	103.400	105.400	109.400	103.700	106.600	105.100	0.000	95.440
3	20:00:24	105.700	109.600	111.400	104.800	106.200	104.600	0.000	98.450
x		104.398%	106.886%	109.183%	103.366%	105.894%	104.768%	0.000	96.258%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		1.130	2.210	2.110	1.578	0.820	0.249	0.000	1.992
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:00:06	105.774%	101.200	105.900	95.953%	101.600	102.300	103.900	106.100
2	20:00:15	105.987%	103.200	106.600	97.142%	101.900	103.000	102.600	107.100
3	20:00:24	105.648%	105.200	110.800	95.100%	106.000	106.900	106.900	109.600
x		105.803%	103.192%	107.740%	96.065%	103.147%	104.060%	104.475%	107.595%
σ		0.172%	n/a	n/a	1.026%	n/a	n/a	n/a	n/a
%RSD		0.162	1.938	2.451	1.068	2.403	2.374	2.083	1.656
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:00:06	97.809%	102.200	101.300	101.200	97.000	96.860	99.835%	99.196%
2	20:00:15	98.622%	100.900	102.400	101.200	95.360	95.910	100.463%	100.204%
3	20:00:24	97.084%	104.200	106.600	104.400	101.300	100.400	99.245%	99.379%
x		97.838%	102.418%	103.455%	102.278%	97.883%	97.737%	99.848%	99.593%
σ		0.770%	n/a	n/a	n/a	n/a	n/a	0.609%	0.537%
%RSD		0.787	1.635	2.678	1.784	3.130	2.443	0.610	0.539
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	20:00:06	98.240	96.510	97.620	98.450	97.610	92.934%		
2	20:00:15	97.090	96.950	98.490	96.120	97.300	93.585%		
3	20:00:24	99.570	98.370	101.200	100.400	100.200	93.682%		
x		98.301%	97.277%	99.121%	98.321%	98.383%	93.400%		
σ		n/a	n/a	n/a	n/a	n/a	0.407%		
%RSD		1.261	1.001	1.910	2.181	1.635	0.436		

CCB3 10/9/2017 8:06:10 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:15	100.448%	0.020	0.600	0.707	0.000	22.070	13.000	11.690
2	20:05:24	99.439%	0.034	0.680	0.787	0.000	21.660	12.580	12.230
3	20:05:34	99.373%	0.033	0.559	0.632	0.000	20.990	12.220	12.130
x		99.754%	0.029	0.613	0.709	0.000	21.580	12.600	12.020
σ		0.602%	0.008	0.061	0.077	0.000	0.544	0.394	0.289
%RSD		0.604	26.990	9.994	10.910	0.000	2.523	3.124	2.404

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:15	0.564	3.651	0.000	39.530	18.230	13.170	116.746%	-0.007
2	20:05:24	0.638	6.084	0.000	39.310	13.660	14.430	115.171%	0.008
3	20:05:34	0.561	6.469	0.000	36.940	15.640	13.600	116.225%	0.070
x		0.588	5.402	0.000	38.590	15.840	13.730	116.047%	0.024
σ		0.044	1.528	0.000	1.432	2.294	0.639	0.802%	0.041
%RSD		7.478	28.290	0.000	3.711	14.480	4.651	0.691	171.000

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:15	0.018	0.038	0.231	7.752	8.232	0.036	0.057	0.029
2	20:05:24	0.025	0.057	0.224	7.962	6.391	0.032	0.054	0.071
3	20:05:34	0.029	0.055	0.208	7.529	6.315	0.042	0.028	0.049
x		0.024	0.050	0.221	7.748	6.979	0.037	0.046	0.050
σ		0.005	0.010	0.012	0.217	1.085	0.005	0.016	0.021
%RSD		22.680	20.970	5.359	2.799	15.550	13.620	34.550	42.430

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:15	0.018	0.856	0.541	0.081	-0.007	-0.552	0.000	0.067
2	20:05:24	0.031	0.646	0.997	0.072	0.084	-0.173	0.000	0.047
3	20:05:34	0.029	0.971	1.115	0.062	-0.030	0.185	0.000	0.055
x		0.026	0.824	0.884	0.072	0.015	-0.180	0.000	0.056
σ		0.007	0.165	0.303	0.010	0.060	0.368	0.000	0.010
%RSD		26.900	20.000	34.290	13.530	390.700	204.600	0.000	18.120

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:15	112.090%	0.213	0.209	113.774%	0.034	0.024	0.038	0.048
2	20:05:24	109.945%	0.145	0.134	113.900%	0.024	0.031	0.023	0.024
3	20:05:34	111.005%	0.166	0.098	113.197%	0.018	0.013	0.030	0.024
x		111.013%	0.175	0.147	113.624%	0.026	0.023	0.030	0.032
σ		1.073%	0.034	0.056	0.375%	0.008	0.009	0.008	0.014
%RSD		0.966	19.750	38.470	0.330	31.320	39.800	25.030	44.010

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:15	111.733%	0.097	0.096	0.058	0.082	0.130	110.765%	108.404%
2	20:05:24	111.503%	0.081	0.105	0.078	0.140	0.124	110.931%	109.979%
3	20:05:34	111.149%	0.103	0.061	0.082	0.298	0.191	109.746%	110.986%
x		111.461%	0.094	0.087	0.073	0.174	0.149	110.481%	109.790%
σ		0.294%	0.011	0.024	0.013	0.112	0.037	0.641%	1.301%
%RSD		0.264	11.940	26.950	17.840	64.330	25.080	0.580	1.185

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:15	0.053	0.030	0.024	0.034	0.039	108.947%
2	20:05:24	0.043	0.040	0.049	0.026	0.035	109.758%
3	20:05:34	0.033	0.033	0.040	0.052	0.027	109.908%
x		0.043	0.034	0.038	0.038	0.034	109.538%
σ		0.010	0.005	0.013	0.013	0.006	0.517%
%RSD		23.260	13.880	33.220	35.070	18.410	0.472

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:10:22	87.154%	11.130	126.900	128.700	0.000	44570.000	25060.000	24730.000
2	20:10:32	88.142%	10.700	125.100	126.900	0.000	43040.000	24370.000	23900.000
3	20:10:41	88.306%	10.710	122.500	125.600	0.000	43120.000	24430.000	24120.000
x		87.867%	10.850	124.800	127.100	0.000	43580.000	24620.000	24250.000
σ		0.623%	0.247	2.193	1.588	0.000	863.900	383.700	431.600
%RSD		0.709	2.280	1.757	1.249	0.000	1.982	1.558	1.780

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:10:22	78940.000	6960.000	0.000	11400.000	12710.000	10960.000	110.740%	22140.000
2	20:10:32	76540.000	6814.000	0.000	10990.000	12250.000	10520.000	114.213%	21330.000
3	20:10:41	76830.000	6783.000	0.000	11040.000	12380.000	10620.000	113.618%	21520.000
x		77440.000	6852.000	0.000	11140.000	12450.000	10700.000	112.857%	21660.000
σ		1309.000	94.670	0.000	226.400	235.100	232.000	1.858%	422.500
%RSD		1.690	1.382	0.000	2.032	1.888	2.168	1.646	1.950

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:10:22	1451.000	1077.000	5428.000	326300.000	327300.000	109.800	203.100	495.300
2	20:10:32	1441.000	1057.000	5258.000	320500.000	323600.000	109.000	197.300	487.800
3	20:10:41	1456.000	1068.000	5322.000	322100.000	326300.000	109.200	200.700	491.600
x		1450.000	1067.000	5336.000	323000.000	325700.000	109.300	200.400	491.600
σ		7.618	10.080	85.570	2972.000	1897.000	0.402	2.954	3.764
%RSD		0.526	0.945	1.604	0.920	0.582	0.367	1.474	0.766

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:10:22	507.300	1844.000	1856.000	209.600	17.800	18.110	0.000	308.200
2	20:10:32	501.200	1822.000	1843.000	208.800	18.330	19.600	0.000	305.600
3	20:10:41	503.100	1831.000	1843.000	209.400	18.700	14.380	0.000	305.900
x		503.900	1833.000	1847.000	209.300	18.280	17.370	0.000	306.600
σ		3.100	11.040	7.715	0.396	0.449	2.688	0.000	1.432
%RSD		0.615	0.602	0.418	0.189	2.455	15.480	0.000	0.467

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:10:22	0.000	45.190	46.040	73.961%	5.677	5.504	3.939	8.756
2	20:10:32	0.000	44.760	45.850	74.427%	5.422	5.232	3.975	9.473
3	20:10:41	0.000	45.190	47.270	74.965%	5.161	5.494	4.220	9.475
x		0.000	45.050	46.390	74.451%	5.420	5.410	4.045	9.235
σ		0.000	0.251	0.773	0.502%	0.258	0.155	0.153	0.415
%RSD		0.000	0.558	1.667	0.675	4.755	2.859	3.783	4.493

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:10:22	81.037%	231.100	35.320	37.370	336.900	340.600	96.658%	94.537%
2	20:10:32	81.670%	230.900	35.470	36.970	343.800	334.800	97.273%	95.298%
3	20:10:41	81.752%	230.100	36.340	36.520	337.800	337.200	97.986%	95.893%
x		81.486%	230.700	35.710	36.950	339.500	337.600	97.306%	95.243%
σ		0.391%	0.488	0.550	0.426	3.783	2.933	0.664%	0.680%
%RSD		0.480	0.211	1.541	1.153	1.114	0.869	0.683	0.714

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:10:22	1.441	1.216	642.500	589.600	611.600	68.000%
2	20:10:32	1.319	1.214	648.200	586.000	612.800	67.190%
3	20:10:41	1.358	1.214	645.600	588.700	614.300	67.841%
x		1.373	1.215	645.400	588.100	612.900	67.677%
σ		0.063	0.001	2.892	1.859	1.336	0.429%
%RSD		4.558	0.105	0.448	0.316	0.218	0.634

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:15:27	88.521%	7.850	94.950	96.300	0.000	31510.000	17900.000	17680.000
2	20:15:36	87.628%	8.138	96.600	97.880	0.000	31680.000	18040.000	17860.000
3	20:15:46	87.941%	8.003	95.350	98.440	0.000	31340.000	17860.000	17790.000
x		88.030%	7.997	95.630	97.540	0.000	31510.000	17930.000	17780.000
σ		0.453%	0.144	0.860	1.112	0.000	166.800	92.030	89.890
%RSD		0.515	1.804	0.899	1.140	0.000	0.529	0.513	0.506
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:15:27	46500.000	5638.000	0.000	7395.000	12930.000	11620.000	116.322%	9608.000
2	20:15:36	46670.000	5725.000	0.000	7360.000	12770.000	11580.000	117.345%	9621.000
3	20:15:46	46360.000	5700.000	0.000	7294.000	12790.000	11550.000	118.587%	9503.000
x		46510.000	5688.000	0.000	7349.000	12830.000	11580.000	117.418%	9577.000
σ		151.700	44.410	0.000	51.380	88.820	34.560	1.134%	65.060
%RSD		0.326	0.781	0.000	0.699	0.692	0.298	0.966	0.679
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:15:27	1110.000	1015.000	5361.000	266200.000	267000.000	84.680	197.200	397.100
2	20:15:36	1102.000	1007.000	5407.000	264900.000	262600.000	83.320	194.100	389.400
3	20:15:46	1091.000	1011.000	5382.000	265500.000	263700.000	83.690	193.000	391.400
x		1101.000	1011.000	5383.000	265500.000	264500.000	83.900	194.800	392.600
σ		9.771	4.396	23.060	696.500	2279.000	0.701	2.209	4.014
%RSD		0.888	0.435	0.428	0.262	0.862	0.835	1.134	1.022
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:15:27	403.300	1414.000	1440.000	129.300	12.790	10.150	0.000	222.800
2	20:15:36	398.000	1410.000	1426.000	127.100	13.430	9.957	0.000	219.200
3	20:15:46	398.600	1396.000	1409.000	125.500	13.250	13.250	0.000	218.200
x		399.900	1407.000	1425.000	127.300	13.160	11.120	0.000	220.100
σ		2.887	9.327	15.750	1.927	0.329	1.847	0.000	2.412
%RSD		0.722	0.663	1.106	1.514	2.501	16.610	0.000	1.096
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:15:27	0.000	17.210	17.130	82.521%	3.588	3.866	3.561	5.976
2	20:15:36	0.000	17.180	16.070	84.604%	3.720	3.758	2.609	5.714
3	20:15:46	0.000	16.710	16.250	86.252%	3.524	3.741	2.763	6.006
x		0.000	17.030	16.490	84.459%	3.611	3.789	2.978	5.899
σ		0.000	0.281	0.566	1.870%	0.100	0.068	0.511	0.161
%RSD		0.000	1.648	3.435	2.214	2.756	1.792	17.170	2.721
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:15:27	89.545%	139.000	20.670	21.290	244.700	240.900	101.340%	100.683%
2	20:15:36	92.171%	136.500	20.660	20.430	237.900	237.000	104.153%	102.993%
3	20:15:46	92.550%	137.500	20.830	20.970	236.700	238.300	103.382%	103.180%
x		91.422%	137.700	20.720	20.900	239.800	238.800	102.958%	102.285%
σ		1.636%	1.261	0.095	0.437	4.321	1.985	1.454%	1.391%
%RSD		1.790	0.916	0.459	2.092	1.802	0.831	1.412	1.360
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	20:15:27	0.810	0.837	412.900	376.800	394.300	82.763%		
2	20:15:36	0.826	0.802	402.800	366.900	384.500	84.716%		
3	20:15:46	0.854	0.883	401.200	369.900	383.900	85.904%		
x		0.830	0.841	405.600	371.200	387.600	84.461%		
σ		0.022	0.040	6.354	5.056	5.816	1.586%		
%RSD		2.680	4.770	1.566	1.362	1.501	1.878		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:25:03	90.660%	0.004	0.404	0.485	0.000	-8.186	0.650	0.624
2	20:25:12	89.836%	-0.003	0.339	0.501	0.000	-8.290	0.765	0.570
3	20:25:22	89.860%	-0.000	0.449	0.528	0.000	-8.304	0.505	0.538
x		90.119%	0.000	0.398	0.505	0.000	-8.260	0.640	0.577
σ		0.469%	0.004	0.055	0.022	0.000	0.064	0.130	0.043
%RSD		0.520	2231.000	13.920	4.329	0.000	0.777	20.360	7.518
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:25:03	0.650	6.433	0.000	-2.927	8.830	6.799	112.542%	0.206
2	20:25:12	0.647	4.651	0.000	-3.102	6.187	5.751	113.603%	0.146
3	20:25:22	0.639	4.447	0.000	-2.585	4.636	5.949	112.512%	0.191
x		0.645	5.177	0.000	-2.871	6.551	6.166	112.886%	0.181
σ		0.006	1.092	0.000	0.263	2.120	0.557	0.622%	0.031
%RSD		0.946	21.100	0.000	9.157	32.370	9.028	0.551	17.320
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:25:03	0.419	0.257	0.253	0.516	-1.377	-0.011	0.100	0.003
2	20:25:12	0.555	0.238	0.232	0.480	-0.149	-0.006	0.141	-0.014
3	20:25:22	0.663	0.237	0.216	0.568	-3.335	-0.002	0.101	0.029
x		0.546	0.244	0.234	0.521	-1.620	-0.006	0.114	0.006
σ		0.122	0.011	0.019	0.045	1.607	0.004	0.023	0.022
%RSD		22.440	4.703	7.970	8.554	99.180	70.380	20.560	367.700
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:25:03	-0.050	0.653	0.568	0.062	-0.048	-1.229	0.000	0.007
2	20:25:12	-0.024	0.607	0.865	0.058	-0.048	-0.401	0.000	0.009
3	20:25:22	-0.012	0.641	0.747	0.057	-0.019	-0.148	0.000	0.006
x		-0.029	0.634	0.727	0.059	-0.039	-0.593	0.000	0.007
σ		0.019	0.024	0.150	0.003	0.017	0.566	0.000	0.001
%RSD		67.190	3.795	20.590	5.087	42.970	95.400	0.000	19.510
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:25:03	103.712%	-0.009	-0.009	103.253%	-0.003	-0.009	-0.000	-0.007
2	20:25:12	102.754%	-0.015	-0.003	103.374%	-0.009	0.003	0.008	-0.003
3	20:25:22	101.309%	-0.020	-0.014	102.809%	-0.009	-0.007	0.008	-0.000
x		102.591%	-0.015	-0.009	103.146%	-0.007	-0.004	0.005	-0.003
σ		1.210%	0.006	0.005	0.297%	0.004	0.007	0.005	0.003
%RSD		1.179	38.560	62.040	0.288	54.780	149.700	89.140	98.170
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:25:03	100.429%	0.045	0.005	0.007	-0.016	-0.049	104.145%	104.744%
2	20:25:12	100.827%	0.010	-0.001	0.014	-0.006	-0.015	104.954%	104.907%
3	20:25:22	100.516%	0.048	0.002	0.027	-0.006	-0.044	104.939%	103.440%
x		100.591%	0.034	0.002	0.016	-0.010	-0.036	104.679%	104.363%
σ		0.209%	0.021	0.003	0.010	0.006	0.019	0.463%	0.804%
%RSD		0.208	61.920	163.600	61.770	60.130	51.830	0.442	0.771
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	20:25:03	-0.001	-0.004	-0.003	-0.002	-0.001	103.381%		
2	20:25:12	-0.005	-0.004	-0.006	-0.006	-0.003	102.310%		
3	20:25:22	0.001	0.001	-0.009	-0.001	0.000	99.882%		
x		-0.002	-0.003	-0.006	-0.003	-0.001	101.858%		
σ		0.003	0.003	0.003	0.002	0.002	1.793%		
%RSD		203.100	112.900	49.490	78.980	121.900	1.760		

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:30:08	81.477%	57.660	1073.000	1093.000	0.000	47100.000	48970.000	48100.000
2	20:30:18	82.187%	57.180	1082.000	1099.000	0.000	46400.000	48910.000	47800.000
3	20:30:27	84.308%	56.750	1062.000	1079.000	0.000	46850.000	48170.000	47780.000
x		82.657%	57.200	1072.000	1090.000	0.000	46780.000	48680.000	47890.000
σ		1.473%	0.458	9.951	10.540	0.000	352.300	442.800	180.300
%RSD		1.782	0.800	0.928	0.967	0.000	0.753	0.910	0.377

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:30:08	1942.000	10540.000	0.000	47060.000	47530.000	49320.000	107.304%	956.700
2	20:30:18	1921.000	10570.000	0.000	46750.000	47570.000	48930.000	108.797%	952.000
3	20:30:27	1916.000	10440.000	0.000	46900.000	47250.000	49140.000	109.972%	957.000
x		1927.000	10510.000	0.000	46900.000	47450.000	49130.000	108.691%	955.200
σ		13.880	66.780	0.000	153.300	173.500	196.600	1.337%	2.835
%RSD		0.720	0.635	0.000	0.327	0.366	0.400	1.230	0.297

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:30:08	438.000	179.000	518.200	908.500	1316.000	485.900	479.500	248.300
2	20:30:18	452.800	187.000	513.400	931.100	1330.000	498.700	493.800	260.100
3	20:30:27	454.500	188.300	512.600	917.400	1267.000	494.600	503.400	257.200
x		448.400	184.700	514.700	919.000	1305.000	493.100	492.300	255.200
σ		9.047	5.037	3.006	11.380	32.940	6.505	12.030	6.129
%RSD		2.018	2.727	0.584	1.238	2.525	1.319	2.444	2.402

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:30:08	248.300	531.200	546.700	40.700	10.380	10.520	0.000	974.200
2	20:30:18	258.800	557.000	562.200	42.970	11.400	11.670	0.000	1013.000
3	20:30:27	262.300	557.500	564.700	42.900	11.870	11.750	0.000	1017.000
x		256.400	548.600	557.900	42.190	11.210	11.310	0.000	1001.000
σ		7.253	15.070	9.719	1.292	0.762	0.688	0.000	23.600
%RSD		2.828	2.748	1.742	3.063	6.796	6.083	0.000	2.357

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:30:08	101.101%	1014.000	1053.000	94.217%	48.330	49.630	53.680	106.000
2	20:30:18	100.047%	1054.000	1091.000	94.181%	51.410	51.520	55.270	110.800
3	20:30:27	99.786%	1052.000	1099.000	96.048%	50.520	51.970	55.550	110.300
x		100.311%	1040.000	1081.000	94.815%	50.090	51.040	54.830	109.000
σ		0.696%	22.380	24.380	1.068%	1.581	1.242	1.009	2.669
%RSD		0.694	2.151	2.255	1.126	3.157	2.433	1.840	2.448

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:30:08	96.307%	2023.000	494.200	497.400	1848.000	1880.000	102.479%	102.539%
2	20:30:18	94.178%	2140.000	526.400	531.600	1958.000	1954.000	101.375%	101.567%
3	20:30:27	95.956%	2130.000	524.800	526.500	1939.000	1928.000	104.026%	102.023%
x		95.480%	2098.000	515.200	518.500	1915.000	1921.000	102.627%	102.043%
σ		1.142%	64.830	18.130	18.440	58.760	37.450	1.332%	0.487%
%RSD		1.196	3.090	3.520	3.557	3.069	1.949	1.298	0.477

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:30:08	47.750	47.310	19.070	19.550	19.230	93.066%
2	20:30:18	49.700	49.100	19.960	20.420	20.130	92.475%
3	20:30:27	49.430	48.690	20.450	20.440	20.200	94.207%
x		48.960	48.370	19.830	20.140	19.850	93.249%
σ		1.057	0.941	0.699	0.504	0.541	0.880%
%RSD		2.159	1.946	3.526	2.501	2.728	0.944

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:35:18	67.467%	0.741	13730.000	14310.000	0.000	56580.000	977400.000	958400.000
2	20:35:27	69.535%	0.720	13550.000	14050.000	0.000	56920.000	988500.000	967300.000
3	20:35:37	70.008%	0.713	13820.000	14220.000	0.000	56820.000	981300.000	961600.000
x		69.004%	0.725	13700.000	14200.000	0.000	56770.000	982400.000	962500.000
σ		1.351%	0.014	134.200	131.000	0.000	177.200	5627.000	4520.000
%RSD		1.958	1.970	0.980	0.923	0.000	0.312	0.573	0.470

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:35:18	362.900	17900.000	0.000	8697.000	612800.000	601000.000	101.991%	8.416
2	20:35:27	393.400	17800.000	0.000	8671.000	613900.000	608000.000	102.833%	7.983
3	20:35:37	364.300	17980.000	0.000	8646.000	613400.000	603400.000	105.046%	8.285
x		373.500	17890.000	0.000	8671.000	613400.000	604100.000	103.290%	8.228
σ		17.240	91.400	0.000	25.690	534.700	3537.000	1.578%	0.222
%RSD		4.616	0.511	0.000	0.296	0.087	0.585	1.528	2.698

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:35:18	6.206	4.244	5256.000	325.500	5087.000	10.320	106.300	7.849
2	20:35:27	6.196	4.145	5293.000	335.700	5328.000	10.580	110.300	7.941
3	20:35:37	6.031	4.117	5260.000	332.800	5037.000	10.290	109.100	7.588
x		6.144	4.169	5269.000	331.300	5151.000	10.400	108.600	7.793
σ		0.098	0.067	20.170	5.232	155.300	0.155	2.064	0.184
%RSD		1.603	1.608	0.383	1.579	3.014	1.493	1.901	2.355

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:35:18	20.900	1518.000	1528.000	8.716	603.100	3000.000	0.000	8209.000
2	20:35:27	20.160	1515.000	1530.000	8.803	601.600	3011.000	0.000	8227.000
3	20:35:37	20.410	1512.000	1532.000	8.731	607.900	3022.000	0.000	8222.000
x		20.490	1515.000	1530.000	8.750	604.200	3011.000	0.000	8219.000
σ		0.375	2.643	1.985	0.046	3.287	10.990	0.000	9.634
%RSD		1.829	0.175	0.130	0.528	0.544	0.365	0.000	0.117

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:35:18	93.958%	8.376	8.024	79.739%	0.015	0.000	0.913	0.816
2	20:35:27	94.950%	8.047	7.875	80.188%	0.009	-0.003	0.929	0.855
3	20:35:37	95.385%	8.184	7.396	80.199%	0.003	0.000	1.046	0.910
x		94.764%	8.203	7.765	80.042%	0.009	-0.001	0.963	0.860
σ		0.732%	0.165	0.328	0.263%	0.006	0.002	0.073	0.047
%RSD		0.772	2.012	4.224	0.328	62.430	266.400	7.545	5.514

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:35:18	86.063%	0.645	1.837	1.961	87.170	87.740	88.184%	88.082%
2	20:35:27	86.484%	0.498	1.845	1.952	88.520	88.250	89.464%	88.753%
3	20:35:37	86.977%	0.580	1.816	1.891	86.930	86.710	88.303%	88.057%
x		86.508%	0.574	1.833	1.934	87.540	87.570	88.650%	88.297%
σ		0.457%	0.073	0.015	0.038	0.854	0.788	0.707%	0.395%
%RSD		0.529	12.770	0.814	1.962	0.975	0.900	0.798	0.447

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:35:18	1.067	0.931	5.429	4.983	5.140	73.590%
2	20:35:27	1.018	0.875	5.619	5.086	5.216	73.830%
3	20:35:37	1.006	0.873	5.642	4.883	5.238	73.288%
x		1.030	0.893	5.564	4.984	5.198	73.569%
σ		0.032	0.033	0.117	0.102	0.052	0.272%
%RSD		3.154	3.697	2.108	2.039	0.995	0.369

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:40:21	65.326%	2.982	16500.000	17360.000	0.000	76030.000	1290000.000	1268000.000
2	20:40:31	64.450%	3.048	16870.000	17780.000	0.000	76420.000	1299000.000	1272000.000
3	20:40:40	64.294%	3.075	16910.000	17680.000	0.000	77380.000	1318000.000	1293000.000
x		64.690%	3.035	16760.000	17610.000	0.000	76610.000	1303000.000	1277000.000
σ		0.556%	0.048	227.300	219.400	0.000	693.400	14330.000	13400.000
%RSD		0.860	1.577	1.356	1.246	0.000	0.905	1.100	1.049

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:40:21	4370.000	33570.000	0.000	10810.000	858600.000	850700.000	102.483%	-683.000
2	20:40:31	4402.000	34380.000	0.000	10790.000	869600.000	851900.000	102.670%	59.170
3	20:40:40	4459.000	34490.000	0.000	10810.000	873500.000	856600.000	101.739%	55.130
x		4410.000	34140.000	0.000	10800.000	867300.000	853100.000	102.297%	-189.600
σ		45.390	503.000	0.000	11.240	7728.000	3142.000	0.493%	427.300
%RSD		1.029	1.473	0.000	0.104	0.891	0.368	0.482	225.400

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:40:21	18.530	29.320	6824.000	2473.000	9026.000	17.700	124.600	6.220
2	20:40:31	18.510	29.180	6839.000	2459.000	8662.000	17.790	123.600	6.189
3	20:40:40	18.110	28.330	6928.000	2412.000	8263.000	17.060	120.100	6.006
x		18.380	28.940	6864.000	2448.000	8650.000	17.520	122.800	6.138
σ		0.235	0.532	55.960	31.830	382.100	0.400	2.355	0.115
%RSD		1.280	1.840	0.815	1.300	4.417	2.286	1.918	1.880

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:40:21	16.870	4160.000	4180.000	13.820	539.800	3951.000	0.000	10130.000
2	20:40:31	16.300	4145.000	4179.000	13.490	539.200	3959.000	0.000	10190.000
3	20:40:40	16.230	4081.000	4118.000	13.130	523.300	3864.000	0.000	9834.000
x		16.470	4129.000	4159.000	13.480	534.100	3925.000	0.000	10050.000
σ		0.355	41.780	35.420	0.346	9.356	52.970	0.000	191.600
%RSD		2.156	1.012	0.852	2.566	1.752	1.350	0.000	1.906

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:40:21	96.255%	5.589	4.765	71.298%	0.067	0.015	92.270	90.550
2	20:40:31	95.781%	5.438	4.638	70.715%	0.080	0.029	92.670	89.890
3	20:40:40	96.390%	4.680	4.605	71.071%	0.058	0.036	88.790	87.880
x		96.142%	5.235	4.669	71.028%	0.069	0.027	91.240	89.440
σ		0.320%	0.487	0.084	0.294%	0.011	0.010	2.133	1.393
%RSD		0.332	9.298	1.805	0.414	16.220	39.280	2.337	1.558

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:40:21	79.054%	0.355	2.322	2.621	102.800	104.200	81.606%	80.436%
2	20:40:31	78.027%	0.357	2.242	2.554	105.900	107.200	80.868%	80.910%
3	20:40:40	78.435%	0.310	2.062	2.470	100.900	101.100	82.126%	82.154%
x		78.505%	0.341	2.209	2.549	103.200	104.200	81.533%	81.166%
σ		0.517%	0.027	0.133	0.076	2.503	3.056	0.632%	0.887%
%RSD		0.658	7.884	6.032	2.963	2.426	2.933	0.775	1.093

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:40:21	1.564	1.361	5.728	3.976	4.546	65.229%
2	20:40:31	1.428	1.381	5.560	4.124	4.518	64.814%
3	20:40:40	1.489	1.321	5.363	3.975	4.416	66.241%
x		1.494	1.355	5.550	4.025	4.493	65.428%
σ		0.068	0.030	0.182	0.086	0.069	0.734%
%RSD		4.563	2.247	3.286	2.126	1.527	1.122

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:45:27	90.158%	0.009	117.900	119.600	0.000	66010.000	12750.000	12390.000
2	20:45:37	87.343%	0.013	122.000	125.900	0.000	69320.000	13490.000	13080.000
3	20:45:46	87.990%	0.009	122.500	123.200	0.000	69120.000	13450.000	12990.000
x		88.497%	0.010	120.800	122.900	0.000	68150.000	13230.000	12820.000
σ		1.474%	0.002	2.543	3.149	0.000	1853.000	416.000	376.100
%RSD		1.666	20.520	2.105	2.562	0.000	2.720	3.144	2.933
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:45:27	56.790	884.300	0.000	3234.000	148600.000	154300.000	114.459%	4.543
2	20:45:37	59.340	931.100	0.000	3373.000	155300.000	159300.000	111.327%	5.316
3	20:45:46	60.130	920.400	0.000	3364.000	153100.000	159500.000	110.887%	5.008
x		58.750	911.900	0.000	3324.000	152400.000	157700.000	112.225%	4.956
σ		1.745	24.560	0.000	77.570	3418.000	2979.000	1.947%	0.389
%RSD		2.970	2.694	0.000	2.334	2.244	1.889	1.735	7.848
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:45:27	3.562	1.401	19.330	151.700	1348.000	0.850	11.370	0.521
2	20:45:37	3.618	1.432	20.260	156.300	1319.000	0.932	12.480	0.468
3	20:45:46	3.498	1.424	20.250	160.300	1345.000	0.888	12.170	0.526
x		3.559	1.419	19.940	156.100	1337.000	0.890	12.010	0.505
σ		0.060	0.016	0.532	4.323	16.070	0.041	0.575	0.032
%RSD		1.683	1.136	2.668	2.769	1.202	4.646	4.789	6.314
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:45:27	1.174	7.415	6.968	4.744	0.497	11.330	0.000	262.100
2	20:45:37	1.338	7.685	7.770	4.845	0.423	10.600	0.000	264.100
3	20:45:46	1.179	7.557	7.547	4.899	0.557	10.070	0.000	267.800
x		1.230	7.552	7.428	4.829	0.492	10.670	0.000	264.700
σ		0.093	0.135	0.414	0.079	0.067	0.634	0.000	2.921
%RSD		7.559	1.789	5.577	1.633	13.570	5.946	0.000	1.104
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:45:27	96.865%	12.150	12.870	89.742%	-0.003	-0.006	0.019	0.049
2	20:45:37	95.674%	12.810	12.670	88.681%	-0.006	0.008	0.066	0.050
3	20:45:46	94.619%	11.850	12.920	89.463%	-0.011	-0.001	0.009	0.042
x		95.719%	12.270	12.820	89.295%	-0.007	0.000	0.031	0.047
σ		1.123%	0.495	0.129	0.550%	0.004	0.007	0.030	0.004
%RSD		1.174	4.034	1.006	0.616	58.010	1845.000	97.160	8.902
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:45:27	91.125%	0.231	0.273	0.284	18.260	17.880	94.150%	93.343%
2	20:45:37	90.550%	0.298	0.395	0.274	17.570	17.820	94.102%	93.604%
3	20:45:46	90.291%	0.240	0.290	0.267	17.990	18.410	95.205%	94.499%
x		90.655%	0.256	0.319	0.275	17.940	18.040	94.486%	93.815%
σ		0.427%	0.036	0.066	0.008	0.349	0.327	0.623%	0.606%
%RSD		0.471	14.110	20.790	2.952	1.945	1.811	0.660	0.646
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	20:45:27	0.010	0.017	0.243	0.247	0.254	77.903%		
2	20:45:37	0.013	0.004	0.378	0.196	0.281	75.535%		
3	20:45:46	0.015	0.004	0.252	0.309	0.265	77.682%		
x		0.013	0.008	0.291	0.251	0.267	77.040%		
σ		0.003	0.008	0.075	0.057	0.014	1.308%		
%RSD		21.000	92.870	25.950	22.580	5.213	1.698		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:30	88.350%	0.025	91.250	93.740	0.000	33500.000	11040.000	10810.000
2	20:50:39	88.676%	0.015	91.900	92.730	0.000	33060.000	10840.000	10630.000
3	20:50:49	91.188%	0.025	86.500	89.740	0.000	31950.000	10420.000	10240.000
x		89.405%	0.022	89.880	92.070	0.000	32840.000	10770.000	10560.000
σ		1.553%	0.006	2.948	2.081	0.000	798.500	316.100	290.800
%RSD		1.737	25.360	3.280	2.261	0.000	2.432	2.936	2.755
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:30	81.660	1659.000	0.000	3185.000	39650.000	40010.000	106.836%	5.194
2	20:50:39	79.870	1629.000	0.000	3117.000	38520.000	39200.000	108.496%	1.647
3	20:50:49	76.070	1561.000	0.000	2965.000	37330.000	37800.000	110.725%	1.626
x		79.200	1616.000	0.000	3089.000	38500.000	39000.000	108.686%	2.822
σ		2.852	50.430	0.000	112.700	1161.000	1121.000	1.952%	2.054
%RSD		3.601	3.121	0.000	3.650	3.017	2.874	1.796	72.770
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:30	1.381	1.509	71.350	257.500	557.000	0.538	3.128	5.515
2	20:50:39	1.398	1.445	69.510	253.500	551.300	0.516	3.242	5.770
3	20:50:49	1.295	1.466	66.930	250.800	532.200	0.563	3.205	5.589
x		1.358	1.473	69.260	254.000	546.800	0.539	3.191	5.625
σ		0.055	0.033	2.224	3.339	12.980	0.024	0.058	0.131
%RSD		4.046	2.208	3.211	1.315	2.374	4.361	1.825	2.329
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:30	5.945	7.203	7.415	1.311	0.202	2.568	0.000	215.400
2	20:50:39	6.200	7.341	6.979	1.296	0.308	3.585	0.000	218.000
3	20:50:49	5.791	6.835	7.858	1.310	0.287	4.548	0.000	216.700
x		5.979	7.126	7.417	1.306	0.265	3.567	0.000	216.700
σ		0.207	0.261	0.440	0.008	0.056	0.990	0.000	1.289
%RSD		3.453	3.666	5.925	0.626	21.140	27.760	0.000	0.595
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:30	105.489%	1.985	2.132	103.499%	0.004	0.000	0.050	0.174
2	20:50:39	104.752%	2.061	2.063	103.052%	-0.001	-0.009	0.057	0.236
3	20:50:49	106.547%	2.270	2.211	103.577%	-0.005	0.003	0.057	0.214
x		105.596%	2.105	2.135	103.376%	-0.001	-0.002	0.055	0.208
σ		0.902%	0.148	0.074	0.283%	0.004	0.006	0.004	0.032
%RSD		0.854	7.016	3.468	0.274	876.400	320.200	8.067	15.290
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:30	102.059%	5.743	0.174	0.207	47.830	48.590	104.440%	102.878%
2	20:50:39	103.957%	5.587	0.190	0.182	48.660	47.590	105.374%	104.512%
3	20:50:49	103.774%	5.742	0.184	0.169	45.740	47.350	105.842%	105.487%
x		103.264%	5.690	0.183	0.186	47.410	47.840	105.219%	104.292%
σ		1.047%	0.090	0.008	0.019	1.507	0.657	0.714%	1.318%
%RSD		1.014	1.578	4.406	10.400	3.178	1.373	0.678	1.264
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	20:50:30	0.002	0.020	0.636	0.541	0.572	98.398%		
2	20:50:39	0.004	0.007	0.639	0.533	0.558	98.903%		
3	20:50:49	0.022	0.019	0.578	0.610	0.583	100.432%		
x		0.009	0.015	0.618	0.561	0.571	99.244%		
σ		0.011	0.008	0.035	0.042	0.013	1.059%		
%RSD		125.100	49.170	5.623	7.487	2.229	1.067		

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:40	91.607%	0.001	82.880	84.950	0.000	32150.000	10440.000	10300.000
2	20:55:50	91.283%	-0.005	82.300	85.330	0.000	29740.000	9536.000	9453.000
3	20:55:59	91.313%	-0.001	83.110	85.500	0.000	31310.000	10250.000	10090.000
x		91.401%	-0.002	82.760	85.260	0.000	31070.000	10080.000	9947.000
σ		0.179%	0.003	0.418	0.280	0.000	1223.000	478.600	439.400
%RSD		0.196	201.000	0.505	0.329	0.000	3.936	4.749	4.418

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:40	17.240	1446.000	0.000	3048.000	36950.000	37610.000	109.545%	0.703
2	20:55:50	-34.480	1377.000	0.000	2808.000	34080.000	34630.000	118.865%	0.613
3	20:55:59	16.880	1445.000	0.000	3040.000	36970.000	37170.000	111.801%	0.665
x		-0.121	1423.000	0.000	2966.000	36000.000	36470.000	113.403%	0.661
σ		29.760	39.420	0.000	136.300	1663.000	1607.000	4.862%	0.045
%RSD		24550.000	2.770	0.000	4.595	4.621	4.408	4.287	6.848

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:40	1.228	0.969	24.540	15.910	318.700	0.190	3.525	16.550
2	20:55:50	1.025	0.862	22.760	15.060	291.700	0.192	3.255	16.160
3	20:55:59	1.300	0.879	24.280	16.030	294.500	0.229	3.473	16.680
x		1.184	0.903	23.860	15.660	301.600	0.204	3.418	16.460
σ		0.143	0.058	0.962	0.530	14.820	0.022	0.143	0.269
%RSD		12.040	6.370	4.032	3.386	4.914	10.950	4.188	1.634

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:40	16.960	24.310	25.600	1.123	0.494	3.426	0.000	212.800
2	20:55:50	16.500	24.640	25.760	1.168	0.206	3.560	0.000	212.800
3	20:55:59	16.950	24.830	24.330	1.199	0.353	3.749	0.000	213.500
x		16.800	24.590	25.230	1.164	0.351	3.578	0.000	213.000
σ		0.263	0.266	0.785	0.038	0.144	0.162	0.000	0.412
%RSD		1.567	1.082	3.113	3.304	40.990	4.537	0.000	0.193

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:40	104.094%	2.364	2.170	103.675%	-0.003	-0.005	0.188	0.322
2	20:55:50	105.146%	2.204	2.085	105.195%	0.010	0.003	0.163	0.309
3	20:55:59	105.819%	2.066	2.224	104.984%	-0.012	0.003	0.153	0.361
x		105.020%	2.211	2.160	104.618%	-0.001	0.000	0.168	0.331
σ		0.870%	0.149	0.070	0.823%	0.011	0.004	0.018	0.027
%RSD		0.828	6.735	3.263	0.787	779.600	1538.000	10.790	8.235

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:40	103.896%	5.540	0.191	0.179	44.440	44.960	104.409%	103.480%
2	20:55:50	103.542%	5.656	0.182	0.161	45.300	44.570	104.621%	105.654%
3	20:55:59	105.733%	5.393	0.147	0.186	44.120	44.400	103.731%	104.173%
x		104.390%	5.529	0.173	0.175	44.620	44.650	104.254%	104.436%
σ		1.176%	0.132	0.023	0.013	0.612	0.286	0.465%	1.110%
%RSD		1.127	2.387	13.420	7.420	1.372	0.641	0.446	1.063

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:40	0.010	0.007	0.146	0.167	0.149	98.312%
2	20:55:50	0.014	0.005	0.194	0.117	0.175	99.117%
3	20:55:59	0.008	0.010	0.145	0.117	0.123	99.200%
x		0.011	0.007	0.161	0.134	0.149	98.876%
σ		0.003	0.003	0.028	0.029	0.026	0.491%
%RSD		30.060	34.750	17.230	21.810	17.160	0.496

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:45	99.492%	-0.007	18.760	19.520	0.000	6131.000	2002.000	1936.000
2	21:00:54	97.020%	-0.001	19.650	19.970	0.000	6239.000	2026.000	1969.000
3	21:01:04	97.637%	-0.003	19.600	19.940	0.000	6202.000	2010.000	1957.000
x		98.049%	-0.004	19.330	19.810	0.000	6191.000	2013.000	1954.000
σ		1.287%	0.003	0.499	0.249	0.000	55.280	12.310	16.790
%RSD		1.312	78.900	2.579	1.257	0.000	0.893	0.612	0.859

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:45	5.294	279.500	0.000	574.900	7060.000	6830.000	118.883%	0.162
2	21:00:54	5.491	291.900	0.000	585.100	7179.000	6934.000	117.941%	0.281
3	21:01:04	5.440	290.100	0.000	576.700	7137.000	6868.000	118.976%	0.278
x		5.408	287.200	0.000	578.900	7125.000	6877.000	118.600%	0.241
σ		0.102	6.689	0.000	5.471	60.050	52.630	0.573%	0.068
%RSD		1.892	2.329	0.000	0.945	0.843	0.765	0.483	28.210

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:45	0.261	0.213	4.542	1.789	56.110	0.026	0.728	3.195
2	21:00:54	0.208	0.188	4.710	1.995	54.360	0.047	0.761	3.275
3	21:01:04	0.157	0.206	4.581	1.702	58.610	0.039	0.661	3.295
x		0.209	0.202	4.611	1.829	56.360	0.037	0.717	3.255
σ		0.052	0.013	0.088	0.150	2.139	0.010	0.051	0.053
%RSD		25.040	6.266	1.912	8.225	3.795	27.900	7.138	1.632

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:45	3.323	5.580	5.313	0.198	0.051	1.021	0.000	42.780
2	21:00:54	3.172	4.881	5.749	0.211	0.093	1.770	0.000	43.310
3	21:01:04	3.243	5.091	4.602	0.163	0.139	1.291	0.000	42.220
x		3.246	5.184	5.221	0.191	0.094	1.361	0.000	42.770
σ		0.076	0.358	0.579	0.025	0.044	0.379	0.000	0.541
%RSD		2.333	6.914	11.090	13.040	46.970	27.880	0.000	1.265

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:45	105.927%	0.443	0.524	103.717%	-0.005	-0.002	0.041	0.059
2	21:00:54	104.254%	0.504	0.428	104.364%	0.019	-0.004	0.025	0.050
3	21:01:04	106.483%	0.453	0.393	104.000%	0.008	-0.002	0.058	0.086
x		105.555%	0.467	0.448	104.027%	0.007	-0.003	0.041	0.065
σ		1.160%	0.033	0.068	0.324%	0.012	0.001	0.016	0.019
%RSD		1.099	7.007	15.080	0.312	161.500	48.570	40.130	28.980

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:45	104.113%	1.166	0.046	0.053	9.265	9.327	107.380%	106.360%
2	21:00:54	101.570%	1.187	0.070	0.042	8.948	9.215	105.778%	105.588%
3	21:01:04	102.548%	1.092	0.076	0.042	8.950	9.201	106.650%	106.254%
x		102.743%	1.148	0.064	0.046	9.054	9.248	106.602%	106.068%
σ		1.283%	0.050	0.016	0.007	0.183	0.069	0.802%	0.419%
%RSD		1.249	4.329	24.780	14.440	2.016	0.744	0.752	0.395

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:45	0.008	0.005	0.039	0.043	0.033	99.691%
2	21:00:54	0.002	0.012	0.053	0.020	0.032	96.048%
3	21:01:04	0.015	0.012	0.041	0.053	0.041	97.052%
x		0.008	0.010	0.044	0.039	0.035	97.597%
σ		0.006	0.004	0.007	0.017	0.005	1.882%
%RSD		80.170	42.960	16.180	43.170	13.690	1.928

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:09:49	96.675%	105.900	99.190	101.100	0.000	49370.000	51070.000	49960.000
2	21:09:58	95.781%	107.600	101.700	104.700	0.000	49960.000	52280.000	50700.000
3	21:10:08	96.993%	106.000	98.710	102.000	0.000	47210.000	49160.000	48200.000
x		96.483%	106.481%	99.876%	102.604%	0.000	97.693%	101.670%	99.241%
σ		0.628%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		0.651	0.880	1.626	1.819	0.000	2.968	3.099	2.592

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:09:49	481.400	5310.000	0.000	50640.000	49510.000	51130.000	111.513%	101.700
2	21:09:58	489.200	5415.000	0.000	51520.000	49770.000	51730.000	111.284%	104.000
3	21:10:08	460.500	5208.000	0.000	48150.000	47130.000	48520.000	118.624%	98.550
x		95.404%	106.220%	0.000	100.208%	97.609%	100.915%	113.807%	101.403%
σ		n/a	n/a	0.000	n/a	n/a	n/a	4.173%	n/a
%RSD		3.115	1.942	0.000	3.492	2.979	3.384	3.667	2.674

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:09:49	94.550	98.220	524.700	25620.000	24670.000	102.500	103.000	106.700
2	21:09:58	94.020	99.040	533.100	25510.000	24750.000	100.800	103.700	106.500
3	21:10:08	87.420	90.670	502.500	24090.000	23410.000	96.830	97.440	100.800
x		91.998%	95.977%	104.021%	100.294%	97.105%	100.051%	101.357%	104.664%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		4.317	4.804	3.040	3.400	3.095	2.913	3.365	3.201

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:09:49	105.000	109.500	109.600	105.700	107.200	108.900	0.000	100.000
2	21:09:58	105.300	109.700	109.500	104.700	107.400	107.100	0.000	101.400
3	21:10:08	100.400	102.900	104.800	100.400	103.100	99.460	0.000	96.720
x		103.567%	107.384%	107.975%	103.594%	105.860%	105.181%	0.000	99.367%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		2.648	3.608	2.546	2.736	2.291	4.790	0.000	2.413

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:09:49	103.930%	107.400	110.000	99.298%	101.900	103.700	106.100	108.900
2	21:09:58	105.272%	105.000	109.600	100.552%	102.800	104.000	105.700	108.700
3	21:10:08	108.127%	104.900	105.400	103.113%	99.640	101.600	100.900	105.100
x		105.776%	105.804%	108.320%	100.988%	101.443%	103.081%	104.239%	107.590%
σ		2.144%	n/a	n/a	1.944%	n/a	n/a	n/a	n/a
%RSD		2.027	1.335	2.343	1.925	1.608	1.261	2.763	1.977

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:09:49	101.459%	104.000	103.800	103.600	98.940	98.020	103.363%	102.934%
2	21:09:58	102.385%	104.100	105.400	104.400	99.200	97.810	104.417%	104.040%
3	21:10:08	105.487%	99.520	100.700	99.940	92.760	94.700	107.436%	105.760%
x		103.110%	102.548%	103.298%	102.667%	96.966%	96.842%	105.072%	104.245%
σ		2.110%	n/a	n/a	n/a	n/a	n/a	2.114%	1.424%
%RSD		2.046	2.556	2.294	2.334	3.758	1.920	2.012	1.366

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:09:49	101.300	101.800	103.500	100.300	101.200	94.598%
2	21:09:58	99.500	100.200	100.900	100.400	99.630	96.515%
3	21:10:08	97.840	97.540	96.320	97.080	96.690	98.986%
x		99.548%	99.816%	100.209%	99.259%	99.159%	96.700%
σ		n/a	n/a	n/a	n/a	n/a	2.199%
%RSD		1.747	2.130	3.603	1.900	2.289	2.275

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:14:55	98.579%	0.025	2.612	2.899	0.000	12.330	14.540	13.740
2	21:15:04	99.393%	0.034	2.851	2.798	0.000	12.560	14.130	14.270
3	21:15:14	101.885%	0.037	3.032	2.809	0.000	11.580	13.480	13.220
x		99.953%	0.032	2.832	2.835	0.000	12.150	14.050	13.740
σ		1.723%	0.006	0.211	0.055	0.000	0.512	0.536	0.523
%RSD		1.723	19.900	7.453	1.945	0.000	4.211	3.818	3.805
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:14:55	0.677	1.213	0.000	32.990	24.770	17.510	116.521%	0.063
2	21:15:04	0.597	-1.511	0.000	31.970	20.390	17.260	119.060%	0.046
3	21:15:14	0.582	-3.558	0.000	28.970	21.970	18.340	121.254%	0.030
x		0.619	-1.285	0.000	31.310	22.370	17.700	118.945%	0.046
σ		0.051	2.394	0.000	2.089	2.220	0.565	2.369%	0.017
%RSD		8.303	186.300	0.000	6.672	9.920	3.194	1.992	35.750
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:14:55	0.032	0.048	0.123	9.151	7.737	0.035	0.082	0.020
2	21:15:04	0.009	0.039	0.078	8.409	8.483	0.039	0.079	0.037
3	21:15:14	0.010	0.037	0.111	7.884	9.416	0.022	0.092	0.027
x		0.017	0.042	0.104	8.481	8.545	0.032	0.084	0.028
σ		0.013	0.006	0.024	0.637	0.841	0.009	0.007	0.009
%RSD		75.690	13.750	22.710	7.511	9.841	28.240	8.117	31.090
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:14:55	0.131	0.713	1.097	0.054	0.054	-0.034	0.000	0.054
2	21:15:04	0.024	0.821	0.898	0.070	0.049	0.518	0.000	0.069
3	21:15:14	0.046	0.903	0.417	0.054	-0.035	0.250	0.000	0.056
x		0.067	0.813	0.804	0.059	0.023	0.245	0.000	0.059
σ		0.057	0.095	0.350	0.009	0.050	0.276	0.000	0.008
%RSD		84.350	11.740	43.490	15.060	218.300	112.700	0.000	13.450
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:14:55	112.386%	0.100	0.097	113.875%	0.014	0.030	0.037	0.041
2	21:15:04	114.947%	0.161	0.088	114.761%	0.028	0.033	0.030	0.014
3	21:15:14	114.317%	0.150	0.110	115.670%	0.018	0.028	0.022	0.039
x		113.883%	0.137	0.098	114.769%	0.020	0.030	0.030	0.031
σ		1.334%	0.032	0.011	0.898%	0.007	0.002	0.007	0.015
%RSD		1.171	23.610	11.280	0.782	35.790	7.301	25.140	47.550
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:14:55	113.536%	0.110	0.077	0.080	0.231	0.136	113.249%	110.726%
2	21:15:04	113.455%	0.092	0.085	0.065	0.107	0.173	113.131%	111.006%
3	21:15:14	112.554%	0.103	0.068	0.066	0.099	0.164	112.785%	112.371%
x		113.182%	0.102	0.077	0.070	0.146	0.158	113.055%	111.368%
σ		0.545%	0.009	0.009	0.008	0.074	0.020	0.241%	0.880%
%RSD		0.482	8.994	11.090	11.530	50.590	12.360	0.213	0.790
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	21:14:55	0.035	0.030	0.071	0.030	0.038	109.861%		
2	21:15:04	0.025	0.045	0.029	0.015	0.042	111.640%		
3	21:15:14	0.040	0.036	0.027	0.062	0.040	110.774%		
x		0.034	0.037	0.043	0.036	0.040	110.758%		
σ		0.008	0.008	0.025	0.024	0.002	0.890%		
%RSD		23.570	20.140	58.980	68.220	5.891	0.803		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:20:04	89.495%	59.550	1166.000	1195.000	0.000	78780.000	61150.000	59150.000
2	21:20:13	89.029%	60.560	1188.000	1227.000	0.000	80030.000	61820.000	59460.000
3	21:20:22	89.921%	59.950	1176.000	1215.000	0.000	80210.000	62040.000	59580.000
x		89.482%	60.020	1177.000	1213.000	0.000	79670.000	61670.000	59400.000
σ		0.446%	0.511	10.990	16.310	0.000	780.500	462.100	221.100
%RSD		0.498	0.851	0.934	1.345	0.000	0.980	0.749	0.372
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:20:04	2027.000	12520.000	0.000	53210.000	85300.000	89250.000	113.671%	1026.000
2	21:20:13	2059.000	12560.000	0.000	53060.000	86450.000	89610.000	113.100%	1022.000
3	21:20:22	2069.000	12570.000	0.000	53100.000	86310.000	89690.000	113.415%	1029.000
x		2051.000	12550.000	0.000	53120.000	86020.000	89520.000	113.395%	1026.000
σ		22.010	25.940	0.000	76.860	629.900	235.100	0.286%	3.565
%RSD		1.073	0.207	0.000	0.145	0.732	0.263	0.252	0.348
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:20:04	477.700	199.200	555.000	1243.000	2005.000	579.800	580.100	322.000
2	21:20:13	456.400	188.400	559.700	1126.000	1794.000	509.500	508.600	281.300
3	21:20:22	469.100	190.100	558.900	1126.000	1806.000	514.000	516.100	280.400
x		467.700	192.600	557.900	1165.000	1868.000	534.400	535.000	294.600
σ		10.690	5.789	2.498	67.420	118.700	39.330	39.290	23.750
%RSD		2.285	3.006	0.448	5.787	6.353	7.359	7.345	8.063
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:20:04	334.900	703.400	718.600	60.030	15.910	21.890	0.000	1764.000
2	21:20:13	284.300	582.600	587.400	46.800	12.180	15.670	0.000	1252.000
3	21:20:22	279.500	577.900	589.000	46.630	11.620	12.880	0.000	1236.000
x		299.600	621.300	631.700	51.150	13.240	16.810	0.000	1418.000
σ		30.670	71.100	75.310	7.688	2.334	4.612	0.000	300.500
%RSD		10.240	11.440	11.920	15.030	17.630	27.430	0.000	21.200
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:20:04	68.079%	1416.000	1353.000	86.427%	54.490	54.510	57.460	120.800
2	21:20:13	96.049%	1144.000	1184.000	88.436%	53.980	54.970	58.270	119.000
3	21:20:22	97.259%	1147.000	1191.000	90.098%	52.530	54.040	59.440	119.300
x		87.129%	1236.000	1243.000	88.320%	53.660	54.500	58.390	119.700
σ		16.508%	156.000	95.750	1.838%	1.018	0.465	0.994	0.987
%RSD		18.947	12.630	7.704	2.081	1.898	0.854	1.702	0.824
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:20:04	86.536%	2285.000	558.900	569.700	2119.000	2126.000	93.668%	92.462%
2	21:20:13	88.850%	2290.000	561.700	567.200	2112.000	2116.000	97.583%	94.643%
3	21:20:22	90.591%	2285.000	561.300	561.500	2101.000	2114.000	97.595%	97.314%
x		88.659%	2287.000	560.600	566.200	2111.000	2119.000	96.282%	94.806%
σ		2.034%	2.876	1.528	4.194	8.710	6.617	2.264%	2.430%
%RSD		2.294	0.126	0.273	0.741	0.413	0.312	2.351	2.563
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	21:20:04	53.600	51.210	21.330	21.880	21.320	75.572%		
2	21:20:13	53.240	51.970	21.200	21.200	21.400	79.777%		
3	21:20:22	53.650	51.760	22.050	21.270	21.490	82.517%		
x		53.500	51.650	21.530	21.450	21.400	79.289%		
σ		0.223	0.393	0.455	0.370	0.082	3.498%		
%RSD		0.416	0.761	2.112	1.724	0.385	4.412		

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:25:06	87.465%	59.180	1164.000	1202.000	0.000	81970.000	63230.000	60740.000
2	21:25:16	86.214%	60.000	1175.000	1211.000	0.000	82370.000	63560.000	60940.000
3	21:25:25	88.528%	59.070	1152.000	1186.000	0.000	81210.000	63070.000	60730.000
x		87.402%	59.420	1164.000	1200.000	0.000	81850.000	63290.000	60800.000
σ		1.159%	0.508	11.200	12.570	0.000	589.800	249.100	113.800
%RSD		1.326	0.855	0.963	1.048	0.000	0.721	0.394	0.187

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:25:06	2095.000	12780.000	0.000	55310.000	89430.000	92260.000	109.377%	1063.000
2	21:25:16	2111.000	12890.000	0.000	54380.000	89360.000	91310.000	109.937%	1055.000
3	21:25:25	2100.000	12710.000	0.000	54970.000	87990.000	90880.000	110.924%	1047.000
x		2102.000	12790.000	0.000	54890.000	88920.000	91480.000	110.079%	1055.000
σ		8.159	88.640	0.000	473.800	811.700	709.100	0.783%	8.095
%RSD		0.388	0.693	0.000	0.863	0.913	0.775	0.711	0.768

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:25:06	481.900	199.300	553.600	1048.000	1689.000	525.600	524.300	287.900
2	21:25:16	480.600	199.800	561.800	1052.000	1707.000	534.200	529.200	290.500
3	21:25:25	468.400	191.600	557.100	1023.000	1661.000	521.700	519.000	279.500
x		477.000	196.900	557.500	1041.000	1686.000	527.200	524.100	286.000
σ		7.422	4.610	4.090	15.880	22.970	6.393	5.111	5.764
%RSD		1.556	2.341	0.734	1.525	1.363	1.213	0.975	2.016

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:25:06	289.100	604.500	605.200	46.340	11.720	13.490	0.000	1197.000
2	21:25:16	290.200	601.900	622.100	46.450	11.790	14.600	0.000	1196.000
3	21:25:25	282.600	586.000	597.800	44.870	12.460	14.210	0.000	1154.000
x		287.300	597.500	608.300	45.890	11.990	14.100	0.000	1182.000
σ		4.141	10.010	12.470	0.880	0.406	0.563	0.000	24.630
%RSD		1.441	1.675	2.049	1.918	3.385	3.991	0.000	2.084

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:25:06	101.084%	1139.000	1184.000	94.830%	54.290	54.230	58.800	118.400
2	21:25:16	101.854%	1160.000	1201.000	95.380%	55.080	55.010	58.980	119.800
3	21:25:25	104.022%	1113.000	1152.000	97.232%	52.810	53.190	55.150	113.100
x		102.320%	1137.000	1179.000	95.814%	54.060	54.150	57.640	117.100
σ		1.523%	23.360	24.860	1.258%	1.152	0.913	2.158	3.545
%RSD		1.489	2.054	2.109	1.313	2.131	1.686	3.744	3.027

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:25:06	95.474%	2286.000	565.600	564.600	2112.000	2118.000	101.251%	100.096%
2	21:25:16	96.164%	2309.000	570.300	566.500	2150.000	2158.000	100.691%	101.152%
3	21:25:25	99.810%	2203.000	543.000	542.600	2055.000	2066.000	103.180%	103.081%
x		97.149%	2266.000	559.600	557.900	2105.000	2114.000	101.707%	101.443%
σ		2.330%	55.530	14.600	13.300	47.720	46.310	1.306%	1.513%
%RSD		2.398	2.450	2.610	2.384	2.267	2.190	1.284	1.492

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:25:06	52.420	52.220	21.780	21.650	21.650	90.891%
2	21:25:16	53.490	52.920	22.100	22.100	22.060	90.483%
3	21:25:25	51.470	50.670	21.260	20.970	21.030	93.389%
x		52.460	51.940	21.710	21.570	21.580	91.588%
σ		1.008	1.149	0.420	0.567	0.519	1.573%
%RSD		1.921	2.213	1.932	2.629	2.407	1.718

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:34:39	97.875%	-0.002	2.893	2.781	0.000	5.249	1.648	1.333
2	21:34:49	95.034%	0.002	2.920	2.830	0.000	5.231	1.709	1.267
3	21:34:59	100.569%	-0.005	2.688	2.809	0.000	4.301	1.249	1.288
x		97.826%	-0.001	2.834	2.807	0.000	4.927	1.535	1.296
σ		2.767%	0.003	0.126	0.024	0.000	0.542	0.250	0.034
%RSD		2.829	218.600	4.460	0.869	0.000	11.000	16.260	2.613
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:34:39	2.043	-2.254	0.000	11.320	13.620	7.959	115.386%	0.156
2	21:34:49	2.231	-1.851	0.000	10.850	15.770	10.450	115.537%	0.170
3	21:34:59	2.096	-4.091	0.000	8.746	10.570	9.238	117.523%	0.082
x		2.123	-2.732	0.000	10.310	13.320	9.215	116.148%	0.136
σ		0.097	1.194	0.000	1.371	2.618	1.246	1.193%	0.047
%RSD		4.576	43.710	0.000	13.310	19.650	13.520	1.027	34.570
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:34:39	1.634	0.730	-0.024	18.530	17.420	0.009	0.015	0.039
2	21:34:49	1.540	0.705	-0.049	18.310	20.910	0.021	-0.021	0.045
3	21:34:59	1.826	0.669	-0.047	18.300	22.000	0.017	0.019	0.033
x		1.667	0.701	-0.040	18.380	20.110	0.016	0.004	0.039
σ		0.146	0.031	0.014	0.132	2.395	0.006	0.022	0.006
%RSD		8.766	4.417	35.720	0.717	11.910	37.510	521.100	15.720
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:34:39	0.030	0.566	0.573	0.139	0.120	0.927	0.000	0.022
2	21:34:49	0.029	0.587	0.497	0.240	-0.051	0.689	0.000	0.018
3	21:34:59	0.003	0.631	0.559	0.197	-0.024	0.403	0.000	0.046
x		0.021	0.595	0.543	0.192	0.015	0.673	0.000	0.029
σ		0.015	0.033	0.040	0.051	0.092	0.262	0.000	0.015
%RSD		74.030	5.565	7.414	26.410	618.300	38.990	0.000	52.810
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:34:39	104.478%	0.279	0.266	104.215%	0.004	-0.002	0.008	0.013
2	21:34:49	105.838%	0.359	0.229	102.699%	-0.014	0.008	-0.000	0.003
3	21:34:59	104.263%	0.274	0.304	103.463%	-0.007	0.011	0.017	0.030
x		104.860%	0.304	0.266	103.459%	-0.006	0.006	0.008	0.016
σ		0.854%	0.048	0.037	0.758%	0.009	0.007	0.008	0.014
%RSD		0.814	15.680	14.060	0.732	157.800	119.900	102.600	87.700
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:34:39	101.757%	0.537	0.080	0.071	0.139	0.014	104.740%	103.297%
2	21:34:49	101.028%	0.427	0.058	0.065	0.056	0.107	105.915%	103.999%
3	21:34:59	100.543%	0.517	0.074	0.052	0.067	0.050	104.998%	103.830%
x		101.109%	0.494	0.071	0.063	0.087	0.057	105.217%	103.709%
σ		0.611%	0.058	0.012	0.009	0.045	0.047	0.618%	0.366%
%RSD		0.604	11.830	16.530	15.040	51.870	82.220	0.587	0.353
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	21:34:39	0.019	0.026	0.038	0.033	0.029	96.377%		
2	21:34:49	0.021	0.013	-0.002	0.016	0.013	96.739%		
3	21:34:59	0.006	0.022	0.003	0.025	0.013	94.550%		
x		0.016	0.020	0.013	0.025	0.019	95.889%		
σ		0.008	0.007	0.022	0.008	0.009	1.174%		
%RSD		51.500	32.590	167.300	34.220	50.060	1.224		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:39:46	96.218%	56.590	1105.000	1119.000	0.000	48470.000	49950.000	48320.000
2	21:39:56	95.829%	56.970	1101.000	1128.000	0.000	51170.000	52430.000	51000.000
3	21:40:06	95.161%	57.250	1104.000	1122.000	0.000	48550.000	50120.000	48960.000
x		95.736%	56.940	1103.000	1123.000	0.000	49400.000	50830.000	49430.000
σ		0.535%	0.330	1.987	4.540	0.000	1539.000	1386.000	1395.000
%RSD		0.558	0.579	0.180	0.404	0.000	3.116	2.727	2.823

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:39:46	1992.000	10260.000	0.000	49180.000	49490.000	50900.000	109.821%	993.800
2	21:39:56	2097.000	10550.000	0.000	51400.000	51470.000	52830.000	106.335%	1037.000
3	21:40:06	1999.000	10390.000	0.000	48890.000	49960.000	50910.000	110.759%	998.800
x		2029.000	10400.000	0.000	49820.000	50310.000	51550.000	108.972%	1010.000
σ		58.600	144.700	0.000	1373.000	1036.000	1112.000	2.331%	23.920
%RSD		2.888	1.391	0.000	2.756	2.058	2.157	2.139	2.368

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:39:46	474.300	195.300	520.800	947.500	1331.000	502.400	500.800	262.400
2	21:39:56	472.200	197.400	550.600	966.400	1375.000	513.500	507.700	264.700
3	21:40:06	465.600	193.700	533.300	955.600	1352.000	509.700	502.500	263.600
x		470.700	195.400	534.900	956.500	1353.000	508.600	503.700	263.600
σ		4.509	1.851	14.960	9.484	22.070	5.637	3.611	1.169
%RSD		0.958	0.947	2.796	0.992	1.632	1.108	0.717	0.444

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:39:46	264.300	528.500	540.200	45.550	10.680	11.880	0.000	1023.000
2	21:39:56	263.400	535.600	544.200	45.390	11.280	13.120	0.000	1039.000
3	21:40:06	264.800	544.600	546.600	47.100	11.670	13.030	0.000	1049.000
x		264.200	536.200	543.700	46.010	11.210	12.680	0.000	1037.000
σ		0.727	8.058	3.211	0.941	0.496	0.694	0.000	13.100
%RSD		0.275	1.503	0.591	2.045	4.423	5.473	0.000	1.263

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:39:46	99.001%	1092.000	1144.000	89.756%	52.640	54.160	57.170	114.800
2	21:39:56	100.205%	1101.000	1141.000	90.274%	54.080	54.750	58.120	114.900
3	21:40:06	99.099%	1115.000	1166.000	89.823%	54.910	54.720	58.380	119.400
x		99.435%	1103.000	1150.000	89.951%	53.870	54.540	57.890	116.400
σ		0.668%	11.930	13.890	0.282%	1.148	0.331	0.635	2.655
%RSD		0.672	1.082	1.208	0.313	2.131	0.606	1.097	2.281

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:39:46	90.821%	2206.000	537.600	543.500	2053.000	2050.000	96.241%	95.071%
2	21:39:56	90.399%	2228.000	544.000	553.200	2072.000	2079.000	96.631%	97.187%
3	21:40:06	90.301%	2239.000	554.900	555.000	2093.000	2104.000	95.344%	95.846%
x		90.507%	2224.000	545.500	550.600	2073.000	2078.000	96.072%	96.035%
σ		0.276%	16.580	8.722	6.164	20.210	26.870	0.660%	1.071%
%RSD		0.305	0.745	1.599	1.120	0.975	1.293	0.687	1.115

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:39:46	53.470	51.540	21.470	20.830	21.010	85.150%
2	21:39:56	51.460	51.100	20.840	20.980	20.910	87.139%
3	21:40:06	53.000	51.870	21.900	21.690	21.770	86.640%
x		52.640	51.500	21.400	21.170	21.230	86.309%
σ		1.049	0.390	0.533	0.458	0.470	1.035%
%RSD		1.993	0.758	2.488	2.163	2.215	1.199

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:44:53	98.944%	0.004	28.610	29.790	0.000	235.700	347.100	338.100
2	21:45:02	99.394%	0.007	28.980	29.240	0.000	233.900	350.000	346.000
3	21:45:11	98.070%	0.010	29.280	29.620	0.000	233.600	354.500	344.700
x		98.802%	0.007	28.950	29.550	0.000	234.400	350.500	342.900
σ		0.673%	0.003	0.335	0.282	0.000	1.121	3.695	4.217
%RSD		0.681	43.250	1.157	0.953	0.000	0.478	1.054	1.230

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:44:53	2.575	41.800	0.000	47.680	1625.000	1531.000	107.519%	0.598
2	21:45:02	2.560	42.360	0.000	46.500	1622.000	1514.000	108.233%	0.683
3	21:45:11	2.651	42.340	0.000	46.520	1618.000	1514.000	107.595%	0.567
x		2.595	42.170	0.000	46.900	1622.000	1520.000	107.782%	0.616
σ		0.049	0.315	0.000	0.678	3.079	9.462	0.392%	0.060
%RSD		1.870	0.748	0.000	1.446	0.190	0.623	0.364	9.773

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:44:53	10.380	4.002	31.350	24.480	40.260	0.072	0.111	0.050
2	21:45:02	9.237	3.728	31.440	24.310	42.980	0.065	0.132	0.070
3	21:45:11	8.915	3.632	31.930	25.390	40.540	0.082	0.149	0.051
x		9.509	3.787	31.570	24.720	41.260	0.073	0.131	0.057
σ		0.767	0.192	0.309	0.580	1.496	0.008	0.019	0.011
%RSD		8.068	5.077	0.979	2.347	3.627	11.560	14.630	20.040

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:44:53	0.045	1.335	1.234	1.121	0.064	2.516	0.000	3.767
2	21:45:02	0.083	1.178	1.334	1.141	-0.085	2.526	0.000	3.815
3	21:45:11	0.132	1.426	1.088	1.182	-0.031	2.853	0.000	4.074
x		0.087	1.313	1.219	1.148	-0.017	2.632	0.000	3.886
σ		0.044	0.125	0.124	0.031	0.075	0.192	0.000	0.165
%RSD		50.220	9.540	10.190	2.710	435.800	7.283	0.000	4.248

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:44:53	101.074%	0.707	0.528	100.630%	-0.009	0.003	0.034	0.017
2	21:45:02	100.446%	0.368	0.408	101.002%	-0.007	-0.004	-0.000	0.014
3	21:45:11	100.513%	0.388	0.440	99.750%	-0.009	-0.004	0.017	0.014
x		100.678%	0.488	0.459	100.460%	-0.008	-0.002	0.017	0.015
σ		0.345%	0.190	0.062	0.643%	0.001	0.004	0.017	0.002
%RSD		0.343	38.990	13.510	0.640	15.310	260.200	100.700	12.720

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:44:53	99.385%	0.675	0.097	0.103	0.415	0.437	96.978%	98.008%
2	21:45:02	99.395%	0.568	0.103	0.103	0.455	0.373	98.260%	98.303%
3	21:45:11	97.981%	0.474	0.050	0.085	0.493	0.376	98.196%	96.678%
x		98.920%	0.572	0.083	0.097	0.454	0.396	97.811%	97.663%
σ		0.814%	0.100	0.029	0.011	0.039	0.036	0.722%	0.866%
%RSD		0.823	17.540	34.660	11.120	8.582	9.168	0.738	0.887

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:44:53	0.107	0.112	-0.005	0.008	0.003	96.907%
2	21:45:02	0.072	0.089	-0.005	0.008	0.001	96.946%
3	21:45:11	0.095	0.089	0.010	0.004	0.004	95.663%
x		0.092	0.097	-0.000	0.006	0.003	96.505%
σ		0.018	0.013	0.009	0.002	0.002	0.730%
%RSD		19.570	13.800	4454.000	34.750	57.410	0.756

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:57	92.223%	0.089	6290.000	6442.000	0.000	39370.000	9859.000	9814.000
2	21:50:07	92.101%	0.065	6445.000	6559.000	0.000	40060.000	10010.000	9975.000
3	21:50:16	92.279%	0.086	6443.000	6505.000	0.000	40050.000	10000.000	9990.000
x		92.201%	0.080	6393.000	6502.000	0.000	39820.000	9956.000	9926.000
σ		0.091%	0.013	88.840	58.180	0.000	396.200	84.640	97.260
%RSD		0.098	16.180	1.390	0.895	0.000	0.995	0.850	0.980

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:57	-2.564	4032.000	0.000	4026.000	196100.000	198000.000	112.171%	2.299
2	21:50:07	43.930	4106.000	0.000	4048.000	193900.000	199600.000	111.870%	2.676
3	21:50:16	-0.425	4081.000	0.000	3990.000	192400.000	199300.000	111.836%	2.437
x		13.650	4073.000	0.000	4021.000	194200.000	199000.000	111.959%	2.471
σ		26.250	37.450	0.000	29.190	1875.000	844.100	0.184%	0.191
%RSD		192.300	0.920	0.000	0.726	0.966	0.424	0.165	7.715

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:57	7.520	2.759	6552.000	4610.000	5955.000	7.600	3.254	0.115
2	21:50:07	6.860	2.476	6668.000	4515.000	5753.000	7.491	3.032	0.089
3	21:50:16	6.908	2.508	6662.000	4633.000	5818.000	7.759	3.150	0.095
x		7.096	2.581	6628.000	4586.000	5842.000	7.617	3.145	0.100
σ		0.367	0.155	65.170	62.260	103.000	0.135	0.111	0.014
%RSD		5.179	6.003	0.983	1.358	1.763	1.770	3.525	13.620

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:57	1.892	1.523	0.658	18.680	0.146	5.516	0.000	299.000
2	21:50:07	1.766	1.185	1.640	18.770	0.172	6.904	0.000	296.100
3	21:50:16	1.855	1.097	1.159	18.620	0.089	5.953	0.000	297.300
x		1.838	1.268	1.152	18.690	0.136	6.124	0.000	297.500
σ		0.065	0.225	0.491	0.077	0.043	0.710	0.000	1.435
%RSD		3.524	17.730	42.620	0.414	31.400	11.580	0.000	0.483

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:57	94.006%	17.490	18.180	88.932%	-0.006	0.002	0.066	0.023
2	21:50:07	94.809%	17.780	18.100	88.811%	-0.003	-0.001	0.047	0.038
3	21:50:16	94.141%	17.250	18.180	87.997%	-0.003	-0.009	0.028	0.016
x		94.319%	17.510	18.150	88.580%	-0.004	-0.002	0.047	0.026
σ		0.430%	0.268	0.045	0.508%	0.001	0.006	0.019	0.011
%RSD		0.456	1.529	0.248	0.574	37.140	239.200	39.830	43.900

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:57	90.965%	0.360	0.062	0.109	39.440	39.340	95.809%	95.815%
2	21:50:07	91.407%	0.323	0.091	0.130	39.200	39.540	96.017%	95.087%
3	21:50:16	90.254%	0.262	0.121	0.113	41.190	39.980	96.945%	96.065%
x		90.875%	0.315	0.091	0.117	39.940	39.620	96.257%	95.655%
σ		0.582%	0.049	0.029	0.011	1.086	0.329	0.605%	0.508%
%RSD		0.640	15.640	32.330	9.322	2.719	0.830	0.628	0.531

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:57	0.040	0.044	0.071	0.016	0.060	85.261%
2	21:50:07	0.065	0.055	0.050	0.073	0.060	85.338%
3	21:50:16	0.066	0.044	0.018	0.026	0.023	84.139%
x		0.057	0.048	0.046	0.038	0.047	84.913%
σ		0.014	0.006	0.026	0.030	0.021	0.671%
%RSD		25.380	13.500	56.570	78.560	44.240	0.790

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:55:00	91.072%	0.087	7697.000	7985.000	0.000	48770.000	10800.000	10450.000
2	21:55:10	93.094%	0.071	7552.000	7831.000	0.000	49890.000	10970.000	10760.000
3	21:55:19	91.903%	0.080	7757.000	8041.000	0.000	49560.000	10890.000	10640.000
x		92.023%	0.079	7669.000	7953.000	0.000	49410.000	10890.000	10620.000
σ		1.017%	0.008	105.200	108.700	0.000	577.700	87.950	157.600
%RSD		1.105	9.770	1.371	1.366	0.000	1.169	0.808	1.484
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:55:00	18.670	3988.000	0.000	5223.000	190500.000	182600.000	108.564%	3.262
2	21:55:10	19.500	3989.000	0.000	5303.000	184700.000	187500.000	107.309%	2.007
3	21:55:19	-2.580	4004.000	0.000	5288.000	184100.000	185700.000	108.651%	2.025
x		11.860	3993.000	0.000	5271.000	186400.000	185300.000	108.175%	2.431
σ		12.510	9.034	0.000	42.530	3550.000	2503.000	0.751%	0.719
%RSD		105.500	0.226	0.000	0.807	1.904	1.351	0.694	29.580
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:55:00	6.506	2.467	6837.000	5034.000	6395.000	19.470	3.740	0.835
2	21:55:10	6.490	2.378	7026.000	5124.000	6427.000	20.270	4.240	0.854
3	21:55:19	5.927	2.259	7042.000	5115.000	6398.000	19.900	3.915	0.919
x		6.308	2.368	6968.000	5091.000	6406.000	19.880	3.965	0.869
σ		0.330	0.105	113.700	49.800	17.760	0.403	0.254	0.044
%RSD		5.235	4.417	1.632	0.978	0.277	2.026	6.406	5.104
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:55:00	2.294	3.422	2.687	12.160	0.088	5.608	0.000	357.600
2	21:55:10	2.543	3.699	3.881	11.760	0.146	5.129	0.000	367.200
3	21:55:19	2.830	3.345	3.328	12.280	0.084	4.456	0.000	361.200
x		2.556	3.489	3.299	12.070	0.106	5.064	0.000	362.000
σ		0.269	0.186	0.597	0.269	0.035	0.579	0.000	4.849
%RSD		10.500	5.336	18.110	2.228	32.670	11.430	0.000	1.339
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:55:00	95.289%	13.060	13.650	88.126%	-0.008	-0.003	0.085	0.058
2	21:55:10	95.207%	13.390	13.820	89.792%	-0.013	-0.009	0.047	0.042
3	21:55:19	97.383%	12.670	13.750	91.347%	-0.004	-0.001	0.055	0.052
x		95.960%	13.040	13.740	89.755%	-0.008	-0.004	0.062	0.050
σ		1.233%	0.360	0.083	1.611%	0.005	0.004	0.020	0.008
%RSD		1.285	2.761	0.607	1.795	58.720	95.700	32.790	16.110
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:55:00	90.104%	0.293	0.030	0.078	71.070	70.900	95.047%	94.683%
2	21:55:10	91.670%	0.347	0.032	0.094	71.780	71.010	96.368%	95.664%
3	21:55:19	93.019%	0.360	0.050	0.085	71.100	70.160	98.399%	98.209%
x		91.598%	0.333	0.037	0.086	71.320	70.690	96.605%	96.185%
σ		1.459%	0.036	0.011	0.008	0.402	0.465	1.689%	1.820%
%RSD		1.593	10.730	28.950	9.381	0.564	0.657	1.748	1.892
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	21:55:00	0.027	0.041	0.049	0.037	0.031	81.962%		
2	21:55:10	0.018	0.052	0.070	0.025	0.029	85.789%		
3	21:55:19	0.061	0.046	0.021	0.047	0.028	87.556%		
x		0.035	0.046	0.047	0.037	0.029	85.102%		
σ		0.022	0.006	0.025	0.011	0.002	2.859%		
%RSD		63.820	12.120	53.140	30.040	6.259	3.360		

180-70968-B-4-A 10/9/2017 10:01:00 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:03	30.728%	0.181	3113.000	3317.000	0.000	1067000.000	36460.000	35960.000
2	22:00:12	30.970%	0.224	3085.000	3314.000	0.000	1061000.000	36490.000	36170.000
3	22:00:22	32.100%	0.228	3011.000	3200.000	0.000	1068000.000	36960.000	36480.000
x		31.266%	0.211	3070.000	3277.000	0.000	1065000.000	36640.000	36200.000
σ		0.732%	0.026	53.000	66.730	0.000	3547.000	279.700	263.100
%RSD		2.342	12.350	1.726	2.036	0.000	0.333	0.763	0.727

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:03	24.260	8560.000	0.000	34440.000	68320.000	72430.000	89.069%	3.112
2	22:00:12	24.400	8480.000	0.000	34330.000	68600.000	72600.000	89.517%	2.897
3	22:00:22	24.550	8311.000	0.000	34480.000	68230.000	72720.000	88.954%	2.605
x		24.400	8450.000	0.000	34410.000	68380.000	72580.000	89.180%	2.871
σ		0.147	127.300	0.000	75.130	194.000	150.100	0.297%	0.255
%RSD		0.601	1.506	0.000	0.218	0.284	0.207	0.333	8.865

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:03	8.764	3.480	21.130	48.360	564.300	0.160	0.640	0.270
2	22:00:12	8.284	3.187	21.390	48.870	529.700	0.153	0.679	0.272
3	22:00:22	8.640	2.925	21.830	49.300	534.900	0.132	0.776	0.260
x		8.563	3.197	21.450	48.840	543.000	0.148	0.699	0.267
σ		0.249	0.277	0.353	0.469	18.630	0.015	0.070	0.006
%RSD		2.907	8.677	1.645	0.961	3.432	9.967	10.000	2.354

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:03	1.053	1.102	0.471	2.995	0.044	122.100	0.000	2883.000
2	22:00:12	1.181	0.796	0.858	2.895	0.080	119.700	0.000	2874.000
3	22:00:22	0.773	1.255	1.467	2.905	0.080	121.000	0.000	2881.000
x		1.002	1.051	0.932	2.931	0.068	120.900	0.000	2879.000
σ		0.208	0.234	0.502	0.055	0.020	1.184	0.000	4.946
%RSD		20.790	22.250	53.860	1.874	29.990	0.979	0.000	0.172

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:03	76.246%	0.112	0.029	66.881%	0.007	0.010	0.024	0.017
2	22:00:12	76.031%	0.037	0.102	67.230%	-0.013	-0.012	-0.000	0.017
3	22:00:22	76.312%	0.062	0.069	67.749%	-0.009	-0.008	0.012	0.012
x		76.196%	0.070	0.067	67.286%	-0.005	-0.003	0.012	0.015
σ		0.147%	0.038	0.037	0.437%	0.011	0.012	0.012	0.003
%RSD		0.193	54.590	55.160	0.649	218.400	352.400	101.800	18.430

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:03	72.119%	0.428	0.499	0.647	98.710	97.430	76.115%	75.988%
2	22:00:12	72.523%	0.409	0.510	0.546	100.300	99.270	76.324%	76.507%
3	22:00:22	72.788%	0.472	0.435	0.610	98.040	95.990	76.684%	77.451%
x		72.476%	0.436	0.482	0.601	99.030	97.560	76.374%	76.649%
σ		0.337%	0.032	0.040	0.051	1.181	1.643	0.288%	0.742%
%RSD		0.465	7.362	8.373	8.531	1.192	1.684	0.377	0.967

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:03	0.025	0.013	0.120	0.029	0.077	63.459%
2	22:00:12	0.002	0.009	0.098	0.086	0.069	63.539%
3	22:00:22	0.008	0.010	0.054	0.079	0.082	64.179%
x		0.012	0.011	0.090	0.065	0.076	63.726%
σ		0.012	0.002	0.034	0.031	0.007	0.394%
%RSD		103.100	18.330	37.180	47.900	8.785	0.619

490-137913-H-1-B 10/9/2017 10:06:05 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:05:08	80.747%	0.044	328.900	342.600	0.000	44340.000	240200.000	235400.000
2	22:05:17	84.185%	0.043	313.200	324.400	0.000	42580.000	231400.000	227100.000
3	22:05:27	86.911%	0.054	304.600	317.600	0.000	41650.000	227200.000	222200.000
x		83.948%	0.047	315.600	328.200	0.000	42860.000	232900.000	228300.000
σ		3.088%	0.006	12.310	12.910	0.000	1364.000	6619.000	6671.000
%RSD		3.679	12.800	3.902	3.935	0.000	3.183	2.842	2.923
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:05:08	-54.600	12880.000	0.000	7725.000	527900.000	525100.000	102.101%	4.516
2	22:05:17	5.015	12370.000	0.000	7360.000	507900.000	502800.000	106.457%	3.984
3	22:05:27	4.740	12040.000	0.000	7296.000	499000.000	497600.000	108.693%	3.908
x		-14.950	12430.000	0.000	7460.000	511600.000	508500.000	105.750%	4.136
σ		34.340	422.500	0.000	231.200	14810.000	14640.000	3.352%	0.332
%RSD		229.700	3.398	0.000	3.100	2.894	2.880	3.170	8.015
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:05:08	8.062	3.726	2230.000	6596.000	10110.000	7.631	18.970	0.181
2	22:05:17	8.948	3.288	2146.000	6394.000	9631.000	7.043	18.490	0.199
3	22:05:27	9.377	3.315	2094.000	6306.000	9336.000	7.082	18.810	0.244
x		8.795	3.443	2156.000	6432.000	9691.000	7.252	18.760	0.208
σ		0.671	0.245	69.060	148.900	388.500	0.329	0.241	0.033
%RSD		7.625	7.128	3.202	2.314	4.009	4.531	1.286	15.670
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:05:08	6.558	11.080	10.660	41.520	0.343	9.004	0.000	1776.000
2	22:05:17	6.141	11.120	10.820	41.790	0.378	6.953	0.000	1768.000
3	22:05:27	6.035	11.600	8.201	42.240	0.187	7.432	0.000	1783.000
x		6.245	11.270	9.895	41.850	0.303	7.796	0.000	1776.000
σ		0.277	0.288	1.469	0.363	0.101	1.073	0.000	7.251
%RSD		4.432	2.560	14.840	0.868	33.510	13.760	0.000	0.408
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:05:08	90.242%	8.320	9.055	81.526%	-0.005	0.006	0.070	0.029
2	22:05:17	91.276%	8.399	8.328	81.980%	-0.008	0.000	0.070	0.025
3	22:05:27	90.453%	8.261	8.574	82.132%	-0.010	0.003	0.020	0.054
x		90.657%	8.327	8.652	81.879%	-0.008	0.003	0.054	0.036
σ		0.546%	0.070	0.370	0.315%	0.003	0.003	0.029	0.015
%RSD		0.603	0.836	4.273	0.385	35.630	92.060	54.140	43.030
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:05:08	85.858%	0.355	0.113	0.376	11.550	11.660	90.580%	89.428%
2	22:05:17	85.843%	0.375	0.140	0.353	11.280	11.600	90.831%	90.527%
3	22:05:27	84.844%	0.356	0.126	0.349	12.130	11.430	90.688%	90.572%
x		85.515%	0.362	0.126	0.359	11.650	11.570	90.700%	90.176%
σ		0.581%	0.011	0.013	0.014	0.433	0.119	0.126%	0.648%
%RSD		0.679	3.165	10.690	3.995	3.714	1.028	0.139	0.718
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	22:05:08	0.067	0.041	0.239	0.200	0.226	77.916%		
2	22:05:17	0.055	0.039	0.241	0.225	0.215	78.436%		
3	22:05:27	0.051	0.046	0.235	0.186	0.246	77.633%		
x		0.057	0.042	0.239	0.204	0.229	77.995%		
σ		0.008	0.003	0.003	0.020	0.015	0.407%		
%RSD		14.310	8.148	1.324	9.667	6.703	0.522		

490-137913-H-2-B 10/9/2017 10:11:10 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:10:13	95.217%	0.010	270.100	274.400	0.000	26830.000	109300.000	106400.000
2	22:10:23	93.663%	0.011	275.300	285.500	0.000	27270.000	110800.000	109200.000
3	22:10:32	94.639%	0.012	273.200	280.900	0.000	27540.000	112900.000	109900.000
x		94.506%	0.011	272.900	280.300	0.000	27210.000	111000.000	108500.000
σ		0.785%	0.001	2.614	5.573	0.000	361.000	1822.000	1841.000
%RSD		0.831	7.524	0.958	1.988	0.000	1.327	1.641	1.697

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:10:13	4.098	8876.000	0.000	4242.000	290400.000	278900.000	112.398%	2.858
2	22:10:23	4.220	9078.000	0.000	4272.000	291600.000	281400.000	111.733%	3.486
3	22:10:32	4.276	9148.000	0.000	4354.000	296500.000	284700.000	110.616%	3.155
x		4.198	9034.000	0.000	4289.000	292800.000	281700.000	111.583%	3.166
σ		0.091	141.400	0.000	58.320	3240.000	2889.000	0.900%	0.314
%RSD		2.160	1.565	0.000	1.360	1.106	1.026	0.807	9.924

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:10:13	7.435	2.995	2030.000	2526.000	4477.000	4.621	10.950	0.175
2	22:10:23	7.246	2.934	2068.000	2549.000	4506.000	4.718	10.790	0.173
3	22:10:32	7.842	2.836	2102.000	2527.000	4360.000	4.903	11.020	0.111
x		7.508	2.922	2066.000	2534.000	4448.000	4.748	10.920	0.153
σ		0.305	0.080	35.750	12.920	77.350	0.143	0.119	0.036
%RSD		4.058	2.745	1.730	0.510	1.739	3.014	1.088	23.570

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:10:13	3.596	6.036	5.684	21.400	0.179	4.074	0.000	1004.000
2	22:10:23	3.431	5.993	6.114	21.670	0.134	4.960	0.000	1016.000
3	22:10:32	3.662	5.991	5.758	21.660	0.366	5.034	0.000	1003.000
x		3.563	6.007	5.852	21.580	0.226	4.689	0.000	1007.000
σ		0.119	0.026	0.230	0.157	0.123	0.534	0.000	7.126
%RSD		3.333	0.426	3.930	0.726	54.470	11.400	0.000	0.707

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:10:13	87.625%	3.074	3.405	80.136%	0.007	0.001	0.032	0.002
2	22:10:23	87.612%	3.577	3.445	80.688%	-0.005	-0.002	0.010	0.006
3	22:10:32	89.609%	3.223	3.421	82.665%	0.009	-0.006	0.031	0.018
x		88.282%	3.292	3.423	81.163%	0.004	-0.002	0.024	0.008
σ		1.149%	0.259	0.020	1.330%	0.007	0.003	0.012	0.008
%RSD		1.302	7.853	0.587	1.638	201.800	130.600	49.640	100.500

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:10:13	80.740%	0.371	0.039	0.152	13.100	12.510	86.640%	84.976%
2	22:10:23	81.906%	0.311	0.042	0.154	12.830	12.790	86.884%	83.980%
3	22:10:32	83.297%	0.368	0.065	0.190	12.750	12.890	88.554%	88.316%
x		81.981%	0.350	0.049	0.165	12.890	12.730	87.359%	85.757%
σ		1.280%	0.034	0.014	0.021	0.186	0.196	1.042%	2.271%
%RSD		1.561	9.618	29.360	12.840	1.440	1.539	1.192	2.648

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	22:10:13	0.037	0.003	0.000	0.004	-0.002	63.869%
2	22:10:23	0.020	0.008	0.010	0.069	0.029	66.055%
3	22:10:32	0.012	0.026	0.017	0.013	0.016	69.959%
x		0.023	0.012	0.009	0.029	0.014	66.628%
σ		0.013	0.012	0.009	0.036	0.016	3.085%
%RSD		54.730	97.830	95.580	124.800	111.600	4.630

CCV 2475807 10/9/2017 10:20:19 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:19:22	98.475%	103.600	97.100	97.630	0.000	49330.000	51720.000	50710.000
2	22:19:31	99.931%	104.000	96.670	99.860	0.000	49370.000	51330.000	50440.000
3	22:19:41	101.360%	102.800	97.610	96.500	0.000	49790.000	51590.000	51230.000
x		99.922%	103.449%	97.125%	97.995%	0.000	98.991%	103.087%	101.587%
σ		1.443%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		1.444	0.590	0.482	1.740	0.000	0.512	0.388	0.793

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:19:22	495.600	5294.000	0.000	51610.000	50620.000	51710.000	108.275%	103.600
2	22:19:31	487.700	5278.000	0.000	51080.000	50380.000	51250.000	110.225%	102.200
3	22:19:41	492.900	5254.000	0.000	51260.000	50700.000	52180.000	108.898%	105.700
x		98.409%	105.503%	0.000	102.634%	101.138%	103.420%	109.133%	103.828%
σ		n/a	n/a	0.000	n/a	n/a	n/a	0.996%	n/a
%RSD		0.814	0.378	0.000	0.528	0.326	0.900	0.913	1.670

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:19:22	92.310	95.970	520.500	24890.000	24230.000	98.480	101.100	102.200
2	22:19:31	94.260	94.990	516.300	24400.000	23770.000	99.240	100.100	101.900
3	22:19:41	92.110	96.010	520.400	25000.000	24470.000	99.170	100.300	103.900
x		92.894%	95.658%	103.809%	99.045%	96.620%	98.967%	100.499%	102.680%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		1.277	0.604	0.456	1.292	1.487	0.423	0.498	1.085

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:19:22	104.500	106.000	107.900	102.600	105.400	107.000	0.000	99.200
2	22:19:31	102.500	104.800	106.200	102.400	104.400	108.600	0.000	97.430
3	22:19:41	105.100	107.400	107.200	103.100	105.800	104.100	0.000	99.300
x		104.019%	106.042%	107.102%	102.716%	105.182%	106.567%	0.000	98.641%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		1.330	1.246	0.823	0.367	0.722	2.142	0.000	1.068

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:19:22	100.895%	104.900	108.200	94.261%	102.400	103.000	103.800	107.800
2	22:19:31	101.830%	104.600	110.200	95.684%	101.500	101.700	102.500	106.600
3	22:19:41	101.369%	106.100	109.500	95.086%	101.200	103.000	104.900	107.800
x		101.364%	105.181%	109.322%	95.010%	101.699%	102.548%	103.738%	107.403%
σ		0.468%	n/a	n/a	0.714%	n/a	n/a	n/a	n/a
%RSD		0.461	0.739	0.927	0.752	0.597	0.738	1.133	0.640

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:19:22	96.984%	102.800	103.600	102.500	100.800	98.110	98.324%	97.090%
2	22:19:31	98.880%	100.800	102.000	102.700	97.950	96.590	99.299%	98.948%
3	22:19:41	98.560%	102.000	102.200	102.900	100.000	101.000	99.850%	99.596%
x		98.142%	101.873%	102.594%	102.719%	99.608%	98.577%	99.158%	98.545%
σ		1.015%	n/a	n/a	n/a	n/a	n/a	0.772%	1.300%
%RSD		1.034	1.004	0.885	0.189	1.492	2.295	0.779	1.320

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	22:19:22	99.730	99.950	100.700	99.750	99.440	91.021%
2	22:19:31	100.600	100.400	99.910	99.480	99.060	91.941%
3	22:19:41	101.000	100.000	100.600	98.330	99.560	91.469%
x		100.422%	100.112%	100.420%	99.184%	99.353%	91.477%
σ		n/a	n/a	n/a	n/a	n/a	0.460%
%RSD		0.625	0.236	0.441	0.762	0.266	0.503

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:24:28	101.362%	0.040	2.330	1.944	0.000	11.410	13.530	13.180
2	22:24:38	103.098%	0.032	2.170	2.153	0.000	11.190	14.280	13.700
3	22:24:48	103.899%	0.029	1.927	2.135	0.000	11.070	14.090	14.390
x		102.786%	0.034	2.142	2.077	0.000	11.220	13.970	13.760
σ		1.297%	0.005	0.203	0.116	0.000	0.168	0.388	0.603
%RSD		1.262	16.120	9.489	5.585	0.000	1.499	2.776	4.384
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:24:28	0.572	-8.221	0.000	24.750	17.740	16.530	115.267%	0.029
2	22:24:38	0.498	-8.537	0.000	23.990	21.740	17.120	116.748%	0.063
3	22:24:48	0.471	-9.101	0.000	24.460	18.870	17.350	116.324%	0.035
x		0.514	-8.620	0.000	24.400	19.450	17.000	116.113%	0.042
σ		0.052	0.446	0.000	0.385	2.062	0.425	0.763%	0.018
%RSD		10.100	5.171	0.000	1.577	10.600	2.498	0.657	41.720
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:24:28	0.030	0.045	0.134	8.577	10.990	0.035	0.015	0.073
2	22:24:38	0.011	0.033	0.090	8.447	10.850	0.017	0.055	0.003
3	22:24:48	0.043	0.045	0.102	8.360	8.812	0.024	0.056	0.045
x		0.028	0.041	0.109	8.462	10.220	0.025	0.042	0.040
σ		0.016	0.007	0.023	0.109	1.219	0.009	0.024	0.035
%RSD		56.730	16.340	20.850	1.292	11.930	34.200	55.770	87.950
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:24:28	0.020	0.400	1.151	0.071	-0.049	1.267	0.000	0.044
2	22:24:38	-0.017	0.590	0.731	0.063	0.041	1.532	0.000	0.077
3	22:24:48	0.058	0.864	1.073	0.068	0.006	0.712	0.000	0.055
x		0.020	0.618	0.985	0.067	-0.001	1.170	0.000	0.059
σ		0.037	0.233	0.224	0.004	0.045	0.419	0.000	0.017
%RSD		183.400	37.720	22.730	5.774	5953.000	35.780	0.000	28.660
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:24:28	103.913%	0.132	0.141	100.555%	0.004	0.013	0.034	0.027
2	22:24:38	104.393%	0.167	0.147	99.911%	0.032	0.024	0.026	0.028
3	22:24:48	101.370%	0.106	0.139	99.460%	0.028	0.011	0.034	0.025
x		103.225%	0.135	0.142	99.975%	0.021	0.016	0.031	0.026
σ		1.625%	0.031	0.005	0.550%	0.015	0.007	0.005	0.002
%RSD		1.574	23.020	3.202	0.551	69.260	41.530	15.980	6.446
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:24:28	100.012%	0.081	0.035	0.059	0.080	0.111	102.777%	102.968%
2	22:24:38	98.877%	0.083	0.059	0.060	0.093	0.143	102.190%	99.895%
3	22:24:48	97.812%	0.090	0.043	0.054	0.117	0.122	100.631%	99.990%
x		98.900%	0.085	0.046	0.058	0.097	0.126	101.866%	100.951%
σ		1.100%	0.005	0.012	0.003	0.019	0.016	1.109%	1.747%
%RSD		1.112	5.928	26.620	5.377	19.390	12.890	1.089	1.731
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	22:24:28	0.039	0.042	0.045	0.022	0.036	91.709%		
2	22:24:38	0.024	0.031	0.073	0.050	0.042	89.901%		
3	22:24:48	0.024	0.030	0.063	0.065	0.040	88.286%		
x		0.029	0.034	0.060	0.046	0.040	89.965%		
σ		0.009	0.007	0.014	0.022	0.003	1.712%		
%RSD		29.920	19.190	23.810	47.270	8.129	1.903		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:29:35	92.164%	0.023	239.000	246.900	0.000	84700.000	29660.000	28850.000
2	22:29:45	92.876%	0.013	238.100	246.900	0.000	85550.000	29770.000	29300.000
3	22:29:54	92.149%	0.028	238.900	245.700	0.000	86450.000	30250.000	29600.000
x		92.396%	0.021	238.600	246.500	0.000	85570.000	29890.000	29250.000
σ		0.415%	0.008	0.499	0.700	0.000	872.400	317.200	373.700
%RSD		0.450	36.790	0.209	0.284	0.000	1.020	1.061	1.277
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:29:35	20.840	7193.000	0.000	5811.000	72570.000	74840.000	110.065%	3.164
2	22:29:45	20.800	7261.000	0.000	5872.000	72370.000	75410.000	111.145%	3.016
3	22:29:54	21.410	7336.000	0.000	5894.000	73160.000	75750.000	110.070%	3.098
x		21.020	7263.000	0.000	5859.000	72700.000	75330.000	110.427%	3.092
σ		0.340	71.580	0.000	42.970	413.300	461.900	0.622%	0.074
%RSD		1.615	0.986	0.000	0.733	0.569	0.613	0.564	2.408
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:29:35	9.568	3.512	452.700	511.800	1106.000	0.174	0.670	2.568
2	22:29:45	8.117	3.219	458.500	515.800	1060.000	0.167	0.676	2.565
3	22:29:54	8.828	3.404	462.700	525.400	1086.000	0.134	0.781	2.635
x		8.837	3.379	458.000	517.700	1084.000	0.158	0.709	2.589
σ		0.726	0.148	4.987	6.959	23.190	0.021	0.063	0.040
%RSD		8.211	4.381	1.089	1.344	2.139	13.440	8.831	1.530
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:29:35	2.723	3.276	2.496	10.370	0.035	5.464	0.000	2957.000
2	22:29:45	2.995	2.886	2.962	10.350	-0.012	6.023	0.000	2947.000
3	22:29:54	2.805	3.192	2.045	10.550	0.030	5.957	0.000	2947.000
x		2.841	3.118	2.501	10.420	0.018	5.815	0.000	2950.000
σ		0.139	0.205	0.459	0.110	0.025	0.305	0.000	5.631
%RSD		4.904	6.581	18.340	1.052	143.900	5.254	0.000	0.191
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:29:35	92.978%	0.048	0.137	87.996%	0.020	-0.006	0.029	0.020
2	22:29:45	95.071%	0.092	0.157	88.716%	0.027	-0.001	-0.000	0.027
3	22:29:54	95.920%	0.104	0.083	89.576%	-0.001	-0.006	0.009	0.034
x		94.657%	0.081	0.126	88.763%	0.016	-0.004	0.013	0.027
σ		1.514%	0.030	0.038	0.791%	0.015	0.003	0.015	0.007
%RSD		1.599	36.250	30.360	0.892	94.030	76.300	117.200	26.680
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:29:35	89.687%	1.235	0.096	0.438	235.400	231.800	94.615%	94.361%
2	22:29:45	90.260%	0.973	0.154	0.488	235.000	232.900	96.307%	95.668%
3	22:29:54	91.370%	0.976	0.184	0.401	229.900	235.400	97.244%	97.535%
x		90.439%	1.061	0.145	0.443	233.500	233.400	96.056%	95.855%
σ		0.856%	0.150	0.045	0.044	3.090	1.855	1.333%	1.595%
%RSD		0.946	14.170	30.940	9.869	1.324	0.795	1.387	1.664
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	22:29:35	-0.004	0.005	0.123	0.163	0.168	82.744%		
2	22:29:45	0.003	0.010	0.149	0.159	0.153	84.678%		
3	22:29:54	-0.002	-0.005	0.193	0.118	0.158	86.622%		
x		-0.001	0.003	0.155	0.147	0.160	84.681%		
σ		0.004	0.008	0.035	0.025	0.008	1.939%		
%RSD		570.800	236.200	22.590	17.090	4.766	2.290		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:34:38	96.239%	-0.001	58.350	59.130	0.000	18970.000	61730.000	60270.000
2	22:34:48	97.136%	0.004	58.170	58.340	0.000	19130.000	62270.000	61260.000
3	22:34:57	96.367%	0.003	58.750	59.570	0.000	18050.000	59000.000	57650.000
x		96.580%	0.002	58.420	59.010	0.000	18710.000	61000.000	59730.000
σ		0.485%	0.003	0.296	0.627	0.000	582.800	1751.000	1868.000
%RSD		0.502	147.400	0.506	1.062	0.000	3.114	2.871	3.127
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:34:38	6.263	5009.000	0.000	3142.000	147500.000	151300.000	108.581%	2.244
2	22:34:48	5.992	5034.000	0.000	3199.000	148100.000	151500.000	109.182%	1.896
3	22:34:57	5.440	4916.000	0.000	2988.000	138600.000	142500.000	116.306%	2.025
x		5.898	4986.000	0.000	3110.000	144700.000	148500.000	111.356%	2.055
σ		0.419	62.580	0.000	109.000	5329.000	5124.000	4.297%	0.176
%RSD		7.108	1.255	0.000	3.506	3.682	3.452	3.859	8.550
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:34:38	8.390	3.454	7.416	9.565	1182.000	0.373	2.210	0.318
2	22:34:48	9.578	3.138	7.420	9.044	1140.000	0.347	2.076	0.303
3	22:34:57	8.263	3.005	7.023	7.600	1021.000	0.300	2.318	0.272
x		8.744	3.199	7.286	8.736	1114.000	0.340	2.201	0.298
σ		0.726	0.231	0.228	1.018	83.440	0.037	0.122	0.024
%RSD		8.297	7.207	3.132	11.650	7.488	10.950	5.518	7.971
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:34:38	1.439	1.548	1.914	11.600	0.222	2.168	0.000	471.000
2	22:34:48	1.240	2.157	2.184	11.200	0.106	3.602	0.000	451.600
3	22:34:57	1.244	1.560	1.332	10.720	0.100	2.898	0.000	440.900
x		1.308	1.755	1.810	11.180	0.143	2.890	0.000	454.500
σ		0.114	0.349	0.435	0.438	0.069	0.717	0.000	15.220
%RSD		8.697	19.860	24.040	3.916	48.450	24.820	0.000	3.349
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:34:38	97.791%	2.690	2.760	91.545%	-0.004	-0.009	-0.000	0.008
2	22:34:48	100.015%	2.724	2.826	95.417%	-0.006	0.004	0.009	0.021
3	22:34:57	101.190%	2.600	2.612	97.637%	-0.002	-0.002	0.017	0.021
x		99.665%	2.671	2.733	94.867%	-0.004	-0.002	0.009	0.017
σ		1.726%	0.064	0.110	3.083%	0.002	0.007	0.009	0.008
%RSD		1.732	2.402	4.007	3.250	55.990	290.800	101.500	46.450
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:34:38	94.380%	0.320	0.147	0.284	37.820	38.010	96.783%	96.360%
2	22:34:48	97.862%	0.306	0.179	0.234	35.820	35.950	99.875%	99.181%
3	22:34:57	98.922%	0.314	0.167	0.238	35.370	36.210	100.914%	99.771%
x		97.055%	0.314	0.164	0.252	36.340	36.730	99.190%	98.437%
σ		2.377%	0.007	0.016	0.028	1.303	1.123	2.149%	1.823%
%RSD		2.449	2.210	9.720	11.100	3.586	3.058	2.166	1.852
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	22:34:38	0.017	0.015	0.009	0.006	0.004	87.489%		
2	22:34:48	0.023	0.015	-0.004	0.001	-0.001	91.034%		
3	22:34:57	0.009	0.019	0.026	0.013	0.020	92.740%		
x		0.017	0.017	0.010	0.007	0.007	90.421%		
σ		0.007	0.002	0.015	0.006	0.011	2.679%		
%RSD		42.980	13.730	144.500	95.510	146.400	2.963		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:39:41	96.316%	0.007	54.320	56.240	0.000	40620.000	26530.000	26100.000
2	22:39:51	97.158%	0.004	54.170	55.850	0.000	42560.000	27930.000	27280.000
3	22:40:00	95.429%	0.000	56.550	57.740	0.000	41560.000	27080.000	26610.000
x		96.301%	0.004	55.010	56.610	0.000	41580.000	27180.000	26670.000
σ		0.865%	0.003	1.335	1.003	0.000	972.400	704.800	594.700
%RSD		0.898	89.550	2.427	1.771	0.000	2.339	2.593	2.230

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:39:41	4.373	6123.000	0.000	12200.000	120400.000	124700.000	114.830%	2.420
2	22:39:51	4.363	6320.000	0.000	12760.000	125400.000	129300.000	111.354%	2.747
3	22:40:00	4.036	6246.000	0.000	12370.000	120200.000	125900.000	114.628%	2.737
x		4.258	6230.000	0.000	12440.000	122000.000	126600.000	113.604%	2.635
σ		0.192	99.360	0.000	287.300	2995.000	2398.000	1.951%	0.186
%RSD		4.500	1.595	0.000	2.309	2.455	1.893	1.717	7.046

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:39:41	8.202	3.600	864.700	833.900	1763.000	1.774	2.081	1.189
2	22:39:51	8.690	3.315	902.000	860.300	1760.000	1.748	2.557	1.182
3	22:40:00	8.690	3.378	883.900	835.500	1687.000	1.841	2.121	1.190
x		8.527	3.431	883.500	843.200	1737.000	1.788	2.253	1.187
σ		0.282	0.150	18.630	14.820	43.180	0.048	0.264	0.005
%RSD		3.307	4.366	2.109	1.757	2.486	2.684	11.720	0.381

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:39:41	1.960	2.951	3.064	12.010	0.091	2.714	0.000	599.700
2	22:39:51	1.896	2.066	2.748	12.220	0.006	4.238	0.000	593.200
3	22:40:00	1.849	3.106	2.632	12.630	0.079	3.594	0.000	600.700
x		1.902	2.708	2.814	12.290	0.059	3.515	0.000	597.900
σ		0.056	0.561	0.223	0.316	0.046	0.765	0.000	4.063
%RSD		2.924	20.720	7.935	2.574	77.850	21.750	0.000	0.679

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:39:41	92.637%	5.587	5.921	85.399%	-0.008	0.000	0.020	0.013
2	22:39:51	92.354%	5.701	6.033	85.518%	-0.000	-0.003	0.039	0.025
3	22:40:00	91.473%	5.552	5.638	86.082%	0.008	-0.006	-0.000	0.033
x		92.155%	5.613	5.864	85.666%	-0.000	-0.003	0.020	0.024
σ		0.607%	0.078	0.204	0.365%	0.008	0.003	0.020	0.010
%RSD		0.659	1.383	3.474	0.426	21130.000	99.860	100.600	42.250

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:39:41	85.666%	0.355	0.151	0.229	89.290	89.610	93.085%	92.002%
2	22:39:51	86.789%	0.448	0.119	0.241	89.310	88.640	93.291%	92.579%
3	22:40:00	85.889%	0.375	0.143	0.247	88.470	89.810	92.533%	90.667%
x		86.115%	0.392	0.138	0.239	89.030	89.360	92.969%	91.749%
σ		0.594%	0.049	0.017	0.009	0.481	0.626	0.392%	0.981%
%RSD		0.690	12.430	12.250	3.928	0.541	0.700	0.421	1.069

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	22:39:41	0.015	0.003	0.075	0.092	0.088	78.010%
2	22:39:51	-0.003	0.003	0.076	0.093	0.088	77.359%
3	22:40:00	0.022	-0.000	0.087	0.079	0.096	75.666%
x		0.011	0.002	0.079	0.088	0.091	77.012%
σ		0.013	0.002	0.007	0.007	0.005	1.210%
%RSD		115.400	99.410	8.588	8.505	5.311	1.571

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:44:46	101.707%	-0.003	2.516	2.571	0.000	139.300	95.960	93.350
2	22:44:55	102.095%	0.001	2.443	2.467	0.000	142.400	97.660	96.090
3	22:45:05	103.025%	-0.004	2.501	2.628	0.000	143.800	100.700	97.280
x		102.276%	-0.002	2.487	2.555	0.000	141.800	98.090	95.570
σ		0.678%	0.002	0.039	0.081	0.000	2.308	2.381	2.015
%RSD		0.663	110.000	1.549	3.187	0.000	1.628	2.427	2.108
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:44:46	1.308	15.750	0.000	51.850	428.500	421.900	113.435%	0.490
2	22:44:55	1.473	-12.460	0.000	53.820	453.400	427.900	113.108%	0.506
3	22:45:05	1.531	16.660	0.000	55.750	476.400	439.400	112.242%	0.330
x		1.437	6.651	0.000	53.810	452.800	429.700	112.928%	0.442
σ		0.116	16.550	0.000	1.947	23.940	8.887	0.616%	0.097
%RSD		8.060	248.900	0.000	3.618	5.286	2.068	0.546	22.060
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:44:46	9.642	3.549	4.282	162.200	176.900	0.009	0.028	0.137
2	22:44:55	8.071	3.397	4.260	165.000	174.300	0.001	0.065	0.106
3	22:45:05	8.704	3.219	4.328	162.100	174.200	0.009	0.043	0.140
x		8.805	3.388	4.290	163.100	175.100	0.006	0.045	0.128
σ		0.791	0.165	0.035	1.622	1.540	0.005	0.018	0.019
%RSD		8.978	4.880	0.815	0.994	0.880	79.140	40.640	14.580
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:44:46	0.128	0.286	0.196	1.284	-0.043	2.456	0.000	2.176
2	22:44:55	0.164	0.312	0.046	1.131	-0.072	2.021	0.000	2.256
3	22:45:05	0.173	0.279	0.202	1.135	0.021	2.017	0.000	2.191
x		0.155	0.292	0.148	1.183	-0.031	2.165	0.000	2.208
σ		0.023	0.018	0.088	0.087	0.047	0.252	0.000	0.042
%RSD		15.120	6.025	59.660	7.371	151.900	11.660	0.000	1.912
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:44:46	97.760%	0.024	0.012	95.547%	-0.013	-0.006	-0.000	0.004
2	22:44:55	99.206%	0.011	0.014	97.064%	-0.009	-0.009	-0.000	0.014
3	22:45:05	101.232%	0.016	0.010	97.769%	-0.007	0.004	0.009	-0.003
x		99.399%	0.017	0.012	96.793%	-0.010	-0.004	0.003	0.005
σ		1.744%	0.007	0.002	1.135%	0.004	0.007	0.005	0.009
%RSD		1.754	38.900	15.250	1.173	36.560	172.200	184.500	176.700
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:44:46	94.019%	0.268	0.021	0.064	1.023	1.062	98.337%	97.282%
2	22:44:55	96.455%	0.169	0.044	0.062	1.201	0.988	99.104%	98.306%
3	22:45:05	97.001%	0.246	0.044	0.048	1.091	1.074	100.496%	98.475%
x		95.825%	0.228	0.036	0.058	1.105	1.041	99.312%	98.021%
σ		1.588%	0.052	0.013	0.009	0.090	0.047	1.095%	0.645%
%RSD		1.657	22.930	36.850	14.770	8.163	4.524	1.102	0.658
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	22:44:46	0.001	0.000	0.020	0.019	0.010	88.532%		
2	22:44:55	-0.000	-0.000	-0.004	0.000	0.004	93.186%		
3	22:45:05	-0.000	0.004	0.006	0.017	0.010	95.572%		
x		0.000	0.001	0.007	0.012	0.008	92.430%		
σ		0.000	0.002	0.012	0.010	0.003	3.581%		
%RSD		525.600	172.000	168.600	86.640	42.030	3.874		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:49:51	109.553%	0.116	12090.000	11830.000	0.000	43100.000	3921.000	3871.000
2	22:50:01	107.469%	0.125	12520.000	12150.000	0.000	40390.000	3689.000	3664.000
3	22:50:10	107.802%	0.122	12560.000	12200.000	0.000	40360.000	3758.000	3699.000
x		108.275%	0.121	12390.000	12060.000	0.000	41280.000	3790.000	3745.000
σ		1.119%	0.005	260.800	197.500	0.000	1570.000	119.100	110.800
%RSD		1.034	3.762	2.104	1.638	0.000	3.804	3.143	2.960
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:49:51	3.513	2933.000	0.000	3303.000	103600.000	106000.000	107.381%	1.998
2	22:50:01	3.273	2839.000	0.000	3051.000	96680.000	98670.000	115.423%	1.387
3	22:50:10	3.270	2834.000	0.000	3056.000	97480.000	99580.000	115.416%	1.788
x		3.352	2869.000	0.000	3137.000	99240.000	101400.000	112.740%	1.724
σ		0.139	55.590	0.000	143.800	3764.000	3996.000	4.641%	0.310
%RSD		4.158	1.938	0.000	4.586	3.793	3.941	4.117	17.990
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:49:51	12.890	4.511	5497.000	404.000	1203.000	4.666	2.707	1.695
2	22:50:01	11.400	3.933	5196.000	391.400	1152.000	4.682	2.399	1.788
3	22:50:10	11.380	3.934	5264.000	391.600	1070.000	4.579	2.597	1.644
x		11.890	4.126	5319.000	395.700	1141.000	4.642	2.567	1.709
σ		0.864	0.334	157.900	7.182	66.940	0.056	0.156	0.073
%RSD		7.269	8.082	2.968	1.815	5.864	1.204	6.072	4.290
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:49:51	2.312	2.637	2.447	12.770	-0.015	4.649	0.000	154.600
2	22:50:01	2.436	3.101	2.675	12.630	0.040	4.525	0.000	157.300
3	22:50:10	2.493	2.532	2.940	12.730	0.132	6.337	0.000	157.000
x		2.414	2.757	2.687	12.710	0.052	5.170	0.000	156.300
σ		0.092	0.303	0.247	0.071	0.074	1.012	0.000	1.512
%RSD		3.831	10.980	9.183	0.555	141.500	19.580	0.000	0.967
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:49:51	98.566%	36.450	38.110	94.755%	-0.004	-0.004	0.105	0.098
2	22:50:01	97.065%	37.000	38.120	94.333%	-0.002	-0.001	0.098	0.100
3	22:50:10	98.817%	36.940	38.010	95.622%	-0.006	-0.001	0.079	0.085
x		98.149%	36.790	38.080	94.904%	-0.004	-0.002	0.094	0.094
σ		0.947%	0.304	0.060	0.657%	0.002	0.002	0.014	0.008
%RSD		0.965	0.825	0.159	0.692	61.220	72.150	14.430	8.907
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:49:51	97.903%	0.325	0.091	0.101	38.490	37.210	98.647%	99.424%
2	22:50:01	96.016%	0.365	0.055	0.093	38.900	38.230	98.881%	98.899%
3	22:50:10	97.223%	0.387	0.047	0.068	38.300	37.450	101.099%	98.560%
x		97.047%	0.359	0.064	0.087	38.560	37.630	99.542%	98.961%
σ		0.955%	0.032	0.023	0.017	0.304	0.532	1.353%	0.435%
%RSD		0.984	8.810	36.610	19.740	0.790	1.413	1.359	0.440
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	22:49:51	0.072	0.064	0.075	0.097	0.091	91.562%		
2	22:50:01	0.088	0.095	0.099	0.125	0.104	90.860%		
3	22:50:10	0.088	0.079	0.055	0.087	0.079	93.390%		
x		0.083	0.079	0.076	0.103	0.092	91.937%		
σ		0.010	0.016	0.022	0.020	0.012	1.306%		
%RSD		11.740	19.620	28.790	19.220	13.480	1.421		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:54:56	84.802%	0.018	637.200	659.300	0.000	268400.000	2413.000	2363.000
2	22:55:06	85.309%	0.013	641.900	662.800	0.000	262600.000	2344.000	2300.000
3	22:55:15	85.099%	0.015	633.400	658.900	0.000	261500.000	2364.000	2321.000
x		85.070%	0.016	637.500	660.300	0.000	264200.000	2374.000	2328.000
σ		0.255%	0.003	4.267	2.156	0.000	3680.000	35.440	32.070
%RSD		0.299	16.370	0.669	0.326	0.000	1.393	1.493	1.378

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:54:56	31.860	4630.000	0.000	8691.000	3733.000	3587.000	110.572%	2.312
2	22:55:06	31.550	4580.000	0.000	8346.000	3707.000	3478.000	113.850%	1.986
3	22:55:15	0.093	4624.000	0.000	8378.000	3738.000	3475.000	113.682%	1.774
x		21.170	4612.000	0.000	8472.000	3726.000	3514.000	112.701%	2.024
σ		18.250	27.400	0.000	190.900	16.580	63.750	1.846%	0.271
%RSD		86.220	0.594	0.000	2.253	0.445	1.814	1.638	13.380

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:54:56	5.649	2.980	2.415	5.022	29.590	-0.002	0.093	0.082
2	22:55:06	6.469	2.770	2.275	5.000	31.570	0.011	0.057	0.099
3	22:55:15	7.209	2.636	2.320	4.794	27.060	0.020	0.096	0.059
x		6.442	2.795	2.337	4.938	29.410	0.010	0.082	0.080
σ		0.780	0.174	0.071	0.126	2.263	0.011	0.022	0.020
%RSD		12.110	6.210	3.056	2.545	7.694	115.200	26.350	24.900

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:54:56	0.471	1.153	0.979	1.431	-0.005	5.369	0.000	218.300
2	22:55:06	0.403	0.884	0.704	1.345	0.037	5.763	0.000	215.500
3	22:55:15	0.508	0.964	0.925	1.243	0.024	5.174	0.000	217.100
x		0.461	1.000	0.870	1.340	0.019	5.435	0.000	216.900
σ		0.053	0.138	0.146	0.094	0.021	0.300	0.000	1.425
%RSD		11.510	13.810	16.750	7.013	112.300	5.522	0.000	0.657

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:54:56	89.959%	0.277	0.207	84.948%	-0.005	-0.009	0.010	0.001
2	22:55:06	90.993%	0.145	0.151	86.029%	-0.011	-0.003	-0.000	0.001
3	22:55:15	89.733%	0.174	0.147	85.427%	0.000	-0.009	0.030	0.009
x		90.228%	0.199	0.168	85.468%	-0.005	-0.007	0.013	0.004
σ		0.672%	0.070	0.033	0.542%	0.005	0.003	0.015	0.005
%RSD		0.745	35.000	19.880	0.634	101.600	49.320	116.000	122.100

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:54:56	85.942%	0.242	0.089	0.139	4.625	4.695	91.678%	92.944%
2	22:55:06	85.445%	0.250	0.101	0.143	4.985	4.421	92.087%	93.165%
3	22:55:15	84.945%	0.194	0.071	0.110	4.382	4.466	91.338%	92.065%
x		85.444%	0.229	0.087	0.130	4.664	4.527	91.701%	92.725%
σ		0.498%	0.031	0.015	0.018	0.303	0.147	0.375%	0.582%
%RSD		0.583	13.360	17.520	13.790	6.507	3.248	0.409	0.627

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	22:54:56	0.005	-0.002	-0.004	0.020	0.005	77.465%
2	22:55:06	-0.006	0.002	-0.000	0.051	0.013	77.464%
3	22:55:15	-0.001	0.001	0.009	0.005	0.011	76.870%
x		-0.001	0.000	0.002	0.025	0.010	77.266%
σ		0.005	0.002	0.007	0.024	0.004	0.343%
%RSD		911.300	637.400	444.200	94.000	42.450	0.444

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:00:01	100.520%	0.010	8.336	8.483	0.000	-2.955	1.386	1.294
2	23:00:11	99.083%	-0.007	8.967	8.572	0.000	-2.803	1.458	1.086
3	23:00:20	99.330%	-0.000	7.997	8.614	0.000	-3.107	1.563	1.325
x		99.644%	0.001	8.433	8.556	0.000	-2.955	1.469	1.235
σ		0.768%	0.009	0.493	0.067	0.000	0.152	0.089	0.130
%RSD		0.771	958.600	5.840	0.777	0.000	5.146	6.045	10.510
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:00:01	1.726	-4.098	0.000	8.513	27.090	14.140	115.983%	0.505
2	23:00:11	1.691	-2.982	0.000	10.570	30.730	14.440	113.979%	0.394
3	23:00:20	1.695	-2.245	0.000	9.206	26.630	14.170	114.755%	0.441
x		1.704	-3.108	0.000	9.430	28.150	14.250	114.906%	0.447
σ		0.019	0.933	0.000	1.048	2.245	0.165	1.011%	0.056
%RSD		1.134	30.020	0.000	11.110	7.976	1.156	0.880	12.430
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:00:01	8.122	3.454	0.113	-0.625	-0.910	0.007	0.012	0.089
2	23:00:11	8.450	3.400	0.117	-0.504	4.094	0.007	0.012	0.072
3	23:00:20	9.639	3.334	0.126	-0.517	1.996	0.002	0.006	0.123
x		8.737	3.396	0.119	-0.549	1.727	0.005	0.010	0.095
σ		0.798	0.060	0.007	0.067	2.513	0.003	0.003	0.026
%RSD		9.134	1.765	5.728	12.130	145.500	57.300	31.220	27.540
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:00:01	0.118	0.466	0.452	1.197	-0.042	1.607	0.000	0.050
2	23:00:11	0.074	0.816	0.664	1.101	0.039	2.801	0.000	0.051
3	23:00:20	0.191	0.528	0.633	1.287	-0.071	2.806	0.000	0.051
x		0.128	0.603	0.583	1.195	-0.024	2.404	0.000	0.051
σ		0.059	0.187	0.114	0.093	0.057	0.691	0.000	0.001
%RSD		46.120	30.950	19.600	7.797	233.100	28.730	0.000	1.788
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:00:01	95.618%	0.019	-0.003	94.713%	-0.009	-0.006	-0.000	0.004
2	23:00:11	97.864%	-0.013	-0.018	96.172%	-0.004	-0.007	-0.000	-0.003
3	23:00:20	97.535%	-0.014	-0.016	98.563%	-0.004	-0.012	-0.000	0.011
x		97.006%	-0.003	-0.012	96.482%	-0.006	-0.008	-0.000	0.004
σ		1.213%	0.019	0.008	1.944%	0.003	0.003	0.000	0.007
%RSD		1.250	688.200	68.260	2.015	45.630	37.420	13.730	179.800
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:00:01	92.789%	0.323	0.007	0.016	0.025	0.025	97.086%	95.558%
2	23:00:11	94.799%	0.290	0.014	0.039	-0.022	0.028	99.187%	98.346%
3	23:00:20	97.213%	0.339	0.054	0.061	0.042	0.050	100.494%	99.913%
x		94.934%	0.317	0.025	0.039	0.015	0.034	98.922%	97.939%
σ		2.215%	0.025	0.025	0.023	0.033	0.014	1.719%	2.206%
%RSD		2.333	7.825	102.400	58.090	223.500	39.690	1.738	2.253
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	23:00:01	0.003	0.003	0.001	0.020	0.005	86.705%		
2	23:00:11	-0.007	-0.002	-0.004	0.010	0.001	90.718%		
3	23:00:20	-0.007	-0.006	-0.016	-0.004	-0.005	93.362%		
x		-0.003	-0.002	-0.006	0.009	0.000	90.261%		
σ		0.006	0.005	0.009	0.012	0.005	3.352%		
%RSD		166.400	297.500	143.300	144.300	1107.000	3.714		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:05:04	98.184%	-0.000	516.600	515.100	0.000	9175.000	4597.000	4310.000
2	23:05:14	100.031%	0.013	516.000	522.300	0.000	9947.000	5062.000	4689.000
3	23:05:23	98.254%	0.021	524.800	531.300	0.000	9812.000	4977.000	4619.000
x		98.823%	0.011	519.100	522.900	0.000	9644.000	4879.000	4539.000
σ		1.047%	0.011	4.887	8.123	0.000	412.100	247.600	201.400
%RSD		1.060	94.070	0.941	1.554	0.000	4.273	5.075	4.437

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:05:04	40.870	2809.000	0.000	3467.000	52380.000	52870.000	117.327%	1.661
2	23:05:14	-2.041	3004.000	0.000	3741.000	55970.000	57330.000	110.281%	1.545
3	23:05:23	-3.259	2929.000	0.000	3690.000	55470.000	56880.000	111.862%	1.848
x		11.860	2914.000	0.000	3633.000	54610.000	55690.000	113.157%	1.685
σ		25.130	98.190	0.000	146.100	1942.000	2458.000	3.697%	0.153
%RSD		212.000	3.369	0.000	4.022	3.556	4.414	3.267	9.091

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:05:04	8.401	2.827	1731.000	333.800	764.200	0.317	1.075	7.098
2	23:05:14	6.654	2.634	1880.000	353.100	786.300	0.414	0.913	7.591
3	23:05:23	7.621	2.680	1864.000	346.200	776.300	0.361	0.825	7.538
x		7.559	2.714	1825.000	344.400	775.600	0.364	0.938	7.409
σ		0.875	0.100	81.920	9.749	11.080	0.049	0.127	0.271
%RSD		11.580	3.699	4.488	2.831	1.428	13.340	13.550	3.656

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:05:04	7.155	6.846	6.290	6.926	-0.006	3.267	0.000	195.000
2	23:05:14	7.742	7.353	6.659	7.039	-0.046	2.102	0.000	195.300
3	23:05:23	7.992	7.612	7.777	6.820	0.035	3.511	0.000	196.600
x		7.630	7.270	6.909	6.928	-0.006	2.960	0.000	195.600
σ		0.429	0.390	0.774	0.110	0.040	0.753	0.000	0.845
%RSD		5.630	5.365	11.210	1.586	706.600	25.450	0.000	0.432

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:05:04	100.056%	70.590	74.570	98.134%	-0.011	-0.004	0.189	0.114
2	23:05:14	101.276%	71.570	74.790	99.333%	-0.002	0.006	0.230	0.188
3	23:05:23	101.230%	71.710	74.280	100.330%	-0.007	0.013	0.136	0.147
x		100.854%	71.290	74.550	99.266%	-0.007	0.005	0.185	0.149
σ		0.692%	0.610	0.257	1.100%	0.005	0.009	0.047	0.037
%RSD		0.686	0.856	0.345	1.108	67.060	173.200	25.660	25.050

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:05:04	99.345%	0.283	0.073	0.090	41.360	43.040	100.280%	100.714%
2	23:05:14	99.764%	0.320	0.042	0.073	42.510	41.760	100.845%	101.073%
3	23:05:23	100.108%	0.324	0.042	0.082	43.130	41.920	102.621%	101.646%
x		99.739%	0.309	0.052	0.082	42.330	42.240	101.249%	101.144%
σ		0.382%	0.023	0.018	0.008	0.901	0.698	1.221%	0.470%
%RSD		0.383	7.282	33.730	10.310	2.128	1.653	1.206	0.465

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	23:05:04	0.002	0.017	0.471	0.430	0.471	94.668%
2	23:05:14	0.004	0.006	0.420	0.477	0.422	95.465%
3	23:05:23	0.002	0.009	0.390	0.372	0.405	96.440%
x		0.003	0.011	0.427	0.427	0.432	95.525%
σ		0.001	0.005	0.041	0.053	0.034	0.888%
%RSD		48.700	51.430	9.565	12.380	7.956	0.929

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:10:14	102.667%	0.014	544.400	544.700	0.000	10250.000	4918.000	4616.000
2	23:10:24	102.818%	-0.006	541.500	542.000	0.000	10280.000	4967.000	4707.000
3	23:10:33	100.895%	0.018	550.100	553.900	0.000	10170.000	4943.000	4671.000
x		102.127%	0.009	545.300	546.900	0.000	10240.000	4943.000	4665.000
σ		1.069%	0.013	4.333	6.207	0.000	56.340	24.310	45.660
%RSD		1.047	150.800	0.794	1.135	0.000	0.550	0.492	0.979
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:10:14	7.618	2924.000	0.000	3733.000	53760.000	55350.000	113.817%	1.415
2	23:10:24	7.044	2927.000	0.000	3721.000	53980.000	55870.000	113.446%	1.349
3	23:10:33	7.097	2941.000	0.000	3693.000	53940.000	54970.000	113.961%	1.584
x		7.253	2931.000	0.000	3716.000	53900.000	55400.000	113.741%	1.450
σ		0.317	9.352	0.000	20.470	117.100	451.000	0.266%	0.122
%RSD		4.371	0.319	0.000	0.551	0.217	0.814	0.234	8.385
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:10:14	8.898	3.141	1861.000	312.800	725.500	0.353	0.716	0.079
2	23:10:24	7.463	2.752	1906.000	316.100	717.100	0.367	0.723	0.097
3	23:10:33	8.546	2.718	1891.000	314.000	715.200	0.351	0.778	0.121
x		8.302	2.870	1886.000	314.300	719.300	0.357	0.739	0.099
σ		0.748	0.235	22.740	1.669	5.512	0.009	0.034	0.021
%RSD		9.005	8.191	1.206	0.531	0.766	2.556	4.594	21.210
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:10:14	0.195	2.172	1.771	7.558	0.154	3.634	0.000	198.700
2	23:10:24	0.214	1.958	2.029	7.734	0.040	2.884	0.000	199.800
3	23:10:33	0.227	1.601	2.112	7.269	-0.042	4.151	0.000	195.400
x		0.212	1.910	1.971	7.520	0.051	3.556	0.000	197.900
σ		0.016	0.289	0.178	0.235	0.098	0.637	0.000	2.265
%RSD		7.459	15.110	9.010	3.126	193.900	17.920	0.000	1.144
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:10:14	95.928%	74.950	78.070	93.693%	0.004	-0.009	0.229	0.118
2	23:10:24	97.492%	75.580	77.580	93.749%	-0.009	-0.001	0.137	0.134
3	23:10:33	96.264%	74.700	77.780	92.822%	0.009	-0.004	0.230	0.137
x		96.561%	75.080	77.810	93.421%	0.001	-0.005	0.199	0.130
σ		0.823%	0.454	0.249	0.520%	0.009	0.004	0.053	0.010
%RSD		0.852	0.604	0.320	0.556	742.200	91.340	26.680	7.756
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:10:14	92.693%	0.219	0.071	0.096	43.630	42.480	97.404%	97.111%
2	23:10:24	92.300%	0.230	0.071	0.069	42.950	43.180	99.010%	98.233%
3	23:10:33	92.362%	0.268	0.046	0.086	41.730	42.290	97.668%	96.818%
x		92.452%	0.239	0.063	0.084	42.770	42.650	98.027%	97.387%
σ		0.211%	0.026	0.014	0.014	0.963	0.470	0.861%	0.747%
%RSD		0.229	10.690	22.810	16.830	2.251	1.101	0.879	0.767
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	23:10:14	0.003	0.013	0.017	0.001	-0.000	87.616%		
2	23:10:24	0.008	0.011	0.009	0.002	0.004	86.160%		
3	23:10:33	-0.001	0.008	0.002	0.007	0.009	84.428%		
x		0.003	0.011	0.009	0.003	0.004	86.068%		
σ		0.005	0.002	0.007	0.003	0.005	1.596%		
%RSD		148.200	22.800	79.080	91.400	107.700	1.854		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:15:19	99.525%	0.011	41.960	42.590	0.000	28680.000	12930.000	12730.000
2	23:15:29	99.249%	-0.004	41.170	41.800	0.000	27190.000	12390.000	12150.000
3	23:15:38	99.117%	-0.006	41.510	42.370	0.000	27480.000	12530.000	12370.000
x		99.297%	0.000	41.550	42.260	0.000	27780.000	12620.000	12420.000
σ		0.208%	0.009	0.392	0.407	0.000	794.200	281.700	292.100
%RSD		0.209	9614.000	0.943	0.964	0.000	2.858	2.232	2.352
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:15:19	125.300	1386.000	0.000	4008.000	40800.000	42800.000	110.399%	3.897
2	23:15:29	120.000	1330.000	0.000	3750.000	38820.000	40770.000	114.726%	3.832
3	23:15:38	121.700	1362.000	0.000	3826.000	39240.000	41340.000	113.536%	4.324
x		122.300	1360.000	0.000	3862.000	39620.000	41630.000	112.887%	4.018
σ		2.669	28.130	0.000	132.600	1046.000	1047.000	2.235%	0.267
%RSD		2.181	2.069	0.000	3.434	2.639	2.515	1.980	6.647
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:15:19	8.691	3.771	22.080	962.300	1295.000	0.314	1.408	14.830
2	23:15:29	7.052	3.356	21.130	937.700	1247.000	0.299	1.377	14.450
3	23:15:38	8.540	3.383	21.330	946.100	1226.000	0.323	1.459	14.650
x		8.094	3.503	21.510	948.700	1256.000	0.312	1.415	14.640
σ		0.906	0.233	0.504	12.520	35.560	0.012	0.041	0.193
%RSD		11.190	6.636	2.343	1.320	2.831	3.876	2.911	1.316
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:15:19	15.440	38.690	38.460	4.610	0.134	3.558	0.000	240.900
2	23:15:29	14.580	37.510	38.200	4.306	0.089	4.440	0.000	227.500
3	23:15:38	15.550	37.450	37.640	4.483	0.116	4.688	0.000	228.800
x		15.190	37.880	38.100	4.467	0.113	4.228	0.000	232.400
σ		0.534	0.696	0.419	0.153	0.023	0.594	0.000	7.403
%RSD		3.514	1.837	1.100	3.425	20.220	14.050	0.000	3.185
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:15:19	87.982%	1.370	1.323	84.061%	-0.013	0.000	0.010	0.079
2	23:15:29	93.690%	1.288	1.418	86.991%	0.002	0.003	-0.000	0.109
3	23:15:38	94.170%	1.329	1.294	90.131%	0.007	-0.006	0.009	0.061
x		91.948%	1.329	1.345	87.061%	-0.001	-0.001	0.006	0.083
σ		3.442%	0.041	0.065	3.036%	0.010	0.005	0.006	0.024
%RSD		3.744	3.092	4.827	3.487	757.400	411.100	90.050	29.400
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:15:19	83.611%	2.084	0.207	0.209	46.560	45.720	87.589%	86.473%
2	23:15:29	88.162%	2.124	0.169	0.212	44.130	44.170	93.747%	90.836%
3	23:15:38	90.425%	2.028	0.180	0.221	44.150	44.350	95.180%	93.766%
x		87.399%	2.079	0.185	0.214	44.950	44.750	92.172%	90.358%
σ		3.471%	0.048	0.020	0.006	1.395	0.847	4.033%	3.670%
%RSD		3.971	2.312	10.630	2.832	3.104	1.894	4.376	4.062
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	23:15:19	0.010	0.005	4.647	4.300	4.447	66.918%		
2	23:15:29	0.011	0.005	4.740	4.165	4.412	75.086%		
3	23:15:38	0.012	0.000	4.821	3.970	4.316	79.860%		
x		0.011	0.003	4.736	4.145	4.391	73.955%		
σ		0.001	0.003	0.087	0.166	0.068	6.545%		
%RSD		8.952	80.020	1.837	4.002	1.543	8.850		

CCV 2475807 10/9/2017 11:25:48 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:24:53	97.527%	105.400	98.210	100.500	0.000	46480.000	48690.000	48200.000
2	23:25:02	97.729%	106.000	98.630	99.270	0.000	49300.000	51610.000	50900.000
3	23:25:12	97.712%	105.800	97.240	99.520	0.000	49720.000	51830.000	51510.000
x		97.656%	105.712%	98.027%	99.773%	0.000	97.004%	101.423%	100.404%
σ		0.112%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		0.115	0.275	0.727	0.665	0.000	3.627	3.462	3.510

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:24:53	465.600	5097.000	0.000	48140.000	47480.000	48350.000	112.907%	97.790
2	23:25:02	494.500	5221.000	0.000	50690.000	50220.000	51190.000	107.629%	102.500
3	23:25:12	525.700	5309.000	0.000	50710.000	50560.000	51890.000	107.262%	104.800
x		99.051%	104.182%	0.000	99.695%	98.841%	100.955%	109.266%	101.677%
σ		n/a	n/a	0.000	n/a	n/a	n/a	3.159%	n/a
%RSD		6.074	2.039	0.000	2.966	3.419	3.714	2.891	3.499

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:24:53	100.100	90.640	489.100	23330.000	22850.000	93.250	95.470	99.390
2	23:25:02	100.500	93.340	515.600	23980.000	23540.000	97.800	101.700	103.700
3	23:25:12	101.800	94.130	520.300	24350.000	23700.000	97.610	98.730	100.600
x		100.788%	92.701%	101.668%	95.559%	93.450%	96.224%	98.641%	101.213%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		0.859	1.974	3.308	2.165	1.918	2.674	3.169	2.182

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:24:53	98.780	101.100	105.100	101.700	103.600	104.000	0.000	99.830
2	23:25:02	104.200	105.200	106.200	103.500	109.200	109.400	0.000	99.690
3	23:25:12	102.300	104.600	105.200	103.900	107.700	108.300	0.000	99.070
x		101.768%	103.651%	105.530%	103.053%	106.831%	107.248%	0.000	99.530%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		2.714	2.144	0.585	1.152	2.708	2.666	0.000	0.406

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:24:53	95.337%	104.000	107.500	92.535%	101.200	102.600	104.100	108.900
2	23:25:02	94.471%	103.800	109.100	92.147%	100.600	101.800	103.200	106.900
3	23:25:12	95.417%	104.300	107.200	91.494%	100.100	102.600	104.100	108.700
x		95.075%	104.021%	107.932%	92.059%	100.663%	102.318%	103.789%	108.175%
σ		0.525%	n/a	n/a	0.526%	n/a	n/a	n/a	n/a
%RSD		0.552	0.262	0.948	0.571	0.523	0.451	0.513	0.993

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:24:53	90.349%	104.700	105.000	105.500	100.500	102.500	94.816%	94.825%
2	23:25:02	90.591%	104.600	103.800	104.200	101.300	99.180	94.949%	94.145%
3	23:25:12	89.672%	102.900	103.200	104.300	99.010	98.990	95.435%	93.976%
x		90.204%	104.055%	103.988%	104.668%	100.285%	100.229%	95.067%	94.315%
σ		0.476%	n/a	n/a	n/a	n/a	n/a	0.326%	0.450%
%RSD		0.528	0.939	0.868	0.656	1.178	1.972	0.343	0.477

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	23:24:53	102.100	101.000	101.300	100.800	100.000	86.216%
2	23:25:02	102.000	101.700	100.800	99.810	100.000	85.095%
3	23:25:12	100.900	99.480	99.650	98.720	99.050	84.635%
x		101.657%	100.722%	100.571%	99.773%	99.708%	85.315%
σ		n/a	n/a	n/a	n/a	n/a	0.813%
%RSD		0.651	1.125	0.838	1.036	0.568	0.953

CCB6 10/9/2017 11:30:59 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:30:03	100.702%	0.024	1.539	1.682	0.000	8.513	14.990	14.060
2	23:30:13	100.812%	0.018	1.551	1.578	0.000	8.439	14.730	14.180
3	23:30:22	99.310%	0.036	1.686	1.536	0.000	8.157	15.030	13.650
x		100.275%	0.026	1.592	1.599	0.000	8.370	14.920	13.960
σ		0.837%	0.009	0.081	0.075	0.000	0.188	0.166	0.280
%RSD		0.835	33.570	5.102	4.712	0.000	2.244	1.112	2.004
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:30:03	0.538	-12.380	0.000	16.910	20.830	15.640	114.930%	0.023
2	23:30:13	0.470	-12.910	0.000	16.840	24.360	16.650	116.024%	0.036
3	23:30:22	0.497	-11.790	0.000	16.970	20.770	16.180	115.149%	0.037
x		0.502	-12.360	0.000	16.900	21.990	16.160	115.368%	0.032
σ		0.034	0.557	0.000	0.067	2.057	0.507	0.578%	0.008
%RSD		6.820	4.504	0.000	0.395	9.355	3.140	0.501	24.430
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:30:03	0.026	0.043	0.091	8.980	7.909	0.032	0.071	0.014
2	23:30:13	0.035	0.049	0.087	8.211	6.273	0.021	0.017	0.031
3	23:30:22	0.002	0.035	0.096	8.435	9.174	0.032	0.077	-0.003
x		0.021	0.042	0.091	8.542	7.785	0.028	0.055	0.014
σ		0.017	0.007	0.004	0.396	1.455	0.006	0.033	0.017
%RSD		80.270	15.790	4.699	4.631	18.690	21.930	60.610	121.900
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:30:03	0.024	0.600	0.551	0.038	-0.025	0.376	0.000	0.049
2	23:30:13	-0.006	0.500	0.467	0.051	-0.029	0.859	0.000	0.040
3	23:30:22	0.056	0.562	0.608	0.069	-0.011	0.563	0.000	0.051
x		0.025	0.554	0.542	0.053	-0.022	0.599	0.000	0.046
σ		0.031	0.050	0.071	0.015	0.009	0.244	0.000	0.006
%RSD		125.900	9.108	13.130	29.000	43.540	40.670	0.000	12.930
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:30:03	93.703%	0.157	0.114	90.856%	0.017	0.038	0.066	0.042
2	23:30:13	97.000%	0.118	0.102	95.182%	0.025	0.018	0.036	0.030
3	23:30:22	93.779%	0.156	0.113	92.069%	0.014	0.036	0.047	0.012
x		94.827%	0.144	0.110	92.702%	0.019	0.031	0.050	0.028
σ		1.882%	0.022	0.007	2.231%	0.006	0.011	0.015	0.015
%RSD		1.984	15.380	6.290	2.407	31.160	36.410	29.850	53.640
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:30:03	90.639%	0.120	0.055	0.085	0.209	0.124	90.943%	89.100%
2	23:30:13	92.614%	0.052	0.064	0.093	0.211	0.091	94.713%	92.496%
3	23:30:22	89.593%	0.037	0.097	0.039	0.210	0.124	91.622%	89.771%
x		90.949%	0.069	0.072	0.073	0.210	0.113	92.426%	90.455%
σ		1.534%	0.044	0.022	0.029	0.001	0.019	2.009%	1.799%
%RSD		1.686	63.720	30.150	40.330	0.476	16.900	2.174	1.988
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	23:30:03	0.017	0.027	0.049	0.033	0.041	73.161%		
2	23:30:13	0.035	0.025	0.014	0.058	0.039	75.650%		
3	23:30:22	0.044	0.031	0.019	0.075	0.040	74.588%		
x		0.032	0.028	0.027	0.056	0.040	74.466%		
σ		0.014	0.003	0.018	0.021	0.001	1.249%		
%RSD		43.240	11.360	67.420	38.030	2.728	1.677		

180-70944-C-4-B 10/9/2017 11:36:03 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:35:07	97.904%	0.011	41.190	41.930	0.000	29080.000	13530.000	13220.000
2	23:35:17	96.867%	-0.001	41.560	42.820	0.000	29290.000	13610.000	13360.000
3	23:35:26	97.012%	0.021	43.750	43.320	0.000	29450.000	13680.000	13550.000
x		97.261%	0.010	42.170	42.690	0.000	29270.000	13600.000	13380.000
σ		0.562%	0.011	1.383	0.701	0.000	185.900	75.870	164.600
%RSD		0.577	109.900	3.280	1.642	0.000	0.635	0.558	1.231

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:35:07	352.800	1453.000	0.000	4052.000	44470.000	45190.000	108.409%	11.530
2	23:35:17	358.000	1475.000	0.000	4071.000	44670.000	45240.000	108.894%	11.590
3	23:35:26	339.100	1483.000	0.000	4075.000	44700.000	45220.000	109.008%	11.920
x		349.900	1470.000	0.000	4066.000	44620.000	45210.000	108.770%	11.680
σ		9.758	15.440	0.000	12.370	126.600	25.460	0.318%	0.206
%RSD		2.788	1.050	0.000	0.304	0.284	0.056	0.292	1.765

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:35:07	9.365	3.897	36.830	4161.000	4363.000	0.527	2.081	24.590
2	23:35:17	9.977	3.827	37.320	4358.000	4525.000	0.527	2.249	24.940
3	23:35:26	8.909	3.532	37.510	4143.000	4329.000	0.529	2.070	24.780
x		9.417	3.752	37.220	4220.000	4406.000	0.528	2.133	24.770
σ		0.536	0.194	0.355	119.200	104.800	0.001	0.101	0.177
%RSD		5.694	5.160	0.953	2.824	2.380	0.261	4.718	0.713

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:35:07	24.810	83.890	85.350	4.495	0.098	4.644	0.000	249.600
2	23:35:17	25.830	88.540	88.510	4.827	0.061	4.655	0.000	267.900
3	23:35:26	24.310	83.070	87.280	4.769	0.107	4.442	0.000	246.400
x		24.980	85.170	87.050	4.697	0.089	4.580	0.000	254.600
σ		0.778	2.950	1.591	0.177	0.024	0.120	0.000	11.590
%RSD		3.114	3.464	1.828	3.778	27.570	2.620	0.000	4.553

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:35:07	97.183%	1.331	1.549	92.902%	0.004	0.010	0.018	0.080
2	23:35:17	94.690%	1.521	1.532	90.806%	-0.003	0.010	-0.000	0.041
3	23:35:26	99.682%	1.452	1.522	96.067%	0.001	-0.004	0.044	0.063
x		97.185%	1.435	1.534	93.258%	0.000	0.005	0.021	0.062
σ		2.496%	0.096	0.014	2.649%	0.004	0.008	0.022	0.020
%RSD		2.568	6.679	0.908	2.840	1611.000	150.800	107.700	31.940

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:35:07	94.217%	1.978	0.207	0.195	52.650	50.750	97.074%	97.686%
2	23:35:17	92.896%	2.178	0.189	0.261	53.810	53.310	95.068%	94.670%
3	23:35:26	97.219%	1.895	0.252	0.276	50.190	49.140	98.773%	99.232%
x		94.777%	2.017	0.216	0.244	52.220	51.070	96.972%	97.196%
σ		2.216%	0.146	0.032	0.043	1.847	2.103	1.855%	2.320%
%RSD		2.338	7.224	14.980	17.680	3.537	4.117	1.913	2.387

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	23:35:07	0.005	0.007	5.986	5.391	5.584	88.604%
2	23:35:17	-0.004	0.010	5.974	5.924	5.849	87.934%
3	23:35:26	-0.005	0.003	5.692	5.121	5.572	92.161%
x		-0.001	0.007	5.884	5.479	5.669	89.566%
σ		0.006	0.003	0.167	0.408	0.157	2.272%
%RSD		485.100	47.260	2.836	7.454	2.765	2.537

180-71002-F-1-A 10/9/2017 11:41:08 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:40:11	98.751%	0.004	12.240	12.270	0.000	13080.000	7681.000	7767.000
2	23:40:21	108.202%	0.012	9.393	10.160	0.000	10250.000	6176.000	6176.000
3	23:40:31	101.474%	0.006	11.420	12.030	0.000	12630.000	7406.000	7437.000
x		102.809%	0.007	11.020	11.490	0.000	11990.000	7088.000	7127.000
σ		4.865%	0.004	1.464	1.160	0.000	1517.000	801.600	840.100
%RSD		4.732	58.910	13.290	10.100	0.000	12.660	11.310	11.790

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:40:11	3.673	7003.000	0.000	3432.000	54830.000	55670.000	111.021%	2.646
2	23:40:21	2.957	5545.000	0.000	2619.000	42820.000	42980.000	123.973%	-589.800
3	23:40:31	3.614	6774.000	0.000	3300.000	52130.000	52930.000	115.059%	2.705
x		3.415	6441.000	0.000	3117.000	49930.000	50530.000	116.684%	-194.800
σ		0.398	784.200	0.000	436.200	6302.000	6675.000	6.627%	342.100
%RSD		11.650	12.170	0.000	13.990	12.620	13.210	5.679	175.600

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:40:11	7.915	4.165	3.000	11.020	437.500	0.214	2.788	2.697
2	23:40:21	6.465	3.815	2.378	10.520	393.300	0.236	2.552	2.717
3	23:40:31	7.143	3.876	2.890	10.510	399.800	0.248	2.798	2.868
x		7.174	3.952	2.756	10.680	410.200	0.233	2.713	2.761
σ		0.726	0.187	0.332	0.293	23.860	0.017	0.139	0.094
%RSD		10.110	4.729	12.040	2.739	5.817	7.429	5.131	3.392

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:40:11	2.930	76.450	78.030	4.240	0.273	2.268	0.000	166.700
2	23:40:21	2.907	72.900	76.090	4.159	0.534	3.161	0.000	166.000
3	23:40:31	2.973	80.290	79.560	4.716	0.387	2.849	0.000	169.400
x		2.937	76.550	77.890	4.371	0.398	2.760	0.000	167.300
σ		0.033	3.696	1.738	0.301	0.131	0.453	0.000	1.810
%RSD		1.140	4.828	2.231	6.884	32.970	16.420	0.000	1.081

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:40:11	98.584%	0.141	0.121	96.263%	-0.011	-0.007	0.009	0.018
2	23:40:21	97.905%	0.136	0.151	95.750%	-0.014	0.001	-0.000	0.028
3	23:40:31	96.683%	0.120	0.167	93.793%	-0.006	-0.006	-0.000	0.004
x		97.724%	0.132	0.146	95.269%	-0.010	-0.004	0.003	0.017
σ		0.963%	0.011	0.024	1.304%	0.004	0.005	0.005	0.012
%RSD		0.986	8.381	16.120	1.369	36.330	116.000	185.800	72.580

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:40:11	96.754%	0.219	0.034	0.089	81.350	83.580	100.330%	98.466%
2	23:40:21	96.801%	0.268	0.037	0.088	81.760	82.730	100.754%	100.448%
3	23:40:31	93.431%	0.227	0.028	0.099	83.890	85.240	97.508%	97.068%
x		95.662%	0.238	0.033	0.092	82.330	83.850	99.531%	98.661%
σ		1.932%	0.026	0.004	0.006	1.367	1.279	1.764%	1.698%
%RSD		2.020	10.950	13.520	6.622	1.660	1.525	1.773	1.722

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	23:40:11	-0.007	-0.003	0.427	0.397	0.385	92.468%
2	23:40:21	-0.005	-0.000	0.403	0.375	0.353	92.537%
3	23:40:31	-0.002	-0.002	0.365	0.440	0.411	89.177%
x		-0.004	-0.002	0.398	0.404	0.383	91.394%
σ		0.002	0.001	0.031	0.033	0.029	1.920%
%RSD		55.280	85.480	7.795	8.122	7.547	2.101

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:45:16	100.986%	-0.006	3.202	3.131	0.000	2521.000	1507.000	1458.000
2	23:45:26	100.681%	-0.002	3.065	3.244	0.000	2541.000	1525.000	1482.000
3	23:45:35	99.194%	-0.007	3.172	3.159	0.000	2516.000	1523.000	1482.000
x		100.287%	-0.005	3.146	3.178	0.000	2526.000	1518.000	1474.000
σ		0.959%	0.003	0.072	0.059	0.000	13.210	9.991	13.920
%RSD		0.956	55.060	2.290	1.856	0.000	0.523	0.658	0.945
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:45:16	2.043	1297.000	0.000	651.900	10380.000	9998.000	117.111%	0.568
2	23:45:26	2.074	1295.000	0.000	650.900	10310.000	10480.000	115.333%	0.480
3	23:45:35	2.021	1311.000	0.000	656.700	10350.000	9916.000	115.576%	0.612
x		2.046	1301.000	0.000	653.100	10350.000	10130.000	116.007%	0.554
σ		0.027	8.786	0.000	3.114	38.750	304.200	0.964%	0.067
%RSD		1.298	0.675	0.000	0.477	0.375	3.003	0.831	12.170
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:45:16	1.367	0.876	0.435	0.315	76.830	0.063	0.507	0.532
2	23:45:26	1.476	0.843	0.512	0.734	86.350	0.034	0.608	0.578
3	23:45:35	1.466	0.769	0.499	0.673	84.010	0.038	0.460	0.515
x		1.436	0.830	0.482	0.574	82.400	0.045	0.525	0.542
σ		0.060	0.055	0.041	0.226	4.963	0.015	0.076	0.033
%RSD		4.179	6.581	8.477	39.400	6.024	34.330	14.430	6.066
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:45:16	0.519	16.120	16.050	0.332	-0.027	0.922	0.000	32.450
2	23:45:26	0.519	16.170	15.740	0.339	0.143	0.941	0.000	33.390
3	23:45:35	0.608	14.830	16.110	0.349	-0.000	1.350	0.000	32.670
x		0.549	15.710	15.970	0.340	0.039	1.071	0.000	32.840
σ		0.051	0.758	0.203	0.008	0.091	0.242	0.000	0.496
%RSD		9.365	4.826	1.273	2.477	235.800	22.590	0.000	1.509
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:45:16	94.483%	0.286	0.360	90.850%	-0.011	-0.003	-0.000	-0.007
2	23:45:26	94.299%	0.242	0.347	89.981%	-0.003	-0.000	-0.000	-0.003
3	23:45:35	96.127%	0.405	0.362	90.411%	-0.001	-0.006	-0.000	0.005
x		94.970%	0.311	0.357	90.414%	-0.005	-0.003	-0.000	-0.002
σ		1.007%	0.085	0.008	0.434%	0.005	0.003	0.000	0.006
%RSD		1.060	27.220	2.261	0.481	107.100	85.130	7.632	343.500
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:45:16	89.306%	0.103	0.023	0.039	15.910	16.680	89.974%	89.086%
2	23:45:26	88.412%	0.171	0.023	0.033	17.820	17.840	88.881%	87.267%
3	23:45:35	88.650%	0.087	0.019	0.058	16.320	17.120	90.190%	87.771%
x		88.789%	0.120	0.022	0.043	16.680	17.210	89.682%	88.042%
σ		0.463%	0.045	0.002	0.013	1.002	0.585	0.702%	0.939%
%RSD		0.522	36.970	9.892	30.320	6.008	3.399	0.783	1.067
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	23:45:16	0.015	0.003	0.093	0.107	0.101	71.740%		
2	23:45:26	0.012	0.007	0.111	0.087	0.091	69.878%		
3	23:45:35	0.012	0.005	0.101	0.105	0.086	69.715%		
x		0.013	0.005	0.102	0.100	0.092	70.444%		
σ		0.001	0.002	0.009	0.011	0.007	1.125%		
%RSD		9.992	49.110	8.799	10.760	7.952	1.597		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:50:20	98.537%	55.350	1098.000	1115.000	0.000	61300.000	58470.000	57490.000
2	23:50:30	98.724%	55.790	1091.000	1116.000	0.000	58500.000	56000.000	55200.000
3	23:50:39	98.133%	56.260	1103.000	1117.000	0.000	59330.000	57260.000	56160.000
x		98.464%	55.800	1098.000	1116.000	0.000	59710.000	57240.000	56280.000
σ		0.302%	0.454	6.004	1.310	0.000	1439.000	1234.000	1151.000
%RSD		0.307	0.814	0.547	0.117	0.000	2.411	2.156	2.045
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:50:20	2044.000	16750.000	0.000	52850.000	102100.000	104000.000	106.923%	1014.000
2	23:50:30	1951.000	16460.000	0.000	49650.000	97050.000	99080.000	113.257%	968.700
3	23:50:39	2003.000	16750.000	0.000	51070.000	97460.000	100700.000	112.159%	982.500
x		1999.000	16650.000	0.000	51190.000	98860.000	101300.000	110.780%	988.400
σ		46.470	169.300	0.000	1605.000	2790.000	2497.000	3.385%	23.170
%RSD		2.324	1.017	0.000	3.136	2.822	2.466	3.055	2.345
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:50:20	762.100	333.000	534.700	2055.000	3924.000	1246.000	1290.000	750.600
2	23:50:30	755.300	337.000	514.200	2121.000	4038.000	1299.000	1336.000	774.000
3	23:50:39	791.700	350.300	524.700	2169.000	4100.000	1318.000	1392.000	804.700
x		769.700	340.100	524.500	2115.000	4021.000	1288.000	1339.000	776.400
σ		19.380	9.053	10.230	57.400	89.430	36.910	51.310	27.160
%RSD		2.518	2.662	1.950	2.715	2.224	2.866	3.831	3.498
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:50:20	794.400	1870.000	1991.000	196.600	51.500	53.570	0.000	5434.000
2	23:50:30	850.900	1984.000	2117.000	211.000	50.730	66.090	0.000	5919.000
3	23:50:39	881.500	2071.000	2180.000	218.800	56.560	61.520	0.000	6108.000
x		842.300	1975.000	2096.000	208.800	52.930	60.390	0.000	5820.000
σ		44.200	100.900	95.790	11.280	3.169	6.334	0.000	347.700
%RSD		5.248	5.112	4.570	5.403	5.987	10.490	0.000	5.974
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:50:20	18.603%	3617.000	2783.000	86.587%	53.320	53.450	56.690	115.700
2	23:50:30	17.154%	3910.000	2958.000	88.092%	53.010	53.620	57.670	115.800
3	23:50:39	16.713%	3986.000	3035.000	89.417%	53.110	53.490	57.490	113.200
x		17.490%	3838.000	2925.000	88.032%	53.150	53.520	57.280	114.900
σ		0.989%	194.500	129.100	1.416%	0.161	0.089	0.521	1.454
%RSD		5.654	5.068	4.412	1.608	0.303	0.166	0.909	1.265
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:50:20	88.650%	2210.000	535.200	542.400	2129.000	2129.000	93.359%	93.050%
2	23:50:30	89.492%	2186.000	533.400	536.600	2100.000	2102.000	96.079%	96.389%
3	23:50:39	90.909%	2179.000	530.300	537.000	2079.000	2073.000	96.332%	96.482%
x		89.684%	2192.000	532.900	538.600	2103.000	2101.000	95.257%	95.307%
σ		1.141%	16.420	2.483	3.286	25.160	28.020	1.648%	1.955%
%RSD		1.273	0.749	0.466	0.610	1.197	1.333	1.730	2.052
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	23:50:20	53.830	53.210	22.320	21.540	22.030	82.563%		
2	23:50:30	52.390	51.230	21.390	21.760	21.640	84.964%		
3	23:50:39	51.310	51.470	21.780	22.310	21.600	85.334%		
x		52.510	51.970	21.830	21.870	21.760	84.287%		
σ		1.268	1.077	0.469	0.400	0.241	1.504%		
%RSD		2.414	2.072	2.146	1.829	1.106	1.785		

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:55:25	99.197%	56.470	1113.000	1135.000	0.000	63020.000	60490.000	59680.000
2	23:55:35	100.244%	57.180	1113.000	1131.000	0.000	63200.000	61250.000	60230.000
3	23:55:44	99.424%	57.330	1119.000	1151.000	0.000	59140.000	57340.000	56440.000
x		99.622%	56.990	1115.000	1139.000	0.000	61780.000	59690.000	58790.000
σ		0.551%	0.455	3.569	10.380	0.000	2294.000	2071.000	2051.000
%RSD		0.553	0.799	0.320	0.911	0.000	3.713	3.469	3.489
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:55:25	2103.000	17380.000	0.000	53540.000	104400.000	107300.000	108.569%	1051.000
2	23:55:35	2115.000	17540.000	0.000	53680.000	104800.000	107200.000	109.498%	1073.000
3	23:55:44	1978.000	16990.000	0.000	49740.000	97000.000	100000.000	117.479%	997.200
x		2065.000	17300.000	0.000	52320.000	102100.000	104900.000	111.848%	1041.000
σ		75.860	282.900	0.000	2235.000	4416.000	4168.000	4.898%	39.170
%RSD		3.673	1.635	0.000	4.272	4.326	3.975	4.379	3.764
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:55:25	807.900	357.700	571.300	2244.000	4205.000	1377.000	1446.000	850.400
2	23:55:35	452.600	191.900	537.700	967.000	1696.000	505.200	500.600	266.200
3	23:55:44	624.800	274.000	504.400	1661.000	3105.000	996.400	1019.000	591.400
x		628.400	274.600	537.800	1624.000	3002.000	959.700	988.400	569.300
σ		177.700	82.910	33.460	639.100	1258.000	437.300	473.300	292.800
%RSD		28.270	30.200	6.222	39.360	41.890	45.560	47.890	51.420
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:55:25	922.800	2190.000	2352.000	225.600	58.990	70.750	0.000	6407.000
2	23:55:35	273.300	623.300	632.000	49.730	11.820	12.130	0.000	1101.000
3	23:55:44	621.000	1460.000	1586.000	148.900	37.050	46.210	0.000	4070.000
x		605.700	1424.000	1523.000	141.400	35.950	43.030	0.000	3859.000
σ		325.000	783.800	861.700	88.160	23.600	29.440	0.000	2659.000
%RSD		53.660	55.030	56.570	62.350	65.650	68.420	0.000	68.900
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:55:25	16.193%	4206.000	3181.000	91.514%	53.260	53.630	56.640	114.100
2	23:55:35	96.153%	1128.000	1173.000	90.020%	55.110	56.050	57.560	117.700
3	23:55:44	25.384%	2852.000	2294.000	90.739%	53.610	54.580	57.490	116.100
x		45.910%	2729.000	2216.000	90.758%	53.990	54.750	57.230	115.900
σ		43.754%	1543.000	1007.000	0.747%	0.980	1.219	0.512	1.781
%RSD		95.303	56.540	45.430	0.823	1.815	2.227	0.895	1.536
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:55:25	92.613%	2195.000	536.300	539.900	2088.000	2075.000	96.374%	96.074%
2	23:55:35	89.591%	2239.000	550.900	554.100	2113.000	2129.000	97.793%	96.626%
3	23:55:44	90.814%	2202.000	536.300	540.400	2070.000	2075.000	99.147%	97.422%
x		91.006%	2212.000	541.200	544.800	2090.000	2093.000	97.771%	96.707%
σ		1.520%	23.480	8.419	8.062	21.610	31.120	1.387%	0.678%
%RSD		1.671	1.062	1.556	1.480	1.034	1.487	1.418	0.701
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	23:55:25	52.710	51.580	21.620	22.370	21.480	86.235%		
2	23:55:35	51.870	51.920	21.940	21.890	21.500	86.695%		
3	23:55:44	52.780	52.320	21.950	21.710	21.570	85.982%		
x		52.450	51.940	21.840	21.990	21.520	86.304%		
σ		0.507	0.368	0.190	0.345	0.046	0.362%		
%RSD		0.967	0.709	0.871	1.569	0.216	0.419		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:00:29	98.133%	55.730	1093.000	1116.000	0.000	60180.000	58110.000	56190.000
2	00:00:39	98.144%	56.120	1099.000	1130.000	0.000	61800.000	59620.000	58130.000
3	00:00:48	98.539%	55.870	1101.000	1129.000	0.000	62510.000	60180.000	58650.000
x		98.272%	55.910	1098.000	1125.000	0.000	61500.000	59300.000	57660.000
σ		0.232%	0.197	4.367	7.980	0.000	1194.000	1069.000	1295.000
%RSD		0.236	0.353	0.398	0.709	0.000	1.942	1.803	2.246

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:00:29	1998.000	16380.000	0.000	50950.000	95970.000	99760.000	112.653%	991.200
2	00:00:39	2043.000	16750.000	0.000	51960.000	98840.000	101500.000	111.144%	1003.000
3	00:00:48	2081.000	16890.000	0.000	52250.000	98240.000	102400.000	110.225%	1005.000
x		2041.000	16670.000	0.000	51720.000	97690.000	101200.000	111.341%	999.800
σ		41.450	265.300	0.000	679.400	1515.000	1346.000	1.226%	7.593
%RSD		2.031	1.591	0.000	1.314	1.551	1.329	1.101	0.760

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:00:29	430.400	178.700	517.600	909.400	1633.000	494.900	489.400	260.900
2	00:00:39	446.600	186.600	531.400	961.700	1710.000	510.300	513.600	269.000
3	00:00:48	427.800	185.400	539.300	938.200	1632.000	496.500	492.800	259.300
x		434.900	183.500	529.400	936.400	1658.000	500.600	498.600	263.100
σ		10.210	4.242	10.990	26.150	44.640	8.508	13.100	5.193
%RSD		2.348	2.311	2.076	2.793	2.692	1.700	2.628	1.974

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:00:29	260.400	602.100	619.300	48.750	11.910	13.830	0.000	1219.000
2	00:00:39	269.100	628.200	641.800	51.680	11.310	11.870	0.000	1244.000
3	00:00:48	265.600	613.100	622.700	48.780	12.540	12.530	0.000	1185.000
x		265.000	614.500	627.900	49.730	11.920	12.740	0.000	1216.000
σ		4.378	13.100	12.130	1.683	0.619	0.999	0.000	29.830
%RSD		1.652	2.132	1.931	3.384	5.193	7.835	0.000	2.454

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:00:29	86.862%	1138.000	1183.000	80.995%	46.210	46.450	57.540	117.300
2	00:00:39	86.536%	1197.000	1231.000	78.948%	49.120	50.130	60.700	123.300
3	00:00:48	88.258%	1130.000	1163.000	80.355%	47.200	48.700	58.280	118.800
x		87.219%	1155.000	1193.000	80.099%	47.510	48.430	58.840	119.800
σ		0.914%	36.810	34.900	1.047%	1.477	1.856	1.655	3.107
%RSD		1.048	3.187	2.926	1.308	3.109	3.832	2.812	2.594

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:00:29	80.617%	2224.000	531.700	538.000	2062.000	2059.000	86.683%	85.975%
2	00:00:39	77.837%	2333.000	561.500	572.400	2189.000	2202.000	85.037%	83.845%
3	00:00:48	79.084%	2213.000	542.100	546.800	2117.000	2092.000	86.399%	85.060%
x		79.179%	2257.000	545.100	552.400	2122.000	2118.000	86.040%	84.960%
σ		1.392%	66.760	15.130	17.860	63.680	75.120	0.880%	1.069%
%RSD		1.758	2.958	2.775	3.233	3.000	3.548	1.023	1.258

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	00:00:29	53.880	52.650	22.180	21.380	21.700	65.896%
2	00:00:39	56.030	53.790	23.080	22.780	22.690	63.789%
3	00:00:48	53.530	51.890	21.880	21.660	21.610	64.452%
x		54.480	52.780	22.380	21.940	22.000	64.712%
σ		1.354	0.958	0.625	0.740	0.597	1.077%
%RSD		2.485	1.815	2.790	3.374	2.714	1.665

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:10:02	99.509%	0.001	1.468	1.447	0.000	-8.753	0.326	0.388
2	00:10:12	100.862%	-0.001	1.319	1.333	0.000	-8.312	0.290	0.419
3	00:10:21	99.326%	0.012	1.415	1.309	0.000	-8.362	0.298	0.309
x		99.899%	0.004	1.401	1.363	0.000	-8.476	0.305	0.372
σ		0.839%	0.007	0.076	0.074	0.000	0.242	0.018	0.056
%RSD		0.840	165.900	5.404	5.414	0.000	2.850	6.035	15.170

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:10:02	-0.164	-12.820	0.000	-1.003	7.438	3.701	121.139%	0.010
2	00:10:12	0.075	-8.956	0.000	3.619	11.500	4.404	113.318%	0.060
3	00:10:21	-0.008	-9.540	0.000	4.246	20.830	5.092	112.666%	0.032
x		-0.032	-10.440	0.000	2.287	13.260	4.399	115.707%	0.034
σ		0.122	2.085	0.000	2.866	6.866	0.696	4.715%	0.025
%RSD		375.400	19.970	0.000	125.300	51.800	15.810	4.075	73.860

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:10:02	0.619	0.291	-0.117	-1.803	-4.081	-0.005	0.023	0.001
2	00:10:12	0.594	0.263	-0.100	-1.686	-2.732	0.005	0.000	-0.000
3	00:10:21	0.631	0.267	-0.096	-1.640	-2.189	0.012	0.010	0.012
x		0.614	0.274	-0.104	-1.710	-3.001	0.004	0.011	0.004
σ		0.019	0.015	0.011	0.084	0.974	0.009	0.011	0.007
%RSD		3.055	5.610	10.730	4.912	32.470	227.700	102.300	164.000

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:10:02	-0.064	-0.196	0.152	0.086	-0.063	0.287	0.000	0.011
2	00:10:12	-0.067	-0.087	0.051	0.100	-0.010	-0.579	0.000	0.006
3	00:10:21	0.042	0.037	-0.312	0.082	-0.037	0.813	0.000	0.012
x		-0.030	-0.082	-0.036	0.089	-0.037	0.174	0.000	0.010
σ		0.062	0.117	0.244	0.009	0.026	0.703	0.000	0.003
%RSD		208.100	142.700	673.300	10.030	71.930	404.900	0.000	32.580

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:10:02	103.427%	0.267	0.166	105.654%	-0.007	0.000	-0.000	-0.007
2	00:10:12	104.603%	0.144	0.146	107.572%	-0.014	-0.007	-0.000	-0.000
3	00:10:21	105.635%	0.201	0.170	105.791%	-0.009	-0.009	-0.000	0.023
x		104.555%	0.204	0.161	106.339%	-0.010	-0.005	-0.000	0.005
σ		1.105%	0.062	0.012	1.070%	0.003	0.005	0.000	0.015
%RSD		1.057	30.330	7.729	1.006	32.570	92.930	3.229	299.700

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:10:02	104.346%	0.140	0.098	0.091	0.024	0.055	102.352%	102.589%
2	00:10:12	103.508%	0.147	0.117	0.051	-0.018	0.025	103.902%	103.975%
3	00:10:21	104.517%	0.111	0.072	0.069	-0.019	0.041	105.262%	104.329%
x		104.124%	0.133	0.096	0.070	-0.004	0.040	103.839%	103.631%
σ		0.540%	0.019	0.023	0.020	0.024	0.015	1.456%	0.919%
%RSD		0.519	14.330	24.100	28.830	582.200	36.780	1.402	0.887

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	00:10:02	0.014	0.031	0.004	0.018	0.007	101.327%
2	00:10:12	0.020	0.015	-0.003	-0.002	-0.008	102.892%
3	00:10:21	0.036	0.026	-0.013	0.017	-0.006	104.467%
x		0.023	0.024	-0.004	0.011	-0.002	102.895%
σ		0.011	0.008	0.009	0.011	0.008	1.570%
%RSD		48.890	34.050	218.700	101.400	348.000	1.526

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:15:07	99.608%	54.210	1063.000	1080.000	0.000	47090.000	49290.000	48100.000
2	00:15:16	100.929%	54.410	1058.000	1088.000	0.000	48280.000	50420.000	48890.000
3	00:15:26	99.397%	55.210	1067.000	1088.000	0.000	48440.000	50610.000	49340.000
x		99.978%	54.610	1063.000	1085.000	0.000	47940.000	50110.000	48780.000
σ		0.830%	0.530	4.280	4.193	0.000	739.300	713.800	628.500
%RSD		0.830	0.970	0.403	0.386	0.000	1.542	1.425	1.288

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:15:07	1953.000	9906.000	0.000	46140.000	47440.000	48490.000	112.368%	957.000
2	00:15:16	1990.000	9931.000	0.000	47380.000	48140.000	49990.000	110.621%	970.800
3	00:15:26	1998.000	10090.000	0.000	47620.000	48590.000	49840.000	110.278%	972.700
x		1980.000	9977.000	0.000	47040.000	48060.000	49440.000	111.089%	966.800
σ		23.710	102.000	0.000	794.400	581.800	826.800	1.121%	8.573
%RSD		1.197	1.023	0.000	1.689	1.211	1.672	1.009	0.887

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:15:07	416.900	172.300	512.800	866.000	1189.000	466.800	464.400	242.700
2	00:15:16	424.600	176.500	522.600	872.600	1196.000	477.700	470.200	250.800
3	00:15:26	421.500	176.400	528.200	882.300	1193.000	478.100	483.700	252.800
x		421.000	175.100	521.200	873.600	1193.000	474.200	472.800	248.800
σ		3.898	2.378	7.787	8.205	3.458	6.445	9.887	5.339
%RSD		0.926	1.358	1.494	0.939	0.290	1.359	2.091	2.146

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:15:07	246.100	502.800	508.200	43.770	10.270	11.330	0.000	971.700
2	00:15:16	250.500	515.600	516.500	43.440	11.080	13.110	0.000	975.100
3	00:15:26	253.500	523.300	531.200	45.550	11.230	11.030	0.000	991.200
x		250.000	513.900	518.700	44.250	10.860	11.820	0.000	979.300
σ		3.692	10.350	11.640	1.136	0.517	1.122	0.000	10.410
%RSD		1.477	2.014	2.245	2.567	4.761	9.493	0.000	1.063

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:15:07	94.368%	1042.000	1088.000	85.325%	51.650	52.360	55.340	112.300
2	00:15:16	92.882%	1039.000	1078.000	85.423%	51.360	52.140	56.420	111.400
3	00:15:26	91.163%	1056.000	1101.000	83.328%	52.100	53.660	55.970	112.100
x		92.805%	1046.000	1089.000	84.692%	51.700	52.720	55.910	111.900
σ		1.604%	9.381	11.440	1.182%	0.372	0.821	0.545	0.452
%RSD		1.728	0.897	1.050	1.396	0.720	1.557	0.976	0.403

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:15:07	84.194%	2072.000	510.600	516.100	1937.000	1942.000	90.771%	91.099%
2	00:15:16	83.414%	2104.000	511.900	522.700	1928.000	1920.000	90.618%	89.115%
3	00:15:26	82.006%	2104.000	518.100	526.800	1943.000	1923.000	89.620%	88.710%
x		83.205%	2093.000	513.500	521.900	1936.000	1928.000	90.336%	89.642%
σ		1.109%	18.260	4.031	5.424	7.241	11.850	0.625%	1.278%
%RSD		1.333	0.873	0.785	1.039	0.374	0.615	0.692	1.426

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	00:15:07	50.640	48.730	20.010	19.830	19.760	73.874%
2	00:15:16	49.930	48.950	20.910	20.200	20.160	71.785%
3	00:15:26	50.670	49.400	20.970	19.880	20.220	69.290%
x		50.410	49.030	20.630	19.970	20.050	71.650%
σ		0.418	0.345	0.541	0.204	0.248	2.295%
%RSD		0.829	0.703	2.621	1.023	1.239	3.203

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:20:12	97.004%	-0.007	5.065	5.047	0.000	3232.000	3470.000	3398.000
2	00:20:22	98.058%	0.015	4.517	4.973	0.000	3225.000	3472.000	3391.000
3	00:20:31	96.681%	0.007	4.812	5.227	0.000	3343.000	3599.000	3510.000
x		97.248%	0.005	4.798	5.082	0.000	3266.000	3514.000	3433.000
σ		0.720%	0.011	0.274	0.131	0.000	66.060	74.000	66.730
%RSD		0.740	221.100	5.715	2.570	0.000	2.022	2.106	1.944

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:20:12	5.581	6254.000	0.000	2261.000	52250.000	53600.000	110.622%	2.186
2	00:20:22	5.160	6182.000	0.000	2213.000	51700.000	52940.000	112.816%	2.357
3	00:20:31	5.549	6361.000	0.000	2287.000	53470.000	54790.000	109.811%	2.158
x		5.430	6266.000	0.000	2253.000	52470.000	53780.000	111.083%	2.234
σ		0.235	89.670	0.000	37.450	910.000	933.400	1.555%	0.108
%RSD		4.318	1.431	0.000	1.662	1.734	1.736	1.400	4.829

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:20:12	6.418	3.129	1.313	10.590	424.100	0.135	1.832	1.244
2	00:20:22	7.402	2.974	1.296	10.910	422.500	0.150	1.700	1.276
3	00:20:31	6.824	2.954	1.374	10.810	396.300	0.141	1.470	1.317
x		6.881	3.019	1.328	10.770	414.300	0.142	1.667	1.279
σ		0.495	0.096	0.041	0.163	15.600	0.008	0.183	0.037
%RSD		7.187	3.170	3.066	1.511	3.765	5.436	10.970	2.872

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:20:12	1.418	8.950	8.573	4.355	0.016	1.829	0.000	103.700
2	00:20:22	1.460	8.700	8.935	4.421	-0.027	2.691	0.000	106.900
3	00:20:31	1.470	8.664	9.505	4.472	0.055	1.869	0.000	108.600
x		1.450	8.771	9.005	4.416	0.015	2.129	0.000	106.400
σ		0.028	0.156	0.470	0.059	0.041	0.487	0.000	2.486
%RSD		1.909	1.779	5.221	1.328	281.600	22.850	0.000	2.337

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:20:12	95.780%	0.679	0.619	91.554%	0.004	0.005	0.019	0.031
2	00:20:22	95.959%	0.369	0.576	92.727%	-0.013	-0.009	0.009	0.033
3	00:20:31	97.509%	0.382	0.478	93.727%	0.001	0.010	0.018	0.026
x		96.416%	0.477	0.557	92.670%	-0.003	0.002	0.015	0.030
σ		0.951%	0.175	0.072	1.088%	0.009	0.010	0.005	0.004
%RSD		0.986	36.770	12.970	1.174	336.200	528.200	35.450	12.390

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:20:12	90.470%	0.563	0.150	0.216	37.730	38.260	96.364%	95.042%
2	00:20:22	93.413%	0.524	0.117	0.192	38.210	37.690	98.320%	96.464%
3	00:20:31	93.399%	0.421	0.180	0.168	38.710	38.770	99.573%	98.921%
x		92.427%	0.503	0.149	0.192	38.220	38.240	98.086%	96.809%
σ		1.695%	0.074	0.032	0.024	0.488	0.543	1.618%	1.963%
%RSD		1.834	14.640	21.320	12.680	1.276	1.420	1.649	2.027

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	00:20:12	0.096	0.121	0.161	0.151	0.130	86.610%
2	00:20:22	0.115	0.116	0.079	0.174	0.127	88.447%
3	00:20:31	0.090	0.090	0.125	0.120	0.119	91.508%
x		0.100	0.109	0.122	0.148	0.125	88.855%
σ		0.013	0.017	0.041	0.028	0.006	2.475%
%RSD		13.010	15.180	33.830	18.600	4.609	2.785

PB 180-224411/1-D 10/10/2017 12:30:10 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:29:12	97.689%	-0.002	1.001	0.973	0.000	-7.259	0.850	0.866
2	00:29:22	98.144%	-0.003	0.901	0.949	0.000	-7.507	0.685	0.779
3	00:29:31	98.040%	0.005	0.838	0.984	0.000	-7.227	0.974	0.930
x		97.957%	0.000	0.913	0.969	0.000	-7.331	0.836	0.858
σ		0.239%	0.004	0.082	0.018	0.000	0.153	0.145	0.076
%RSD		0.244	1401.000	9.012	1.813	0.000	2.092	17.320	8.856

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:29:12	-0.061	-10.640	0.000	2.421	11.020	4.805	111.088%	0.034
2	00:29:22	-0.151	-13.340	0.000	-2.023	8.317	4.413	118.323%	0.012
3	00:29:31	-0.092	-10.950	0.000	1.048	15.650	4.051	112.031%	0.019
x		-0.101	-11.640	0.000	0.482	11.660	4.423	113.814%	0.022
σ		0.046	1.480	0.000	2.275	3.707	0.377	3.934%	0.011
%RSD		45.200	12.710	0.000	472.100	31.790	8.531	3.456	51.580

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:29:12	0.257	0.116	-0.121	-1.844	-3.546	-0.004	0.018	0.340
2	00:29:22	0.266	0.086	-0.139	-1.823	-0.375	0.009	0.015	0.305
3	00:29:31	0.312	0.099	-0.128	-1.753	-1.540	-0.001	0.028	0.265
x		0.278	0.101	-0.129	-1.807	-1.820	0.002	0.020	0.303
σ		0.030	0.015	0.009	0.047	1.604	0.007	0.007	0.038
%RSD		10.740	15.020	7.007	2.617	88.120	462.500	33.610	12.490

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:29:12	0.320	0.234	0.089	0.050	-0.072	-0.767	0.000	0.019
2	00:29:22	0.250	0.024	0.111	0.052	-0.046	0.317	0.000	0.011
3	00:29:31	0.292	-0.031	0.197	0.043	-0.099	0.253	0.000	0.008
x		0.287	0.076	0.132	0.048	-0.072	-0.066	0.000	0.013
σ		0.035	0.140	0.057	0.005	0.027	0.608	0.000	0.006
%RSD		12.160	184.100	42.810	9.929	37.050	925.400	0.000	44.590

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:29:12	100.343%	0.155	0.111	99.322%	-0.011	0.004	-0.000	0.025
2	00:29:22	99.157%	0.059	0.117	99.105%	-0.011	-0.009	-0.000	0.004
3	00:29:31	100.037%	0.064	0.068	99.190%	-0.011	-0.004	-0.000	-0.007
x		99.846%	0.093	0.098	99.206%	-0.011	-0.003	-0.000	0.007
σ		0.616%	0.054	0.027	0.110%	0.000	0.006	0.000	0.016
%RSD		0.617	57.900	27.380	0.110	0.098	199.600	15.700	223.400

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:29:12	97.601%	0.049	0.009	0.001	0.009	-0.011	100.334%	99.717%
2	00:29:22	96.787%	0.041	0.006	-0.002	0.043	0.008	99.268%	99.363%
3	00:29:31	96.696%	0.053	0.013	0.018	0.030	0.049	102.718%	100.881%
x		97.028%	0.047	0.009	0.006	0.027	0.015	100.773%	99.987%
σ		0.498%	0.006	0.003	0.011	0.017	0.030	1.767%	0.794%
%RSD		0.513	12.900	35.710	180.700	63.850	198.500	1.753	0.794

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	00:29:12	0.027	0.026	-0.001	0.021	0.020	94.535%
2	00:29:22	0.016	0.027	-0.004	-0.008	-0.000	91.906%
3	00:29:31	0.026	0.036	0.023	0.027	0.017	91.227%
x		0.023	0.029	0.006	0.013	0.012	92.556%
σ		0.006	0.006	0.015	0.019	0.011	1.747%
%RSD		25.290	19.010	249.100	143.100	90.950	1.887

CCV 2475807 10/10/2017 12:35:14 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:34:17	97.280%	103.700	95.880	97.330	0.000	46430.000	47730.000	46790.000
2	00:34:27	100.991%	101.200	92.620	93.870	0.000	47760.000	49220.000	48110.000
3	00:34:36	93.574%	112.500	105.000	105.600	0.000	52240.000	54120.000	52820.000
x		97.282%	105.809%	97.837%	98.929%	0.000	97.623%	100.715%	98.480%
σ		3.708%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		3.812	5.633	6.561	6.081	0.000	6.238	6.643	6.430
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:34:17	478.500	4981.000	0.000	47250.000	47070.000	49020.000	110.109%	95.220
2	00:34:27	499.700	4926.000	0.000	47500.000	47540.000	49440.000	108.747%	97.130
3	00:34:36	554.100	5532.000	0.000	52450.000	53120.000	54860.000	102.747%	107.400
x		102.152%	102.928%	0.000	98.136%	98.482%	102.214%	107.201%	99.918%
σ		n/a	n/a	0.000	n/a	n/a	n/a	3.917%	n/a
%RSD		7.636	6.515	0.000	5.980	6.831	6.377	3.654	6.557
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:34:17	107.800	89.080	503.400	23030.000	22410.000	92.140	93.130	97.930
2	00:34:27	107.000	90.510	515.300	23270.000	22920.000	93.900	96.330	99.670
3	00:34:36	103.600	96.090	569.200	24320.000	23810.000	98.420	100.600	104.000
x		106.145%	91.892%	105.856%	94.164%	92.176%	94.820%	96.681%	100.531%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.132	4.033	6.621	2.918	3.064	3.419	3.867	3.104
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:34:17	101.600	101.900	103.600	101.900	108.000	104.900	0.000	98.300
2	00:34:27	100.000	103.300	103.400	102.700	105.000	97.470	0.000	98.170
3	00:34:36	102.800	107.300	111.000	104.500	105.100	108.900	0.000	98.440
x		101.482%	104.145%	106.019%	103.060%	106.029%	103.761%	0.000	98.301%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		1.377	2.709	4.088	1.290	1.615	5.592	0.000	0.135
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:34:17	88.484%	103.700	107.200	84.353%	100.100	100.200	103.900	107.600
2	00:34:27	90.781%	103.200	108.700	86.826%	98.320	99.840	104.600	106.200
3	00:34:36	91.919%	103.500	107.900	88.629%	99.900	99.050	101.400	106.300
x		90.394%	103.436%	107.910%	86.602%	99.443%	99.678%	103.312%	106.714%
σ		1.750%	n/a	n/a	2.147%	n/a	n/a	n/a	n/a
%RSD		1.936	0.250	0.713	2.479	0.985	0.571	1.623	0.693
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:34:17	81.532%	104.100	100.100	104.100	98.070	97.250	87.315%	84.587%
2	00:34:27	85.307%	103.000	101.700	103.400	95.890	96.950	90.138%	88.030%
3	00:34:36	88.515%	100.600	100.700	102.700	97.510	98.820	92.871%	90.214%
x		85.118%	102.585%	100.839%	103.419%	97.157%	97.677%	90.108%	87.611%
σ		3.495%	n/a	n/a	n/a	n/a	n/a	2.778%	2.837%
%RSD		4.107	1.739	0.838	0.669	1.167	1.029	3.083	3.238
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	00:34:17	102.200	99.910	101.700	100.600	99.800	65.529%		
2	00:34:27	102.700	99.700	101.500	99.540	99.480	70.495%		
3	00:34:36	102.200	100.000	100.200	100.300	99.220	76.092%		
x		102.362%	99.881%	101.144%	100.151%	99.499%	70.705%		
σ		n/a	n/a	n/a	n/a	n/a	5.285%		
%RSD		0.276	0.172	0.793	0.543	0.291	7.474		

CCB7 10/10/2017 12:40:22 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:39:25	100.433%	0.036	0.804	0.873	0.000	11.480	17.080	16.040
2	00:39:34	97.966%	0.029	0.997	0.928	0.000	11.610	17.430	16.170
3	00:39:44	99.555%	0.046	0.927	0.975	0.000	10.380	15.660	15.400
x		99.318%	0.037	0.910	0.925	0.000	11.160	16.730	15.870
σ		1.251%	0.009	0.098	0.051	0.000	0.678	0.936	0.413
%RSD		1.259	23.140	10.740	5.516	0.000	6.077	5.598	2.602

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:39:25	0.703	-90.670	0.000	24.530	24.200	18.290	111.590%	0.048
2	00:39:34	0.769	-7.156	0.000	25.840	23.570	20.610	109.788%	0.043
3	00:39:44	0.646	-9.447	0.000	21.670	27.880	17.910	114.264%	0.073
x		0.706	-35.760	0.000	24.010	25.220	18.940	111.881%	0.055
σ		0.061	47.570	0.000	2.134	2.327	1.462	2.252%	0.016
%RSD		8.712	133.000	0.000	8.888	9.227	7.722	2.013	29.330

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:39:25	0.028	0.043	0.120	10.650	10.560	0.043	0.054	0.070
2	00:39:34	0.032	0.057	0.142	10.190	13.560	0.046	0.060	0.041
3	00:39:44	0.023	0.036	0.083	9.604	13.540	0.050	0.041	0.073
x		0.028	0.045	0.115	10.150	12.560	0.047	0.051	0.061
σ		0.005	0.011	0.030	0.525	1.727	0.003	0.010	0.017
%RSD		18.160	24.110	25.770	5.170	13.750	7.224	18.900	28.360

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:39:25	0.035	0.742	0.339	0.119	-0.007	0.721	0.000	0.072
2	00:39:34	0.019	0.662	0.895	0.056	0.018	-1.299	0.000	0.058
3	00:39:44	-0.001	0.668	1.207	0.054	0.040	-0.532	0.000	0.051
x		0.018	0.691	0.814	0.076	0.017	-0.370	0.000	0.060
σ		0.018	0.044	0.440	0.037	0.024	1.020	0.000	0.010
%RSD		100.200	6.413	54.030	48.560	139.900	275.600	0.000	17.140

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:39:25	102.631%	0.166	0.194	103.478%	0.028	0.034	0.016	0.039
2	00:39:34	104.060%	0.192	0.161	104.776%	0.019	0.041	0.024	0.046
3	00:39:44	105.619%	0.150	0.146	105.329%	0.034	0.024	0.032	0.042
x		104.103%	0.170	0.167	104.528%	0.027	0.033	0.024	0.042
σ		1.494%	0.021	0.025	0.950%	0.007	0.009	0.008	0.003
%RSD		1.436	12.610	14.910	0.909	27.850	26.090	32.970	7.922

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:39:25	104.558%	0.125	0.081	0.078	0.168	0.117	103.573%	102.194%
2	00:39:34	104.255%	0.038	0.053	0.069	0.209	0.262	103.922%	103.629%
3	00:39:44	105.716%	0.073	0.055	0.046	0.163	0.113	105.977%	104.505%
x		104.843%	0.079	0.063	0.065	0.180	0.164	104.491%	103.443%
σ		0.771%	0.044	0.016	0.017	0.025	0.085	1.299%	1.167%
%RSD		0.735	55.460	25.270	25.490	14.040	51.510	1.243	1.128

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	00:39:25	0.049	0.048	0.049	0.030	0.043	101.568%
2	00:39:34	0.057	0.043	0.021	0.057	0.052	102.869%
3	00:39:44	0.040	0.045	0.054	0.091	0.058	103.986%
x		0.049	0.045	0.041	0.060	0.051	102.808%
σ		0.009	0.002	0.018	0.031	0.008	1.210%
%RSD		17.590	5.296	43.350	51.390	14.910	1.177

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:44:30	96.383%	0.006	33.970	33.770	0.000	21890.000	4750.000	4703.000
2	00:44:40	97.786%	0.011	32.530	34.000	0.000	22070.000	4791.000	4745.000
3	00:44:50	96.427%	0.014	33.090	34.950	0.000	20880.000	4579.000	4549.000
x		96.865%	0.010	33.200	34.240	0.000	21610.000	4707.000	4666.000
σ		0.798%	0.004	0.726	0.628	0.000	643.400	112.400	103.300
%RSD		0.823	41.360	2.186	1.833	0.000	2.977	2.389	2.213

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:44:30	9.592	3868.000	0.000	3366.000	16230.000	15740.000	107.915%	2.138
2	00:44:40	9.681	3891.000	0.000	3397.000	15970.000	15370.000	109.320%	2.131
3	00:44:50	9.044	3789.000	0.000	3132.000	15010.000	14500.000	116.069%	2.030
x		9.439	3849.000	0.000	3298.000	15740.000	15210.000	111.101%	2.100
σ		0.345	53.610	0.000	145.200	647.200	637.100	4.359%	0.061
%RSD		3.654	1.393	0.000	4.403	4.112	4.190	3.924	2.886

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:44:30	6.738	2.701	42.180	197.400	322.400	0.168	1.249	2.380
2	00:44:40	7.069	2.608	42.690	197.900	318.800	0.160	1.348	2.452
3	00:44:50	6.328	2.492	40.300	192.200	293.000	0.145	1.326	2.427
x		6.712	2.600	41.730	195.800	311.400	0.158	1.308	2.420
σ		0.371	0.105	1.259	3.192	16.010	0.012	0.052	0.036
%RSD		5.526	4.025	3.018	1.630	5.142	7.599	4.002	1.507

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:44:30	2.564	2.323	1.936	3.270	0.087	4.343	0.000	150.100
2	00:44:40	2.699	2.834	2.960	3.217	0.155	3.489	0.000	150.100
3	00:44:50	2.367	2.540	1.448	2.924	0.055	3.470	0.000	148.700
x		2.543	2.565	2.115	3.137	0.099	3.767	0.000	149.600
σ		0.167	0.256	0.772	0.186	0.051	0.499	0.000	0.814
%RSD		6.575	9.996	36.490	5.938	51.480	13.240	0.000	0.544

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:44:30	95.938%	0.955	0.971	92.648%	0.011	0.002	0.037	0.027
2	00:44:40	96.763%	0.917	0.938	94.464%	0.011	0.010	0.009	0.019
3	00:44:50	96.182%	0.982	0.890	93.322%	-0.004	0.002	0.028	0.023
x		96.294%	0.951	0.933	93.478%	0.006	0.005	0.024	0.023
σ		0.424%	0.033	0.041	0.918%	0.008	0.005	0.014	0.004
%RSD		0.440	3.452	4.406	0.982	138.800	100.500	58.510	17.350

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:44:30	91.571%	0.507	0.390	0.474	43.460	42.440	97.394%	97.828%
2	00:44:40	93.209%	0.491	0.468	0.490	40.330	41.760	98.424%	97.374%
3	00:44:50	91.464%	0.473	0.416	0.412	43.270	41.270	96.334%	95.582%
x		92.081%	0.490	0.425	0.459	42.350	41.820	97.384%	96.928%
σ		0.978%	0.017	0.040	0.041	1.756	0.590	1.045%	1.187%
%RSD		1.062	3.488	9.401	9.017	4.147	1.411	1.073	1.225

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	00:44:30	0.001	0.010	0.409	0.306	0.394	87.123%
2	00:44:40	0.013	0.012	0.305	0.333	0.390	86.381%
3	00:44:50	0.011	0.012	0.353	0.379	0.373	85.435%
x		0.008	0.011	0.356	0.339	0.386	86.313%
σ		0.007	0.001	0.052	0.037	0.011	0.846%
%RSD		80.510	11.270	14.660	10.820	2.891	0.980

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:49:33	91.865%	0.078	119.900	123.400	0.000	113400.000	21470.000	20760.000
2	00:49:43	92.246%	0.083	121.900	124.300	0.000	114400.000	21740.000	21220.000
3	00:49:52	91.030%	0.091	122.400	126.100	0.000	113600.000	21590.000	21040.000
x		91.714%	0.084	121.400	124.600	0.000	113800.000	21600.000	21010.000
σ		0.622%	0.007	1.306	1.365	0.000	526.800	134.300	233.700
%RSD		0.678	7.845	1.076	1.096	0.000	0.463	0.622	1.112
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:49:33	1103.000	10170.000	0.000	11210.000	29000.000	30350.000	111.249%	35.370
2	00:49:43	1120.000	10250.000	0.000	11290.000	28890.000	30450.000	111.174%	35.530
3	00:49:52	1116.000	10370.000	0.000	11120.000	29040.000	30060.000	112.511%	35.930
x		1113.000	10260.000	0.000	11210.000	28980.000	30290.000	111.645%	35.610
σ		9.123	100.500	0.000	86.880	79.640	204.900	0.751%	0.290
%RSD		0.820	0.979	0.000	0.775	0.275	0.677	0.673	0.815
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:49:33	7.973	5.130	1169.000	2068.000	2197.000	1.270	4.589	4.239
2	00:49:43	6.612	4.849	1183.000	2064.000	2145.000	1.361	4.480	4.401
3	00:49:52	7.499	4.825	1178.000	2046.000	2201.000	1.403	4.745	3.888
x		7.362	4.935	1177.000	2059.000	2181.000	1.345	4.605	4.176
σ		0.691	0.169	7.238	11.510	31.290	0.068	0.133	0.263
%RSD		9.385	3.431	0.615	0.559	1.435	5.033	2.891	6.285
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:49:33	4.345	19.800	20.940	9.654	0.345	21.390	0.000	273.400
2	00:49:43	4.575	19.260	19.630	10.040	0.431	18.490	0.000	269.900
3	00:49:52	4.329	19.690	20.800	9.662	0.234	19.930	0.000	274.300
x		4.416	19.580	20.460	9.787	0.337	19.940	0.000	272.500
σ		0.138	0.284	0.722	0.223	0.099	1.447	0.000	2.356
%RSD		3.119	1.452	3.528	2.277	29.420	7.259	0.000	0.864
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:49:33	87.597%	1.690	1.801	80.085%	0.038	0.029	0.212	0.211
2	00:49:43	88.381%	1.808	1.783	80.208%	0.066	0.032	0.138	0.218
3	00:49:52	88.974%	1.794	1.867	81.598%	0.053	0.034	0.165	0.241
x		88.317%	1.764	1.817	80.630%	0.052	0.032	0.172	0.223
σ		0.691%	0.065	0.045	0.840%	0.014	0.003	0.038	0.016
%RSD		0.782	3.662	2.452	1.042	26.860	8.014	22.070	7.034
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:49:33	80.087%	0.441	0.440	0.433	95.370	93.020	83.655%	82.261%
2	00:49:43	80.439%	0.478	0.512	0.467	94.210	92.350	84.585%	82.959%
3	00:49:52	82.842%	0.480	0.528	0.503	92.820	92.790	87.991%	85.458%
x		81.123%	0.466	0.494	0.467	94.130	92.720	85.410%	83.559%
σ		1.499%	0.022	0.047	0.035	1.275	0.337	2.283%	1.681%
%RSD		1.848	4.743	9.457	7.433	1.355	0.364	2.673	2.011
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	00:49:33	0.033	0.026	6.423	6.065	6.124	60.153%		
2	00:49:43	0.012	0.016	6.333	5.712	6.005	61.083%		
3	00:49:52	0.024	0.022	5.884	5.994	5.960	64.594%		
x		0.023	0.022	6.213	5.924	6.030	61.943%		
σ		0.010	0.005	0.289	0.187	0.085	2.342%		
%RSD		45.440	22.680	4.647	3.153	1.411	3.781		

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:54:36	59.389%	0.123	1035.000	1109.000	0.000	1196000.000	324600.000	322600.000
2	00:54:46	59.974%	0.133	1033.000	1119.000	0.000	1186000.000	325700.000	324200.000
3	00:54:56	60.695%	0.097	1028.000	1106.000	0.000	1187000.000	331000.000	329300.000
x		60.019%	0.118	1032.000	1111.000	0.000	1190000.000	327100.000	325400.000
σ		0.654%	0.018	3.753	7.233	0.000	5270.000	3448.000	3517.000
%RSD		1.090	15.600	0.364	0.651	0.000	0.443	1.054	1.081

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:54:36	15.470	4603.000	0.000	89070.000	110500.000	119100.000	79.446%	5.300
2	00:54:46	15.340	4619.000	0.000	88720.000	110200.000	120100.000	80.087%	4.993
3	00:54:56	16.280	4631.000	0.000	89400.000	110700.000	120400.000	80.021%	5.221
x		15.700	4618.000	0.000	89060.000	110500.000	119800.000	79.852%	5.172
σ		0.509	13.690	0.000	340.600	272.600	675.600	0.353%	0.159
%RSD		3.246	0.296	0.000	0.382	0.247	0.564	0.442	3.080

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:54:36	6.712	2.479	1802.000	540.400	1321.000	2.933	7.023	4.651
2	00:54:46	7.275	2.389	1816.000	537.100	1251.000	3.025	6.993	5.041
3	00:54:56	7.315	2.203	1842.000	536.000	1227.000	2.887	7.199	4.900
x		7.101	2.357	1820.000	537.900	1267.000	2.948	7.072	4.864
σ		0.337	0.141	20.250	2.290	48.900	0.070	0.111	0.198
%RSD		4.748	5.968	1.112	0.426	3.861	2.388	1.570	4.063

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:54:36	6.238	33.030	31.450	3.160	0.335	298.300	0.000	1795.000
2	00:54:46	6.804	31.510	29.800	3.094	0.169	300.000	0.000	1786.000
3	00:54:56	6.461	30.910	31.700	3.360	0.090	302.300	0.000	1789.000
x		6.501	31.820	30.980	3.204	0.198	300.200	0.000	1790.000
σ		0.285	1.092	1.035	0.138	0.125	1.976	0.000	4.523
%RSD		4.383	3.432	3.339	4.315	63.250	0.658	0.000	0.253

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:54:36	66.691%	3.963	4.297	57.738%	0.003	0.005	0.098	0.213
2	00:54:46	67.897%	4.139	4.410	58.153%	-0.001	0.005	0.152	0.118
3	00:54:56	67.951%	4.110	4.079	59.285%	0.006	-0.008	0.190	0.132
x		67.513%	4.071	4.262	58.392%	0.003	0.001	0.147	0.154
σ		0.712%	0.095	0.169	0.801%	0.004	0.007	0.046	0.051
%RSD		1.055	2.323	3.955	1.372	119.400	1002.000	31.650	33.300

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:54:36	62.455%	0.266	0.360	0.474	24.340	23.870	67.754%	67.466%
2	00:54:46	63.357%	0.284	0.413	0.407	24.710	23.840	67.860%	68.483%
3	00:54:56	64.361%	0.274	0.324	0.485	24.360	24.450	69.110%	69.156%
x		63.391%	0.275	0.366	0.455	24.470	24.060	68.241%	68.368%
σ		0.953%	0.009	0.045	0.042	0.206	0.344	0.754%	0.851%
%RSD		1.504	3.387	12.220	9.293	0.842	1.429	1.105	1.244

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	00:54:36	0.004	0.029	0.132	0.112	0.091	54.235%
2	00:54:46	0.023	0.019	0.086	0.161	0.116	55.052%
3	00:54:56	0.015	0.028	0.177	0.166	0.158	55.601%
x		0.014	0.025	0.131	0.146	0.122	54.963%
σ		0.009	0.005	0.046	0.030	0.034	0.687%
%RSD		68.050	20.320	34.810	20.530	27.780	1.251

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:59:40	42.430%	0.159	4284.000	4690.000	0.000	1595000.000	365100.000	365400.000
2	00:59:50	42.922%	0.199	4270.000	4665.000	0.000	1602000.000	367900.000	369100.000
3	01:00:00	42.530%	0.168	4320.000	4744.000	0.000	1612000.000	372900.000	374200.000
x		42.627%	0.175	4291.000	4700.000	0.000	1603000.000	368600.000	369600.000
σ		0.260%	0.021	26.100	40.570	0.000	8491.000	3941.000	4397.000
%RSD		0.610	11.800	0.608	0.863	0.000	0.530	1.069	1.190

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:59:40	24.730	24320.000	0.000	4950.000	356200.000	401300.000	59.566%	11.260
2	00:59:50	-56.920	24000.000	0.000	4937.000	357600.000	402300.000	59.285%	11.680
3	01:00:00	-56.440	24190.000	0.000	4954.000	358900.000	406400.000	58.942%	11.270
x		-29.540	24170.000	0.000	4947.000	357500.000	403300.000	59.264%	11.410
σ		47.000	162.000	0.000	9.169	1367.000	2683.000	0.313%	0.242
%RSD		159.100	0.670	0.000	0.185	0.382	0.665	0.528	2.120

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:59:40	6.972	2.298	23580.000	646.900	2512.000	7.338	31.880	2.583
2	00:59:50	7.846	2.243	23740.000	647.800	2500.000	7.270	32.960	2.512
3	01:00:00	7.414	2.087	24050.000	646.900	2448.000	7.292	32.210	2.802
x		7.411	2.209	23790.000	647.200	2487.000	7.300	32.350	2.632
σ		0.437	0.110	236.600	0.519	34.070	0.035	0.555	0.152
%RSD		5.894	4.968	0.995	0.080	1.370	0.473	1.715	5.757

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:59:40	27.340	22.870	16.960	6.291	3.216	74.200	0.000	548.400
2	00:59:50	27.230	24.740	16.540	5.995	3.570	77.250	0.000	547.600
3	01:00:00	27.330	24.430	15.450	6.382	3.561	82.930	0.000	546.500
x		27.300	24.010	16.320	6.223	3.449	78.130	0.000	547.500
σ		0.060	1.002	0.781	0.202	0.202	4.430	0.000	0.944
%RSD		0.219	4.174	4.788	3.251	5.855	5.670	0.000	0.172

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:59:40	48.775%	3.082	3.247	39.522%	0.006	0.006	3.575	3.575
2	00:59:50	48.393%	2.855	3.290	39.386%	0.006	0.013	3.670	3.409
3	01:00:00	47.710%	2.588	3.110	38.957%	-0.010	-0.006	4.321	3.333
x		48.293%	2.842	3.215	39.288%	0.001	0.004	3.855	3.439
σ		0.540%	0.248	0.094	0.295%	0.010	0.009	0.406	0.124
%RSD		1.117	8.717	2.928	0.750	1173.000	207.900	10.540	3.609

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	00:59:40	43.959%	0.346	0.223	0.172	10.650	11.210	51.596%	51.588%
2	00:59:50	43.783%	0.466	0.105	0.223	11.390	11.190	52.350%	52.306%
3	01:00:00	42.995%	0.395	0.122	0.080	11.000	11.310	51.662%	52.340%
x		43.579%	0.402	0.150	0.159	11.010	11.240	51.870%	52.078%
σ		0.514%	0.061	0.064	0.072	0.368	0.062	0.418%	0.425%
%RSD		1.178	15.090	42.750	45.640	3.341	0.549	0.805	0.816

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	00:59:40	0.516	0.605	0.225	0.212	0.194	39.501%
2	00:59:50	0.620	0.662	0.190	0.242	0.212	39.443%
3	01:00:00	0.512	0.671	0.189	0.189	0.237	38.019%
x		0.549	0.646	0.201	0.214	0.214	38.988%
σ		0.061	0.036	0.020	0.027	0.022	0.840%
%RSD		11.180	5.544	10.090	12.540	10.250	2.154

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:04:43	78.722%	0.054	878.100	928.800	0.000	1000000.000	72440.000	69670.000
2	01:04:52	81.461%	0.053	831.700	876.300	0.000	959500.000	68610.000	66270.000
3	01:05:02	80.475%	0.061	836.800	890.000	0.000	955500.000	68560.000	65580.000
x		80.219%	0.056	848.900	898.400	0.000	971800.000	69870.000	67170.000
σ		1.387%	0.004	25.470	27.240	0.000	24810.000	2229.000	2186.000
%RSD		1.729	7.548	3.000	3.032	0.000	2.553	3.190	3.254
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:04:43	5.148	4891.000	0.000	1199.000	79860.000	89250.000	92.407%	2.003
2	01:04:52	5.080	4602.000	0.000	1119.000	75800.000	84550.000	95.604%	2.171
3	01:05:02	4.941	4606.000	0.000	1113.000	75570.000	84170.000	96.004%	2.237
x		5.056	4699.000	0.000	1144.000	77080.000	85990.000	94.672%	2.137
σ		0.105	165.800	0.000	47.630	2414.000	2832.000	1.971%	0.121
%RSD		2.080	3.528	0.000	4.165	3.132	3.294	2.082	5.649
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:04:43	2.315	0.679	4766.000	154.100	706.200	1.786	7.845	0.610
2	01:04:52	2.401	0.730	4516.000	152.000	682.500	1.738	8.114	0.569
3	01:05:02	2.313	0.563	4503.000	150.700	662.500	1.701	8.269	0.613
x		2.343	0.657	4595.000	152.200	683.700	1.742	8.076	0.597
σ		0.050	0.086	148.500	1.689	21.860	0.043	0.215	0.024
%RSD		2.135	13.030	3.231	1.110	3.197	2.442	2.660	4.077
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:04:43	8.682	6.487	4.196	0.723	0.566	24.910	0.000	112.800
2	01:04:52	8.883	7.044	4.099	0.720	0.473	22.780	0.000	113.100
3	01:05:02	8.452	5.966	3.818	0.609	0.642	21.700	0.000	111.200
x		8.672	6.499	4.038	0.684	0.560	23.130	0.000	112.400
σ		0.216	0.539	0.196	0.065	0.085	1.636	0.000	1.037
%RSD		2.490	8.290	4.860	9.527	15.140	7.074	0.000	0.923
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:04:43	74.120%	0.552	0.587	65.895%	-0.006	0.003	0.855	0.742
2	01:04:52	74.043%	0.576	0.576	66.334%	-0.006	-0.008	0.815	0.610
3	01:05:02	74.928%	0.559	0.530	67.449%	0.004	-0.004	0.819	0.776
x		74.364%	0.562	0.564	66.560%	-0.002	-0.003	0.829	0.709
σ		0.491%	0.012	0.030	0.801%	0.006	0.006	0.022	0.088
%RSD		0.660	2.205	5.378	1.203	245.500	195.200	2.647	12.370
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:04:43	67.125%	0.129	0.059	0.066	2.196	2.065	73.860%	72.164%
2	01:04:52	67.061%	0.076	0.035	0.037	2.294	2.413	74.648%	73.217%
3	01:05:02	67.635%	0.075	0.029	0.023	2.662	2.452	74.695%	73.464%
x		67.274%	0.093	0.041	0.042	2.384	2.310	74.401%	72.948%
σ		0.314%	0.030	0.016	0.022	0.246	0.213	0.469%	0.690%
%RSD		0.467	32.620	38.770	52.460	10.320	9.220	0.631	0.946
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	01:04:43	0.078	0.107	0.041	0.010	0.037	50.577%		
2	01:04:52	0.110	0.098	0.021	0.042	0.034	50.393%		
3	01:05:02	0.130	0.107	0.020	0.049	0.030	50.712%		
x		0.106	0.104	0.027	0.034	0.034	50.560%		
σ		0.026	0.005	0.012	0.021	0.004	0.160%		
%RSD		24.830	5.009	42.870	61.850	10.820	0.317		

180-70809-E-10-E MS 10/10/2017 1:10:45 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:09:48	45.138%	53.520	4834.000	5363.000	0.000	1518000.000	420600.000	418400.000
2	01:09:58	45.352%	52.690	4826.000	5349.000	0.000	1524000.000	424600.000	423100.000
3	01:10:07	45.707%	53.340	4842.000	5336.000	0.000	1508000.000	423100.000	421100.000
x		45.399%	53.180	4834.000	5349.000	0.000	1517000.000	422800.000	420900.000
σ		0.287%	0.439	8.220	13.580	0.000	8375.000	2018.000	2393.000
%RSD		0.633	0.825	0.170	0.254	0.000	0.552	0.477	0.569

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:09:48	2265.000	35600.000	0.000	49540.000	402100.000	455200.000	62.502%	975.600
2	01:09:58	2284.000	35590.000	0.000	49320.000	432500.000	455600.000	62.249%	979.700
3	01:10:07	2277.000	35640.000	0.000	49270.000	433800.000	455200.000	62.926%	972.800
x		2275.000	35610.000	0.000	49380.000	422800.000	455300.000	62.559%	976.000
σ		9.155	28.880	0.000	143.000	17940.000	211.100	0.342%	3.478
%RSD		0.402	0.081	0.000	0.290	4.243	0.046	0.547	0.356

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:09:48	380.000	152.100	24100.000	1479.000	3947.000	413.600	422.400	196.200
2	01:09:58	378.900	151.600	24320.000	1477.000	3826.000	411.300	422.100	197.600
3	01:10:07	377.600	152.200	24230.000	1492.000	3874.000	417.900	421.000	199.500
x		378.800	152.000	24220.000	1483.000	3882.000	414.300	421.800	197.800
σ		1.176	0.304	110.600	8.150	60.540	3.390	0.762	1.666
%RSD		0.311	0.200	0.457	0.550	1.559	0.818	0.181	0.842

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:09:48	222.400	415.300	416.400	47.690	18.180	81.560	0.000	1467.000
2	01:09:58	221.200	415.300	417.700	47.300	18.610	87.400	0.000	1356.000
3	01:10:07	223.500	421.000	419.000	47.330	19.550	84.120	0.000	1474.000
x		222.400	417.200	417.700	47.440	18.780	84.360	0.000	1432.000
σ		1.187	3.277	1.286	0.219	0.701	2.925	0.000	66.350
%RSD		0.534	0.785	0.308	0.462	3.731	3.467	0.000	4.633

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:09:48	51.488%	1081.000	1176.000	43.963%	45.650	46.750	52.570	109.200
2	01:09:58	51.770%	1082.000	1175.000	44.221%	46.010	46.400	53.330	108.600
3	01:10:07	52.607%	1088.000	1169.000	45.093%	45.680	46.010	52.590	108.600
x		51.955%	1083.000	1173.000	44.426%	45.780	46.390	52.830	108.800
σ		0.582%	3.729	3.986	0.592%	0.199	0.374	0.434	0.363
%RSD		1.120	0.344	0.340	1.333	0.434	0.806	0.822	0.334

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:09:48	46.440%	2076.000	476.000	493.900	242.200	-963.700	54.605%	55.942%
2	01:09:58	47.472%	2050.000	471.300	484.700	-2003.000	-971.900	55.690%	55.899%
3	01:10:07	47.769%	2064.000	476.900	488.100	245.400	-1005.000	55.904%	56.166%
x		47.227%	2063.000	474.700	488.900	-505.200	-980.300	55.400%	56.002%
σ		0.697%	13.340	2.988	4.669	1297.000	21.960	0.696%	0.143%
%RSD		1.476	0.647	0.629	0.955	256.800	2.240	1.257	0.256

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	01:09:48	56.090	55.820	16.180	16.840	16.590	43.071%
2	01:09:58	55.820	56.740	16.900	18.310	17.240	43.546%
3	01:10:07	55.430	56.220	17.180	16.460	16.880	43.850%
x		55.780	56.260	16.750	17.200	16.900	43.489%
σ		0.328	0.458	0.515	0.975	0.322	0.393%
%RSD		0.588	0.813	3.072	5.668	1.905	0.903

180-70809-E-10-F MSD 10/10/2017 1:15:50 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:14:53	47.339%	52.240	4711.000	5303.000	0.000	1404000.000	413500.000	410000.000
2	01:15:03	47.100%	52.830	4763.000	5362.000	0.000	1406000.000	414700.000	410200.000
3	01:15:12	47.213%	53.470	4790.000	5376.000	0.000	1410000.000	417800.000	413200.000
x		47.217%	52.850	4755.000	5347.000	0.000	1407000.000	415300.000	411100.000
σ		0.119%	0.616	40.180	38.720	0.000	3136.000	2226.000	1782.000
%RSD		0.253	1.165	0.845	0.724	0.000	0.223	0.536	0.433

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:14:53	2223.000	35510.000	0.000	48540.000	393000.000	448000.000	67.483%	978.000
2	01:15:03	2219.000	35310.000	0.000	47900.000	417200.000	446000.000	67.355%	976.700
3	01:15:12	2223.000	35270.000	0.000	47390.000	415100.000	445900.000	67.187%	976.200
x		2222.000	35360.000	0.000	47940.000	408400.000	446700.000	67.342%	977.000
σ		2.229	126.900	0.000	576.200	13420.000	1144.000	0.148%	0.940
%RSD		0.100	0.359	0.000	1.202	3.285	0.256	0.220	0.096

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:14:53	359.200	146.800	24100.000	1457.000	3695.000	399.700	406.600	193.400
2	01:15:03	359.600	145.200	24140.000	1459.000	3682.000	400.000	406.300	194.700
3	01:15:12	359.200	144.400	24280.000	1449.000	3559.000	402.900	408.300	193.700
x		359.300	145.500	24180.000	1455.000	3645.000	400.900	407.100	194.000
σ		0.200	1.221	97.780	5.172	75.250	1.755	1.054	0.694
%RSD		0.056	0.840	0.405	0.355	2.064	0.438	0.259	0.358

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:14:53	214.800	411.000	408.000	46.120	17.020	82.200	0.000	1462.000
2	01:15:03	216.000	410.100	403.900	46.770	18.510	78.920	0.000	1447.000
3	01:15:12	216.500	418.900	421.900	46.300	17.430	74.390	0.000	1438.000
x		215.800	413.300	411.200	46.400	17.650	78.500	0.000	1449.000
σ		0.877	4.851	9.444	0.334	0.768	3.921	0.000	11.970
%RSD		0.406	1.174	2.296	0.720	4.350	4.995	0.000	0.826

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:14:53	53.035%	1067.000	1169.000	45.794%	45.430	45.200	52.440	106.900
2	01:15:03	53.440%	1067.000	1158.000	45.662%	45.960	46.130	51.890	107.700
3	01:15:12	53.528%	1068.000	1153.000	45.562%	46.110	46.140	52.920	107.900
x		53.334%	1067.000	1160.000	45.673%	45.830	45.830	52.420	107.500
σ		0.263%	0.606	8.102	0.116%	0.356	0.539	0.515	0.513
%RSD		0.493	0.057	0.698	0.255	0.777	1.175	0.983	0.477

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:14:53	48.882%	2023.000	461.700	483.900	240.500	239.200	57.581%	58.591%
2	01:15:03	48.100%	2065.000	464.700	489.000	245.500	-737.000	58.340%	58.584%
3	01:15:12	47.528%	2063.000	474.700	491.800	241.400	239.900	58.538%	58.224%
x		48.170%	2050.000	467.000	488.200	242.500	-85.960	58.153%	58.466%
σ		0.680%	23.800	6.755	3.983	2.669	563.800	0.505%	0.210%
%RSD		1.411	1.161	1.446	0.816	1.101	655.900	0.869	0.360

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	01:14:53	55.920	56.300	17.030	17.130	16.910	44.456%
2	01:15:03	55.830	56.170	17.240	16.850	17.140	44.206%
3	01:15:12	56.000	56.040	16.820	16.820	16.810	43.297%
x		55.920	56.170	17.030	16.940	16.950	43.986%
σ		0.082	0.132	0.209	0.171	0.172	0.610%
%RSD		0.147	0.235	1.225	1.009	1.016	1.386

180-70809-E-10-D PDS 10/10/2017 1:20:54 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:19:57	47.233%	51.950	4733.000	5288.000	0.000	1465000.000	419500.000	414200.000
2	01:20:07	47.484%	52.060	4740.000	5322.000	0.000	1465000.000	423100.000	416000.000
3	01:20:16	47.755%	52.640	4743.000	5317.000	0.000	1457000.000	422800.000	416400.000
x		47.491%	52.210	4739.000	5309.000	0.000	1462000.000	421800.000	415600.000
σ		0.261%	0.369	5.041	18.270	0.000	4382.000	1991.000	1200.000
%RSD		0.550	0.707	0.106	0.344	0.000	0.300	0.472	0.289

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:19:57	2272.000	35150.000	0.000	49220.000	439100.000	442100.000	64.699%	974.900
2	01:20:07	2298.000	35160.000	0.000	49080.000	439300.000	442500.000	64.673%	974.000
3	01:20:16	2292.000	35170.000	0.000	49020.000	439000.000	444000.000	64.991%	977.500
x		2287.000	35160.000	0.000	49100.000	439100.000	442900.000	64.788%	975.400
σ		13.430	13.510	0.000	102.100	142.800	977.400	0.176%	1.837
%RSD		0.587	0.038	0.000	0.208	0.033	0.221	0.272	0.188

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:19:57	403.200	166.100	23540.000	1648.000	4291.000	452.000	459.300	218.000
2	01:20:07	416.000	167.000	23650.000	1649.000	4162.000	457.400	469.100	219.900
3	01:20:16	425.700	171.000	23680.000	1702.000	4225.000	466.400	476.300	222.700
x		415.000	168.000	23620.000	1666.000	4226.000	458.600	468.200	220.200
σ		11.250	2.619	72.800	30.890	64.770	7.301	8.510	2.333
%RSD		2.710	1.559	0.308	1.854	1.533	1.592	1.817	1.059

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:19:57	238.400	460.900	482.500	45.630	18.260	84.560	0.000	1458.000
2	01:20:07	244.000	471.700	474.300	46.840	18.400	84.790	0.000	1467.000
3	01:20:16	247.300	483.300	475.100	46.150	18.290	75.920	0.000	1459.000
x		243.200	472.000	477.300	46.210	18.320	81.750	0.000	1461.000
σ		4.494	11.190	4.520	0.609	0.073	5.056	0.000	5.084
%RSD		1.847	2.371	0.947	1.317	0.398	6.184	0.000	0.348

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:19:57	49.662%	1096.000	1194.000	40.032%	40.880	41.010	53.270	108.600
2	01:20:07	49.375%	1102.000	1201.000	40.057%	39.260	39.580	53.040	108.900
3	01:20:16	49.756%	1095.000	1197.000	40.062%	39.640	40.660	52.880	108.000
x		49.598%	1098.000	1197.000	40.050%	39.930	40.420	53.060	108.500
σ		0.199%	3.829	3.736	0.016%	0.849	0.744	0.197	0.461
%RSD		0.400	0.349	0.312	0.040	2.126	1.842	0.372	0.425

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:19:57	42.767%	2066.000	474.300	499.400	1576.000	1571.000	47.948%	49.302%
2	01:20:07	42.363%	2068.000	472.500	497.500	1587.000	1578.000	47.656%	48.960%
3	01:20:16	42.605%	2064.000	478.800	498.800	1597.000	1587.000	46.962%	48.092%
x		42.578%	2066.000	475.200	498.600	1587.000	1578.000	47.522%	48.784%
σ		0.203%	1.999	3.230	0.989	10.390	8.316	0.507%	0.624%
%RSD		0.477	0.097	0.680	0.198	0.655	0.527	1.067	1.278

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	01:19:57	57.590	55.860	21.240	20.450	21.060	30.936%
2	01:20:07	55.710	54.960	20.490	19.900	20.440	30.515%
3	01:20:16	55.770	55.430	21.060	21.360	21.020	29.932%
x		56.360	55.420	20.930	20.570	20.840	30.461%
σ		1.071	0.448	0.390	0.739	0.347	0.504%
%RSD		1.901	0.809	1.863	3.592	1.666	1.655

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:25:02	94.302%	0.022	19.780	22.240	0.000	193900.000	141800.000	134800.000
2	01:25:12	94.111%	0.021	20.040	22.300	0.000	194700.000	143700.000	138000.000
3	01:25:21	91.094%	0.028	21.410	23.270	0.000	207700.000	153300.000	146000.000
x		93.169%	0.024	20.410	22.600	0.000	198800.000	146300.000	139600.000
σ		1.800%	0.004	0.872	0.577	0.000	7742.000	6184.000	5778.000
%RSD		1.931	16.150	4.271	2.553	0.000	3.895	4.228	4.138
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:25:02	-33.030	24070.000	0.000	1383.000	248800.000	257800.000	129.149%	7.028
2	01:25:12	2.429	24440.000	0.000	1395.000	251900.000	259000.000	128.564%	-442.700
3	01:25:21	2.705	26100.000	0.000	1484.000	268300.000	277500.000	125.204%	-466.600
x		-9.300	24870.000	0.000	1421.000	256300.000	264700.000	127.639%	-300.700
σ		20.550	1084.000	0.000	55.280	10480.000	11050.000	2.129%	266.800
%RSD		221.000	4.360	0.000	3.890	4.089	4.175	1.668	88.710
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:25:02	5.639	3.427	8.765	-3.916	1549.000	0.700	2.687	0.711
2	01:25:12	5.826	3.317	8.739	-3.800	1559.000	0.688	2.759	0.728
3	01:25:21	6.259	3.348	9.227	-5.213	1519.000	0.759	3.076	0.725
x		5.908	3.364	8.910	-4.309	1543.000	0.716	2.841	0.721
σ		0.318	0.057	0.274	0.785	20.670	0.038	0.207	0.009
%RSD		5.383	1.690	3.080	18.210	1.340	5.287	7.296	1.208
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:25:02	8.140	2.443	0.316	8.733	2.102	12.820	0.000	177.300
2	01:25:12	8.096	2.116	0.154	8.659	1.948	13.590	0.000	178.100
3	01:25:21	7.992	2.700	0.389	9.091	2.027	13.980	0.000	183.900
x		8.076	2.420	0.286	8.828	2.026	13.460	0.000	179.800
σ		0.076	0.293	0.120	0.231	0.077	0.588	0.000	3.635
%RSD		0.942	12.110	41.910	2.613	3.794	4.367	0.000	2.022
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:25:02	102.569%	2.142	2.285	97.642%	-0.002	-0.004	0.104	0.090
2	01:25:12	104.220%	2.072	2.249	98.004%	-0.007	-0.007	0.060	0.100
3	01:25:21	100.187%	2.274	2.200	96.569%	-0.007	-0.001	0.149	0.120
x		102.326%	2.163	2.245	97.405%	-0.005	-0.004	0.104	0.103
σ		2.028%	0.102	0.042	0.746%	0.003	0.003	0.044	0.015
%RSD		1.981	4.728	1.884	0.766	52.690	65.710	42.630	14.500
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:25:02	98.404%	0.397	0.079	0.134	25.730	26.320	110.032%	108.095%
2	01:25:12	99.302%	0.440	0.095	0.130	25.940	25.900	110.571%	109.549%
3	01:25:21	97.164%	0.418	0.094	0.090	27.420	26.010	108.495%	106.546%
x		98.290%	0.418	0.089	0.118	26.360	26.080	109.699%	108.063%
σ		1.073%	0.021	0.009	0.024	0.918	0.216	1.077%	1.502%
%RSD		1.092	5.130	9.884	20.580	3.483	0.828	0.982	1.390
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	01:25:02	0.089	0.112	0.018	0.026	0.021	93.684%		
2	01:25:12	0.129	0.103	0.064	0.004	0.033	95.230%		
3	01:25:21	0.104	0.096	0.025	0.013	0.010	94.400%		
x		0.108	0.104	0.035	0.014	0.021	94.438%		
σ		0.020	0.008	0.025	0.011	0.011	0.773%		
%RSD		18.870	7.866	70.770	78.580	52.290	0.819		

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:30:09	58.378%	0.255	177.600	195.000	0.000	1076000.000	387200.000	378300.000
2	01:30:18	59.050%	0.249	177.000	194.400	0.000	1075000.000	387000.000	380100.000
3	01:30:28	58.677%	0.333	180.100	195.700	0.000	1072000.000	387900.000	380500.000
x		58.702%	0.279	178.200	195.000	0.000	1074000.000	387400.000	379600.000
σ		0.337%	0.047	1.656	0.617	0.000	1691.000	428.600	1138.000
%RSD		0.574	16.750	0.929	0.316	0.000	0.157	0.111	0.300
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:30:09	30.450	17850.000	0.000	4757.000	398700.000	420600.000	88.347%	9.841
2	01:30:18	-31.330	17730.000	0.000	4781.000	398800.000	421500.000	88.363%	9.343
3	01:30:28	31.280	17810.000	0.000	4756.000	397200.000	419200.000	88.596%	10.570
x		10.130	17790.000	0.000	4765.000	398200.000	420500.000	88.435%	9.917
σ		35.910	58.240	0.000	14.030	923.900	1155.000	0.139%	0.615
%RSD		354.500	0.327	0.000	0.294	0.232	0.275	0.158	6.198
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:30:09	6.784	2.185	4873.000	11170.000	13060.000	1.309	7.076	0.791
2	01:30:18	6.964	2.112	4913.000	11300.000	13230.000	1.195	6.404	0.845
3	01:30:28	7.074	2.103	4901.000	11090.000	13080.000	1.185	6.851	0.799
x		6.941	2.133	4896.000	11180.000	13120.000	1.230	6.777	0.812
σ		0.147	0.045	20.130	103.100	92.830	0.069	0.342	0.029
%RSD		2.113	2.111	0.411	0.922	0.707	5.607	5.052	3.587
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:30:09	21.240	29.080	23.770	30.150	0.338	12.070	0.000	1208.000
2	01:30:18	21.310	30.440	23.130	30.370	0.458	10.060	0.000	1215.000
3	01:30:28	20.600	29.160	23.140	29.910	0.546	14.400	0.000	1181.000
x		21.050	29.560	23.350	30.140	0.447	12.180	0.000	1201.000
σ		0.395	0.761	0.367	0.230	0.104	2.174	0.000	18.080
%RSD		1.876	2.575	1.573	0.762	23.300	17.850	0.000	1.505
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:30:09	67.534%	24.980	25.920	59.514%	-0.008	-0.012	0.069	0.048
2	01:30:18	67.015%	25.240	25.900	59.180%	0.010	-0.008	0.041	0.042
3	01:30:28	68.210%	23.660	24.920	59.959%	-0.005	-0.008	0.081	0.020
x		67.586%	24.630	25.580	59.551%	-0.001	-0.009	0.064	0.037
σ		0.599%	0.847	0.569	0.391%	0.010	0.002	0.021	0.015
%RSD		0.886	3.438	2.225	0.656	1071.000	26.150	32.330	40.060
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:30:09	62.874%	0.410	0.090	0.121	10.550	10.610	72.366%	72.788%
2	01:30:18	63.228%	0.338	0.068	0.136	11.350	11.670	73.204%	72.900%
3	01:30:28	64.011%	0.443	0.067	0.119	10.630	10.370	73.913%	73.565%
x		63.371%	0.397	0.075	0.125	10.840	10.880	73.161%	73.084%
σ		0.582%	0.053	0.013	0.009	0.436	0.695	0.774%	0.420%
%RSD		0.918	13.440	16.800	7.180	4.025	6.384	1.059	0.575
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	01:30:09	0.046	0.093	0.275	0.165	0.211	57.980%		
2	01:30:18	0.093	0.089	0.205	0.152	0.164	57.655%		
3	01:30:28	0.103	0.083	0.221	0.185	0.202	58.164%		
x		0.080	0.089	0.234	0.168	0.192	57.933%		
σ		0.030	0.005	0.037	0.017	0.025	0.258%		
%RSD		37.730	5.768	15.660	9.906	13.040	0.445		

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:39:12	99.348%	105.200	101.500	102.200	0.000	46800.000	48840.000	46830.000
2	01:39:22	99.881%	104.800	97.860	102.100	0.000	47580.000	50020.000	47950.000
3	01:39:32	98.936%	109.300	100.900	105.200	0.000	49520.000	51730.000	49210.000
x		99.388%	106.451%	100.096%	103.158%	0.000	95.930%	100.390%	95.989%
σ		0.474%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		0.477	2.356	1.967	1.673	0.000	2.915	2.889	2.486
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:39:12	474.000	5056.000	0.000	46500.000	47820.000	50390.000	120.377%	99.760
2	01:39:22	485.900	5186.000	0.000	47790.000	48120.000	51470.000	119.545%	101.500
3	01:39:32	501.000	5305.000	0.000	49190.000	50020.000	53040.000	117.147%	104.100
x		97.393%	103.653%	0.000	95.658%	97.307%	103.266%	119.023%	101.792%
σ		n/a	n/a	0.000	n/a	n/a	n/a	1.677%	n/a
%RSD		2.773	2.405	0.000	2.815	2.460	2.575	1.409	2.170
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:39:12	96.610	102.700	530.800	22510.000	22650.000	96.420	99.450	102.600
2	01:39:22	93.550	100.300	544.700	22640.000	22900.000	96.790	98.450	103.900
3	01:39:32	89.300	95.100	559.500	22500.000	23070.000	96.190	96.920	101.700
x		93.151%	99.373%	109.003%	90.201%	91.490%	96.467%	98.272%	102.716%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		3.942	3.920	2.636	0.334	0.918	0.317	1.296	1.040
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:39:12	105.500	108.500	109.200	104.800	107.900	109.400	0.000	97.660
2	01:39:22	104.900	108.900	109.800	104.300	105.300	109.300	0.000	96.900
3	01:39:32	104.300	104.200	106.600	101.800	102.300	108.300	0.000	92.690
x		104.891%	107.223%	108.548%	103.642%	105.165%	108.981%	0.000	95.748%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		0.612	2.422	1.551	1.576	2.654	0.581	0.000	2.796
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:39:12	97.983%	108.100	110.700	93.424%	106.200	109.700	108.800	112.000
2	01:39:22	100.235%	105.100	107.600	96.423%	105.400	108.100	105.800	110.700
3	01:39:32	103.234%	105.400	105.200	98.767%	102.200	103.800	103.100	106.700
x		100.484%	106.192%	107.854%	96.205%	104.616%	107.228%	105.890%	109.828%
σ		2.634%	n/a	n/a	2.679%	n/a	n/a	n/a	n/a
%RSD		2.622	1.545	2.556	2.784	2.009	2.863	2.704	2.526
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:39:12	91.951%	105.900	106.800	106.100	99.610	99.170	100.515%	99.690%
2	01:39:22	94.627%	103.500	104.200	104.900	99.340	98.720	102.770%	102.492%
3	01:39:32	97.877%	102.100	100.300	100.800	96.040	92.760	106.629%	106.455%
x		94.818%	103.820%	103.800%	103.947%	98.332%	96.885%	103.305%	102.879%
σ		2.968%	n/a	n/a	n/a	n/a	n/a	3.092%	3.399%
%RSD		3.130	1.836	3.155	2.678	2.023	3.693	2.993	3.304
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	01:39:12	101.800	99.220	102.000	100.400	101.000	86.399%		
2	01:39:22	99.060	98.930	99.660	100.100	99.910	90.174%		
3	01:39:32	98.610	95.900	97.440	97.050	96.570	94.094%		
x		99.828%	98.019%	99.688%	99.171%	99.174%	90.222%		
σ		n/a	n/a	n/a	n/a	n/a	3.848%		
%RSD		1.738	1.877	2.269	1.856	2.343	4.265		

CCB8 10/10/2017 1:45:15 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:44:19	95.183%	0.062	2.558	2.642	0.000	96.410	19.440	16.800
2	01:44:28	92.951%	0.043	2.884	2.812	0.000	96.660	18.720	17.280
3	01:44:38	94.369%	0.051	2.470	2.667	0.000	95.760	18.400	17.590
x		94.168%	0.052	2.637	2.707	0.000	96.280	18.850	17.220
σ		1.130%	0.009	0.218	0.092	0.000	0.469	0.529	0.399
%RSD		1.200	18.030	8.282	3.400	0.000	0.487	2.809	2.316
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:44:19	0.663	-6.956	0.000	29.770	27.820	21.760	118.964%	0.012
2	01:44:28	0.616	-6.050	0.000	29.080	28.880	19.970	118.943%	0.026
3	01:44:38	0.552	-5.859	0.000	29.990	23.420	21.220	119.619%	0.011
x		0.610	-6.288	0.000	29.610	26.710	20.980	119.175%	0.016
σ		0.056	0.586	0.000	0.474	2.899	0.921	0.384%	0.008
%RSD		9.107	9.316	0.000	1.599	10.850	4.387	0.323	49.800
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:44:19	0.042	0.049	0.291	10.590	9.653	0.043	0.097	0.061
2	01:44:28	0.024	0.047	0.314	10.450	13.300	0.034	0.087	0.065
3	01:44:38	0.060	0.051	0.292	9.881	10.280	0.035	0.112	0.055
x		0.042	0.049	0.299	10.310	11.080	0.037	0.099	0.060
σ		0.018	0.002	0.013	0.378	1.948	0.005	0.012	0.005
%RSD		43.420	4.155	4.260	3.668	17.590	13.660	12.440	7.933
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:44:19	0.937	1.285	0.648	0.075	0.023	2.184	0.000	0.103
2	01:44:28	1.116	1.016	0.608	0.063	0.049	2.605	0.000	0.095
3	01:44:38	1.169	1.136	0.884	0.068	0.138	3.122	0.000	0.078
x		1.074	1.146	0.713	0.069	0.070	2.637	0.000	0.092
σ		0.121	0.135	0.149	0.006	0.060	0.470	0.000	0.013
%RSD		11.290	11.750	20.930	8.481	85.860	17.810	0.000	13.610
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:44:19	106.991%	0.288	0.199	111.208%	0.021	0.028	0.024	0.045
2	01:44:28	107.195%	0.222	0.213	110.383%	0.032	0.040	0.032	0.035
3	01:44:38	106.837%	0.215	0.178	112.962%	0.047	0.034	0.054	0.043
x		107.008%	0.242	0.196	111.518%	0.034	0.034	0.036	0.041
σ		0.180%	0.040	0.017	1.318%	0.013	0.006	0.016	0.005
%RSD		0.168	16.690	8.846	1.181	38.580	17.580	43.460	12.710
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:44:19	105.648%	0.114	0.083	0.046	1.171	1.211	109.784%	110.505%
2	01:44:28	105.467%	0.095	0.061	0.049	1.222	1.100	109.871%	110.053%
3	01:44:38	108.130%	0.094	0.087	0.093	1.104	1.095	109.990%	109.332%
x		106.415%	0.101	0.077	0.063	1.166	1.135	109.882%	109.963%
σ		1.488%	0.011	0.014	0.026	0.059	0.066	0.103%	0.591%
%RSD		1.399	11.270	18.180	41.770	5.064	5.782	0.094	0.538
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	01:44:19	0.035	0.040	0.040	0.052	0.046	109.725%		
2	01:44:28	0.049	0.050	0.056	0.078	0.063	109.562%		
3	01:44:38	0.026	0.040	0.034	0.049	0.050	109.691%		
x		0.037	0.044	0.043	0.060	0.053	109.659%		
σ		0.012	0.006	0.011	0.016	0.009	0.086%		
%RSD		32.080	12.990	26.610	27.070	17.170	0.078		

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:49:25	77.754%	0.050	1003.000	1111.000	0.000	498800.000	222100.000	212200.000
2	01:49:35	77.871%	0.050	1004.000	1097.000	0.000	499200.000	224700.000	215400.000
3	01:49:44	76.775%	0.079	1025.000	1124.000	0.000	505700.000	226900.000	217800.000
x		77.467%	0.059	1010.000	1111.000	0.000	501200.000	224600.000	215100.000
σ		0.602%	0.017	12.500	13.350	0.000	3903.000	2370.000	2824.000
%RSD		0.777	28.590	1.237	1.201	0.000	0.779	1.055	1.313

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:49:25	11.880	13930.000	0.000	1145.000	427800.000	435100.000	110.057%	4.921
2	01:49:35	17.620	14030.000	0.000	1145.000	428600.000	434300.000	109.908%	5.312
3	01:49:44	16.940	14460.000	0.000	1148.000	435300.000	436600.000	110.093%	5.864
x		15.480	14140.000	0.000	1146.000	430600.000	435300.000	110.019%	5.366
σ		3.134	282.600	0.000	1.954	4160.000	1130.000	0.098%	0.474
%RSD		20.240	1.998	0.000	0.171	0.966	0.260	0.089	8.828

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:49:25	6.449	2.640	49.570	72.100	2589.000	0.766	5.475	0.626
2	01:49:35	5.937	2.518	50.450	72.680	2516.000	0.743	5.788	0.549
3	01:49:44	6.563	2.717	51.270	73.800	2646.000	0.770	5.425	0.654
x		6.316	2.625	50.430	72.860	2583.000	0.760	5.563	0.610
σ		0.334	0.100	0.853	0.867	65.420	0.014	0.196	0.054
%RSD		5.283	3.824	1.692	1.189	2.532	1.907	3.529	8.937

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:49:25	8.133	3.604	2.151	13.920	0.562	31.630	0.000	352.600
2	01:49:35	8.164	4.287	2.661	15.150	0.462	31.210	0.000	347.800
3	01:49:44	8.640	4.649	2.593	15.790	0.544	31.020	0.000	352.600
x		8.312	4.180	2.469	14.950	0.523	31.290	0.000	351.000
σ		0.284	0.531	0.277	0.946	0.054	0.316	0.000	2.799
%RSD		3.419	12.710	11.230	6.327	10.280	1.009	0.000	0.797

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:49:25	82.387%	0.480	0.635	77.104%	0.008	0.005	0.296	0.213
2	01:49:35	83.340%	0.649	0.612	76.965%	0.031	0.008	0.209	0.223
3	01:49:44	82.697%	0.584	0.492	77.238%	0.008	0.024	0.230	0.217
x		82.808%	0.571	0.580	77.102%	0.015	0.012	0.245	0.217
σ		0.486%	0.085	0.077	0.137%	0.014	0.010	0.045	0.005
%RSD		0.587	14.920	13.240	0.177	88.360	86.200	18.480	2.351

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:49:25	77.897%	0.329	0.120	0.091	26.640	25.500	87.247%	87.276%
2	01:49:35	77.383%	0.324	0.070	0.076	25.430	25.150	87.597%	86.842%
3	01:49:44	77.854%	0.273	0.116	0.116	25.800	24.970	88.133%	87.985%
x		77.711%	0.309	0.102	0.094	25.950	25.210	87.659%	87.368%
σ		0.285%	0.031	0.028	0.020	0.620	0.269	0.446%	0.577%
%RSD		0.367	10.070	27.160	21.590	2.389	1.067	0.509	0.661

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	01:49:25	0.038	0.050	0.111	0.074	0.106	67.181%
2	01:49:35	0.029	0.027	0.124	0.057	0.099	66.052%
3	01:49:44	0.017	0.031	0.110	0.076	0.088	65.268%
x		0.028	0.036	0.115	0.069	0.098	66.167%
σ		0.010	0.012	0.008	0.010	0.009	0.962%
%RSD		37.360	34.900	6.758	15.080	9.418	1.453

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:54:30	86.739%	0.024	976.400	1017.000	0.000	93800.000	64420.000	61570.000
2	01:54:40	86.743%	0.027	968.900	1024.000	0.000	93200.000	64490.000	61280.000
3	01:54:49	88.217%	0.031	955.600	998.700	0.000	94240.000	65380.000	62580.000
x		87.233%	0.027	966.900	1013.000	0.000	93750.000	64770.000	61810.000
σ		0.852%	0.004	10.540	13.070	0.000	520.300	537.700	682.000
%RSD		0.977	13.000	1.090	1.290	0.000	0.555	0.830	1.103
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:54:30	9.302	13090.000	0.000	1297.000	255600.000	252000.000	118.894%	4.254
2	01:54:40	9.331	13140.000	0.000	1293.000	256700.000	249700.000	119.424%	4.051
3	01:54:49	9.223	13080.000	0.000	1299.000	254300.000	247000.000	118.420%	3.730
x		9.285	13100.000	0.000	1296.000	255500.000	249500.000	118.913%	4.012
σ		0.056	34.490	0.000	2.754	1196.000	2518.000	0.502%	0.264
%RSD		0.600	0.263	0.000	0.213	0.468	1.009	0.422	6.592
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:54:30	5.149	4.163	90.110	2631.000	4223.000	0.624	4.227	1.382
2	01:54:40	5.899	4.184	89.560	2612.000	4227.000	0.664	4.396	1.398
3	01:54:49	5.063	4.179	91.020	2598.000	4267.000	0.604	4.275	1.328
x		5.370	4.175	90.230	2614.000	4239.000	0.631	4.299	1.370
σ		0.460	0.011	0.738	16.300	24.120	0.031	0.087	0.037
%RSD		8.560	0.262	0.817	0.624	0.569	4.836	2.020	2.709
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:54:30	4.751	31.970	33.560	9.369	0.882	7.042	0.000	368.500
2	01:54:40	5.016	33.400	35.340	9.825	0.843	6.784	0.000	378.000
3	01:54:49	4.881	33.240	33.850	9.799	0.731	7.064	0.000	371.500
x		4.882	32.870	34.250	9.664	0.819	6.963	0.000	372.700
σ		0.132	0.782	0.955	0.256	0.079	0.156	0.000	4.869
%RSD		2.712	2.379	2.789	2.647	9.600	2.239	0.000	1.306
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:54:30	91.372%	1.959	2.224	89.037%	0.002	-0.003	0.096	0.125
2	01:54:40	90.805%	2.166	2.253	89.688%	-0.006	-0.003	0.144	0.164
3	01:54:49	92.449%	2.118	2.077	92.215%	-0.006	-0.004	0.186	0.095
x		91.542%	2.081	2.185	90.313%	-0.003	-0.003	0.142	0.128
σ		0.835%	0.108	0.095	1.679%	0.005	0.000	0.045	0.035
%RSD		0.913	5.209	4.329	1.859	141.100	4.591	31.750	27.150
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:54:30	87.994%	0.579	0.161	0.199	17.080	16.600	98.185%	95.722%
2	01:54:40	87.869%	0.516	0.139	0.170	16.770	17.640	98.665%	98.233%
3	01:54:49	90.743%	0.569	0.094	0.186	17.260	17.120	101.016%	101.707%
x		88.869%	0.554	0.131	0.185	17.040	17.120	99.289%	98.554%
σ		1.625%	0.034	0.034	0.015	0.247	0.522	1.515%	3.005%
%RSD		1.828	6.048	25.910	7.842	1.452	3.048	1.526	3.049
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	01:54:30	0.024	0.024	0.004	0.010	0.019	77.238%		
2	01:54:40	0.022	0.018	0.029	0.054	0.035	80.062%		
3	01:54:49	0.013	0.006	0.014	0.031	0.030	84.492%		
x		0.020	0.016	0.016	0.031	0.028	80.597%		
σ		0.006	0.009	0.012	0.022	0.008	3.657%		
%RSD		28.510	54.620	78.290	70.290	28.170	4.537		

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:59:35	96.366%	0.019	14.730	15.380	0.000	8369.000	20710.000	19910.000
2	01:59:45	95.018%	0.022	14.840	15.450	0.000	8431.000	20820.000	20060.000
3	01:59:54	94.835%	0.019	14.750	15.360	0.000	8334.000	20850.000	20110.000
x		95.406%	0.020	14.770	15.400	0.000	8378.000	20790.000	20030.000
σ		0.836%	0.002	0.062	0.047	0.000	48.960	73.810	105.300
%RSD		0.877	9.079	0.422	0.303	0.000	0.584	0.355	0.526

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:59:35	34.780	15220.000	0.000	307.400	34320.000	35050.000	124.815%	-540.400
2	01:59:45	38.760	15390.000	0.000	304.300	34010.000	34750.000	124.798%	-544.400
3	01:59:54	35.980	15440.000	0.000	305.800	34660.000	34890.000	124.533%	6.210
x		36.510	15350.000	0.000	305.800	34330.000	34900.000	124.715%	-359.500
σ		2.041	112.800	0.000	1.584	324.200	147.700	0.158%	316.700
%RSD		5.591	0.735	0.000	0.518	0.944	0.423	0.127	88.100

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:59:35	6.451	2.634	22.370	86.710	320.100	0.280	0.975	0.698
2	01:59:45	5.644	2.657	22.320	87.120	316.000	0.199	0.961	0.779
3	01:59:54	6.148	2.409	22.580	86.080	294.600	0.244	0.817	0.771
x		6.081	2.567	22.420	86.640	310.200	0.241	0.917	0.749
σ		0.408	0.137	0.140	0.522	13.730	0.040	0.088	0.045
%RSD		6.704	5.331	0.622	0.602	4.426	16.720	9.541	5.957

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:59:35	1.709	1.667	1.268	2.433	0.246	3.454	0.000	39.030
2	01:59:45	1.660	1.421	1.265	2.592	0.153	3.041	0.000	40.000
3	01:59:54	1.590	1.525	1.369	2.394	0.243	4.557	0.000	38.330
x		1.653	1.537	1.301	2.473	0.214	3.684	0.000	39.120
σ		0.060	0.124	0.059	0.105	0.053	0.784	0.000	0.837
%RSD		3.617	8.032	4.520	4.235	24.740	21.270	0.000	2.141

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:59:35	103.525%	1.071	1.091	108.925%	-0.005	0.002	0.024	0.009
2	01:59:45	104.595%	1.133	1.034	108.723%	-0.007	-0.002	-0.000	0.026
3	01:59:54	104.387%	1.177	1.046	110.467%	-0.005	0.002	0.048	0.009
x		104.169%	1.127	1.057	109.371%	-0.006	0.001	0.024	0.015
σ		0.567%	0.053	0.030	0.954%	0.001	0.003	0.024	0.009
%RSD		0.544	4.741	2.831	0.872	19.670	347.300	100.700	63.000

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	01:59:35	104.880%	0.367	0.080	0.092	31.380	32.060	112.133%	113.149%
2	01:59:45	105.160%	0.376	0.095	0.086	32.260	32.060	113.805%	113.156%
3	01:59:54	104.473%	0.320	0.112	0.062	34.090	31.230	113.249%	112.884%
x		104.837%	0.354	0.096	0.080	32.580	31.780	113.063%	113.063%
σ		0.346%	0.030	0.016	0.016	1.383	0.483	0.852%	0.155%
%RSD		0.330	8.432	16.600	20.150	4.246	1.519	0.753	0.137

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	01:59:35	0.016	0.024	0.104	0.141	0.138	106.484%
2	01:59:45	0.026	0.018	0.121	0.140	0.112	107.822%
3	01:59:54	0.028	0.027	0.112	0.083	0.107	107.631%
x		0.023	0.023	0.112	0.122	0.119	107.313%
σ		0.006	0.004	0.009	0.033	0.017	0.724%
%RSD		26.310	18.740	7.928	27.080	14.090	0.674

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:04:39	96.280%	0.187	16.170	17.770	0.000	9969.000	21720.000	20880.000
2	02:04:49	97.231%	0.185	16.740	17.520	0.000	9914.000	21780.000	20950.000
3	02:04:58	96.978%	0.173	16.190	17.340	0.000	9874.000	21920.000	21030.000
x		96.830%	0.181	16.370	17.540	0.000	9919.000	21810.000	20950.000
σ		0.493%	0.008	0.322	0.216	0.000	48.080	99.370	74.700
%RSD		0.509	4.236	1.965	1.234	0.000	0.485	0.456	0.357

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:04:39	2217.000	17720.000	0.000	582.600	35740.000	37190.000	124.610%	37.560
2	02:04:49	2230.000	17810.000	0.000	580.800	35260.000	36740.000	125.743%	-371.200
3	02:04:58	2218.000	17810.000	0.000	577.700	35300.000	36890.000	127.076%	36.590
x		2222.000	17780.000	0.000	580.400	35430.000	36940.000	125.810%	-99.030
σ		7.215	50.370	0.000	2.496	262.700	226.800	1.234%	235.700
%RSD		0.325	0.283	0.000	0.430	0.741	0.614	0.981	238.100

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:04:39	8.418	4.344	64.210	2289.000	2561.000	1.498	2.450	3.316
2	02:04:49	7.566	3.993	63.760	2265.000	2488.000	1.513	2.449	3.130
3	02:04:58	8.686	3.905	63.210	2243.000	2514.000	1.547	2.292	3.249
x		8.224	4.081	63.720	2266.000	2521.000	1.519	2.397	3.232
σ		0.585	0.232	0.501	23.060	37.010	0.025	0.091	0.094
%RSD		7.109	5.689	0.787	1.018	1.468	1.656	3.796	2.922

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:04:39	4.033	8.923	9.438	3.484	0.309	2.940	0.000	37.720
2	02:04:49	3.981	8.154	7.721	3.480	0.281	3.775	0.000	37.970
3	02:04:58	3.880	7.863	8.061	3.386	0.331	3.832	0.000	37.180
x		3.965	8.313	8.407	3.450	0.307	3.516	0.000	37.630
σ		0.078	0.547	0.909	0.056	0.025	0.500	0.000	0.402
%RSD		1.959	6.585	10.810	1.615	8.136	14.210	0.000	1.067

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:04:39	100.310%	0.366	0.342	102.263%	0.020	0.027	0.035	0.025
2	02:04:49	100.500%	0.357	0.301	100.223%	0.009	0.006	0.061	0.033
3	02:04:58	100.958%	0.261	0.283	100.334%	0.009	0.032	0.035	0.029
x		100.589%	0.328	0.309	100.940%	0.013	0.022	0.044	0.029
σ		0.333%	0.059	0.030	1.147%	0.006	0.014	0.015	0.004
%RSD		0.332	17.870	9.782	1.136	48.350	62.660	35.180	12.800

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:04:39	95.523%	0.384	0.110	0.102	48.650	48.510	105.382%	105.536%
2	02:04:49	94.948%	0.414	0.089	0.113	49.000	48.070	106.523%	105.078%
3	02:04:58	95.150%	0.337	0.099	0.086	49.110	47.390	105.873%	104.117%
x		95.207%	0.378	0.099	0.100	48.920	47.990	105.926%	104.910%
σ		0.292%	0.039	0.010	0.014	0.243	0.565	0.572%	0.725%
%RSD		0.306	10.330	10.180	13.590	0.497	1.177	0.540	0.691

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	02:04:39	0.054	0.043	3.017	2.563	2.773	89.708%
2	02:04:49	0.033	0.045	3.027	2.623	2.837	88.720%
3	02:04:58	0.032	0.052	2.938	2.765	2.865	86.292%
x		0.040	0.047	2.994	2.651	2.825	88.240%
σ		0.012	0.005	0.049	0.104	0.047	1.758%
%RSD		30.740	9.785	1.630	3.916	1.665	1.992

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:09:44	91.778%	0.001	35.370	38.050	0.000	16350.000	66870.000	63960.000
2	02:09:54	91.422%	0.022	36.160	38.760	0.000	16570.000	68590.000	65930.000
3	02:10:03	89.640%	0.004	37.530	38.970	0.000	16480.000	67320.000	64540.000
x		90.947%	0.009	36.350	38.590	0.000	16470.000	67590.000	64810.000
σ		1.146%	0.011	1.093	0.482	0.000	109.900	889.000	1013.000
%RSD		1.260	124.600	3.006	1.248	0.000	0.667	1.315	1.564

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:09:44	2.738	10520.000	0.000	289.500	131200.000	135000.000	117.513%	3.656
2	02:09:54	2.626	10830.000	0.000	295.500	133900.000	138200.000	117.057%	3.441
3	02:10:03	2.477	10870.000	0.000	294.400	132100.000	136300.000	117.863%	3.527
x		2.613	10740.000	0.000	293.100	132400.000	136500.000	117.478%	3.541
σ		0.131	190.900	0.000	3.205	1379.000	1604.000	0.405%	0.108
%RSD		5.010	1.777	0.000	1.093	1.042	1.175	0.344	3.046

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:09:44	8.152	2.615	11220.000	1797.000	2681.000	3.212	3.794	0.324
2	02:09:54	6.852	2.419	11420.000	1786.000	2700.000	3.197	3.480	0.288
3	02:10:03	7.797	2.365	11330.000	1767.000	2660.000	3.295	3.676	0.300
x		7.600	2.466	11320.000	1783.000	2680.000	3.234	3.650	0.304
σ		0.672	0.132	101.300	15.200	20.080	0.053	0.159	0.018
%RSD		8.840	5.338	0.894	0.852	0.749	1.632	4.344	6.032

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:09:44	1.412	1.144	1.661	12.940	0.128	10.080	0.000	167.100
2	02:09:54	1.594	1.762	1.739	12.820	0.337	8.454	0.000	166.500
3	02:10:03	1.479	1.341	1.594	12.850	0.133	9.617	0.000	168.300
x		1.495	1.415	1.665	12.870	0.199	9.384	0.000	167.300
σ		0.092	0.316	0.072	0.061	0.119	0.839	0.000	0.916
%RSD		6.182	22.310	4.353	0.471	59.740	8.936	0.000	0.547

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:09:44	88.581%	1.779	1.571	87.318%	-0.005	-0.009	0.060	0.009
2	02:09:54	91.545%	1.597	1.477	89.990%	-0.003	0.011	0.029	0.044
3	02:10:03	92.316%	1.326	1.565	91.877%	0.002	-0.003	0.038	0.039
x		90.814%	1.567	1.538	89.728%	-0.002	-0.000	0.042	0.031
σ		1.972%	0.228	0.053	2.291%	0.004	0.010	0.016	0.019
%RSD		2.171	14.540	3.414	2.553	156.000	2738.000	37.700	61.020

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:09:44	84.074%	0.301	0.064	0.092	92.680	93.920	90.914%	88.798%
2	02:09:54	86.404%	0.382	0.069	0.063	94.450	96.280	94.565%	92.802%
3	02:10:03	88.556%	0.344	0.052	0.104	97.100	94.330	97.433%	96.247%
x		86.345%	0.342	0.062	0.086	94.740	94.840	94.304%	92.616%
σ		2.242%	0.041	0.009	0.021	2.224	1.259	3.267%	3.728%
%RSD		2.596	11.850	13.980	24.670	2.348	1.328	3.465	4.025

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	02:09:44	0.013	0.032	0.009	0.021	0.020	66.372%
2	02:09:54	0.029	0.040	0.011	0.017	0.010	72.601%
3	02:10:03	0.044	0.036	0.026	0.020	0.021	78.124%
x		0.029	0.036	0.016	0.019	0.017	72.366%
σ		0.016	0.004	0.009	0.002	0.006	5.880%
%RSD		53.860	10.580	59.100	9.540	36.940	8.125

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:14:49	82.652%	0.134	11470.000	12210.000	0.000	1040000.000	46920.000	46070.000
2	02:14:59	82.365%	0.189	11550.000	12320.000	0.000	1042000.000	47480.000	46440.000
3	02:15:08	83.324%	0.170	11560.000	12300.000	0.000	1036000.000	47500.000	46610.000
x		82.780%	0.165	11530.000	12280.000	0.000	1039000.000	47300.000	46370.000
σ		0.492%	0.028	53.710	58.850	0.000	2987.000	330.800	273.900
%RSD		0.595	17.150	0.466	0.479	0.000	0.288	0.699	0.591

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:14:49	4.973	8009.000	0.000	22020.000	405200.000	421300.000	91.362%	2.792
2	02:14:59	5.076	8047.000	0.000	22310.000	406100.000	427300.000	91.226%	2.903
3	02:15:08	5.189	8026.000	0.000	22210.000	407300.000	426200.000	91.734%	2.868
x		5.079	8027.000	0.000	22180.000	406200.000	424900.000	91.441%	2.854
σ		0.108	18.900	0.000	147.700	1054.000	3191.000	0.263%	0.057
%RSD		2.130	0.235	0.000	0.666	0.260	0.751	0.288	1.994

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:14:49	8.081	2.682	16.440	-9.951	2535.000	0.776	3.822	0.710
2	02:14:59	8.409	2.718	16.540	-9.186	2382.000	0.694	3.885	0.794
3	02:15:08	8.160	2.622	16.550	-9.008	2397.000	0.730	3.801	0.771
x		8.217	2.674	16.510	-9.382	2438.000	0.733	3.836	0.758
σ		0.171	0.049	0.060	0.501	84.340	0.041	0.044	0.044
%RSD		2.083	1.822	0.362	5.341	3.459	5.585	1.139	5.758

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:14:49	13.270	3.493	-0.155	10.810	5.713	38.260	0.000	711.900
2	02:14:59	13.220	3.200	0.223	11.080	5.599	39.070	0.000	727.100
3	02:15:08	13.250	3.476	0.118	10.810	5.749	39.870	0.000	721.900
x		13.250	3.389	0.062	10.900	5.687	39.070	0.000	720.300
σ		0.023	0.164	0.195	0.156	0.078	0.804	0.000	7.722
%RSD		0.176	4.842	315.700	1.426	1.372	2.058	0.000	1.072

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:14:49	70.942%	882.900	935.600	63.274%	-0.005	0.016	1.766	1.208
2	02:14:59	70.431%	913.500	966.800	62.525%	-0.012	0.004	1.936	1.433
3	02:15:08	71.167%	897.000	945.800	64.178%	0.001	0.004	2.139	1.134
x		70.846%	897.800	949.400	63.326%	-0.005	0.008	1.947	1.259
σ		0.377%	15.310	15.910	0.828%	0.007	0.007	0.187	0.156
%RSD		0.532	1.705	1.676	1.307	128.700	88.730	9.593	12.380

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:14:49	65.967%	0.331	0.135	0.164	16.270	16.550	74.265%	74.146%
2	02:14:59	65.703%	0.373	0.121	0.136	17.940	17.260	72.943%	73.486%
3	02:15:08	67.626%	0.382	0.092	0.160	16.750	16.260	75.446%	74.652%
x		66.432%	0.362	0.116	0.153	16.990	16.690	74.218%	74.095%
σ		1.042%	0.027	0.022	0.015	0.858	0.518	1.252%	0.585%
%RSD		1.569	7.500	18.600	9.903	5.053	3.104	1.687	0.789

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	02:14:49	0.023	0.007	-0.010	0.018	0.005	60.724%
2	02:14:59	0.023	0.006	-0.004	-0.015	0.000	60.280%
3	02:15:08	0.019	0.009	0.001	-0.002	0.004	61.415%
x		0.022	0.007	-0.004	0.000	0.003	60.806%
σ		0.002	0.001	0.006	0.017	0.002	0.572%
%RSD		10.350	15.810	135.500	3912.000	75.950	0.941

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:19:54	90.138%	0.009	55.900	59.810	0.000	17260.000	71400.000	69050.000
2	02:20:04	90.983%	0.009	55.180	59.360	0.000	17430.000	72970.000	69820.000
3	02:20:13	91.717%	0.016	55.210	57.920	0.000	17510.000	73050.000	70160.000
x		90.946%	0.011	55.430	59.030	0.000	17400.000	72470.000	69680.000
σ		0.790%	0.004	0.404	0.989	0.000	127.600	925.500	568.500
%RSD		0.869	37.390	0.729	1.675	0.000	0.734	1.277	0.816

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:19:54	2.409	11330.000	0.000	290.400	130100.000	143200.000	118.344%	3.876
2	02:20:04	2.675	11620.000	0.000	295.800	140600.000	145200.000	118.025%	3.625
3	02:20:13	2.563	11480.000	0.000	298.100	141100.000	145900.000	117.494%	3.857
x		2.549	11480.000	0.000	294.800	137300.000	144800.000	117.954%	3.786
σ		0.133	141.500	0.000	3.998	6205.000	1390.000	0.430%	0.140
%RSD		5.227	1.233	0.000	1.356	4.520	0.960	0.364	3.684

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:19:54	6.240	2.636	12290.000	1745.000	2628.000	3.377	3.758	0.386
2	02:20:04	6.994	2.563	12420.000	1754.000	2693.000	3.365	3.743	0.302
3	02:20:13	5.723	2.421	12600.000	1767.000	2626.000	3.289	3.723	0.326
x		6.319	2.540	12440.000	1755.000	2649.000	3.344	3.741	0.338
σ		0.639	0.109	156.600	10.740	38.010	0.048	0.018	0.043
%RSD		10.110	4.305	1.259	0.612	1.435	1.424	0.478	12.760

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:19:54	1.475	1.044	0.642	13.020	0.214	8.740	0.000	171.400
2	02:20:04	1.253	1.286	0.716	13.210	0.144	12.490	0.000	171.700
3	02:20:13	1.339	1.789	-0.071	13.170	0.061	9.692	0.000	173.300
x		1.356	1.373	0.429	13.130	0.140	10.310	0.000	172.100
σ		0.112	0.380	0.435	0.096	0.077	1.947	0.000	1.001
%RSD		8.285	27.680	101.300	0.731	54.790	18.890	0.000	0.581

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:19:54	93.500%	1.789	1.831	93.509%	-0.004	-0.004	0.074	0.023
2	02:20:04	93.530%	2.103	1.834	93.560%	0.001	-0.004	0.018	0.031
3	02:20:13	92.485%	1.672	2.122	92.468%	-0.008	0.011	0.048	0.055
x		93.172%	1.855	1.929	93.179%	-0.004	0.001	0.047	0.036
σ		0.595%	0.223	0.167	0.616%	0.005	0.008	0.028	0.017
%RSD		0.638	12.010	8.680	0.661	135.200	693.700	59.860	45.920

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:19:54	90.275%	0.388	0.051	0.112	97.830	95.190	101.163%	100.836%
2	02:20:04	90.585%	0.399	0.055	0.094	96.800	96.110	100.211%	99.717%
3	02:20:13	87.484%	0.309	0.053	0.083	98.460	98.020	98.094%	97.016%
x		89.448%	0.365	0.053	0.097	97.690	96.440	99.823%	99.190%
σ		1.708%	0.049	0.002	0.015	0.838	1.446	1.571%	1.964%
%RSD		1.909	13.480	3.338	15.040	0.858	1.500	1.574	1.980

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	02:19:54	0.033	0.029	0.026	0.040	0.030	85.265%
2	02:20:04	0.024	0.039	0.023	0.027	0.030	82.590%
3	02:20:13	0.040	0.040	0.042	0.063	0.045	80.558%
x		0.032	0.036	0.030	0.043	0.035	82.804%
σ		0.008	0.006	0.010	0.018	0.009	2.361%
%RSD		25.420	17.060	32.850	42.310	25.930	2.851

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:24:59	55.569%	0.214	177.400	193.400	0.000	1213000.000	401100.000	392900.000
2	02:25:08	55.593%	0.211	177.800	194.500	0.000	1204000.000	401600.000	393600.000
3	02:25:18	55.272%	0.225	181.000	196.300	0.000	1221000.000	408500.000	398400.000
x		55.478%	0.217	178.700	194.700	0.000	1213000.000	403800.000	395000.000
σ		0.179%	0.007	1.968	1.487	0.000	8369.000	4112.000	2993.000
%RSD		0.323	3.365	1.101	0.764	0.000	0.690	1.018	0.758
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:24:59	40.020	17740.000	0.000	4779.000	426300.000	422700.000	78.325%	9.806
2	02:25:08	48.660	17870.000	0.000	4784.000	428600.000	425200.000	78.895%	10.240
3	02:25:18	50.290	17980.000	0.000	4845.000	431100.000	428500.000	77.814%	9.600
x		46.320	17860.000	0.000	4803.000	428600.000	425500.000	78.344%	9.882
σ		5.516	120.700	0.000	36.450	2416.000	2923.000	0.541%	0.326
%RSD		11.910	0.676	0.000	0.759	0.564	0.687	0.690	3.302
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:24:59	6.854	2.181	4754.000	10650.000	12580.000	1.739	6.797	0.430
2	02:25:08	7.375	1.998	4729.000	10540.000	12490.000	1.664	7.207	0.493
3	02:25:18	6.529	2.074	4815.000	10700.000	12920.000	1.733	7.065	0.375
x		6.920	2.084	4766.000	10630.000	12660.000	1.712	7.023	0.433
σ		0.427	0.092	44.460	85.380	225.600	0.041	0.208	0.059
%RSD		6.169	4.409	0.933	0.803	1.781	2.423	2.967	13.640
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:24:59	21.460	29.640	22.450	27.460	0.425	10.220	0.000	1203.000
2	02:25:08	20.840	27.960	22.140	27.790	0.559	11.790	0.000	1220.000
3	02:25:18	21.790	27.500	21.130	27.340	0.436	11.060	0.000	1207.000
x		21.360	28.370	21.910	27.530	0.473	11.030	0.000	1210.000
σ		0.484	1.126	0.690	0.231	0.074	0.784	0.000	8.833
%RSD		2.265	3.970	3.150	0.840	15.700	7.110	0.000	0.730
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:24:59	57.020%	24.060	25.850	48.513%	0.003	0.004	0.120	0.041
2	02:25:08	57.218%	23.760	26.170	48.953%	-0.011	-0.012	0.051	0.034
3	02:25:18	58.572%	24.280	26.040	49.889%	-0.007	-0.007	0.165	0.105
x		57.603%	24.030	26.020	49.119%	-0.005	-0.005	0.112	0.060
σ		0.845%	0.258	0.161	0.703%	0.007	0.008	0.058	0.039
%RSD		1.467	1.073	0.619	1.431	136.700	155.800	51.480	65.320
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:24:59	50.197%	0.329	0.097	0.118	10.880	10.980	56.597%	54.200%
2	02:25:08	50.510%	0.351	0.038	0.061	11.710	11.230	55.902%	54.229%
3	02:25:18	52.196%	0.253	0.061	0.132	10.890	10.930	58.131%	56.954%
x		50.968%	0.311	0.065	0.104	11.160	11.050	56.877%	55.128%
σ		1.075%	0.051	0.030	0.038	0.479	0.162	1.141%	1.582%
%RSD		2.109	16.530	45.630	36.360	4.295	1.466	2.006	2.869
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	02:24:59	0.070	0.063	0.178	0.185	0.158	34.759%		
2	02:25:08	0.024	0.050	0.227	0.150	0.225	34.735%		
3	02:25:18	0.043	0.065	0.228	0.128	0.172	37.417%		
x		0.046	0.059	0.211	0.154	0.185	35.637%		
σ		0.023	0.008	0.028	0.029	0.036	1.542%		
%RSD		51.380	14.020	13.430	18.640	19.230	4.326		

180-70809-E-21-B 10/10/2017 2:30:57 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:30:02	106.857%	0.019	5.614	5.607	0.000	269.000	10.300	9.443
2	02:30:12	103.978%	0.010	5.988	5.915	0.000	260.100	8.871	8.118
3	02:30:21	104.871%	0.004	5.462	5.956	0.000	246.900	8.126	7.364
x		105.235%	0.011	5.688	5.826	0.000	258.700	9.100	8.308
σ		1.474%	0.008	0.270	0.191	0.000	11.100	1.106	1.052
%RSD		1.400	69.860	4.754	3.276	0.000	4.291	12.150	12.670

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:30:02	1.766	22.000	0.000	17.150	48.420	49.530	127.005%	-487.400
2	02:30:12	2.154	23.240	0.000	18.690	43.580	48.660	124.840%	0.430
3	02:30:21	1.902	21.270	0.000	17.300	49.420	48.230	127.542%	-494.800
x		1.941	22.170	0.000	17.710	47.140	48.800	126.462%	-327.300
σ		0.197	0.992	0.000	0.848	3.122	0.661	1.431%	283.800
%RSD		10.150	4.476	0.000	4.787	6.624	1.355	1.131	86.720

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:30:02	7.794	2.824	0.387	-1.177	-0.167	-0.004	0.029	0.149
2	02:30:12	7.783	2.786	0.362	-1.079	2.436	0.004	0.021	0.187
3	02:30:21	5.892	2.619	0.352	-1.309	0.284	0.006	0.067	0.139
x		7.156	2.743	0.367	-1.188	0.851	0.002	0.039	0.159
σ		1.095	0.109	0.018	0.115	1.391	0.005	0.025	0.025
%RSD		15.300	3.967	4.946	9.691	163.500	251.000	63.700	16.000

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:30:02	0.890	0.749	0.243	1.260	0.072	4.346	0.000	0.086
2	02:30:12	0.718	0.752	0.375	1.235	-0.054	3.097	0.000	0.105
3	02:30:21	0.758	0.304	0.029	1.278	0.059	2.944	0.000	0.084
x		0.788	0.602	0.216	1.258	0.026	3.462	0.000	0.092
σ		0.090	0.258	0.175	0.021	0.069	0.769	0.000	0.012
%RSD		11.430	42.880	81.160	1.697	268.000	22.220	0.000	12.860

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:30:02	106.406%	0.072	0.053	114.209%	0.010	-0.003	0.008	0.012
2	02:30:12	106.617%	0.083	0.087	113.280%	-0.012	-0.007	0.015	0.003
3	02:30:21	106.304%	0.100	0.062	112.498%	-0.008	-0.005	-0.000	0.009
x		106.442%	0.085	0.067	113.329%	-0.003	-0.005	0.008	0.008
σ		0.159%	0.014	0.018	0.857%	0.012	0.002	0.008	0.005
%RSD		0.150	16.840	26.310	0.756	390.800	45.840	103.100	61.740

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:30:02	107.890%	0.341	0.041	0.081	0.006	0.088	112.641%	112.563%
2	02:30:12	108.519%	0.333	0.034	0.050	0.150	0.113	114.560%	112.672%
3	02:30:21	108.598%	0.390	0.065	0.074	0.102	0.092	113.922%	113.217%
x		108.336%	0.355	0.047	0.068	0.086	0.098	113.708%	112.817%
σ		0.388%	0.031	0.016	0.016	0.073	0.013	0.977%	0.350%
%RSD		0.358	8.617	34.420	23.450	85.070	13.700	0.859	0.310

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	02:30:02	0.000	0.001	0.021	0.001	0.006	108.508%
2	02:30:12	0.008	0.004	0.002	0.019	0.008	110.554%
3	02:30:21	0.000	0.009	-0.005	0.011	0.004	110.494%
x		0.003	0.005	0.006	0.010	0.006	109.852%
σ		0.004	0.004	0.014	0.009	0.002	1.165%
%RSD		157.200	80.430	222.000	87.480	27.360	1.060

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:35:06	101.653%	0.009	3.847	4.158	0.000	214.100	3.538	2.964
2	02:35:15	102.707%	0.004	4.143	4.284	0.000	210.400	2.816	3.089
3	02:35:25	102.484%	-0.002	3.973	4.078	0.000	210.200	3.135	2.595
x		102.281%	0.004	3.988	4.173	0.000	211.500	3.163	2.883
σ		0.556%	0.005	0.148	0.104	0.000	2.220	0.362	0.257
%RSD		0.543	149.100	3.718	2.482	0.000	1.049	11.440	8.901
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:35:06	19.410	28.830	0.000	17.950	47.210	50.030	119.974%	-546.900
2	02:35:15	19.570	28.290	0.000	16.210	51.120	49.160	122.184%	-530.900
3	02:35:25	19.880	28.030	0.000	17.700	50.170	51.390	120.928%	0.366
x		19.620	28.380	0.000	17.290	49.500	50.190	121.029%	-359.200
σ		0.242	0.407	0.000	0.940	2.040	1.125	1.108%	311.500
%RSD		1.232	1.435	0.000	5.437	4.122	2.241	0.916	86.720
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:35:06	7.160	2.702	0.282	-0.824	0.737	-0.002	0.009	0.493
2	02:35:15	7.070	2.462	0.289	-0.865	0.896	-0.007	0.043	0.435
3	02:35:25	7.194	2.435	0.301	-0.703	-3.109	0.003	0.023	0.415
x		7.141	2.533	0.291	-0.797	-0.492	-0.002	0.025	0.448
σ		0.064	0.147	0.010	0.084	2.268	0.005	0.017	0.040
%RSD		0.894	5.809	3.350	10.590	460.700	260.900	68.760	9.033
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:35:06	0.801	0.487	0.082	1.084	-0.035	3.376	0.000	0.080
2	02:35:15	0.761	0.433	0.376	1.091	-0.088	3.198	0.000	0.065
3	02:35:25	0.752	0.425	0.544	1.042	0.057	3.020	0.000	0.074
x		0.771	0.448	0.334	1.072	-0.022	3.198	0.000	0.073
σ		0.026	0.034	0.234	0.027	0.073	0.178	0.000	0.007
%RSD		3.421	7.603	70.090	2.486	329.600	5.576	0.000	10.040
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:35:06	101.798%	0.054	0.028	107.897%	-0.007	-0.007	0.008	0.007
2	02:35:15	101.138%	0.060	0.029	108.002%	-0.016	0.003	-0.000	0.020
3	02:35:25	101.770%	0.043	0.051	106.710%	-0.014	-0.009	-0.000	0.000
x		101.569%	0.052	0.036	107.536%	-0.012	-0.004	0.003	0.009
σ		0.373%	0.009	0.013	0.717%	0.004	0.006	0.005	0.010
%RSD		0.367	16.670	35.950	0.667	36.370	143.700	187.400	115.000
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:35:06	101.100%	0.392	0.067	0.049	0.054	0.111	107.942%	107.555%
2	02:35:15	99.523%	0.301	0.025	0.095	0.087	0.031	108.098%	107.451%
3	02:35:25	98.040%	0.411	0.036	0.053	0.089	0.097	107.657%	106.408%
x		99.554%	0.368	0.043	0.066	0.077	0.080	107.899%	107.138%
σ		1.531%	0.059	0.022	0.025	0.019	0.043	0.224%	0.634%
%RSD		1.537	15.890	50.930	38.550	25.400	53.510	0.207	0.592
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	02:35:06	0.003	0.003	-0.013	0.031	0.005	100.563%		
2	02:35:15	0.008	-0.002	-0.013	0.007	-0.005	98.431%		
3	02:35:25	0.004	0.014	0.016	-0.005	0.005	97.281%		
x		0.005	0.005	-0.003	0.011	0.001	98.758%		
σ		0.003	0.009	0.017	0.018	0.005	1.666%		
%RSD		50.230	170.200	526.600	165.700	367.600	1.687		

CCV 2475807 10/10/2017 2:45:05 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:44:08	97.147%	106.100	100.300	103.100	0.000	49140.000	52000.000	49900.000
2	02:44:18	97.018%	107.500	101.000	104.000	0.000	49450.000	52560.000	50620.000
3	02:44:27	98.413%	106.100	100.100	101.100	0.000	45490.000	48320.000	46840.000
x		97.526%	106.575%	100.464%	102.704%	0.000	96.057%	101.923%	98.238%
σ		0.771%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		0.790	0.764	0.454	1.425	0.000	4.585	4.521	4.085
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:44:08	493.600	5190.000	0.000	48330.000	50720.000	51950.000	107.479%	106.900
2	02:44:18	498.600	5296.000	0.000	48610.000	51480.000	52610.000	107.674%	106.500
3	02:44:27	461.300	4998.000	0.000	45130.000	47470.000	48310.000	116.267%	100.900
x		96.906%	103.226%	0.000	94.709%	99.785%	101.913%	110.473%	104.785%
σ		n/a	n/a	0.000	n/a	n/a	n/a	5.018%	n/a
%RSD		4.177	2.920	0.000	4.083	4.266	4.539	4.543	3.185
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:44:08	96.080	91.920	545.500	23000.000	23770.000	100.200	101.600	105.500
2	02:44:18	95.960	94.140	545.400	23190.000	24040.000	101.100	102.000	106.200
3	02:44:27	94.980	87.000	506.900	22150.000	23060.000	96.080	97.550	101.300
x		95.677%	91.020%	106.521%	91.131%	94.496%	99.124%	100.385%	104.330%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		0.632	4.016	4.172	2.433	2.157	2.707	2.450	2.530
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:44:08	105.200	108.500	110.000	104.600	107.000	105.000	0.000	95.720
2	02:44:18	108.700	110.800	111.500	104.900	107.000	108.300	0.000	94.330
3	02:44:27	102.400	102.100	105.300	101.600	106.300	99.260	0.000	94.990
x		105.448%	107.155%	108.922%	103.713%	106.774%	104.177%	0.000	95.015%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		2.996	4.201	2.973	1.751	0.379	4.377	0.000	0.736
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:44:08	95.364%	104.700	106.200	93.494%	102.100	105.700	105.000	110.100
2	02:44:18	96.035%	105.800	106.000	94.548%	102.000	104.200	104.500	110.400
3	02:44:27	97.690%	105.200	107.400	95.172%	102.200	103.800	105.200	110.100
x		96.363%	105.215%	106.543%	94.404%	102.114%	104.558%	104.906%	110.164%
σ		1.197%	n/a	n/a	0.848%	n/a	n/a	n/a	n/a
%RSD		1.242	0.533	0.670	0.898	0.114	0.941	0.351	0.167
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:44:08	88.411%	104.100	105.400	103.100	97.730	96.360	96.561%	96.443%
2	02:44:18	89.904%	104.500	104.600	104.000	95.250	97.360	96.879%	96.362%
3	02:44:27	91.921%	101.300	102.200	103.100	96.510	96.460	98.339%	96.322%
x		90.078%	103.293%	104.053%	103.400%	96.500%	96.727%	97.259%	96.376%
σ		1.761%	n/a	n/a	n/a	n/a	n/a	0.948%	0.062%
%RSD		1.955	1.658	1.587	0.540	1.284	0.565	0.975	0.064
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	02:44:08	101.200	100.200	100.600	101.500	100.300	85.346%		
2	02:44:18	101.800	101.500	101.500	101.900	100.900	86.412%		
3	02:44:27	102.000	99.620	101.000	102.000	101.100	87.938%		
x		101.666%	100.458%	101.027%	101.816%	100.750%	86.565%		
σ		n/a	n/a	n/a	n/a	n/a	1.303%		
%RSD		0.409	0.959	0.464	0.295	0.375	1.505		

CCB9 10/10/2017 2:50:13 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:49:16	96.820%	0.027	1.940	2.175	0.000	48.140	20.520	20.470
2	02:49:26	95.900%	0.033	2.020	2.138	0.000	48.240	21.170	19.920
3	02:49:35	96.358%	0.026	2.039	2.114	0.000	47.530	21.280	19.820
x		96.359%	0.029	2.000	2.142	0.000	47.970	20.990	20.070
σ		0.460%	0.004	0.052	0.031	0.000	0.384	0.412	0.354
%RSD		0.478	13.770	2.623	1.452	0.000	0.800	1.965	1.766

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:49:16	0.895	-6.703	0.000	34.580	29.400	23.510	109.493%	0.088
2	02:49:26	0.781	-5.778	0.000	34.800	26.400	22.890	108.988%	0.022
3	02:49:35	0.722	-6.097	0.000	34.120	26.110	23.000	109.909%	0.028
x		0.799	-6.192	0.000	34.500	27.300	23.130	109.463%	0.046
σ		0.088	0.470	0.000	0.348	1.824	0.332	0.461%	0.037
%RSD		11.040	7.590	0.000	1.008	6.679	1.434	0.421	79.310

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:49:16	0.048	0.061	0.268	11.320	14.300	0.032	0.051	0.095
2	02:49:26	0.030	0.056	0.253	11.770	12.760	0.031	0.051	0.050
3	02:49:35	0.030	0.044	0.261	11.490	13.540	0.040	0.052	0.054
x		0.036	0.054	0.261	11.520	13.530	0.035	0.051	0.066
σ		0.010	0.009	0.008	0.227	0.770	0.005	0.000	0.025
%RSD		28.950	15.960	2.963	1.966	5.686	14.070	0.701	37.400

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:49:16	0.250	0.577	1.307	0.066	0.011	0.637	0.000	0.071
2	02:49:26	0.230	1.115	0.934	0.049	0.012	0.631	0.000	0.072
3	02:49:35	0.249	0.839	0.772	0.080	0.000	0.180	0.000	0.050
x		0.243	0.843	1.005	0.065	0.008	0.483	0.000	0.064
σ		0.011	0.270	0.275	0.016	0.006	0.262	0.000	0.013
%RSD		4.583	31.950	27.320	23.990	81.800	54.270	0.000	19.450

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:49:16	99.340%	0.135	0.226	103.381%	0.033	0.048	0.093	0.031
2	02:49:26	98.971%	0.154	0.203	102.014%	0.036	0.034	0.069	0.052
3	02:49:35	96.938%	0.133	0.117	100.880%	0.046	0.040	0.052	0.018
x		98.416%	0.140	0.182	102.092%	0.038	0.041	0.071	0.034
σ		1.293%	0.012	0.057	1.252%	0.007	0.007	0.021	0.017
%RSD		1.314	8.354	31.580	1.226	17.450	17.720	28.850	51.740

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:49:16	99.455%	0.082	0.072	0.070	0.231	0.298	102.219%	102.045%
2	02:49:26	97.630%	0.064	0.036	0.081	0.224	0.314	102.232%	101.037%
3	02:49:35	96.263%	0.081	0.061	0.085	0.358	0.239	101.546%	101.098%
x		97.783%	0.075	0.057	0.079	0.271	0.283	101.999%	101.393%
σ		1.602%	0.010	0.018	0.008	0.076	0.039	0.393%	0.565%
%RSD		1.638	13.600	32.440	10.360	27.960	13.890	0.385	0.558

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	02:49:16	0.029	0.040	0.036	0.060	0.046	99.027%
2	02:49:26	0.034	0.036	0.061	0.023	0.046	98.901%
3	02:49:35	0.049	0.023	0.048	0.045	0.037	97.792%
x		0.037	0.033	0.049	0.043	0.043	98.573%
σ		0.011	0.009	0.012	0.018	0.005	0.680%
%RSD		28.070	27.070	25.490	43.110	12.480	0.690

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:54:24	88.243%	0.017	26.570	26.950	0.000	14380.000	5034.000	5134.000
2	02:54:33	91.045%	0.016	25.200	25.890	0.000	14090.000	5169.000	4744.000
3	02:54:43	90.557%	0.007	26.180	25.950	0.000	14020.000	5140.000	4774.000
x		89.948%	0.013	25.990	26.270	0.000	14160.000	5114.000	4884.000
σ		1.497%	0.005	0.705	0.594	0.000	195.700	71.220	216.800
%RSD		1.664	40.600	2.713	2.261	0.000	1.382	1.393	4.438

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:54:24	69.490	3077.000	0.000	4893.000	12620.000	12560.000	108.848%	2.716
2	02:54:33	69.060	2974.000	0.000	4774.000	12220.000	12240.000	111.240%	2.743
3	02:54:43	67.500	3001.000	0.000	4755.000	12290.000	12150.000	110.981%	3.401
x		68.680	3017.000	0.000	4807.000	12380.000	12320.000	110.356%	2.953
σ		1.049	53.330	0.000	74.680	214.800	213.700	1.313%	0.388
%RSD		1.528	1.767	0.000	1.553	1.736	1.736	1.189	13.140

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:54:24	0.731	0.984	3.526	51.520	134.800	0.242	1.812	2.545
2	02:54:33	0.671	0.995	3.417	51.710	135.200	0.197	1.669	2.321
3	02:54:43	0.679	0.998	3.336	50.840	126.300	0.205	1.724	2.379
x		0.694	0.992	3.426	51.360	132.100	0.215	1.735	2.415
σ		0.032	0.007	0.096	0.457	5.036	0.024	0.072	0.116
%RSD		4.674	0.747	2.795	0.890	3.811	11.210	4.148	4.805

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:54:24	2.803	7.131	6.970	2.767	0.218	16.380	0.000	55.340
2	02:54:33	2.475	7.133	6.656	2.779	0.623	15.810	0.000	55.360
3	02:54:43	2.698	6.729	6.454	2.549	0.457	14.940	0.000	54.940
x		2.659	6.998	6.693	2.699	0.433	15.710	0.000	55.210
σ		0.167	0.233	0.260	0.129	0.204	0.724	0.000	0.234
%RSD		6.289	3.329	3.889	4.790	47.050	4.609	0.000	0.424

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:54:24	90.042%	1.869	1.955	91.139%	0.007	0.014	-0.000	0.040
2	02:54:33	88.789%	1.861	1.959	89.965%	0.010	0.003	0.039	0.013
3	02:54:43	89.229%	1.979	1.927	89.032%	-0.008	-0.000	0.029	0.005
x		89.353%	1.903	1.947	90.045%	0.003	0.005	0.023	0.020
σ		0.636%	0.066	0.017	1.056%	0.010	0.007	0.021	0.018
%RSD		0.711	3.463	0.891	1.172	334.000	135.700	89.960	93.940

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:54:24	86.614%	0.023	0.521	0.481	39.180	37.950	90.653%	89.104%
2	02:54:33	84.875%	0.025	0.515	0.547	39.590	39.090	89.877%	88.057%
3	02:54:43	84.546%	0.001	0.478	0.564	39.770	38.710	89.943%	87.911%
x		85.345%	0.016	0.505	0.531	39.510	38.580	90.158%	88.357%
σ		1.111%	0.013	0.023	0.044	0.306	0.581	0.430%	0.651%
%RSD		1.302	80.770	4.615	8.273	0.775	1.506	0.477	0.736

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	02:54:24	0.014	0.010	0.296	0.200	0.230	72.472%
2	02:54:33	0.012	0.013	0.243	0.136	0.206	71.206%
3	02:54:43	0.009	0.009	0.262	0.288	0.272	70.017%
x		0.012	0.011	0.267	0.208	0.236	71.232%
σ		0.003	0.002	0.026	0.076	0.033	1.228%
%RSD		21.330	20.380	9.896	36.580	14.080	1.724

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:59:28	99.166%	0.015	1.867	1.916	0.000	220.700	2.842	2.720
2	02:59:38	97.325%	0.014	1.871	2.143	0.000	219.300	3.012	2.868
3	02:59:47	98.685%	0.019	1.892	2.128	0.000	213.300	2.892	2.650
x		98.392%	0.016	1.876	2.063	0.000	217.800	2.915	2.746
σ		0.955%	0.003	0.013	0.127	0.000	3.892	0.088	0.111
%RSD		0.970	17.240	0.708	6.176	0.000	1.787	3.002	4.042
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:59:28	1.805	31.480	0.000	45.070	41.660	47.880	111.683%	0.542
2	02:59:38	1.792	32.790	0.000	42.230	40.540	49.200	111.658%	0.419
3	02:59:47	1.940	32.250	0.000	39.270	45.370	46.030	112.772%	0.400
x		1.846	32.170	0.000	42.190	42.520	47.700	112.037%	0.454
σ		0.082	0.658	0.000	2.900	2.531	1.592	0.636%	0.078
%RSD		4.443	2.046	0.000	6.874	5.952	3.338	0.568	17.090
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:59:28	6.596	14.250	11.780	1256.000	-2942.000	0.227	3.907	5.311
2	02:59:38	7.424	14.330	12.060	1316.000	1472.000	0.268	4.233	5.432
3	02:59:47	7.357	13.620	12.200	1253.000	-3359.000	0.235	4.235	5.146
x		7.126	14.060	12.010	1275.000	-1610.000	0.243	4.125	5.297
σ		0.460	0.388	0.214	35.310	2677.000	0.022	0.189	0.144
%RSD		6.452	2.761	1.782	2.770	166.300	8.859	4.586	2.713
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:59:28	5.891	0.851	0.602	1.392	-0.030	2.441	0.000	0.065
2	02:59:38	5.702	0.875	0.849	1.380	-0.001	1.994	0.000	0.087
3	02:59:47	5.451	0.805	0.889	1.374	0.091	2.524	0.000	0.069
x		5.681	0.844	0.780	1.382	0.020	2.319	0.000	0.074
σ		0.221	0.035	0.155	0.009	0.063	0.285	0.000	0.012
%RSD		3.885	4.161	19.920	0.661	317.200	12.300	0.000	16.180
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:59:28	98.723%	2.201	2.379	103.548%	-0.005	-0.004	0.008	0.010
2	02:59:38	97.689%	2.275	2.228	103.478%	-0.000	0.011	-0.000	0.025
3	02:59:47	99.870%	2.103	2.328	105.547%	0.006	0.018	0.033	-0.003
x		98.761%	2.193	2.312	104.191%	0.000	0.008	0.014	0.011
σ		1.091%	0.086	0.077	1.175%	0.005	0.011	0.018	0.014
%RSD		1.104	3.931	3.328	1.128	1405.000	138.800	126.700	132.900
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	02:59:28	98.467%	0.639	0.133	0.135	0.155	0.188	104.921%	103.686%
2	02:59:38	96.859%	0.715	0.160	0.151	0.171	0.121	102.386%	103.805%
3	02:59:47	98.962%	0.621	0.096	0.112	0.228	0.051	104.667%	105.866%
x		98.096%	0.658	0.130	0.133	0.185	0.120	103.991%	104.452%
σ		1.099%	0.050	0.032	0.020	0.039	0.068	1.396%	1.226%
%RSD		1.121	7.553	24.760	14.920	21.030	56.760	1.343	1.174
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	02:59:28	0.006	0.003	0.498	0.466	0.519	97.757%		
2	02:59:38	-0.003	-0.002	0.499	0.508	0.494	97.452%		
3	02:59:47	-0.003	0.002	0.435	0.448	0.445	100.572%		
x		0.000	0.001	0.478	0.474	0.486	98.594%		
σ		0.005	0.003	0.037	0.031	0.038	1.720%		
%RSD		5441.000	313.800	7.671	6.548	7.789	1.744		

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:04:34	89.928%	0.018	298.000	322.800	0.000	64970.000	80120.000	77090.000
2	03:04:43	91.952%	0.002	300.800	322.400	0.000	71780.000	88540.000	84920.000
3	03:04:53	90.924%	0.012	302.000	321.600	0.000	72660.000	89140.000	86620.000
x		90.935%	0.011	300.200	322.300	0.000	69800.000	85940.000	82870.000
σ		1.012%	0.008	2.074	0.566	0.000	4207.000	5041.000	5082.000
%RSD		1.113	73.870	0.691	0.176	0.000	6.027	5.866	6.132

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:04:34	26.110	9735.000	0.000	426.000	157600.000	156100.000	122.782%	3.719
2	03:04:43	29.170	10230.000	0.000	483.400	175400.000	175800.000	112.227%	4.158
3	03:04:53	29.580	10380.000	0.000	485.300	174700.000	175700.000	111.635%	3.911
x		28.290	10110.000	0.000	464.900	169200.000	169200.000	115.548%	3.930
σ		1.895	337.500	0.000	33.690	10090.000	11360.000	6.272%	0.220
%RSD		6.699	3.337	0.000	7.248	5.961	6.714	5.428	5.595

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:04:34	5.999	2.232	455.500	33.230	1048.000	0.833	2.969	0.391
2	03:04:43	5.079	2.184	510.200	34.770	1071.000	0.784	2.824	0.401
3	03:04:53	6.007	2.076	515.700	35.310	987.400	0.953	2.890	0.428
x		5.695	2.164	493.800	34.440	1036.000	0.857	2.894	0.407
σ		0.533	0.080	33.270	1.078	43.320	0.087	0.072	0.019
%RSD		9.366	3.698	6.737	3.130	4.183	10.140	2.495	4.774

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:04:34	2.100	2.099	1.946	7.821	0.246	5.067	0.000	1066.000
2	03:04:43	2.094	1.987	1.352	7.585	0.182	5.274	0.000	1070.000
3	03:04:53	1.944	2.025	2.008	7.813	0.230	4.235	0.000	1066.000
x		2.046	2.037	1.768	7.739	0.219	4.859	0.000	1067.000
σ		0.088	0.057	0.362	0.134	0.033	0.550	0.000	2.115
%RSD		4.312	2.790	20.490	1.732	15.070	11.310	0.000	0.198

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:04:34	91.706%	1.289	1.479	90.293%	0.004	0.008	0.028	0.093
2	03:04:43	91.310%	1.395	1.439	90.747%	0.009	-0.006	0.086	0.055
3	03:04:53	90.349%	1.474	1.447	90.241%	-0.003	-0.009	0.096	0.086
x		91.122%	1.386	1.455	90.427%	0.003	-0.002	0.070	0.078
σ		0.698%	0.093	0.021	0.278%	0.006	0.009	0.036	0.020
%RSD		0.766	6.692	1.476	0.308	181.200	378.800	51.910	26.050

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:04:34	88.784%	0.353	0.186	0.205	120.900	119.500	97.707%	97.287%
2	03:04:43	88.337%	0.335	0.153	0.191	122.400	121.900	98.784%	97.167%
3	03:04:53	88.074%	0.326	0.165	0.221	119.700	120.900	98.283%	97.760%
x		88.398%	0.338	0.168	0.206	121.000	120.800	98.258%	97.405%
σ		0.359%	0.014	0.017	0.015	1.342	1.240	0.539%	0.314%
%RSD		0.406	4.042	9.925	7.235	1.109	1.027	0.548	0.322

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	03:04:34	0.025	0.015	0.029	0.099	0.059	86.742%
2	03:04:43	0.039	0.018	0.064	0.136	0.086	87.166%
3	03:04:53	0.023	0.012	0.081	0.048	0.064	86.600%
x		0.029	0.015	0.058	0.094	0.069	86.836%
σ		0.009	0.003	0.027	0.044	0.014	0.294%
%RSD		31.250	21.340	45.570	46.550	20.480	0.339

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:09:43	92.347%	0.020	23.870	24.060	0.000	13950.000	34190.000	33200.000
2	03:09:52	93.689%	0.030	23.640	24.140	0.000	14200.000	34950.000	33530.000
3	03:10:02	93.067%	0.008	23.360	24.480	0.000	13210.000	32630.000	31480.000
x		93.034%	0.019	23.620	24.230	0.000	13780.000	33920.000	32740.000
σ		0.672%	0.011	0.257	0.219	0.000	515.500	1181.000	1104.000
%RSD		0.722	56.520	1.089	0.903	0.000	3.740	3.482	3.373

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:09:43	154.600	7015.000	0.000	333.700	83800.000	84670.000	112.577%	4.722
2	03:09:52	162.200	7054.000	0.000	331.300	84090.000	85000.000	112.056%	5.252
3	03:10:02	150.800	6869.000	0.000	304.000	79080.000	78900.000	120.102%	4.799
x		155.900	6979.000	0.000	323.000	82330.000	82860.000	114.912%	4.924
σ		5.819	97.460	0.000	16.480	2811.000	3434.000	4.503%	0.286
%RSD		3.734	1.397	0.000	5.103	3.415	4.145	3.918	5.814

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:09:43	6.743	2.706	192.400	1258.000	1839.000	0.513	1.652	1.030
2	03:09:52	6.345	2.642	194.900	1275.000	1878.000	0.519	1.680	1.083
3	03:10:02	6.351	2.312	181.600	1251.000	1734.000	0.450	1.279	1.079
x		6.480	2.553	189.600	1261.000	1817.000	0.494	1.537	1.064
σ		0.228	0.211	7.087	12.510	74.590	0.039	0.224	0.030
%RSD		3.524	8.264	3.737	0.992	4.106	7.839	14.560	2.776

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:09:43	1.746	1.350	1.408	12.170	0.029	3.244	0.000	155.500
2	03:09:52	1.548	1.497	2.326	12.230	0.076	2.846	0.000	155.600
3	03:10:02	1.695	1.721	0.925	12.410	0.060	2.329	0.000	154.100
x		1.663	1.523	1.553	12.270	0.055	2.806	0.000	155.100
σ		0.103	0.187	0.712	0.128	0.024	0.458	0.000	0.848
%RSD		6.173	12.270	45.840	1.042	43.580	16.330	0.000	0.547

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:09:43	87.248%	2.699	3.090	87.736%	0.003	-0.006	-0.000	0.001
2	03:09:52	86.419%	2.705	3.071	85.318%	0.000	0.009	-0.000	0.014
3	03:10:02	85.237%	3.286	3.002	86.066%	-0.002	0.022	0.010	0.039
x		86.301%	2.896	3.054	86.373%	0.000	0.008	0.003	0.018
σ		1.010%	0.337	0.047	1.238%	0.003	0.014	0.006	0.019
%RSD		1.171	11.630	1.524	1.433	1657.000	164.500	183.900	105.900

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:09:43	82.497%	0.372	0.074	0.078	65.030	64.130	88.319%	87.855%
2	03:09:52	81.831%	0.339	0.054	0.091	62.890	63.810	88.518%	86.592%
3	03:10:02	81.217%	0.379	0.091	0.080	64.340	63.880	87.459%	85.820%
x		81.848%	0.363	0.073	0.083	64.090	63.940	88.099%	86.756%
σ		0.640%	0.021	0.019	0.007	1.090	0.168	0.563%	1.027%
%RSD		0.782	5.771	25.450	8.167	1.700	0.263	0.639	1.184

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	03:09:43	0.004	0.007	0.362	0.332	0.356	67.947%
2	03:09:52	0.004	0.007	0.281	0.212	0.269	66.796%
3	03:10:02	0.001	0.009	0.305	0.243	0.288	64.954%
x		0.003	0.007	0.316	0.263	0.304	66.566%
σ		0.002	0.001	0.041	0.062	0.046	1.510%
%RSD		49.710	14.310	13.080	23.680	15.150	2.268

CCVL 2475808 10/10/2017 3:25:25 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:24:27	97.957%	1.121	21.640	22.370	0.000	477.100	513.100	493.300
2	03:24:37	98.129%	1.010	20.520	22.160	0.000	470.300	512.600	495.200
3	03:24:46	98.654%	1.126	22.010	22.730	0.000	477.100	521.300	498.900
x		98.247%	108.567%	427.831%	448.380%	0.000	593.514%	515.651%	495.792%
σ		0.363%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		0.370	6.026	3.645	1.285	0.000	0.821	0.944	0.568
Run	**Time**	**27Al**	**28Si**	**37Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:24:27	31.810	520.500	0.000	463.600	487.200	491.500	113.616%	5.207
2	03:24:37	31.350	521.900	0.000	453.400	493.900	490.100	113.656%	5.434
3	03:24:46	31.970	526.800	0.000	466.000	516.900	499.300	113.009%	5.041
x		105.702%	104.610%	0.000	460.985%	499.313%	493.618%	113.427%	104.548%
σ		n/a	n/a	0.000	n/a	n/a	n/a	0.362%	n/a
%RSD		1.013	0.631	0.000	1.457	3.118	1.012	0.320	3.769
Run	**Time**	**51V**	**52Cr**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:24:27	0.779	1.705	5.473	43.200	46.070	0.457	1.153	2.025
2	03:24:37	0.837	1.660	5.432	43.700	45.210	0.468	1.309	2.253
3	03:24:46	0.747	1.764	5.616	43.350	52.280	0.549	1.346	2.182
x		78.757%	85.470%	110.139%	86.827%	95.703%	98.324%	126.947%	107.650%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		5.817	3.040	1.758	0.589	8.058	10.250	8.067	5.421
Run	**Time**	**65Cu**	**66Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**88Sr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:24:27	2.119	5.851	5.447	1.042	4.963	6.211	0.000	4.511
2	03:24:37	2.312	5.342	5.583	1.027	5.004	5.781	0.000	4.302
3	03:24:46	2.372	5.212	5.045	1.032	4.255	5.706	0.000	4.340
x		113.363%	109.367%	107.166%	103.357%	94.810%	117.984%	0.000	87.685%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		5.828	6.173	5.222	0.714	8.875	4.614	0.000	2.534
Run	**Time**	**89Y**	**95Mo**	**98Mo**	**103Rh**	**107Ag**	**109Ag**	**111Cd**	**114Cd**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:24:27	99.523%	4.951	5.330	90.313%	1.178	1.092	1.078	1.398
2	03:24:37	98.833%	5.343	5.419	90.568%	1.018	1.177	1.352	1.230
3	03:24:46	99.730%	5.159	5.122	89.876%	0.978	1.078	1.139	1.245
x		99.362%	103.021%	105.804%	90.252%	105.815%	111.590%	118.982%	129.106%
σ		0.470%	n/a	n/a	0.350%	n/a	n/a	n/a	n/a
%RSD		0.473	3.809	2.883	0.388	10.020	4.805	12.090	7.183
Run	**Time**	**115In**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**165Ho**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:24:27	85.136%	5.340	1.785	2.057	9.513	9.659	89.510%	89.019%
2	03:24:37	85.100%	5.286	2.005	1.874	9.881	9.612	88.883%	88.498%
3	03:24:46	84.082%	5.372	1.988	2.078	10.170	9.359	88.728%	88.141%
x		84.773%	106.652%	96.296%	100.133%	98.539%	95.433%	89.040%	88.553%
σ		0.598%	n/a	n/a	n/a	n/a	n/a	0.414%	0.441%
%RSD		0.706	0.812	6.355	5.599	3.333	1.688	0.465	0.499
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**		
		ppb	ppb	ppb	ppb	ppb	ppb		
1	03:24:27	1.053	0.965	1.109	0.900	0.997	76.774%		
2	03:24:37	1.005	0.904	0.982	0.996	1.009	75.833%		
3	03:24:46	1.014	0.964	1.024	1.086	1.039	73.978%		
x		102.429%	94.411%	103.836%	99.418%	101.495%	75.528%		
σ		n/a	n/a	n/a	n/a	n/a	1.423%		
%RSD		2.507	3.698	6.233	9.349	2.174	1.884		

CCV 2475807 10/10/2017 3:30:30 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:29:33	92.860%	105.600	97.760	101.500	0.000	45290.000	46940.000	45300.000
2	03:29:43	94.000%	105.700	101.100	100.900	0.000	44440.000	46530.000	45270.000
3	03:29:52	93.790%	107.200	98.820	103.300	0.000	45630.000	46980.000	45770.000
x		93.550%	106.139%	99.236%	101.900%	0.000	90.241%	93.639%	90.896%
σ		0.607%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		0.648	0.836	1.737	1.217	0.000	1.351	0.529	0.614

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:29:33	483.400	4818.000	0.000	44040.000	46920.000	47580.000	108.317%	97.550
2	03:29:43	458.300	4826.000	0.000	43680.000	47010.000	47560.000	110.281%	97.340
3	03:29:52	489.900	4888.000	0.000	44020.000	47530.000	47920.000	109.623%	99.740
x		95.437%	96.881%	0.000	87.822%	94.307%	95.378%	109.407%	98.212%
σ		n/a	n/a	0.000	n/a	n/a	n/a	0.999%	n/a
%RSD		3.501	0.796	0.000	0.458	0.692	0.425	0.913	1.355

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:29:33	95.800	102.000	496.000	24760.000	26150.000	95.830	98.480	102.800
2	03:29:43	97.190	101.800	496.200	24400.000	25740.000	94.900	97.330	102.500
3	03:29:52	103.500	109.000	499.900	26070.000	27530.000	100.800	104.000	106.700
x		98.840%	104.241%	99.476%	100.303%	105.893%	97.169%	99.918%	104.004%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		4.169	3.934	0.439	3.506	3.550	3.249	3.543	2.239

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:29:33	103.100	104.600	105.800	102.400	105.300	103.300	0.000	97.200
2	03:29:43	102.800	106.100	107.000	104.700	103.900	107.800	0.000	98.010
3	03:29:52	107.400	111.000	111.600	110.600	108.700	112.000	0.000	104.800
x		104.439%	107.220%	108.108%	105.904%	105.934%	107.699%	0.000	99.994%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		2.448	3.095	2.847	3.985	2.326	4.081	0.000	4.158

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:29:33	87.803%	106.100	107.700	87.608%	101.400	103.400	104.100	108.700
2	03:29:43	87.557%	104.000	105.400	89.380%	101.400	104.600	103.900	108.800
3	03:29:52	85.394%	112.500	114.300	86.938%	107.900	109.100	111.000	116.500
x		86.918%	107.527%	109.127%	87.975%	103.559%	105.691%	106.335%	111.302%
σ		1.325%	n/a	n/a	1.261%	n/a	n/a	n/a	n/a
%RSD		1.525	4.092	4.237	1.434	3.632	2.819	3.811	4.012

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:29:33	83.635%	102.100	101.800	102.300	97.260	95.330	90.257%	89.640%
2	03:29:43	84.694%	103.200	102.100	103.500	96.780	94.400	91.614%	90.723%
3	03:29:52	82.708%	110.800	109.500	110.800	103.400	103.600	88.541%	88.739%
x		83.679%	105.351%	104.455%	105.546%	99.138%	97.787%	90.137%	89.701%
σ		0.994%	n/a	n/a	n/a	n/a	n/a	1.540%	0.993%
%RSD		1.187	4.519	4.161	4.371	3.714	5.198	1.708	1.107

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	03:29:33	101.000	98.670	97.670	99.550	98.780	77.202%
2	03:29:43	101.600	100.700	101.900	99.710	100.300	79.018%
3	03:29:52	107.500	105.500	106.000	104.900	105.100	78.269%
x		103.364%	101.600%	101.835%	101.375%	101.395%	78.163%
σ		n/a	n/a	n/a	n/a	n/a	0.913%
%RSD		3.463	3.433	4.076	2.990	3.265	1.168

CCB10 10/10/2017 3:35:34 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:34:39	98.211%	0.035	1.095	1.107	0.000	40.000	21.660	21.270
2	03:34:49	96.561%	0.041	1.030	1.264	0.000	41.340	22.100	21.740
3	03:34:58	96.207%	0.051	1.204	1.195	0.000	33.120	19.880	18.300
x		96.993%	0.042	1.110	1.189	0.000	38.150	21.210	20.440
σ		1.070%	0.008	0.088	0.079	0.000	4.410	1.178	1.867
%RSD		1.103	19.840	7.919	6.618	0.000	11.560	5.553	9.136

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:34:39	0.821	-8.608	0.000	37.260	21.310	24.630	106.319%	0.017
2	03:34:49	0.942	-7.127	0.000	37.090	21.750	24.910	105.791%	0.018
3	03:34:58	0.511	-12.410	0.000	24.020	21.860	19.420	122.781%	0.028
x		0.758	-9.382	0.000	32.790	21.640	22.990	111.631%	0.021
σ		0.222	2.726	0.000	7.599	0.290	3.094	9.660%	0.006
%RSD		29.290	29.060	0.000	23.180	1.340	13.460	8.654	29.620

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:34:39	0.051	0.054	0.198	12.390	13.120	0.061	0.091	0.049
2	03:34:49	0.053	0.055	0.251	12.590	9.867	0.045	0.097	0.055
3	03:34:58	0.036	0.051	0.176	10.800	12.560	0.031	0.100	0.079
x		0.047	0.053	0.208	11.930	11.850	0.046	0.096	0.061
σ		0.009	0.002	0.039	0.985	1.739	0.015	0.005	0.016
%RSD		19.570	3.895	18.580	8.258	14.680	32.960	4.769	25.810

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:34:39	0.156	1.189	0.699	0.081	0.066	0.369	0.000	0.084
2	03:34:49	0.130	0.774	0.906	0.072	-0.016	0.606	0.000	0.074
3	03:34:58	0.164	0.806	0.679	0.052	0.023	0.019	0.000	0.074
x		0.150	0.923	0.762	0.068	0.024	0.331	0.000	0.077
σ		0.018	0.231	0.125	0.015	0.041	0.295	0.000	0.006
%RSD		11.720	25.030	16.470	21.720	167.400	89.150	0.000	7.127

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:34:39	100.328%	0.153	0.162	101.851%	0.040	0.036	0.034	0.027
2	03:34:49	99.857%	0.140	0.121	103.354%	0.037	0.025	0.059	0.071
3	03:34:58	97.513%	0.143	0.135	102.012%	0.018	0.029	0.034	0.035
x		99.233%	0.145	0.139	102.406%	0.032	0.030	0.042	0.044
σ		1.507%	0.006	0.021	0.825%	0.012	0.005	0.014	0.024
%RSD		1.519	4.453	14.910	0.806	38.130	17.780	33.970	52.970

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	03:34:39	99.809%	0.108	0.086	0.073	0.275	0.341	100.922%	99.038%
2	03:34:49	100.271%	0.110	0.095	0.095	0.221	0.233	100.881%	99.733%
3	03:34:58	98.264%	0.126	0.067	0.117	0.161	0.244	100.018%	100.383%
x		99.448%	0.115	0.082	0.095	0.219	0.273	100.607%	99.718%
σ		1.051%	0.010	0.014	0.022	0.057	0.060	0.510%	0.672%
%RSD		1.057	8.419	17.510	23.290	26.220	21.930	0.507	0.674

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	03:34:39	0.026	0.042	0.051	0.082	0.070	97.984%
2	03:34:49	0.038	0.027	0.057	0.060	0.053	99.362%
3	03:34:58	0.040	0.036	0.047	0.035	0.038	99.745%
x		0.034	0.035	0.052	0.059	0.054	99.031%
σ		0.008	0.008	0.005	0.023	0.016	0.926%
%RSD		22.550	22.510	10.450	39.410	30.310	0.935

180-68173-C-12-A 10/10/2017 12:29:28 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:31	85.156%	0.036	24.180	24.940	0.000	11620.000	4865.000	4846.000
2	12:28:41	83.968%	0.030	26.630	26.580	0.000	11970.000	5023.000	3941.000
3	12:28:51	85.695%	0.026	26.030	26.440	0.000	12110.000	5073.000	3923.000
x		84.940%	0.031	25.610	25.980	0.000	11900.000	4987.000	4237.000
σ		0.884%	0.005	1.274	0.910	0.000	250.500	108.800	527.300
%RSD		1.041	16.220	4.975	3.504	0.000	2.106	2.182	12.450

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:31	73.210	2232.000	0.000	3714.000	10630.000	10540.000	93.842%	2.084
2	12:28:41	2.284	2336.000	0.000	3798.000	11160.000	10900.000	93.983%	1.925
3	12:28:51	74.850	2333.000	0.000	3798.000	11000.000	10840.000	95.621%	2.162
x		50.110	2300.000	0.000	3770.000	10930.000	10760.000	94.482%	2.057
σ		41.430	59.120	0.000	48.370	271.700	193.400	0.989%	0.121
%RSD		82.670	2.570	0.000	1.283	2.486	1.798	1.046	5.876

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:31	8.681	11.410	3.039	60.070	285.300	0.223	1.634	4.595
2	12:28:41	8.639	9.412	3.138	60.250	246.000	0.220	1.626	3.869
3	12:28:51	8.932	8.684	3.271	60.320	208.900	0.235	1.858	3.380
x		8.751	9.837	3.149	60.210	246.700	0.226	1.706	3.948
σ		0.159	1.414	0.116	0.129	38.220	0.008	0.132	0.611
%RSD		1.814	14.380	3.695	0.215	15.490	3.600	7.736	15.480

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:31	4.783	5.375	5.197	3.807	0.697	8.008	0.000	56.940
2	12:28:41	4.172	5.035	4.396	3.708	0.525	7.086	0.000	56.970
3	12:28:51	3.881	5.106	5.242	3.756	0.355	8.082	0.000	56.430
x		4.278	5.172	4.945	3.757	0.526	7.725	0.000	56.780
σ		0.460	0.179	0.476	0.049	0.171	0.555	0.000	0.303
%RSD		10.760	3.468	9.624	1.315	32.540	7.185	0.000	0.533

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:31	77.051%	1.774	2.085	79.277%	0.007	-0.009	0.023	0.020
2	12:28:41	79.399%	2.004	2.118	80.398%	0.001	0.001	0.022	0.024
3	12:28:51	79.228%	1.868	1.997	81.372%	0.007	0.013	0.032	0.028
x		78.559%	1.882	2.067	80.349%	0.005	0.002	0.026	0.024
σ		1.309%	0.115	0.063	1.049%	0.003	0.011	0.006	0.004
%RSD		1.666	6.133	3.044	1.305	66.410	572.300	22.100	15.980

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:31	76.077%	0.485	0.524	0.503	37.950	38.180	76.603%	77.487%
2	12:28:41	78.289%	0.465	0.559	0.661	39.820	39.260	79.760%	80.148%
3	12:28:51	79.183%	0.496	0.535	0.583	37.090	37.820	80.935%	80.530%
x		77.850%	0.482	0.539	0.582	38.290	38.420	79.099%	79.388%
σ		1.599%	0.016	0.018	0.079	1.397	0.746	2.240%	1.658%
%RSD		2.054	3.252	3.302	13.620	3.649	1.942	2.832	2.088

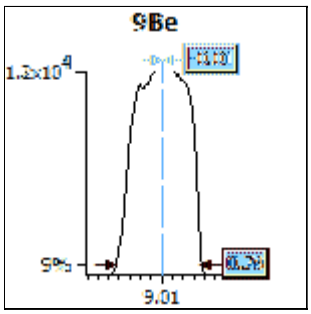
Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:31	0.011	0.011	0.262	0.303	0.251	74.584%
2	12:28:41	0.022	0.008	0.223	0.211	0.247	76.419%
3	12:28:51	0.008	0.005	0.285	0.258	0.240	76.674%
x		0.014	0.008	0.257	0.257	0.246	75.892%
σ		0.007	0.003	0.032	0.046	0.006	1.140%
%RSD		52.830	36.500	12.290	17.970	2.280	1.503

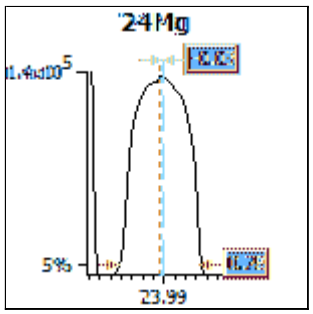
Performance Report

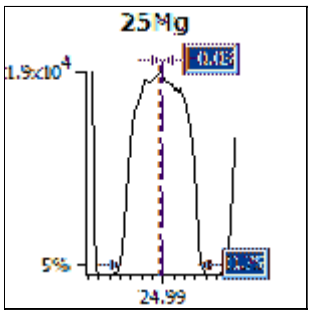
Sample details
Sample name : ITUNE
Acquired at : 10/9/2017 2:40:29 PM
Report name : EPA ILMO5.2/6020A 2.1 [3/15/2013 11:49:53 AM]

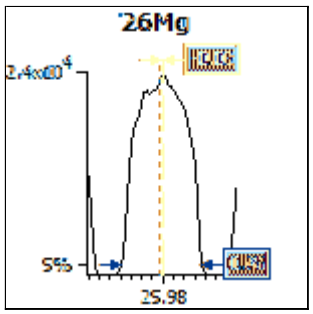
Mass Calibration verification

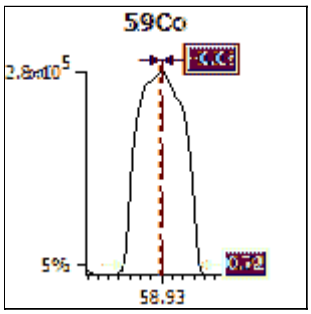
Acquisition parameters
Sweeps : 25
Dwell : 2.0 mSecs
Point spacing : 0.02 amu
Peak width measured at 5% of the peak maximum

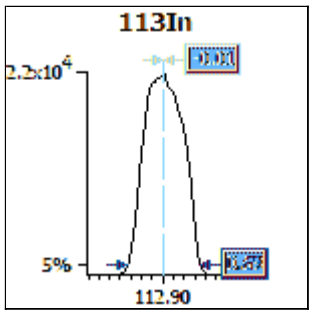


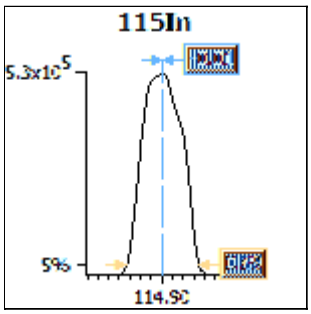


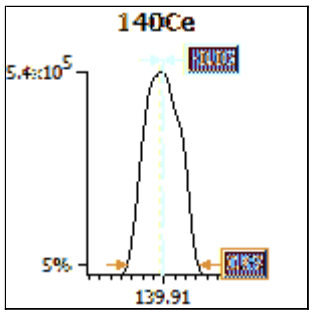


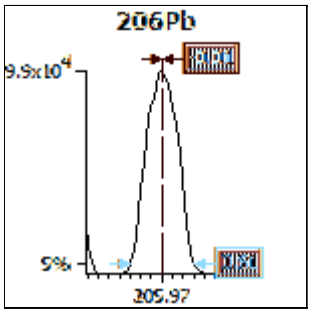


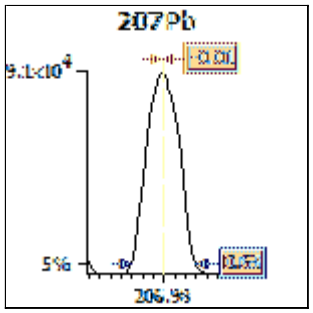


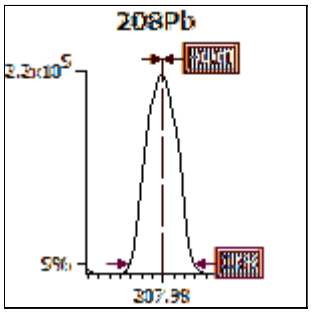












Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
9Be	0.90	0.45	0.10	0.78	-0.01
24Mg	0.90	0.45	0.10	0.78	-0.03
25Mg	0.90	0.45	0.10	0.76	-0.03
26Mg	0.90	0.45	0.10	0.76	-0.03
59Co	0.90	0.45	0.10	0.72	-0.03
113In	0.90	0.45	0.10	0.69	-0.01
115In	0.90	0.45	0.10	0.69	-0.01
140Ce	0.90	0.45	0.10	0.69	-0.03
206Pb	0.90	0.45	0.10	0.61	-0.01
207Pb	0.90	0.45	0.10	0.63	-0.01
208Pb	0.90	0.45	0.10	0.63	-0.01

Sample details
Sample name : ITUNE
Acquired at : 10/9/2017 2:40:29 PM
Report name : EPA ILMO5.2/6020A 2.1 [3/15/2013 11:49:53 AM]

Tune conditions

Major	
Extraction	-251
Lens 1	3.8
Focus	20.2
D1	-43.1
Pole Bias	2.0
Hexapole Bias	-2.0
Nebuliser	0.77
Sampling Depth	200

Minor	
Lens 2	-47.8
Lens 3	-187.5
Forward power	1404
Horizontal	98
Vertical	256
D2	-160
DA	-51.0
Cool	13.0
Auxiliary	0.80

Global	
Standard resolution	n/a
High resolution	n/a
Analogue Detector	n/a
PC Detector	n/a

Add. Gases	
Not Used	0.00
He/H2	0.00

Sensitivity and stability results

Acquisition parameters
Sweeps : 150

Run	Time	5Bkg	9Be	24Mg	25Mg	26Mg	56Ar O	59Co	137Ba++
Dwell (mSecs)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Limits	%RSD	-	5.0%	5.0%	5.0%	5.0%	-	5.0%	-
	Countrate	-	>500	>500	>500	>500	-	>5000	-
1	2:41:16 PM	0	13088	138494	19238	23184	861494	289321	2
2	2:42:41 PM	0	13219	138349	19212	23305	877264	293734	3
3	2:44:06 PM	0	13094	139665	19585	23176	880329	294489	3
4	2:45:32 PM	0	13327	140136	19197	23176	879958	293541	4
5	2:46:56 PM	0	13026	139075	19294	23082	875728	292409	5
x		0	13151	139144	19305	23185	874955	292699	3
σ		0.10	120.92	760.71	160.78	79.35	7762.77	2029.87	1.10
%RSD		52.973	0.919	0.547	0.833	0.342	0.887	0.694	34.233

Run	Time	138Ba++	101Bkg	113In	115In	138Ba	140Ce	156Ce O	206Pb
Dwell (mSecs)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Limits	%RSD	-	-	5.0%	5.0%	-	5.0%	-	5.0%
	Countrate	-	-	>200	>5000	-	>10000	-	>500
1	2:41:16 PM	55	0	22601	531838	2013	554041	8406	100695
2	2:42:41 PM	56	0	22874	536111	2101	562742	8430	101822
3	2:44:06 PM	51	0	22922	536353	2144	562505	8476	102298
4	2:45:32 PM	56	0	22814	530962	2145	556970	8351	99997
5	2:46:56 PM	57	0	22377	525043	2028	545803	8229	93376
x		55	0	22718	532062	2086	556412	8378	99638
σ		2.21	0.12	226.55	4618.63	62.79	6994.04	95.11	3615.99
%RSD		4.009	46.771	0.997	0.868	3.010	1.257	1.135	3.629

Run	Time	207Pb	208Pb	220Bkg
Dwell (mSecs)		0.0	0.0	0.0
Limits	%RSD	5.0%	5.0%	-
	Countrate	>500	>500	<2500
1	2:41:16 PM	89416	213762	0
2	2:42:41 PM	91394	218728	0
3	2:44:06 PM	91371	219616	0
4	2:45:32 PM	88925	213147	0
5	2:46:56 PM	82261	198534	0
x		88673	212757	0
σ		3755.22	8458.29	0.08
%RSD		4.235	3.976	33.535

Ratio results

Run	Time	156Ce O/140Ce
Ratio limits		<0.0500
1	2:41:16 PM	0
2	2:42:41 PM	0

3	2:44:06 PM	0
4	2:45:32 PM	0
5	2:46:56 PM	0
x		0.0151
σ		0.00
%RSD		0.5108

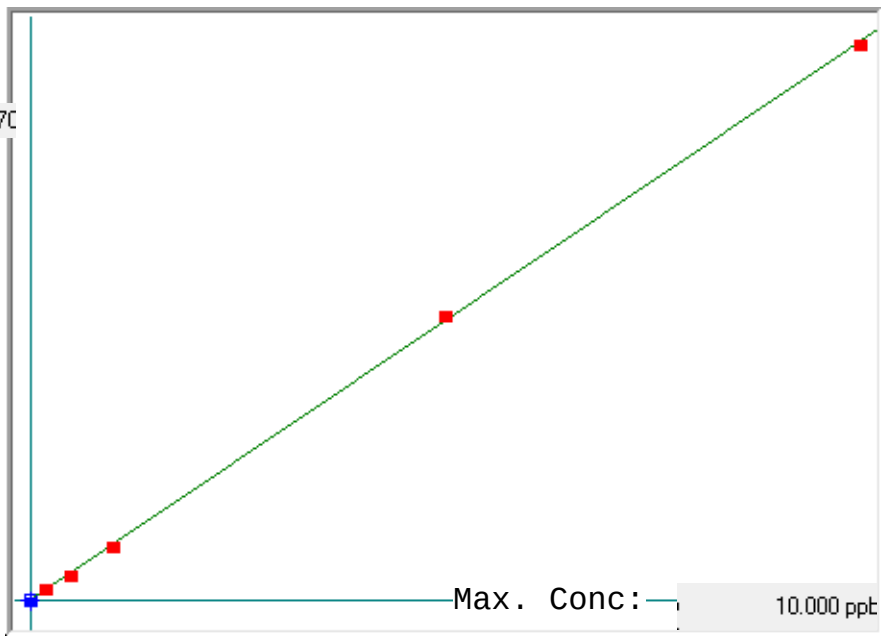
Result : The performance report passed.

METHG

Linear

μ Abs.:

70670



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B= 1.4089e-004

C= -3.9092e-003

Rho= 0.9999061

Accept= Accepted

Accepted Date=

10/06/17 06:55

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0.0 ppb	0.000	0.001	0.001	38	0.000	38				
0.2 ppb	0.200	0.213	0.013	1540	0.0 %	1540				
0.5 ppb	0.500	0.451	-0.049	3229	0.0 %	3229				
1.0 ppb	1.000	0.982	-0.018	7000	0.0 %	7000				
5.0 ppb	5.000	5.099	0.099	36222	0.0 %	36222				
10.0 ppb	10.000	9.953	-0.047	70670	0.0 %	70670				

R71006A

Method: METHG Operator: Admin Date of Analysis: 06 Oct 2017 06:24:46

Seq ID	Type	Sample ID	Extended ID	Date	Conc.	Units	Stnd Conc	µ Abs	Method	Chapter
2008	Std	0.0 ppb - 1		06 Oct 2017 06:42:48	-	ppb	0.0000	38	METHG	R71006A
2009	Std	0.2 ppb - 1		06 Oct 2017 06:44:50	-	ppb	0.2000	1540	METHG	R71006A
2010	Std	0.5 ppb - 1		06 Oct 2017 06:46:53	-	ppb	0.5000	3229	METHG	R71006A
2011	Std	1.0 ppb - 1		06 Oct 2017 06:48:56	-	ppb	1.0000	7000	METHG	R71006A
2012	Std	5.0 ppb - 1		06 Oct 2017 06:50:58	-	ppb	5.0000	36222	METHG	R71006A
2013	Std	10.0 ppb - 1		06 Oct 2017 06:53:01	-	ppb	10.0000	70670	METHG	R71006A
2014	CK STND	ICV 2520213 - 1		06 Oct 2017 06:56:27	(H)105.4% 2.6362	ppb	-	18739	METHG	R71006A
2015	CK STND	ICB 2520214 - 1		06 Oct 2017 06:58:28	-0.0173	ppb	-	-95	METHG	R71006A
2016	CK STND	CRA 2520215 - 1		06 Oct 2017 07:00:30	104.2% 0.2084	ppb	-	1507	METHG	R71006A
2017	CK STND	CCV 2520216 - 1		06 Oct 2017 07:02:31	98.9% 4.9472	ppb	-	35142	METHG	R71006A
2018	CK STND	CCB 2520217 - 1		06 Oct 2017 07:04:33	-0.0381	ppb	-	-243	METHG	R71006A
2019	SMPL	MB 180-224843/1-A - 1		06 Oct 2017 07:06:36	0.0000	ppb	-	28	METHG	R71006A
2020	SMPL	LCS 180-224843/2-A - 1		06 Oct 2017 07:08:37	2.7985	ppb	-	19891	METHG	R71006A
2021	SMPL	180-70731-H-5-B - 1		06 Oct 2017 07:10:38	-0.0149	ppb	-	-78	METHG	R71006A
2022	SMPL	180-70731-H-5-C MS - 1		06 Oct 2017 07:12:41	1.0526	ppb	-	7499	METHG	R71006A
2023	SMPL	180-70731-H-5-D MSD - 1		06 Oct 2017 07:14:42	1.0526	ppb	-	7499	METHG	R71006A
2024	SMPL	180-70731-D-6-B - 1		06 Oct 2017 07:16:44	0.1381	ppb	-	1008	METHG	R71006A
2025	SMPL	180-70731-D-7-B - 1		06 Oct 2017 07:18:46	-0.0041	ppb	-	-1	METHG	R71006A
2026	SMPL	180-70731-D-8-B - 1		06 Oct 2017 07:20:47	0.0009	ppb	-	34	METHG	R71006A
2027	SMPL	180-70731-D-9-B - 1		06 Oct 2017 07:22:49	0.0012	ppb	-	36	METHG	R71006A
2028	SMPL	180-70742-I-1-B - 1		06 Oct 2017 07:24:51	0.0006	ppb	-	32	METHG	R71006A
2029	CK STND	CCV 2520216 - 1		06 Oct 2017 07:26:53	99.5% 4.9746	ppb	-	35336	METHG	R71006A
2030	CK STND	CCB 2520217 - 1		06 Oct 2017 07:28:55	-0.0343	ppb	-	-216	METHG	R71006A
2031	SMPL	180-70788-D-1-B - 1		06 Oct 2017 07:30:59	0.0019	ppb	-	41	METHG	R71006A
2032	SMPL	180-70788-D-2-B - 1		06 Oct 2017 07:33:02	0.0024	ppb	-	45	METHG	R71006A
2033	SMPL	180-70788-D-3-B - 1		06 Oct 2017 07:35:05	0.0017	ppb	-	40	METHG	R71006A
2034	SMPL	180-70788-D-4-B - 1		06 Oct 2017 07:37:06	0.0019	ppb	-	41	METHG	R71006A
2035	SMPL	180-70788-D-5-B - 1		06 Oct 2017 07:39:07	0.0020	ppb	-	42	METHG	R71006A
2036	SMPL	180-70788-D-6-B - 1		06 Oct 2017 07:41:08	0.0047	ppb	-	61	METHG	R71006A
2037	SMPL	180-70788-D-7-B - 1		06 Oct 2017 07:43:09	0.0000	ppb	-	28	METHG	R71006A
2038	SMPL	180-70788-D-8-B - 1		06 Oct 2017 07:45:10	0.0026	ppb	-	46	METHG	R71006A
2039	SMPL	180-70788-D-10-B - 1		06 Oct 2017 07:47:11	0.0021	ppb	-	43	METHG	R71006A
2040	SMPL	180-70788-D-11-B - 1		06 Oct 2017 07:49:12	-0.0012	ppb	-	19	METHG	R71006A
2041	CK STND	CCV 2520216 - 1		06 Oct 2017 07:51:14	99.1% 4.9533	ppb	-	35185	METHG	R71006A
2042	CK STND	CCB 2520217 - 1		06 Oct 2017 07:53:16	-0.0367	ppb	-	-233	METHG	R71006A
2043	SMPL	180-70792-I-2-B - 1		06 Oct 2017 07:55:21	-0.0004	ppb	-	25	METHG	R71006A
2044	SMPL	180-70862-C-1-A - 1		06 Oct 2017 07:57:23	-0.0042	ppb	-	-2	METHG	R71006A
2045	SMPL	180-70862-C-2-A - 1		06 Oct 2017 07:59:25	0.0012	ppb	-	36	METHG	R71006A
2046	SMPL	180-70400-P-5-G - 1		06 Oct 2017 08:01:27	-0.0007	ppb	-	23	METHG	R71006A
2047	SMPL	MB 180-224858/1-A - 1		06 Oct 2017 08:03:30	-0.0008	ppb	-	22	METHG	R71006A
2048	SMPL	LCS 180-224858/2-A - 1		06 Oct 2017 08:05:32	2.5932	ppb	-	18434	METHG	R71006A
2049	SMPL	180-70809-E-2-C - 1		06 Oct 2017 08:07:33	-0.0125	ppb	-	-61	METHG	R71006A
2050	SMPL	180-70809-E-3-C - 1		06 Oct 2017 08:09:37	0.1766	ppb	-	1281	METHG	R71006A
2051	SMPL	180-70809-E-4-C - 1		06 Oct 2017 08:11:38	0.0009	ppb	-	34	METHG	R71006A
2052	SMPL	180-70809-E-5-E - 1		06 Oct 2017 08:13:40	0.0034	ppb	-	52	METHG	R71006A
2053	CK STND	CCV 2520216 - 1		06 Oct 2017 08:15:41	96.1% 4.8065	ppb	-	34143	METHG	R71006A
2054	CK STND	CCB 2520217 - 1		06 Oct 2017 08:17:43	-0.0397	ppb	-	-254	METHG	R71006A
2055	SMPL	180-70809-E-6-C - 1		06 Oct 2017 08:19:47	0.0010	ppb	-	35	METHG	R71006A
2056	SMPL	180-70809-E-7-C - 1		06 Oct 2017 08:21:48	0.0164	ppb	-	144	METHG	R71006A
2057	SMPL	180-70809-E-10-G - 1		06 Oct 2017 08:23:50	0.0246	ppb	-	202	METHG	R71006A
2058	SMPL	180-70809-E-10-H MS - 1		06 Oct 2017 08:25:52	0.9540	ppb	-	6799	METHG	R71006A
2059	SMPL	180-70809-E-10-I MSD - 1		06 Oct 2017 08:27:54	0.8727	ppb	-	6222	METHG	R71006A
2060	SMPL	180-70809-E-11-C - 1		06 Oct 2017 08:29:58	-0.0139	ppb	-	-71	METHG	R71006A
2061	SMPL	180-70809-E-12-C - 1		06 Oct 2017 08:32:02	0.0005	ppb	-	31	METHG	R71006A
2062	SMPL	180-70809-E-13-C - 1		06 Oct 2017 08:34:04	0.1240	ppb	-	908	METHG	R71006A
2063	SMPL	180-70809-E-14-C - 1		06 Oct 2017 08:36:05	0.0037	ppb	-	54	METHG	R71006A
2064	SMPL	180-70809-E-15-C - 1		06 Oct 2017 08:38:07	-0.0011	ppb	-	20	METHG	R71006A
2065	CK STND	CCV 2520216 - 1		06 Oct 2017 08:40:08	96.9% 4.8457	ppb	-	34421	METHG	R71006A
2066	CK STND	CCB 2520217 - 1		06 Oct 2017 08:42:11	-0.0391	ppb	-	-250	METHG	R71006A
2067	SMPL	180-70809-E-16-C - 1		06 Oct 2017 08:44:14	0.0217	ppb	-	182	METHG	R71006A
2068	SMPL	180-70809-E-17-C - 1		06 Oct 2017 08:46:16	-0.0011	ppb	-	20	METHG	R71006A
2069	SMPL	180-70809-E-18-C - 1		06 Oct 2017 08:48:17	0.1749	ppb	-	1269	METHG	R71006A
2070	SMPL	180-70809-E-19-C - 1		06 Oct 2017 08:50:18	-0.0018	ppb	-	15	METHG	R71006A
2071	SMPL	180-70809-E-20-C - 1		06 Oct 2017 08:52:20	0.0014	ppb	-	38	METHG	R71006A
2072	SMPL	180-70809-E-21-C - 1		06 Oct 2017 08:54:22	-0.0004	ppb	-	25	METHG	R71006A
2073	SMPL	180-70809-E-22-C - 1		06 Oct 2017 08:56:24	-0.0004	ppb	-	25	METHG	R71006A
2074	SMPL	180-70809-E-23-C - 1		06 Oct 2017 08:58:27	0.0021	ppb	-	43	METHG	R71006A
2075	SMPL	MB 180-224859/1-A - 1		06 Oct 2017 09:00:29	-0.0002	ppb	-	26	METHG	R71006A
2076	SMPL	LCS 180-224859/2-A - 1		06 Oct 2017 09:02:31	2.4335	ppb	-	17300	METHG	R71006A
2077	CK STND	CCV 2520216 - 1		06 Oct 2017 09:04:32	96.5% 4.8240	ppb	-	34267	METHG	R71006A
2078	CK STND	CCB 2520217 - 1		06 Oct 2017 09:06:36	-0.0397	ppb	-	-254	METHG	R71006A
2079	SMPL	180-70809-E-1-E - 1		06 Oct 2017 09:08:40	0.0495	ppb	-	379	METHG	R71006A
2080	SMPL	180-70809-E-24-C - 1		06 Oct 2017 09:10:42	0.0040	ppb	-	56	METHG	R71006A
2081	SMPL	180-70809-E-25-C - 1		06 Oct 2017 09:12:44	0.0019	ppb	-	41	METHG	R71006A
2082	SMPL	180-70838-E-1-A - 1		06 Oct 2017 09:14:45	0.0140	ppb	-	127	METHG	R71006A
2083	SMPL	180-70838-E-2-A - 1		06 Oct 2017 09:16:47	0.0234	ppb	-	194	METHG	R71006A
2084	SMPL	180-70838-E-3-A - 1		06 Oct 2017 09:18:48	0.0219	ppb	-	183	METHG	R71006A
2085	SMPL	180-70838-E-3-B MS - 1		06 Oct 2017 09:20:50	1.0733	ppb	-	7646	METHG	R71006A
2086	SMPL	180-70838-E-3-C MSD - 1		06 Oct 2017 09:22:53	1.0143	ppb	-	7227	METHG	R71006A
2087	SMPL	180-70838-E-4-A - 1		06 Oct 2017 09:24:55	0.0151	ppb	-	135	METHG	R71006A
2088	SMPL	180-70838-D-5-A - 1		06 Oct 2017 09:26:59	0.0277	ppb	-	224	METHG	R71006A
2089	CK STND	CCV 2520216 - 1		06 Oct 2017 09:29:02	97.1% 4.8550	ppb	-	34487	METHG	R71006A
2090	CK STND	CCB 2520217 - 1		06 Oct 2017 09:31:03	-0.0388	ppb	-	-248	METHG	R71006A
2091	SMPL	180-70838-D-6-A - 1		06 Oct 2017 09:33:08	0.0409	ppb	-	318	METHG	R71006A
2092	SMPL	180-70838-D-7-A - 1		06 Oct 2017 09:35:09	-0.0039	ppb	-	0	METHG	R71006A
2093	SMPL	180-70838-D-9-A - 1		06 Oct 2017 09:37:11	0.0026	ppb	-	46	METHG	R71006A
2094	SMPL	180-70838-D-8-A - 1		06 Oct 2017 09:39:12	-0.0028	ppb	-	8	METHG	R71006A
2095	SMPL	180-70838-D-10-A - 1		06 Oct 2017 09:41:14	-0.0043	ppb	-	-3	METHG	R71006A
2096	SMPL	180-70838-E-11-A - 1		06 Oct 2017 09:43:16	0.0165	ppb	-	145	METHG	R71006A
2097	SMPL	180-70838-E-12-A - 1		06 Oct 2017 09:45:18	0.0220	ppb	-	184	METHG	R71006A
2098	SMPL	MB 180-225013/1-A - 1		06 Oct 2017 09:47:19	0.0823	ppb	-	612	METHG	R71006A
2099	SMPL	LCS 180-225013/2-A - 1		06 Oct 2017 09:49:21	2.5193	ppb	-	17909	METHG	R71006A
2100	SMPL	LCSD 180-225013/3-A - 1		06 Oct 2017 09:51:23	2.5468	ppb	-	18104	METHG	R71006A
2101	CK STND	CCV 2520216 - 1		06 Oct 2017 09:53:28	96.7% 4.8335	ppb	-	34335	METHG	R71006A
2102	CK STND	CCB 2520217 - 1		06 Oct 2017 09:55:31	-0.0404	ppb	-	-259	METHG	R71006A
2103	SMPL	180-68445-A-56-F - 1		06 Oct 2017 09:57:35	0.0155	ppb	-	138	METHG	R71006A
2104	SMPL	180-68445-A-38-F - 1		06 Oct 2017 09:59:38	0.0389	ppb	-	304	METHG	R71006A
2105	SMPL	180-68445-A-47-F - 1		06 Oct 2017 10:01:41	0.0288	ppb	-	232	METHG	R71006A
2106	SMPL	180-68445-A-29-F - 1		06 Oct 2017 10:03:42	0.0086	ppb	-	89	METHG	R71006A
2107	SMPL	180-68445-A-9-F - 1		06 Oct 2017 10:05:44	0.0279	ppb	-	226	METHG	R71006A
2108	SMPL	180-68445-A-19-F - 1		06 Oct 2017 10:07:46	0.0291	ppb	-	234	METHG	R71006A
2109	SMPL	180-69093-A-7-D - 1		06 Oct 2017 10:09:49	0.0061	ppb	-	71	METHG	R71006A
2110	SMPL	180-69093-A-25-D - 1		06 Oct 2017 10:11:51	0.0075	ppb	-	81	METHG	R71006A
2111	SMPL	180-69093-A-8-C - 1		06 Oct 2017 10:13:52	0.0069	ppb	-	77	METHG	R71006A
2112	SMPL	180-69093-A-26-C - 1		06 Oct 2017 10:15:54	0.0075	ppb	-	81	METHG	R71006A
2113	CK STND	CCV 2520216 - 1		06 Oct 2017 10:17:56	96.9% 4.8458	ppb	-	34422	METHG	R71006A
2114	CK STND	CCB 2520217 - 1		06 Oct 2017 10:19:58	-0.0376	ppb	-	-239	METHG	R71006A
2115	SMPL	MB 180-225015/1-A - 1		06 Oct 2017 10:22:02	0.0057	ppb	-	68	METHG	R71006A
2116	SMPL	LCS 180-225015/2-A - 1		06 Oct 2017 10:24:05	2.5558	ppb	-	18168	METHG	R71006A
2117	SMPL	LCSD 180-225015/3-A - 1		06 Oct 2017 10:26:07	2.5593	ppb	-	18193	METHG	R71006A
2118	SMPL	LB 180-224857/1-C - 1		06 Oct 2017 10:28:12	-0.0069	ppb	-	-21	METHG	R71006A
2119	SMPL	180-70895-A-1-C - 1		06 Oct 2017 10:30:16	0.0061	ppb	-	71	METHG	R71006A
2120	SMPL	MB 180-225014/1-A - 1		06 Oct 2017 10:32:18	0.0062	ppb	-	72	METHG	R71006A
2121	SMPL	LCS 180-225014/2-A - 1		06 Oct 2017 10:34:21	2.5156	ppb	-	17883	METHG	R71006A
2122	SMPL	LCSD 180-225014/3-A - 1		06 Oct 2017 10:36:23	2.6124	ppb	-	18570	METHG	R71006A
2123	SMPL	LB 180-224975/1-C - 1		06 Oct 2017 10:38:26	-0.0125	ppb	-	-61	METHG	R71006A
2124	SMPL	180-70928-A-1-D - 1		06 Oct 2017 10:40:31	0.0069	ppb	-	77	METHG	R71006A
2125	CK STND	CCV 2520216 - 1		06 Oct 2017 10:42:33	94.6% 4.7311	ppb	-	33608	METHG	R71006A

R71006A

Method: METHG Operator: Admin Date of Analysis: 06 Oct 2017 06:24:46

Seq ID	Type	Sample ID	Extended ID	Date	Conc.	Units	Stnd Conc	µ Abs.	Method	Chapter
2126	CK STND	CCB 2520217 - 1		06 Oct 2017 10:44:35	-0.0396	ppb	-	-253	METHG	R71006A
2127	SMPL	LB 180-224831/1-D - 1		06 Oct 2017 10:46:39	0.0017	ppb	-	40	METHG	R71006A
2128	SMPL	180-70891-A-1-E - 1		06 Oct 2017 10:48:41	-0.0025	ppb	-	10	METHG	R71006A
2129	SMPL	180-70892-A-1-C - 1		06 Oct 2017 10:50:43	0.0034	ppb	-	52	METHG	R71006A
2130	SMPL	180-70893-A-1-C - 1		06 Oct 2017 10:52:45	0.0013	ppb	-	37	METHG	R71006A
2131	CK STND	CRA 2520215 - 1		06 Oct 2017 10:54:47	100.0% 0.2000	ppb	-	1447	METHG	R71006A
2132	CK STND	CCV 2520216 - 1		06 Oct 2017 10:56:48	94.9% 4.7475	ppb	-	33724	METHG	R71006A
2133	CK STND	CCB 2520217 - 1		06 Oct 2017 10:58:50	-0.0404	ppb	-	-259	METHG	R71006A

Rack	Cup	Sample ID	Extended ID	Wt.	Vol.
1	1	MB 180-224843/1-A		1.0000	1.0000
1	2	LCS 180-224843/2-A		1.0000	1.0000
1	3	180-70731-H-5-B		1.0000	1.0000
1	4	180-70731-H-5-C MS		1.0000	1.0000
1	5	180-70731-H-5-D MSD		1.0000	1.0000
1	6	180-70731-D-6-B		1.0000	1.0000
1	7	180-70731-D-7-B		1.0000	1.0000
1	8	180-70731-D-8-B		1.0000	1.0000
1	9	180-70731-D-9-B		1.0000	1.0000
1	10	180-70742-I-1-B		1.0000	1.0000
1	11	180-70788-D-1-B		1.0000	1.0000
1	12	180-70788-D-2-B		1.0000	1.0000
1	13	180-70788-D-3-B		1.0000	1.0000
1	14	180-70788-D-4-B		1.0000	1.0000
1	15	180-70788-D-5-B		1.0000	1.0000
1	16	180-70788-D-6-B		1.0000	1.0000
1	17	180-70788-D-7-B		1.0000	1.0000
1	18	180-70788-D-8-B		1.0000	1.0000
1	19	180-70788-D-10-B		1.0000	1.0000
1	20	180-70788-D-11-B		1.0000	1.0000
1	21	180-70792-I-2-B		1.0000	1.0000
1	22	180-70862-C-1-A		1.0000	1.0000
1	23	180-70862-C-2-A		1.0000	1.0000
1	24	180-70400-P-5-G		1.0000	1.0000
1	25	MB 180-224858/1-A		1.0000	1.0000
1	26	LCS 180-224858/2-A		1.0000	1.0000
1	27	180-70809-E-2-C		1.0000	1.0000
1	28	180-70809-E-3-C		1.0000	1.0000
1	29	180-70809-E-4-C		1.0000	1.0000
1	30	180-70809-E-5-E		1.0000	1.0000
1	31	180-70809-E-6-C		1.0000	1.0000
1	32	180-70809-E-7-C		1.0000	1.0000
1	33	180-70809-E-10-G		1.0000	1.0000
1	34	180-70809-E-10-H MS		1.0000	1.0000
1	35	180-70809-E-10-I MSD		1.0000	1.0000
1	36	180-70809-E-11-C		1.0000	1.0000
1	37	180-70809-E-12-C		1.0000	1.0000
1	38	180-70809-E-13-C		1.0000	1.0000
1	39	180-70809-E-14-C		1.0000	1.0000
1	40	180-70809-E-15-C		1.0000	1.0000
1	41	180-70809-E-16-C		1.0000	1.0000

Rack	Cup	Cup Action
1	1	
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Rack	Cup	Sample ID	Extended ID	Wt.	Vol.
1	42	180-70809-E-17-C		1.0000	1.0000
1	43	180-70809-E-18-C		1.0000	1.0000
1	44	180-70809-E-19-C		1.0000	1.0000
1	45	180-70809-E-20-C		1.0000	1.0000
1	46	180-70809-E-21-C		1.0000	1.0000
1	47	180-70809-E-22-C		1.0000	1.0000
1	48	180-70809-E-23-C		1.0000	1.0000
1	49	MB 180-224859/1-A		1.0000	1.0000
1	50	LCS 180-224859/2-A		1.0000	1.0000
1	51	180-70809-E-1-E		1.0000	1.0000
1	52	180-70809-E-24-C		1.0000	1.0000
1	53	180-70809-E-25-C		1.0000	1.0000
1	54	180-70838-E-1-A		1.0000	1.0000
1	55	180-70838-E-2-A		1.0000	1.0000
1	56	180-70838-E-3-A		1.0000	1.0000
1	57	180-70838-E-3-B MS		1.0000	1.0000
1	58	180-70838-E-3-C MSD		1.0000	1.0000
1	59	180-70838-E-4-A		1.0000	1.0000
1	60	180-70838-D-5-A		1.0000	1.0000
2	1	180-70838-D-6-A		1.0000	1.0000
2	2	180-70838-D-7-A		1.0000	1.0000
2	3	180-70838-D-9-A		1.0000	1.0000
2	4	180-70838-D-8-A		1.0000	1.0000
2	5	180-70838-D-10-A		1.0000	1.0000
2	6	180-70838-E-11-A		1.0000	1.0000
2	7	180-70838-E-12-A		1.0000	1.0000
2	8	MB 180-225013/1-A		1.0000	1.0000
2	9	LCS 180-225013/2-A		1.0000	1.0000
2	10	LCSD 180-225013/3-A		1.0000	1.0000
2	11	180-68445-A-56-F		1.0000	1.0000
2	12	180-68445-A-38-F		1.0000	1.0000
2	13	180-68445-A-47-F		1.0000	1.0000
2	14	180-68445-A-29-F		1.0000	1.0000
2	15	180-68445-A-9-F		1.0000	1.0000
2	16	180-68445-A-19-F		1.0000	1.0000
2	17	180-69093-A-7-D		1.0000	1.0000
2	18	180-69093-A-25-D		1.0000	1.0000
2	19	180-69093-A-8-C		1.0000	1.0000
2	20	180-69093-A-26-C		1.0000	1.0000
2	21	MB 180-225015/1-A		1.0000	1.0000
2	22	LCS 180-225015/2-A		1.0000	1.0000

Rack	Cup	Cup Action
1	42	
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Rack	Cup	Sample ID	Extended ID	Wt.	Vol.
2	23	LCSD 180-225015/3-A		1.0000	1.0000
2	24	LB 180-224857/1-C		1.0000	1.0000
2	25	180-70895-A-1-C		1.0000	1.0000
2	26	MB 180-225014/1-A		1.0000	1.0000
2	27	LCS 180-225014/2-A		1.0000	1.0000
2	28	LCSD 180-225014/3-A		1.0000	1.0000
2	29	LB 180-224975/1-C		1.0000	1.0000
2	30	180-70928-A-1-D		1.0000	1.0000
2	31	LB 180-224831/1-D		1.0000	1.0000
2	32	180-70891-A-1-E		1.0000	1.0000
2	33	180-70892-A-1-C		1.0000	1.0000
2	34	180-70893-A-1-C		1.0000	1.0000
2	35			1.0000	1.0000
2	36			1.0000	1.0000
2	37			1.0000	1.0000
2	38			1.0000	1.0000
2	39			1.0000	1.0000
2	40			1.0000	1.0000
2	41			1.0000	1.0000
2	42			1.0000	1.0000
2	43			1.0000	1.0000
2	44			1.0000	1.0000
2	45			1.0000	1.0000
2	46			1.0000	1.0000
2	47			1.0000	1.0000
2	48			1.0000	1.0000
2	49			1.0000	1.0000
2	50			1.0000	1.0000
2	51			1.0000	1.0000
2	52			1.0000	1.0000
2	53			1.0000	1.0000
2	54			1.0000	1.0000
2	55			1.0000	1.0000
2	56			1.0000	1.0000
2	57			1.0000	1.0000
2	58			1.0000	1.0000
2	59			1.0000	1.0000
2	60			1.0000	1.0000
3	1			1.0000	1.0000
3	2			1.0000	1.0000
3	3			1.0000	1.0000

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG No.:

Project: Harley Davidson

Client Sample ID	Lab Sample ID
HD-SPBA-CW-22-0/1-0	180-70792-2

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: HD-SPBA-CW-22-0/1-0 Lab Sample ID: 180-70792-2

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG ID.:

Matrix: Water Date Sampled: 09/28/2017 09:40

Reporting Basis: WET Date Received: 09/29/2017 09:15

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia, distilled	0.15	0.10	0.081	mg/L			1	350.1
	Hardness as calcium carbonate	150	5.0	5.0	mg/L			1	SM 2340C
	Turbidity	46	4.3	0.25	NTU			5	180.1
	pH	7.6	0.1	0.1	SU		HF	1	9040C
	Total Alkalinity as CaCO3 to pH 4.5	180	5.0	5.0	mg/L			1	SM 2320B
	Bicarbonate Alkalinity as CaCO3	180	5.0	5.0	mg/L			1	SM 2320B
	Carbonate Alkalinity as CaCO3	5.0	5.0	5.0	mg/L	U		1	SM 2320B
	Specific Conductance	330	1.0	1.0	umhos/cm			1	SM 2510B
	Total Suspended Solids	35	0.50	0.50	mg/L			1	SM 2540D
7440-44-0	Total Organic Carbon - Duplicates	1.0	1.0	0.51	mg/L	U		1	SM 5310C

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Analyst: CAK Batch Start Date: 10/03/2017

Reporting Units: mg/L Analytical Batch No.: 224750

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
17	ICV	10:41	Ammonia, distilled	1.02	1.00	102	90-110		WNH31000S_00015
18	ICB	10:43	Ammonia, distilled	0.10				U	
19	CCV	10:44	Ammonia, distilled	2.02	2.00	101	90-110		WNH31000P_00025
20	CCB	10:46	Ammonia, distilled	0.10				U	
31	CCV	11:01	Ammonia, distilled	2.10	2.00	105	90-110		WNH31000P_00025
32	CCB	11:03	Ammonia, distilled	0.10				U	

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

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Analyst: CAK Batch Start Date: 10/03/2017

Reporting Units: mg/L Analytical Batch No.: 224714

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
13	CCV	10:56	Hardness as calcium carbonate	50.0	50.0	100	90-110		WHdCaCO3P_00009
14	CCB	10:58	Hardness as calcium carbonate	5.0				U	
19	CCV	11:11	Hardness as calcium carbonate	50.0	50.0	100	90-110		WHdCaCO3P_00009
20	CCB	11:13	Hardness as calcium carbonate	5.0				U	

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

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Analyst: ERH Batch Start Date: 09/29/2017

Reporting Units: NTU Analytical Batch No.: 224488

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
5	ICV	13:29	Turbidity	10.6	10.0	106	90-110		WTurbICVCCV2_00006
6	ICB	13:30	Turbidity	0.85				U	
18	CCV	13:43	Turbidity	37.1	40.0	93	90-110		WTurbCCV40P_00005
19	CCB	13:44	Turbidity	0.85				U	

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

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Analyst: RMA Batch Start Date: 09/29/2017

Reporting Units: SU Analytical Batch No.: 224409

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
11	CCV	12:27	pH	7.0	7.00	100	99-101		WpHBuffer7P_00015
19	CCV	16:42	pH	7.0	7.00	100	99-101		WpHBuffer7P_00015

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

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Analyst: CLL Batch Start Date: 10/03/2017

Reporting Units: mg/L Analytical Batch No.: 224684

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
27	CCV	09:40	Total Alkalinity as CaCO3 to pH 4.5	136	125	109	85-115		WALK125PPMCCV_00155
28	CCB	09:40	Total Alkalinity as CaCO3 to pH 4.5	5.0				U	
			Bicarbonate Alkalinity as CaCO3	5.0				U	
			Carbonate Alkalinity as CaCO3	5.0				U	
34	CCV	09:40	Total Alkalinity as CaCO3 to pH 4.5	136	125	109	85-115		WALK125PPMCCV_00155
35	CCB	09:40	Total Alkalinity as CaCO3 to pH 4.5	5.0				U	
			Bicarbonate Alkalinity as CaCO3	5.0				U	
			Carbonate Alkalinity as CaCO3	5.0				U	

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

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Analyst: KXW Batch Start Date: 10/06/2017

Reporting Units: umhos/cm Analytical Batch No.: 225089

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
13	CCV	11:03	Specific Conductance	504	500	101	90-110		Cond. CCV_00006
14	CCB	11:04	Specific Conductance	1.0				U	

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

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Analyst: CLL Batch Start Date: 10/02/2017

Reporting Units: mg/L Analytical Batch No.: 224683

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
2	ICV	13:24	Total Organic Carbon - Duplicates	43.1	40.0	108	90-110		ICV 40 PPM_01072
3	ICB	13:36	Total Organic Carbon - Duplicates	1.0				U	
14	CCV	15:54	Total Organic Carbon - Duplicates	10.4	10.0	104	90-110		10 PPM TOC/CC_00942
15	CCB	16:06	Total Organic Carbon - Duplicates	1.0				U	

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

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 224488 Date: 09/29/2017 13:32							
180.1	MB 180-224488/8	Turbidity	0.85	U	NTU	0.85	1
Batch ID: 224750 Date: 10/03/2017 10:49 Prep Batch: 224503 Date: 09/30/2017 10:02							
350.1	MB 180-224503/1-A	Ammonia, distilled	0.10	U	mg/L	0.10	1
Batch ID: 224684 Date: 10/03/2017 09:40							
SM 2320B	MB 180-224684/30	Total Alkalinity as CaCO3 to pH 4.5	5.0	U	mg/L	5.0	1
SM 2320B	MB 180-224684/30	Bicarbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	1
SM 2320B	MB 180-224684/30	Carbonate Alkalinity as CaCO3	5.0	U	mg/L	5.0	1
Batch ID: 224714 Date: 10/03/2017 10:28							
SM 2340C	MB 180-224714/2	Hardness as calcium carbonate	5.0	U	mg/L	5.0	1
Batch ID: 225089 Date: 10/06/2017 10:52							
SM 2510B	MB 180-225089/2	Specific Conductance	1.0	U	umhos/cm	1.0	1
Batch ID: 224780 Date: 10/03/2017 15:27							
SM 2540D	MB 180-224780/2	Total Suspended Solids	0.50	U	mg/L	0.50	1
Batch ID: 224683 Date: 10/02/2017 14:13							
SM 5310C	MB 180-224683/6	Total Organic Carbon - Duplicates	1.0	U	mg/L	1.0	1

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 224409 Date: 09/29/2017 16:26								
9040C	HD-SPBA-CW-22-0/1-0	180-70792-2	pH	7.6	SU			
9040C	HD-SPBA-CW-22-0/1-0	180-70792-2 DU	pH	7.6	SU	0.1	2	
Batch ID: 224714 Date: 10/03/2017 11:06								
SM 2340C	HD-SPBA-CW-22-0/1-0	180-70792-2	Hardness as calcium carbonate	150	mg/L			
SM 2340C	HD-SPBA-CW-22-0/1-0	180-70792-2 DU	Hardness as calcium carbonate	156	mg/L	1	20	

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

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 224488	Date: 09/29/2017 13:31										
						LCS Source: WTurbLCS_0.85_00245					
180.1	LCS 180-224488/7	Turbidity	0.910		NTU	0.850	107	85-115			
Batch ID: 224750	Date: 10/03/2017 10:50	Prep Batch: 224503	Date: 09/30/2017 10:02								
						LCS Source: WNH31000S_00015					
350.1	LCS 180-224503/2-A	Ammonia, distilled	2.20		mg/L	2.00	110	90-110			
Batch ID: 224409	Date: 09/29/2017 11:55										
						LCS Source: WpHBuffer7CCV_00022					
9040C	LCS 180-224409/1	pH	7.0		SU	7.00	100	99-101			
Batch ID: 224684	Date: 10/03/2017 09:40										
						LCS Source: WALK250PPMPi_00148					
SM 2320B	LCS 180-224684/29	Total Alkalinity as CaCO3 to pH 4.5	280		mg/L	249	112	85-115			
Batch ID: 224714	Date: 10/03/2017 10:26										
						LCS Source: WHdCaCO3P_00009					
SM 2340C	LCS 180-224714/1	Hardness as calcium carbonate	50.0		mg/L	50.0	100	90-110			
Batch ID: 225089	Date: 10/06/2017 10:51										
						LCS Source: WCond84SP_00025					
SM 2510B	LCS 180-225089/1	Specific Conductance	85.2		umhos/cm	84.0	101	90-110			
Batch ID: 224780	Date: 10/03/2017 15:27										
						LCS Source: WResPSP_00050					
SM 2540D	LCS 180-224780/1	Total Suspended Solids	76.0		mg/L	81.0	94	80-120			
Batch ID: 224683	Date: 10/02/2017 13:49										
						LCS Source: LCS 20 PPM_01071					
SM 5310C	LCS 180-224683/4	Total Organic Carbon - Duplicates	20.4		mg/L	20.0	102	85-115	2	20	

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

FORM VIIA-IN

7A-IN
LAB CONTROL SAMPLE DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 224683	Date: 10/02/2017 14:01										
						LCSD Source: LCS 20 PPM_01071					
SM 5310C	LCSD 180-224683/5	Total Organic Carbon - Duplicates	20.8		mg/L	20.0	104	85-115	2	20	

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

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: ASTORIA1

Method: 350.1 MDL Date: 12/13/2016 10:18

Prep Method: Distill/Ammonia

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Ammonia, distilled		0.1	0.0805

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: ASTORIA1

Method: 350.1 XMDL Date: 12/13/2016 10:18

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Ammonia, distilled		0.1	0.0805

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2340C MDL Date: 10/30/2015 14:44

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Hardness as calcium carbonate		5	5

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2340C XMDL Date: 10/30/2015 14:44

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Hardness as calcium carbonate		5	5

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 180.1 MDL Date: 01/27/2011 16:26

Analyte	Wavelength/ Mass	RL (NTU)	MDL (NTU)
Turbidity		0.85	0.0504

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 180.1 XMDL Date: 01/27/2011 16:26

Analyte	Wavelength/ Mass	XRL (NTU)	XMDL (NTU)
Turbidity		0.85	0.0504

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 9040C RL Date: 01/27/2011 16:50

Analyte	Wavelength/ Mass	RL (SU)	
pH		0.1	

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 9040C XRL Date: 01/27/2011 16:50

Analyte	Wavelength/ Mass	XRL (SU)	
pH		0.1	

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2320B MDL Date: 10/16/2015 13:27

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Bicarbonate Alkalinity as CaCO3		5	5
Carbonate Alkalinity as CaCO3		5	5
Total Alkalinity as CaCO3 to pH 4.5		5	5

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2320B XMDL Date: 10/16/2015 13:28

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Bicarbonate Alkalinity as CaCO3		5	5
Carbonate Alkalinity as CaCO3		5	5
Total Alkalinity as CaCO3 to pH 4.5		5	5

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2510B MDL Date: 01/01/2011 18:59

Analyte	Wavelength/ Mass	RL (umhos/cm)	MDL (umhos/cm)
Specific Conductance		1	1

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2510B XMDL Date: 01/01/2011 18:59

Analyte	Wavelength/ Mass	XRL (umhos/cm)	XMDL (umhos/cm)
Specific Conductance		1	1

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540D MDL Date: 01/28/2010 13:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Suspended Solids		0.5	0.5

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540D XMDL Date: 01/28/2010 13:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Suspended Solids		0.5	0.5

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: TOC1030

Method: SM 5310C MDL Date: 03/21/2017 16:51

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Organic Carbon - Duplicates		1	0.5084

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-70792-1

SDG Number:

Matrix: Water Instrument ID: TOC1030

Method: SM 5310C XMDL Date: 03/21/2017 16:52

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Organic Carbon - Duplicates		1	0.5084

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Prep Method: Distill/Ammonia

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 180-224503/1-A	09/30/2017 10:02	224503		50	50
LCS 180-224503/2-A	09/30/2017 10:02	224503		50	50
180-70792-2	09/30/2017 10:02	224503		50	50

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: ASTORIA1 Analysis Method: 350.1

Start Date: 10/03/2017 10:20 End Date: 10/03/2017 11:58

Lab Sample Id	D/F	Type	Time	Analytes
				NH3
ZZZZZZ			10:20	
ZZZZZZ			10:20	
ZZZZZZ			10:22	
ZZZZZZ			10:23	
ZZZZZZ			10:24	
ZZZZZZ			10:26	
ZZZZZZ			10:27	
ZZZZZZ			10:29	
ZZZZZZ			10:30	
ZZZZZZ			10:32	
ZZZZZZ			10:33	
ZZZZZZ			10:34	
ZZZZZZ			10:36	
ZZZZZZ			10:37	
ZZZZZZ			10:39	
ZZZZZZ			10:40	
ICV 180-224750/17	1		10:41	X
ICB 180-224750/18	1		10:43	X
CCV 180-224750/19	1		10:44	X
CCB 180-224750/20	1		10:46	X
ZZZZZZ			10:47	
MB 180-224503/1-A	1	T	10:49	X
LCS 180-224503/2-A	1	T	10:50	X
ZZZZZZ			10:51	
ZZZZZZ			10:53	
ZZZZZZ			10:54	
180-70792-2	1	T	10:56	X
ZZZZZZ			10:57	
ZZZZZZ			10:58	
ZZZZZZ			11:00	
CCV 180-224750/31	1		11:01	X
CCB 180-224750/32	1		11:03	X
ZZZZZZ			11:04	
ZZZZZZ			11:06	
ZZZZZZ			11:07	
ZZZZZZ			11:08	
ZZZZZZ			11:10	
ZZZZZZ			11:11	
ZZZZZZ			11:13	
ZZZZZZ			11:14	
ZZZZZZ			11:15	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: ASTORIA1 Analysis Method: 350.1

Start Date: 10/03/2017 10:20 End Date: 10/03/2017 11:58

Lab Sample Id	D/F	Type	Time	Analytes																								
				NH3																								
ZZZZZZ			11:17																									
CCV 180-224750/43			11:18																									
CCB 180-224750/44			11:20																									
ZZZZZZ			11:21																									
ZZZZZZ			11:23																									
ZZZZZZ			11:24																									
ZZZZZZ			11:25																									
ZZZZZZ			11:27																									
ZZZZZZ			11:28																									
ZZZZZZ			11:30																									
ZZZZZZ			11:31																									
ZZZZZZ			11:32																									
ZZZZZZ			11:34																									
CCV 180-224750/55			11:35																									
CCB 180-224750/56			11:37																									
ZZZZZZ			11:38																									
ZZZZZZ			11:40																									
ZZZZZZ			11:41																									
ZZZZZZ			11:42																									
ZZZZZZ			11:44																									
ZZZZZZ			11:45																									
ZZZZZZ			11:47																									
ZZZZZZ			11:48																									
ZZZZZZ			11:50																									
ZZZZZZ			11:51																									
CCV 180-224750/67			11:52																									
CCB 180-224750/68			11:54																									
ZZZZZZ			11:55																									
ZZZZZZ			11:57																									
ZZZZZZ			11:58																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2340C

Start Date: 10/03/2017 10:26 End Date: 10/03/2017 11:13

Lab Sample Id	D/F	Type	Time	Analytes																								
				HardCC																								
LCS 180-224714/1	1	T	10:26	X																								
MB 180-224714/2	1	T	10:28	X																								
ZZZZZZ			10:31																									
ZZZZZZ			10:33																									
ZZZZZZ			10:36																									
ZZZZZZ			10:38																									
ZZZZZZ			10:41																									
ZZZZZZ			10:43																									
ZZZZZZ			10:46																									
ZZZZZZ			10:48																									
ZZZZZZ			10:51																									
ZZZZZZ			10:53																									
CCV 180-224714/13	1		10:56	X																								
CCB 180-224714/14	1		10:58	X																								
ZZZZZZ			11:01																									
180-70792-2	1	T	11:03	X																								
180-70792-2 DU	1	T	11:06	X																								
ZZZZZZ			11:08																									
CCV 180-224714/19	1		11:11	X																								
CCB 180-224714/20	1		11:13	X																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 180.1

Start Date: 09/29/2017 13:25 End Date: 09/29/2017 13:44

Lab Sample Id	D/F	Type	Time	Analytes																								
				Turb																								
ZZZZZZ			13:25																									
ZZZZZZ			13:26																									
ZZZZZZ			13:27																									
ZZZZZZ			13:28																									
ICV 180-224488/5	1		13:29	X																								
ICB 180-224488/6	1		13:30	X																								
LCS 180-224488/7	1	T	13:31	X																								
MB 180-224488/8	1	T	13:32	X																								
ZZZZZZ			13:33																									
ZZZZZZ			13:34																									
ZZZZZZ			13:36																									
ZZZZZZ			13:37																									
ZZZZZZ			13:38																									
ZZZZZZ			13:39																									
ZZZZZZ			13:40																									
ZZZZZZ			13:41																									
180-70792-2	5	T	13:42	X																								
CCV 180-224488/18	1		13:43	X																								
CCB 180-224488/19	1		13:44	X																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 9040C

Start Date: 09/29/2017 11:55 End Date: 09/29/2017 16:42

Lab Sample Id	D/F	Type	Time	Analytes																								
				pH																								
LCS 180-224409/1	1	T	11:55	X																								
ZZZZZZ			11:58																									
ZZZZZZ			12:01																									
ZZZZZZ			12:05																									
ZZZZZZ			12:08																									
ZZZZZZ			12:11																									
ZZZZZZ			12:14																									
ZZZZZZ			12:17																									
ZZZZZZ			12:21																									
ZZZZZZ			12:24																									
CCV 180-224409/11	1		12:27	X																								
180-70792-2	1	T	16:20	X																								
180-70792-2 DU	1	T	16:26	X																								
ZZZZZZ			16:29																									
ZZZZZZ			16:31																									
ZZZZZZ			16:34																									
ZZZZZZ			16:37																									
ZZZZZZ			16:40																									
CCV 180-224409/19	1		16:42	X																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2320B

Start Date: 10/03/2017 09:40 End Date: 10/03/2017 09:40

Lab Sample Id	D/F	Type	Time	Analytes: Alk	BALKCC	CarAlk
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
CCV 180-224684/14			09:40			
CCB 180-224684/15			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
ZZZZZZ			09:40			
CCV 180-224684/27	1		09:40	X		
CCB 180-224684/28	1		09:40	X	X	X
LCS 180-224684/29	1	T	09:40	X		
MB 180-224684/30	1	T	09:40	X	X	X
ZZZZZZ			09:40			
ZZZZZZ			09:40			
180-70792-2	1	T	09:40	X	X	X
CCV 180-224684/34	1		09:40	X		
CCB 180-224684/35	1		09:40	X	X	X

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2510B

Start Date: 10/06/2017 10:51 End Date: 10/06/2017 11:16

Lab Sample Id	D/F	Type	Time	Analytes																								
				SC																								
LCS 180-225089/1	1	T	10:51	X																								
MB 180-225089/2	1	T	10:52	X																								
ZZZZZZ			10:53																									
ZZZZZZ			10:54																									
ZZZZZZ			10:55																									
ZZZZZZ			10:56																									
ZZZZZZ			10:57																									
180-70792-2	1	T	10:58	X																								
ZZZZZZ			10:59																									
ZZZZZZ			11:00																									
ZZZZZZ			11:01																									
ZZZZZZ			11:02																									
CCV1 180-225089/13	1		11:03	X																								
CCB1 180-225089/14	1		11:04	X																								
ZZZZZZ			11:05																									
ZZZZZZ			11:06																									
ZZZZZZ			11:07																									
ZZZZZZ			11:08																									
ZZZZZZ			11:09																									
ZZZZZZ			11:10																									
ZZZZZZ			11:11																									
ZZZZZZ			11:12																									
ZZZZZZ			11:13																									
ZZZZZZ			11:14																									
CCV2 180-225089/25			11:15																									
CCB2 180-225089/26			11:16																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh   Job No.: 180-70792-1

SDG No.:

Instrument ID: NOEQUIP   Analysis Method: SM 2540D

Start Date: 10/03/2017 15:27   End Date: 10/03/2017 15:27

Lab Sample Id	D/F	Type	Time	Analytes																									
				TSS																									
LCS 180-224780/1	1	T	15:27	X																									
MB 180-224780/2	1	T	15:27	X																									
ZZZZZZ			15:27																										
ZZZZZZ			15:27																										
180-70792-2	1	T	15:27	X																									
ZZZZZZ			15:27																										
ZZZZZZ			15:27																										
ZZZZZZ			15:27																										
ZZZZZZ			15:27																										
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ZZZZZZ			15:27																										
ZZZZZZ			15:27																										

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Instrument ID: TOC1030 Analysis Method: SM 5310C

Start Date: 10/02/2017 13:10 End Date: 10/02/2017 16:06

Lab Sample Id	D/F	Type	Time	Analytes																								
				TOCD																								
ZZZZZZ			13:10																									
ICV 180-224683/2	1		13:24	X																								
ICB 180-224683/3	1		13:36	X																								
LCS 180-224683/4	1	T	13:49	X																								
LCSD 180-224683/5	1	T	14:01	X																								
MB 180-224683/6	1	T	14:13	X																								
180-70792-2	1	T	14:26	X																								
ZZZZZZ			14:39																									
ZZZZZZ			14:51																									
ZZZZZZ			15:03																									
ZZZZZZ			15:16																									
ZZZZZZ			15:29																									
RINSE 180-224683/13			15:41																									
CCV 180-224683/14	1		15:54	X																								
CCB 180-224683/15	1		16:06	X																								

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224503 Batch Start Date: 09/30/17 10:02 Batch Analyst: Higgins, Elizabeth R

Batch Method: Distill/Ammonia Batch End Date: 09/30/17 12:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	ClResPres	InitialAmount	FinalAmount	Initial pH	AdjustedpH	WNH31000S 00015
MB 180-224503/1		Distill/Ammonia, 350.1		N/A	50 mL	50 mL	5.5 SU	9.45-9.55 SU	
LCS 180-224503/2		Distill/Ammonia, 350.1		N/A	50 mL	50 mL	5.5 SU	9.45-9.55 SU	100 uL
180-70792-G-2	HD-SPBA-CW-22-0/1-0	Distill/Ammonia, 350.1	T	N/A	50 mL	50 mL	<2 SU	9.45-9.55 SU	

Batch Notes	
Acid used for pH adjustment	2047074, 2047093, 2047094
Base used for pH adjustment	2324099, 2324035, 2047102, 2500479
Borate Buffer Dispenser ID	01L84741
Boric Acid Dispenser ID	05J90928
Boric Acid ID	2411872
Buffer Lot #	2481697
Distillation End Time	1230
Distilliation Unit ID	#3
Distillation Start Time	1002
Distillation Temperature	160 Degrees C
Pipette ID	08G08043
Residual Chlorine Indicator ID	Lot# 090616E, Exp: 05-2019
Telfon Chips ID	1892812

Basis	Basis Description
T	Total/NA

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224750 Batch Start Date: 10/03/17 10:20 Batch Analyst: Kieda, Chuck

Batch Method: 350.1 Batch End Date: 10/03/17 11:58

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg	WNH31000P 00025	WNH31000S 00015	AnalysisComment
ICV 180-224750/17		350.1		100 mL	100 mL	OK		100 uL	;350.1
ICB 180-224750/18		350.1		8 mL	8 mL	OK			;350.1
CCV 180-224750/19		350.1		100 mL	100 mL	OK	0.2 mL		;350.1
CCB 180-224750/20		350.1		8 mL	8 mL	OK			;350.1
MB 180-224503/1-A		350.1		8 mL	8 mL	OK			;350.1
LCS 180-224503/2-A		350.1		8 mL	8 mL	OK			;350.1
180-70792-G-2-A	HD-SPBA-CW-22-0/ 1-0	350.1	T	8 mL	8 mL	OK			;350.1
CCV 180-224750/31		350.1		100 mL	100 mL	OK	0.2 mL		;350.1
CCB 180-224750/32		350.1		8 mL	8 mL	OK			;350.1

Batch Notes	
Borate ID	see distillation prep batches #s: 180-224354 & -224503
Hypochlorite ID	2330989
Sodium Thiosulfate ID	2440968
NaOH Lot #	2007922
Sodium Nitroprusside ID	2510595
Phenol Solution ID	1816113
Pipette ID	B645274412, OU16344, OU20062
Residual Chlorine Indicator ID	see distillation prep batches
Perform Calculation (0=No, 1=Yes)	1
Sodium Phenolate ID	2490325
Sulfuric Acid Reagent ID Number	see distillation prep batches

Basis	Basis Description
T	Total/NA

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224714 Batch Start Date: 10/03/17 10:26 Batch Analyst: Kieda, Chuck

Batch Method: SM 2340C Batch End Date: 10/03/17 11:16

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	AdjustedpH	BuretStart1	BuretStop1
LCS 180-224714/1		SM 2340C		50 mL	50 mL	N/A SU	9.9-10.1	0.0 mL	2.5 mL
MB 180-224714/2		SM 2340C		50 mL	50 mL	N/A SU	9.9-10.1	0.0 mL	0.0 mL
CCV 180-224714/13		SM 2340C		50 mL	50 mL	N/A SU	9.9-10.1	0.0 mL	2.5 mL
CCB 180-224714/14		SM 2340C		50 mL	50 mL	N/A SU	9.9-10.1	0.0 mL	0.0 mL
180-70792-H-2	HD-SPBA-CW-22-0/ 1-0	SM 2340C	T	50 mL	50 mL	<2 SU	9.9-10.1	0.0 mL	7.7 mL
180-70792-H-2 DU	HD-SPBA-CW-22-0/ 1-0	SM 2340C	T	50 mL	50 mL	<2 SU	9.9-10.1	0.0 mL	7.8 mL
CCV 180-224714/19		SM 2340C		50 mL	50 mL	N/A SU	9.9-10.1	0.0 mL	2.5 mL
CCB 180-224714/20		SM 2340C		50 mL	50 mL	N/A SU	9.9-10.1	0.0 mL	0.0 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	TitrantVolume1	CalcMsg	WHdCaCO3P 00009			
LCS 180-224714/1		SM 2340C		2.5 mL	OK	2.5 mL			
MB 180-224714/2		SM 2340C		0 mL	OK				
CCV 180-224714/13		SM 2340C		2.5 mL	OK	2.5 mL			
CCB 180-224714/14		SM 2340C		0 mL	OK				
180-70792-H-2	HD-SPBA-CW-22-0/ 1-0	SM 2340C	T	7.7 mL	OK				
180-70792-H-2 DU	HD-SPBA-CW-22-0/ 1-0	SM 2340C	T	7.8 mL	OK				
CCV 180-224714/19		SM 2340C		2.5 mL	OK	2.5 mL			
CCB 180-224714/20		SM 2340C		0 mL	OK				

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224714 Batch Start Date: 10/03/17 10:26 Batch Analyst: Kieda, Chuck

Batch Method: SM 2340C Batch End Date: 10/03/17 11:16

Batch Notes	
Buffer Lot #	2415991
Buret ID	606 HARD-2
EDTA ID	2469190
Indicator Lot	2416004
Nominal Amount Used	50 mL
pH Strip ID	Ricca Chemical lot#6611008
Pipette ID	B645274412, OU16344, OU60062
Perform Calculation (0=No, 1=Yes)	1
Normality of First Titrant	0.02 N
Titrant Standardization Date	10/3/17

Basis	Basis Description
T	Total/NA

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224488 Batch Start Date: 09/29/17 13:25 Batch Analyst: Higgins, Elizabeth R

Batch Method: 180.1 Batch End Date: 09/29/17 13:46

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	WTurbCCV40P 00005	WTurbICVCCV2 00006	WTurbLCS_0.85 00245		
ICV 180-224488/5		180.1		25 mL		25 mL			
ICB 180-224488/6		180.1		25 mL					
LCS 180-224488/7		180.1		25 mL			25 mL		
MB 180-224488/8		180.1		25 mL					
180-70792-D-2 ^5	HD-SPBA-CW-22-0/ 1-0	180.1	T	25 mL					
CCV 180-224488/18		180.1		25 mL	25 mL				
CCB 180-224488/19		180.1		25 mL					

Batch Notes	
Batch Comment	0.0 = 0.02, 2288131= 10.00 = 10.0
Calibration Date	09/29/17
Instrument ID	Micro 100 Turbidimeter SN 105034
Pipette ID	B637018887

Basis	Basis Description
T	Total/NA

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224409 Batch Start Date: 09/29/17 08:41 Batch Analyst: Aguiar, Rachel M

Batch Method: 9040C Batch End Date: 09/29/17 16:52

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	SampleTemp	pHRead1	TempRead1	pHRead2	TempRead2
LCS 180-224409/1		9040C		20 mL	21.8 Celsius	7.00 SU	21.6 Celsius	7.00 SU	21.8 Celsius
CCV 180-224409/11		9040C		20 mL	21.8 Celsius	7.03 SU	21.8 Celsius	7.03 SU	21.8 Celsius
180-70792-F-2	HD-SPBA-CW-22-0/ 1-0	9040C	T	20 mL	21.6 Celsius	7.55 SU	21.7 Celsius	7.55 SU	21.7 Celsius
180-70792-F-2 DU	HD-SPBA-CW-22-0/ 1-0	9040C	T	20 mL	21.7 Celsius	7.56 SU	22.0 Celsius	7.57 SU	21.9 Celsius
CCV 180-224409/19		9040C		20 mL	22.5 Celsius	7.03 SU	22.5 Celsius	7.02 SU	22.5 Celsius

Lab Sample ID	Client Sample ID	Method Chain	Basis	pHRead3	TempRead3	CalcMsg	WpHBuffer7CCV 00022	WpHBuffer7P 00015	
LCS 180-224409/1		9040C		7.00 SU	21.8 Celsius	Read 3 Pass	20 mL		
CCV 180-224409/11		9040C		7.03 SU	21.8 Celsius	Read 3 Pass		20 mL	
180-70792-F-2	HD-SPBA-CW-22-0/ 1-0	9040C	T	7.55 SU	21.6 Celsius	Read 3 Pass			
180-70792-F-2 DU	HD-SPBA-CW-22-0/ 1-0	9040C	T	7.56 SU	21.7 Celsius	Read 3 Pass			
CCV 180-224409/19		9040C		7.03 SU	22.5 Celsius	Read 3 Pass		20 mL	

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224409 Batch Start Date: 09/29/17 08:41 Batch Analyst: Aguiar, Rachel M

Batch Method: 9040C Batch End Date: 09/29/17 16:52

Batch Notes	
pH Buffer 1 ID	2310389 pH 2.00 = 2.01
pH Buffer 2 ID	2461939 pH 4.00 = 4.00
pH Buffer 3 ID	2310504 pH 7.00 = 7.02
pH Buffer 4 ID	2224683 pH 10.00 = 9.99
pH Buffer 5 ID	2239831 pH 13.00 = 13.00
pH Buffer 6 ID	2499831 pH = 7.00 buffer second source
Calibration Date and Time	09/29/2017 @ 10.00
Electronic Slope	95.1
Instrument ID	Accumet AR25 Serial # AR93315378
Probe ID	VVT1 8774
Sufficient volume for sample dup	yes
Thermometer ID	AR93315378

Basis	Basis Description
T	Total/NA

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224684 Batch Start Date: 10/03/17 09:40 Batch Analyst: Loheyde, Cheryl

Batch Method: SM 2320B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	Initial pH	BuretStart1	BuretStop1	TitrantVolume1	BuretStart2
CCV 180-224684/27		SM 2320B		50 mL	10.52 SU	0 mL	3.6 mL	3.6 mL	0 mL
CCB 180-224684/28		SM 2320B		50 mL	5.18 SU	0 mL	0 mL	0 mL	0 mL
LCS 180-224684/29		SM 2320B		50 mL	10.74 SU	0 mL	6.7 mL	6.7 mL	0 mL
MB 180-224684/30		SM 2320B		50 mL	5.26 SU	0 mL	0 mL	0 mL	0 mL
180-70792-D-2	HD-SPBA-CW-22-0/ 1-0	SM 2320B	T	50 mL	7.79 SU	0 mL	0 mL	0 mL	0 mL
CCV 180-224684/34		SM 2320B		50 mL	10.46 SU	0 mL	3.6 mL	3.6 mL	0 mL
CCB 180-224684/35		SM 2320B		50 mL	5.42 SU	0 mL	0 mL	0 mL	0 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	BuretStop2	TitrantVolume2	CalcMsg	carb	hydr	bCarb
CCV 180-224684/27		SM 2320B		3.0 mL	3 mL	Case 4	123.6 mg/L	12.36 mg/L	0 mg/L
CCB 180-224684/28		SM 2320B		0.10 mL	0.1 mL	Case 1	0 mg/L	0 mg/L	2.06 mg/L
LCS 180-224684/29		SM 2320B		6.9 mL	6.9 mL	Case 2	276.04 mg/L	0 mg/L	4.12 mg/L
MB 180-224684/30		SM 2320B		0.10 mL	0.1 mL	Case 1	0 mg/L	0 mg/L	2.06 mg/L
180-70792-D-2	HD-SPBA-CW-22-0/ 1-0	SM 2320B	T	8.6 mL	8.6 mL	Case 1	0 mg/L	0 mg/L	177.16 mg/L
CCV 180-224684/34		SM 2320B		3.0 mL	3 mL	Case 4	123.6 mg/L	12.36 mg/L	0 mg/L
CCB 180-224684/35		SM 2320B		0.20 mL	0.2 mL	Case 1	0 mg/L	0 mg/L	4.12 mg/L

Lab Sample ID	Client Sample ID	Method Chain	Basis	pAlk	tAlk	FinalAmount	WALK125PPMCCV 00155	WALK250PPMPi 00148	
CCV 180-224684/27		SM 2320B		74.16 mg/L	135.96 mg/L	50 mL	50 mL		
CCB 180-224684/28		SM 2320B		0 mg/L	2.06 mg/L	50 mL			
LCS 180-224684/29		SM 2320B		138.02 mg/L	280.16 mg/L	50 mL		50 mL	
MB 180-224684/30		SM 2320B		0 mg/L	2.06 mg/L	50 mL			

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224684 Batch Start Date: 10/03/17 09:40 Batch Analyst: Loheyde, Cheryl

Batch Method: SM 2320B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	pAlk	tAlk	FinalAmount	WALK125PPMCCV 00155	WALK250PPMPi 00148	
180-70792-D-2	HD-SPBA-CW-22-0/ 1-0	SM 2320B	T	0 mg/L	177.16 mg/L	50 mL			
CCV 180-224684/34		SM 2320B		74.16 mg/L	135.96 mg/L	50 mL	50 mL		
CCB 180-224684/35		SM 2320B		0 mg/L	4.12 mg/L	50 mL			

Batch Notes	
Batch Comment	PH 4 START: 4.01 END: 4.02
pH Buffer 1 ID	2310389
pH Buffer 2 ID	2461939
pH Buffer 3 ID	2310504
pH Buffer 4 ID	2224683
pH Buffer 5 ID	2239831
Sulfuric Acid Lot Number	2510156
Sulfuric Acid Vendor	RICCA
Nominal Amount Used	50 mL
Normality of First Titrant	.0206 N

Basis	Basis Description
T	Total/NA

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 225089 Batch Start Date: 10/06/17 10:44 Batch Analyst: White, Kaitlyn X

Batch Method: SM 2510B Batch End Date: 10/06/17 11:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	Temp	Cond. CCV 00006	WCond84SP 00025		
LCS 180-225089/1		SM 2510B		2 mL	20.8 Celsius		2 mL		
MB 180-225089/2		SM 2510B		2 mL	20.6 Celsius				
180-70792-F-2	HD-SPBA-CW-22-0/ 1-0	SM 2510B	T	2 mL	20.1 Celsius				
CCV1 180-225089/13		SM 2510B		2 mL	20.8 Celsius	2 mL			
CCB1 180-225089/14		SM 2510B		2 mL	20.5 Celsius				

Batch Notes	

Basis	Basis Description
T	Total/NA

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224780 Batch Start Date: 10/03/17 15:27 Batch Analyst: White, Kaitlyn X

Batch Method: SM 2540D Batch End Date: 10/04/17 15:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	CrucibleID	TareWeight	InitialAmount	Weight1	Weight2
LCS 180-224780/1		SM 2540D		1000 mL	d1IPU 0.1220	0.1220 g	50 mL	0.1260 g	0.1258 g
MB 180-224780/2		SM 2540D		1000 mL	d1IPV 0.1192	0.1192 g	1000 mL	0.1192 g	0.1192 g
180-70792-E-2	HD-SPBA-CW-22-0/ 1-0	SM 2540D	T	1000 mL	d1IPS 0.1153	0.1153 g	1000 mL	0.1506 g	0.1507 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	Weight3	WeightOne%Diff	Residue	Residue2	ResDishWt	DishWeight
LCS 180-224780/1		SM 2540D		0 g	PASS <0.5mg	0.004 g	0.0038 g	0.1258 g	0.122 g
MB 180-224780/2		SM 2540D		0 g	PASS <0.5mg	0 g	0 g	0.1192 g	0.1192 g
180-70792-E-2	HD-SPBA-CW-22-0/ 1-0	SM 2540D	T	0 g	PASS <0.5mg	0.0353 g	0.0354 g	0.1507 g	0.1153 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WResPSP 00050					
LCS 180-224780/1		SM 2540D		50 mL					
MB 180-224780/2		SM 2540D							
180-70792-E-2	HD-SPBA-CW-22-0/ 1-0	SM 2540D	T						

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224780 Batch Start Date: 10/03/17 15:27 Batch Analyst: White, Kaitlyn X

Batch Method: SM 2540D Batch End Date: 10/04/17 15:00

Batch Notes	
Balance ID	1126020829
Batch Comment	Weights (mg/g/g) Setup: 2, 1, 5 Final: 2, 1, 5
Constant Weight (WT2) Date/Time In	10/04/2017@12:05
Constant Weight (WT2) Date/Time Out	10/04/2017@13:20
Constant Weight (WT2) Temp In	105 Celsius
Constant Weight (WT2) Temp Out	105 Celsius
Uncorrected CW (Wt2) Temp In	105 Celsius
Uncorrected CW (Wt2) Temp Out	105 Celsius
Corrected Temperature in Oven	105 Celsius
Corrected Temperature out of Oven	105 Celsius
Date/Time Samples placed in Oven	10/03/2017@12:40
Date/Time Samples Removed from Oven	10/04/2017@09:50
Filter Paper ID	Environmental Express Lot: 600016-7218-R2
Nominal Amount Used	1000 mL
Oven ID	ov 02
Perform Calculation (0=No, 1=Yes)	1
Thermometer ID	QA Backup#5
Uncorrected In Temperature	105 Celsius
Uncorrected Out Temperature	105 Celsius

Basis	Basis Description
T	Total/NA

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224683 Batch Start Date: 10/02/17 13:10 Batch Analyst: Loheyde, Cheryl

Batch Method: SM 5310C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	Res1&2RPD	RPDOK	10 PPM TOC/CC 00942
ICV 180-224683/2		SM 5310C		40 mL	40 mL		4 %	TOC Pass	
ICB 180-224683/3		SM 5310C					200 %	TOC Fail	
LCS 180-224683/4		SM 5310C		40 mL	40 mL		6 %	TOC Pass	
LCSD 180-224683/5		SM 5310C		40 mL	40 mL		4 %	TOC Pass	
MB 180-224683/6		SM 5310C					18 %	TOC Fail	
180-70792-M-2	HD-SPBA-CW-22-0/ 1-0	SM 5310C	T			<2 SU	8 %	TOC Pass	
CCV 180-224683/14		SM 5310C		40 mL	40 mL		10 %	TOC Pass	40 mL
CCB 180-224683/15		SM 5310C					200 %	TOC Fail	

Lab Sample ID	Client Sample ID	Method Chain	Basis	ICV 40 PPM 01072	LCS 20 PPM 01071				
ICV 180-224683/2		SM 5310C		40 mL					
ICB 180-224683/3		SM 5310C							
LCS 180-224683/4		SM 5310C			40 mL				
LCSD 180-224683/5		SM 5310C			40 mL				
MB 180-224683/6		SM 5310C							
180-70792-M-2	HD-SPBA-CW-22-0/ 1-0	SM 5310C	T						
CCV 180-224683/14		SM 5310C							
CCB 180-224683/15		SM 5310C							

Batch Notes	
Batch Comment	PH STRIPS LOT# HC697597
Phosphoric Acid ID	2511902
Sodium Persulfate ID	2352984

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-70792-1

SDG No.:

Batch Number: 224683 Batch Start Date: 10/02/17 13:10 Batch Analyst: Loheyde, Cheryl

Batch Method: SM 5310C Batch End Date:

Basis	Basis Description
T	Total/NA

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

Chuck Kieda 10/3/17

Run Name: A100317A
Configuration: AMMONIA 0.05 - 8mg/L
Run date: 10/3/2017

DISTILLED AMMONIA 350.1

	Position	Identifier	Type	Comment	Date	Time	Total	AMMONIA mg/L	
1	SR:1	SYNC	SYNC	8.0 PPM;350.1	10/3/2017	10:20:15 AM	1	8.064	
2	SR:1	SYNC	SYNC	8.0 PPM;350.1	10/3/2017	10:20:45 AM	1	8.315	
3	SR:2	CO	Carry over	;350.1	10/3/2017	10:22:10 AM	1	0.174	
4	SR:3	W	Wash	;350.1	10/3/2017	10:23:35 AM	1	0.047	
5	SR:1	C1	Calibrant	8.0;350.1	10/3/2017	10:24:59 AM	1	8.176	
6	SR:6	C2	Calibrant	6.0;350.1	10/3/2017	10:26:24 AM	1	5.919	
7	SR:7	C3	Calibrant	4.0;350.1	10/3/2017	10:27:49 AM	1	3.811	
8	SR:8	C4	Calibrant	2.0;350.1	10/3/2017	10:29:15 AM	1	1.867	
9	SR:9	C5	Calibrant	1.0;350.1	10/3/2017	10:30:40 AM	1	1.063	
10	SR:10	C6	Calibrant	0.5;350.1	10/3/2017	10:32:05 AM	1	0.538	
11	SR:11	C7	Calibrant	0.3;350.1	10/3/2017	10:33:29 AM	1	0.322	
12	SR:12	C8	Calibrant	0.2;350.1	10/3/2017	10:34:54 AM	1	0.232	
13	SR:13	C9	Calibrant	0.1;350.1	10/3/2017	10:36:19 AM	1	0.128	
~~14~~	~~SR:14~~	~~C10~~	~~Calibrant~~	~~0.05;350.1~~	~~10/3/2017~~	~~10:37:45 AM~~	~~1~~	~~0.085~~	CAK 10/3/17 NOT USED
15	SR:15	C11	Calibrant	0.0;350.1	10/3/2017	10:39:10 AM	1	0.044	
16	SR:16	W	Wash	;350.1	10/3/2017	10:40:35 AM	1	0.047	
17	SR:17	ICV NELAC	QC 2	;350.1	10/3/2017	10:41:59 AM	1	1.018	
18	SR:18	ICB	Unknown	;350.1	10/3/2017	10:43:24 AM	1	0.044	
19	SR:19	CCV	Check Cal	;350.1	10/3/2017	10:44:50 AM	1	2.022	
20	SR:20	CCB	Check Cal	;350.1	10/3/2017	10:46:15 AM	1	0.042	
21	SR:21	W	Wash	;350.1	10/3/2017	10:47:40 AM	1	0.047	
22	1:1	MB 180-224503/1-A	Unknown	;350.1	10/3/2017	10:49:04 AM	1	0.080	
23	1:2	LCS 180-224503/2-A	Unknown	;350.1	10/3/2017	10:50:29 AM	1	2.202	
24	1:3	180-70594-K-2-D	Unknown	;350.1	10/3/2017	10:51:54 AM	1	0.211	
25	1:4	180-70594-K-2-E MS	Unknown	;350.1	10/3/2017	10:53:20 AM	1	2.351	
26	1:5	180-70594-K-2-F MSD	Unknown	;350.1	10/3/2017	10:54:45 AM	1	2.442	
27	1:6	180-70792-G-2-A	Unknown	;350.1	10/3/2017	10:56:10 AM	1	0.152	
28	1:7	180-70472-F-4-A	Unknown	;350.1	10/3/2017	10:57:34 AM	1	0.134	
29	1:8	180-70472-F-5-A	Unknown	;350.1	10/3/2017	10:58:59 AM	1	0.107	
30	1:9	180-70475-F-2-A	Unknown	;350.1	10/3/2017	11:00:24 AM	1	0.126	
31	SR:19	CCV	Check Cal	;350.1	10/3/2017	11:01:50 AM	1	2.095	
32	SR:20	CCB	Check Cal	;350.1	10/3/2017	11:03:15 AM	1	0.037	
33	SR:21	W	Wash	;350.1	10/3/2017	11:04:40 AM	1	0.047	
34	1:10	180-70475-F-1-A	Unknown	;350.1	10/3/2017	11:06:04 AM	100	222.303	
35	1:11	180-70396-AE-20-B	Unknown	;350.1	10/3/2017	11:07:29 AM	1	3.067	
36	1:12	180-70541-F-1-A	Unknown	;350.1	10/3/2017	11:08:54 AM	1	0.541	
37	1:13	180-70541-F-2-A	Unknown	;350.1	10/3/2017	11:10:20 AM	1	0.315	
38	1:14	180-70541-F-3-A	Unknown	;350.1	10/3/2017	11:11:45 AM	1	0.204	
39	1:15	180-70541-F-3-B MS	Unknown	;350.1	10/3/2017	11:13:10 AM	1	1.903	
40	1:16	180-70541-F-3-C MSD	Unknown	;350.1	10/3/2017	11:14:34 AM	1	1.897	
41	1:17	180-70541-F-4-A	Unknown	;350.1	10/3/2017	11:15:59 AM	1	0.131	
42	1:18	180-70541-F-5-A	Unknown	;350.1	10/3/2017	11:17:25 AM	1	0.664	
43	SR:19	CCV	Check Cal	;350.1	10/3/2017	11:18:50 AM	1	1.990	
44	SR:20	CCB	Check Cal	;350.1	10/3/2017	11:20:15 AM	1	0.041	
45	SR:21	W	Wash	;350.1	10/3/2017	11:21:39 AM	1	0.047	
46	1:19	180-70557-C-2-A	Unknown	;350.1	10/3/2017	11:23:04 AM	1	2.418	
47	1:20	180-70594-K-3-B	Unknown	;350.1	10/3/2017	11:24:29 AM	1	0.159	

DISTILLED AMMONIA 350.1

Chuck Kieda 10/3/17

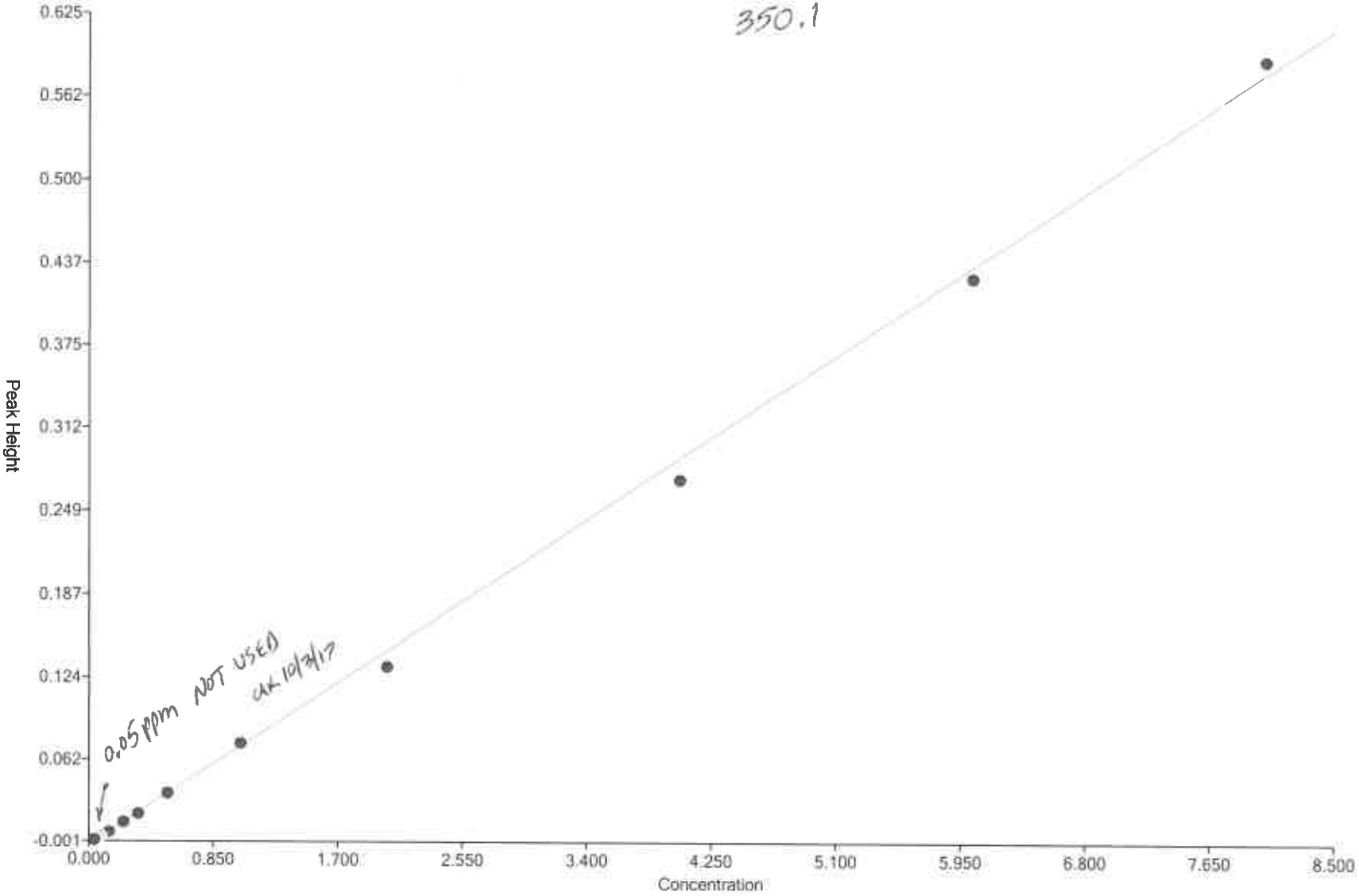
	Position	Identifier	Type	Comment	Date	Time		Total	AMMONIA mg/L	
48	1:21	180-70594-K-4-B	Unknown	;350.1	10/3/2017	11:25:55 AM		1	0.424	
49	1:22	180-70585-D-2-A	Unknown	;350.1	10/3/2017	11:27:20 AM		1	0.118	
50	1:23	180-70778-C-1-A	Unknown	;350.1	10/3/2017	11:28:45 AM		1	0.147	
51	1:24	180-70778-C-2-A	Unknown	;350.1	10/3/2017	11:30:09 AM		1	0.128	
52	1:25	180-70778-C-3-A	Unknown	;350.1	10/3/2017	11:31:34 AM		1	0.292	
~~53~~	~~SR:22~~	~~BLANK~~	~~Unknown~~		~~10/3/2017~~	~~11:32:59 AM~~	GK 10/3/17	~~1~~	~~0.042~~	NOT USED
54	1:26	MB 180-224354/1-A	Unknown	;350.1	10/3/2017	11:34:25 AM		1	0.068	
55	SR:19	CCV	Check Cal	;350.1	10/3/2017	11:35:50 AM		1	2.007	
56	SR:20	CCB	Check Cal	;350.1	10/3/2017	11:37:15 AM		1	0.036	
57	SR:21	W	Wash	;350.1	10/3/2017	11:38:39 AM		1	0.047	
58	1:27	LCS 180-224354/2-A	Unknown	;350.1	10/3/2017	11:40:04 AM		1	1.973	
59	1:28	180-70702-A-1-A	Unknown	;350.1	10/3/2017	11:41:29 AM		10	17.247	
60	1:29	180-70702-A-1-B MS	Unknown	;350.1	10/3/2017	11:42:55 AM		10	18.805	
61	1:30	180-70702-A-1-C MSD	Unknown	;350.1	10/3/2017	11:44:20 AM		10	19.909	
62	1:31	180-70702-A-2-A	Unknown	;350.1	10/3/2017	11:45:45 AM		10	40.174	
63	1:32	180-70694-B-1-B	Unknown	;350.1	10/3/2017	11:47:09 AM		10	39.177	
~~64~~	~~1:33~~	~~180-69747-A-1-B~~	~~Unknown~~	~~;350.1~~	~~10/3/2017~~	~~11:48:34 AM~~		~~1~~	~~1.089~~	NOT USED
65	1:34	180-69747-A-2-B	Unknown	;350.1	10/3/2017	11:50:00 AM	GK 10/3/17	1	1.161	
~~66~~	~~1:35~~	~~180-69747-A-3-B~~	~~Unknown~~	~~;350.1~~	~~10/3/2017~~	~~11:51:25 AM~~		~~1~~	~~0.976~~	
67	SR:19	CCV	Check Cal	;350.1	10/3/2017	11:52:50 AM		1	1.843	
68	SR:20	CCB	Check Cal	;350.1	10/3/2017	11:54:14 AM		1	0.043	
69	SR:21	W	Wash	;350.1	10/3/2017	11:55:39 AM		1	0.047	
~~70~~	~~SR:22~~	~~PAUSE~~	~~Pause~~		~~10/3/2017~~	~~11:57:04 AM~~		~~1~~	~~0.043~~	NOT USED
71	SR:1	SYNC	SYNC	8.0 PPM;350.1	10/3/2017	11:58:30 AM	GK 10/3/17	1	0.043	
72	SR:19	CCV	Check Cal	;350.1	N/A	N/A		1	???	
73	SR:20	CCB	Check Cal	;350.1	N/A	N/A		1	???	

Chuck Kieda 10/3/17

DISTILLED

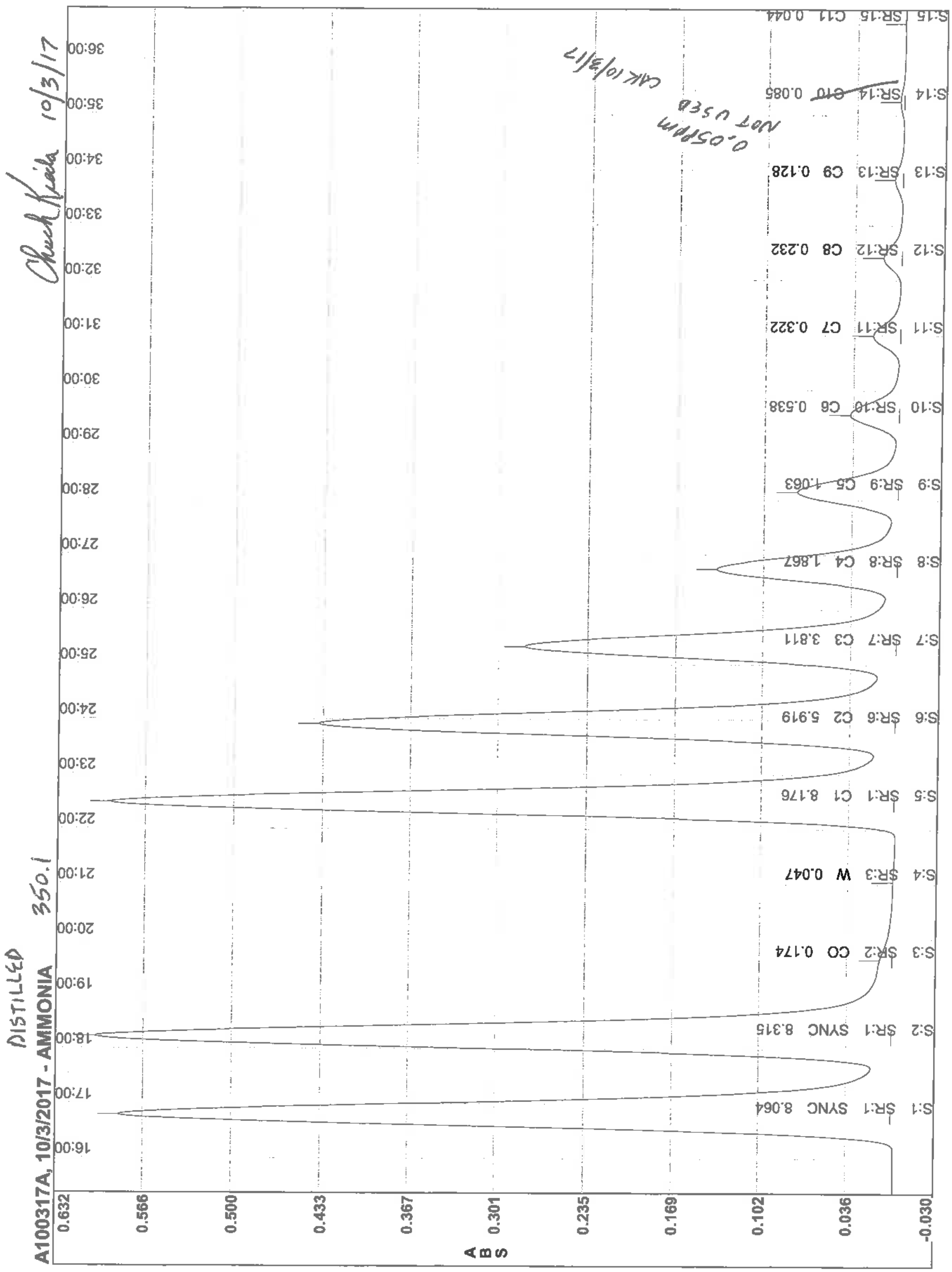
Calibration for AMMONIA

350.1



Segment 1: Equation: y = 0.07247x + -0.003376
Correlation: 0.9993

X Range = 0.000 to 8.500
Y Range = 0.000 to 7.200


A100317A, 10/3/2017 - AMMONIA
DISTILLED
350.1
Chuck Kiala 10/3/17
ABS
0.632
0.566
0.500
0.433
0.367
0.301
0.235
0.169
0.102
0.036
-0.030
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
29:00
30:00
31:00
32:00
33:00
34:00
35:00
36:00
S:1 SR:1 SYNC 8.064
S:2 SR:1 SYNC 8.315
S:3 SR:2 CO 0.174
S:4 SR:3 W 0.047
S:5 SR:1 C1 8.176
S:6 SR:6 C2 5.919
S:7 SR:7 C3 3.811
S:8 SR:8 C4 1.867
S:9 SR:9 C5 1.063
S:10 SR:10 C6 0.538
S:11 SR:11 C7 0.322
S:12 SR:12 C8 0.232
S:13 SR:13 C9 0.128
S:14 SR:14 C10 0.085
S:15 SR:15 C11 0.044
0.05PPM
Not used
CAK 10/3/17

A100317A, 10/3/2017 - AMMONIA
ABS
0.632
0.566
0.500
0.433
0.367
0.301
0.235
0.169
0.102
0.036
-0.030
37:00
38:00
39:00
40:00
41:00
42:00
43:00
44:00
45:00
46:00
47:00
48:00
49:00
50:00
51:00
52:00
53:00
54:00
55:00
56:00
57:00
58:00
S:16 SR:16 W 0.047
S:17 SR:17 IGVNELAC 1.018
S:18 SR:18 ICB 0.044
S:19 SR:19 CCV 2.022
S:20 SR:20 CCB 0.042
S:21 SR:21 W 0.047
S:22 1:1 MB 180-224503/1-A 0.080
S:23 1:2 LCS 180-224503/2-A 2.202
S:24 1:3 180-70594-K-2-D 0.211
S:25 1:4 180-70594-K-2-E MS 2.381
S:26 1:5 180-70594-K-2-F MSD 2.442
S:27 1:6 180-70792-G-2-A 0.152
S:28 1:7 180-70472-F-4-A 0.134
S:29 1:8 180-70472-F-5-A 0.107
S:30 1:9 180-70475-F-2-A 0.126

A100317A, 10/3/2017 - AMMONIA
ABS
0.632
0.566
0.500
0.433
0.367
0.301
0.235
0.169
0.102
0.036
-0.030
59:00
1:00:00
1:01:00
1:02:00
1:03:00
1:04:00
1:05:00
1:06:00
1:07:00
1:08:00
1:09:00
1:10:00
1:11:00
1:12:00
1:13:00
1:14:00
1:15:00
1:16:00
1:17:00
1:18:00
1:19:00
1:20:00
S:31 SR:19 CCV 2.096
S:32 SR:20 CCB 0.037
S:33 SR:21 W 0.047
S:34 1:10 180-70475-F-1-A 222.303
S:35 1:11 180-70396-AE-20-B 3.067
S:36 1:12 180-70541-F-1-A 0.541
S:37 1:13 180-70541-F-2-A 0.315
S:38 1:14 180-70541-F-3-A 0.204
S:39 1:15 180-70541-F-3-BMS 1.903
S:40 1:16 180-70541-F-3-CMSD 1.897
S:41 1:17 180-70541-F-4-A 0.131
S:42 1:18 180-70541-F-5-A 0.664
S:43 SR:19 CCV 1.980
S:44 SR:20 CCB 0.041
S:45 SR:21 W 0.047

A100317A, 10/3/2017 - AMMONIA
ABS
0.632
0.566
0.500
0.433
0.367
0.301
0.235
0.169
0.102
0.036
-0.030
1:21:00
1:22:00
1:23:00
1:24:00
1:25:00
1:26:00
1:27:00
1:28:00
1:29:00
1:30:00
1:31:00
1:32:00
1:33:00
1:34:00
1:35:00
1:36:00
1:37:00
1:38:00
1:39:00
1:40:00
1:41:00
S:46 1:19 180-70557-C-2-A 2.418
S:47 1:20 180-7059 4-K-3-B 0.159
S:48 1:21 180-7059 4-K-4-B 0.424
S:49 1:22 180-70585-D-2-A 0.118
S:50 1:23 180-7077 8-C-1-A 0.147
S:51 1:24 180-7077 8-C-2-A 0.128
S:52 1:25 180-7077 8-C-3-A 0.292
S:53 SR:22 BLANK 0.042
S:54 1:26 MB 180-224354/1-A 0.068
S:55 SR:19 CCV 2.007
S:56 SR:20 CCB 0.036
S:57 SR:21 W 0.047
S:58 1:27 LCS 180-224354/2-A 1.973
S:59 1:28 180-70702-A-1-A 17.247
S:60 1:29 180-70702-A-1-B MS 18.805

A100317A, 10/3/2017 - AMMONIA
ABS
0.632
0.566
0.500
0.433
0.367
0.301
0.235
0.169
0.102
0.036
-0.030
1:42:00
1:43:00
1:44:00
1:45:00
1:46:00
1:47:00
1:48:00
1:49:00
1:50:00
1:51:00
1:52:00
1:53:00
1:54:00
1:55:00
1:56:00
1:57:00
1:58:00
1:59:00
2:00:00
2:01:00
2:02:00
2:03:00
S:61 1:30 180-70702-A-1-C MSD 19.909
S:62 1:31 180-70702-A-2-A 40.174
S:63 1:32 180-70694-B-1-B 39.177
S:64 1:33 180-69747-A-1-B 1.089
S:65 1:34 180-69747-A-2-B 1.161
S:66 1:35 180-69747-A-3-B 0.976
S:67 SR:19 CCV 1.843
S:68 SR:20 CCB 0.043
S:69 SR:21 W 0.047
S:70 SR:22 PAUSE 0.043

Standardization of 0.02N EDTA Titrant

Calculation of Normality

$$N = \frac{A \times B}{C}$$

Where: A = Normality of Calcium Carbonate Standard
B = mL of Calcium Carbonate Standard used
C = mL of EDTA titrant to blue end-point

$$N = \frac{0.02 \times 10\ mL}{10\ mL} = 0.02$$

Standardized By: Chuck Kiedaisch Date: 10/3/17

Checked By: [signature] Date: 10-3-17

2516007
ID: WNa2EDTAi_00071
Exp: 10/04/17 Prpd: CAK Crt: 10/03/17
0.02 N Hardness Titrant

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PITTSBURGH
ALKALINITY LOGSHEET
Method 2320B
NB-2017-034

Analyst: CLahuyde **Date:** 10-3-17 **Start Time:** 0940

Reviewed with data entry in TALS AD Batch #: 224684

File #: 100317AUKA

pH Meter ID: Accumet XL150 SN#94105047 **Titrant ID:** 2510156 **Titrant Normality (N):** 0.0206

pH 4 Buffer ID: 246939 **pH 4 Start:** 4.01 **pH 4 End:** 4.02

2nd Source pH 7 Reading: 7.05 **pH Meter Slope (≥ 95%):** 95.6

Job Number(s): 70793 - 70832-70834-70736-70737-70738-70739-70641-70731-70792

Calculation:

$$\text{Alkalinity as } CaCO_3 \text{ mg/L} = \frac{(\text{mL of } H_2SO_4)\ (N)(50{,}000)}{\text{mL of Sample}}$$

Alkalinity Relationships:

P = Phenolphthalein Alkalinity (pH 8.3)

T = Total Alkalinity

OH^- = Hydroxide Alkalinity as $CaCO_3$

$CO_3^{\ 2}$ = Carbonate Alkalinity as $CaCO_3$

HCO_3 = Bicarbonate Concentration as $CaCO_3$

Results	OH^-	$CO_3^{\ 2}$	HCO_3	Results	OH^-	$CO_3^{\ 2}$	HCO_3
P = 0	0	0	T	P = ½T	0	2P	0
P < ½T	0	2P	T-2P	P > ½T	2P-T	2(T-P)	0
				P = T	T	0	0

Calculations of all alkalinity types' results performed in TALS

CLahuyde

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Method 2320B
NB-2017-034

Sample ID	Initial pH	Sample Volume	mL to pH 8.3	pH	mL to pH 4.5	Final pH	Notes
LCS	10.69	50	6.7	8.33	13.5	4.49	
MB	5.29		0	5.29	0.10	4.51	
180-70793-3	6.07		0	6.07	5.2	4.49	
4	6.45		0	6.45	25.2	4.49	
5	6.49		0	6.49	24.5	4.46	
6	6.41		0	6.41	14.5	4.49	
6X	6.48		0	6.48	14.4	4.47	
7	7.13		0	7.13	6.2	4.48	
180-70832-1	8.08		0	8.08	12.2	4.51	
180-70834-1	7.62		0	7.62	27.8	4.50	
180-70736-1	7.08		0	7.08	4.3	4.47	
180-70737-1	7.27		0	7.27	5.5	4.47	
180-70738-1	7.64		0	7.64	7.0	4.45	
CCV	10.49		3.6	8.31	6.7	4.52	
CCB	5.67		0	5.67	0.20	4.53	
180-70739-1	6.96		0	6.96	6.8	4.48	
180-70647-1	7.60		0	7.60	4.6	4.51	
180-70731-1	7.29		0	7.29	6.0	4.48	
-1X	7.27		0	7.27	5.9	4.50	
2	7.33		0	233	8.2	4.55	
3	6.12		0	6.12	2.2	4.48	
4	5.98		0	5.98	7.4	4.46	
5	7.02		0	7.02	27.1	4.54	
6	4.12		0	4.12	0	4.12	
7	6.19		0	6.19	3.5	4.48	
8	6.32		0	6.32	13.2	4.52	

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ALKALINITY LOGSHEET
Method 2320B
NB-2017-034

Sample ID	Initial pH	Sample Volume	mL to pH 8.3	pH	mL to pH 4.5	Final pH	Notes
CCV	10.52	50	3.6	8.29	6.6	4.54	
CCB	5.18	↓	0	5.18	0.10	4.48	
LCS	10.74		6.7	8.30	13.6	4.46	
MB	5.26		0	5.26	0.10	4.52	
180-70731-9	4.09		0	4.09	0	4.09	
L -9X	4.11		0	4.11	0	4.11	
180-70792-2	7.79		0	7.79	8.6	4.48	
CCV	10.46		3.6	8.33	6.6	4.52	
CCB	5.42	↓	0	5.42	0.20	4.51	

STANDARDIZATION OF 0.1N OR 0.02N H_2SO_4

Na_2CO_3 (Sodium Carbonate)

2.65 g Na_2CO_3 1 L Super Q Water = 0.05 N Na_2CO_3

Titrate 15 mL of 0.05N Na_2CO_3 + 85 mL of Super Q Water to pH 4.5 with H_2SO_4

Calculation of Normality

2510156
ID: WH2SO40.02N_00076
Exp:05/30/20 Prpd:MTW Opn:09/27/17
0.02 N Sulfuric acid

2510157
ID: WH2SO40.02N_00076
Exp:05/30/20 Prpd:MTW Opn:09/27/17
0.02 N Sulfuric acid

2510158
ID: WH2SO40.02N_00076
Exp:05/30/20 Prpd:MTW Opn:09/27/17
0.02 N Sulfuric acid

$$N = \frac{A \times B}{53 \times C}$$

Where: A = Exact weight of Na_2CO_3 (g)
B = mL of Na_2CO_3 used
C = mL of H_2SO_4 to reach pH 4.5

$$N = \frac{2.6504 \times 15mL}{53 \times 36.4} = \frac{39.756}{1929.2} = .0206 \text{ N}$$

Na_2CO_3 ID: 2390946

Balance used: 8945 SN# 1422493?

Standardized By: MTW **Date:** 9-27-17

Checked By: [signature] **Date:** 9-27-17

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Pittsburgh
SPECIFIC CONDUCTANCE LOGSHEET
Methods 120.1/9050A/SM2510B
NB-2017-018

Batch: 225089

LCS True Value: 84	**100 mS Standard**	Meter ID: Ultrameter II Psi SN 6205309
LCS TALS Reagent ID: 2345160	TALS Reagent ID: 2464630	Reporting Limit Acceptance: < 1 µmho/cm
CCV True Value: 600	100 mS STD Reading: 100.0	Analyst: KXW
CCV TALS Reagent ID: 1968901		Analysis Date: 10-6-17

CALCULATIONS:

Cell Correction Factor:

$$\frac{\text{100 mS}}{\text{100 mS Reading}}$$

SPECIFIC CONDUCTANCE:

Sample Reading x Cell Correction Factor

Conductivity Meter performs automatic temperature compensation.

Sample ID	Conductivity Reading (µmhos/cm)	Temperature °C
LCS	85.2 (101%)	20.8
MB	0.60	20.6
180-70736-1	321.7 (0.09 RPD)	20.0
↓ -1 Dup	322.0	20.2
180-70737-1	317.6	20.0
180-70738-1	256.0	20.2
180-70739-1	214.7	20.1
180-70792-2	333.1	20.1
180-70794-1	207.2	20.2
180-70795-1	188.7	20.2
180-70796-1	173.7	20.2
180-70788-6	1212	20.2
CCV-1	503.5 (101%)	20.8
CCB-1	0.57	20.5
180-70788-8	446.2 (0.00 RPD)	20.2
-8 Dup	446.4	20.3
-1	112.1	20.0
-2	364.7	20.1
-3	1145.	20.2
-4	858.2	20.1
-5	389.6	20.2
-7	486.8	20.3
↓ -10	679.2	20.2
-11	470.4	20.4
CCV-2	503.1 (101%)	20.8
CCB-2	0.59	20.6
		KXW 10-6-17

Reviewed By: See DRC Date:

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Zlo#00217TOC

5310C TOC

Date Prepared: 10/03/2017 By: TOC

Date Approved: By:

B#224183

Sample Results Summary

Spl #	Vial #	Sample ID	Num Rep	Act Rep	Method	Type	Dil	Cust ID	Mode	Avg. Area (cts)	Avg. Mass (ug)	Avg Conc (PPM)	Std. Dev	% RSD	Notes
1	1	BLANK	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Sample	1 : 1	00000000	TOC	1,255	0.160	0.066	492	39.18	Pass
2	2	ICV 40 PPM	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Chk Standard	1 : 1	00000000	TOC	154,632	103.462	43.109	4,716	3.05	Fail
3	3	ICB	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Chk Standard	1 : 1	00000000	TOC	1,153	0.030	0.013	81	7.06	Fail
4	4	LCS 20 PPM	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Chk Standard	1 : 1	00000000	TOC	73,848	49.015	20.423	3,290	4.46	Fail
5	5	LCSD 20 PPM	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Chk Standard	1 : 1	00000000	TOC	75,361	50.035	20.848	2,179	2.89	Fail
6	6	MB	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Chk Standard	1 : 1	00000000	TOC	1,241	0.080	0.033	14	1.12	Fail
7	7	180-70792-m-2	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Sample	1 : 1	00000000	TOC	2,223	0.737	0.307	60	2.71	Pass
8	8	180-70832-l-1	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Sample	1 : 1	00000000	TOC	13,713	8.481	3.534	381	2.78	Pass
9	9	180-70833-k-1	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Sample	1 : 1	00000000	TOC	6,030	3.303	1.377	376	6.23	Pass
10	10	180-70833-l-2	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Sample	1 : 1	00000000	TOC	22,242	14.230	5.929	367	1.65	Pass
11	11	180-70833-l-3	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Sample	1 : 1	00000000	TOC	73,729	48.931	20.388	7,811	10.59	Pass
12	12	180-70834-j-1	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Sample	1 : 1	00000000	TOC	7,222	4.107	1.712	296	4.09	Pass
13	13	RINSE	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Sample	1 : 1	00000000	TOC	1,196	0.071	0.030	205	17.17	Pass
14	14	CCV 10 PPM	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Chk Standard	1 : 1	00000000	TOC	38,319	25.069	10.445	2,531	6.61	Fail
15	15	CCB	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Chk Standard	1 : 1	00000000	TOC	1,210	0.060	0.025	129	10.67	Fail

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Date Prepared: 10/03/2017 By: TOC

Date Approved: By:

Sample Results

Spl #: 1 Sample ID : BLANK Type : Sample Date: 10/02/2017 Status: Pass
Vial #: 1 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	1:10 pm	-	-	-	907	0.000	0.000
2	1:16 pm	-	-	-	1,603	0.319	0.132
	Avg.	-	-	-	1,255	0.160	0.066
	Std.Dev.						
	% RSD.				39.18		

Spl #: 2 Sample ID : ICV 40 PPM Type : Chk Standarc Date: 10/02/2017 Status: Fail
Vial #: 2 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	1:24 pm	-	-	-	151,298	101.214	42.173
2	1:29 pm	-	-	-	157,967	105.710	44.046
	Avg.	-	-	-	154,632	103.462	43.109
	Std.Dev.						
	% RSD.				3.05		

Spl #: 3 Sample ID : ICB Type : Chk Standarc Date: 10/02/2017 Status: Fail
Vial #: 3 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	1:36 pm	-	-	-	1,096	0.000	0.000
2	1:42 pm	-	-	-	1,211	0.059	0.025
	Avg.	-	-	-	1,153	0.030	0.013
	Std.Dev.						
	% RSD.				7.06		

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Date Prepared: 10/03/2017 By: TOC

Date Approved: By:

Spl #: 4 Sample ID : LCS 20 PPM Type : Chk Standarc Date: 10/02/2017 Status: Fail
Vial #: 4 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	1:49 pm	-	-	-	71,522	47.447	19.770
2	1:55 pm	-	-	-	76,174	50.583	21.076
Avg.		-	-	-	73,848	49.015	20.423
Std.Dev.							
% RSD.					4.46		

Spl #: 5 Sample ID : LCSD 20 PPM Type : Chk Standarc Date: 10/02/2017 Status: Fail
Vial #: 5 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	2:01 pm	-	-	-	73,820	48.996	20.415
2	2:07 pm	-	-	-	76,902	51.074	21.281
Avg.		-	-	-	75,361	50.035	20.848
Std.Dev.							
% RSD.					2.89		

Spl #: 6 Sample ID : MB Type : Chk Standarc Date: 10/02/2017 Status: Fail
Vial #: 6 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	2:13 pm	-	-	-	1,231	0.073	0.030
2	2:19 pm	-	-	-	1,251	0.086	0.036
Avg.		-	-	-	1,241	0.080	0.033
Std.Dev.							
% RSD.					1.12		

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Date Prepared: 10/03/2017 By: TOC

Date Approved: By:

Spl #: 7 Sample ID : 180-70792-m-2 Type : Sample Date: 10/02/2017 Status: Pass
Vial #: 7 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	2:26 pm	-	-	-	2,180	0.708	0.295
2	2:32 pm	-	-	-	2,265	0.766	0.319
	Avg.	-	-	-	2,223	0.737	0.307
	Std.Dev.						
	% RSD.				2.71		

Spl #: 8 Sample ID : 180-70832-I-1 Type : Sample Date: 10/02/2017 Status: Pass
Vial #: 8 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	2:39 pm	-	-	-	13,443	8.300	3.458
2	2:44 pm	-	-	-	13,982	8.663	3.610
	Avg.	-	-	-	13,713	8.481	3.534
	Std.Dev.						
	% RSD.				2.78		

Spl #: 9 Sample ID : 180-70833-k-1 Type : Sample Date: 10/02/2017 Status: Pass
Vial #: 9 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	2:51 pm	-	-	-	6,295	3.482	1.451
2	2:57 pm	-	-	-	5,764	3.124	1.302
	Avg.	-	-	-	6,030	3.303	1.377
	Std.Dev.						
	% RSD.				6.23		

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Date Prepared: 10/03/2017 By: TOC

Date Approved: By:

Spl #: 10 Sample ID : 180-70833-I-2 Type : Sample Date: 10/02/2017 Status: Pass
Vial #: 10 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:03 pm	-	-	-	21,982	14.055	5.856
2	3:09 pm	-	-	-	22,502	14.405	6.002
	Avg.	-	-	-	22,242	14.230	5.929
	Std.Dev.						
	% RSD.				1.65		

Spl #: 11 Sample ID : 180-70833-I-3 Type : Sample Date: 10/02/2017 Status: Pass
Vial #: 11 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:16 pm	-	-	-	68,206	45.208	18.837
2	3:22 pm	-	-	-	79,252	52.653	21.939
	Avg.	-	-	-	73,729	48.931	20.388
	Std.Dev.						
	% RSD.				10.59		

10-3-17

Spl #: 12 Sample ID : 180-70834-j-1 Type : Sample Date: 10/02/2017 Status: Pass
Vial #: 12 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:29 pm	-	-	-	7,431	4.248	1.770
2	3:35 pm	-	-	-	7,013	3.966	1.653
	Avg.	-	-	-	7,222	4.107	1.712
	Std.Dev.						
	% RSD.				4.09		

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Date Prepared: 10/03/2017 By: TOC

Date Approved: By:

Spl #: 13 Sample ID : RINSE Type : Sample Date: 10/02/2017 Status: Pass
Vial #: 13 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:41 pm	-	-	-	1,341	0.143	0.060
2	3:47 pm	-	-	-	1,051	0.000	0.000
Avg.		-	-	-	1,196	0.071	0.030
Std.Dev.							
% RSD.					17.17		

Spl #: 14 Sample ID : CCV 10 PPM Type : Chk Standarc Date: 10/02/2017 Status: Fail
Vial #: 14 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:54 pm	-	-	-	36,529	23.863	9.943
2	4:00 pm	-	-	-	40,109	26.276	10.948
Avg.		-	-	-	38,319	25.069	10.445
Std.Dev.							
% RSD.					6.61		

Spl #: 15 Sample ID : CCB Type : Chk Standarc Date: 10/02/2017 Status: Fail
Vial #: 15 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	4:06 pm	-	-	-	1,118	0.000	0.000
2	4:11 pm	-	-	-	1,301	0.120	0.050
Avg.		-	-	-	1,210	0.060	0.025
Std.Dev.							
% RSD.					10.67		

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USA

Date Prepared: 10/03/2017 By: TOC

Date Approved: By:

Method Summary

Method Details

Method Name:	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM
Date Created:	07/18/2013
Time Created:	11:10
Created By:	toc
Analysis Mode:	NPOC Only
Sparging Mode:	Internal
Pre-Acid Volume (mL):	1.000
Sparge Time (mm:ss):	02:00

Volumes

Sample Volume (mL):	2.400
Acid Volume (mL):	1.000
Persulfate Volume(mL):	1.500

Other

SysPressure:	20.00

Pre-Processing

Sample Dilution:	Disabled
Dilution Mode:	Automatic
Dilution Factor:	1 : 1

Times

	React	Detect
TIC	01:30	03:00
TOC	01:30	03:00

Temp

	React	Detect
TIC	70	70
TOC	98	98

Outlier Removal Criteria

Enabled:	No
Additional Replicates:	1
Max. % RSD.	10.00

Rinses

Rinse Volume (mL):	10.000
Rinses Per Sample:	1
Rinses Per Replicate:	0

Max. Std. Dev. 100 Use Modified Oxidant: No

Calibration Summary

Calibration Generation

Generation Mode:	Manual
# of Stds:	5
Dilution Factor:	10 : 1
Dilution Volume (mL):	1.000
Add Zero as Std #1:	No

Calibration Mode

Primary Mode:	TOC
User for ALL Modes:	Enabled

Calibration Pass/Fail Criteria

Parameter	Enabled	Low	High	Failure
RF (ugC/K-cts)	Yes	0.1000	0.3000	Continue
	Yes	0.995	1.000	Continue
Offset (area) (cts)	No	-	-	-
Offset (mass) (ugC)	No	-	-	-
QC Blank(cts)	No	-	-	-

Checks, QC's and Actions

Type	Target (PPM)	Tolerance (+/- %)	1st Failure	2nd Failure
CK Std	n/a	10.00	Continue	Continue
QC #1	40.000	10.00	Continue	Continue
QC #2	20.000	20.00	Continue	Continue
QC #3	25.000	10.00	Continue	Continue
QC #4	0.000	10.00	Continue	Continue
SST	0.000	15.00	Continue	Continue

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Date Prepared: 10/03/2017 **By:** TOC

Date Approved: **By:**

Calibration Details

Calibration Mode:	TOC
Date Calibrated:	09/21/2017
Time Calibrated:	4:11 pm
Calibrated By:	toc
RF (ugC/k-cts):	0.6740
R2:	0.9983
R:	0.9991
QC Blank(cts):	1,087
Offset (cts):	1125
Offset (ugC):	-0.758
Reagent Blank (cts):	1,129
Units of Measure:	PPM->mg/L C

Calibration Settings

Stock Conc. For Dilutions: (PPM)	1,000.000
# of Reagent Blanks:	3
EFC Enabled:	No
Total Flowrate w/EFC:	100 ml/min
Check Standards:	Subtract RW
Samples:	Substract RB
Regression type:	Weighted Linear
	weighting factor => 1 / mass

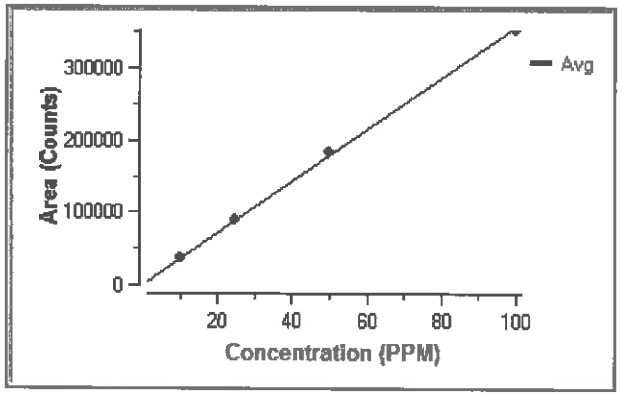
Calculations:

$$Concentration = \frac{\frac{RF}{1000} \times Area}{volume}$$

Samples: $Area = Area_{Peak} - Area_{Offset}$ or $Area = Area_{Peak} - Area_{RB}$

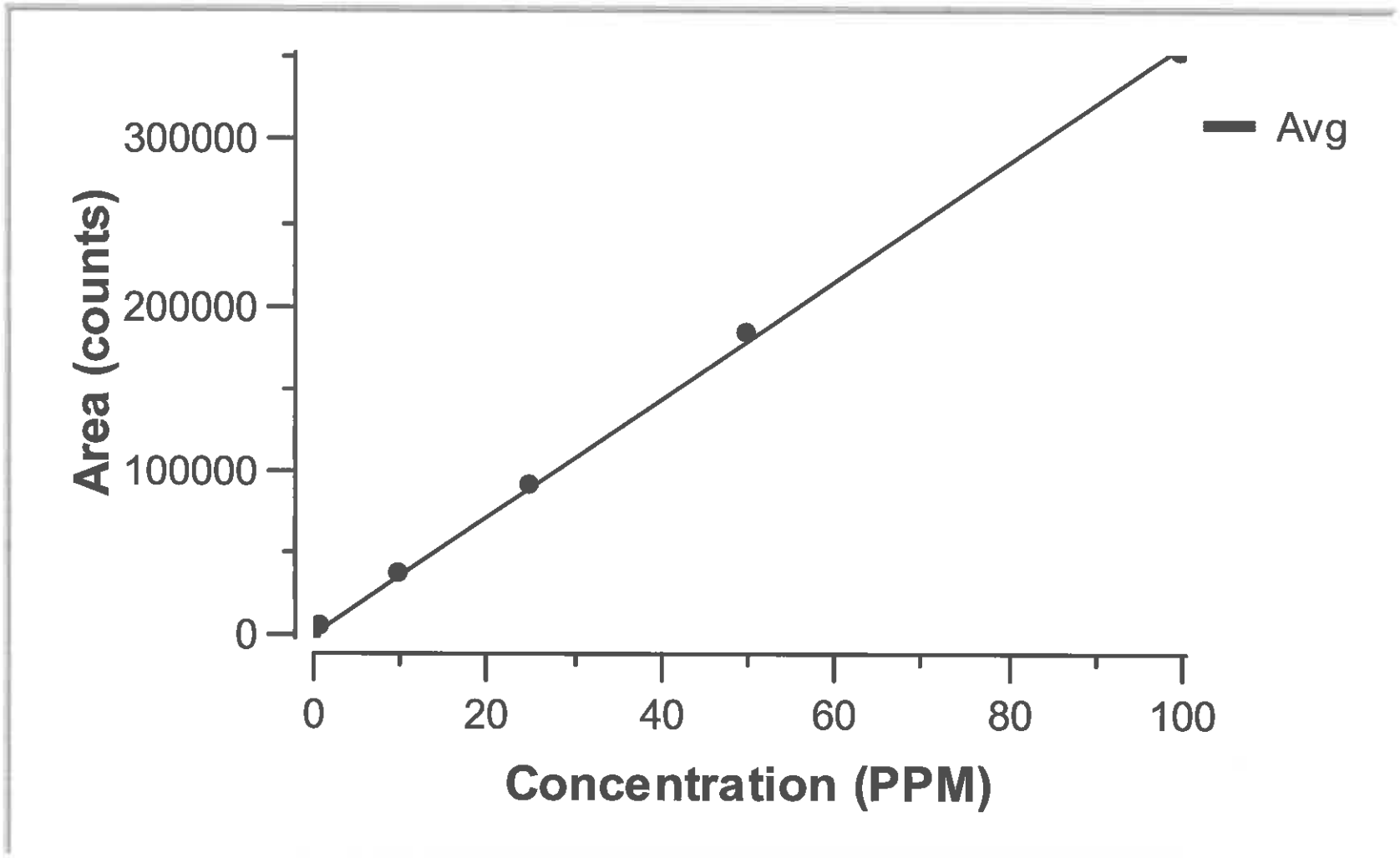
CHK Stds: $Area = Area_{Peak} - Area_{Offset}$ or $Area = Area_{Peak} - Area_{RW}$

QC Samples: $Area = Area_{Peak} - Area_{QCBlank}$



$$y = m \times x + b$$

$y \Rightarrow Area$ $\quad m \Rightarrow \frac{1000}{RF \times volume}$ $\quad b \Rightarrow 0$


Area (counts)
300000
200000
100000
0
0
20
40
60
80
100
Concentration (PPM)
Avg

Instrument ID: E717730273 Wet - Chemistry

User ID:toc	Name:Total Organic Carbon
Title:Mr	Dept:OIC-TOC

Calibration - Quick View -TOC

Revision: 109-TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM
Modified By: toc
Date Created: 2013/07/18; 11:10 AM
Last Modified: 2017/09/21; 04:01 PM
Last Calibrated: 2017/09/21; 04:01 PM

RF(ugC/k-cnt): 0.6740
R2: 0.9983
Reagent Blank(cts): 1,129
Offset Area(cts): 1,125
Offset Mass(ugC): -0.76

Std #	Conc (PPM)	Volume (mL)	# Reps	Area	Std. Dev	%RSD	Date Analysed
RW	0.000	2.400	2	1,123	77	6.86	2017-09-21; 02:43PM
1	1.000	2.400	2	4,646	556	11.96	2017-09-21; 03:04PM
2	10.000	2.400	2	37,331	1,589	4.26	2017-09-21; 03:16PM
3	25.000	2.400	2	90,519	1,935	2.14	2017-09-21; 03:29PM
4	50.000	2.400	2	182,545	1,823	1.00	2017-09-21; 03:42PM
5	100.000	2.400	2	353,063	24,777	7.02	2017-09-21; 03:55PM

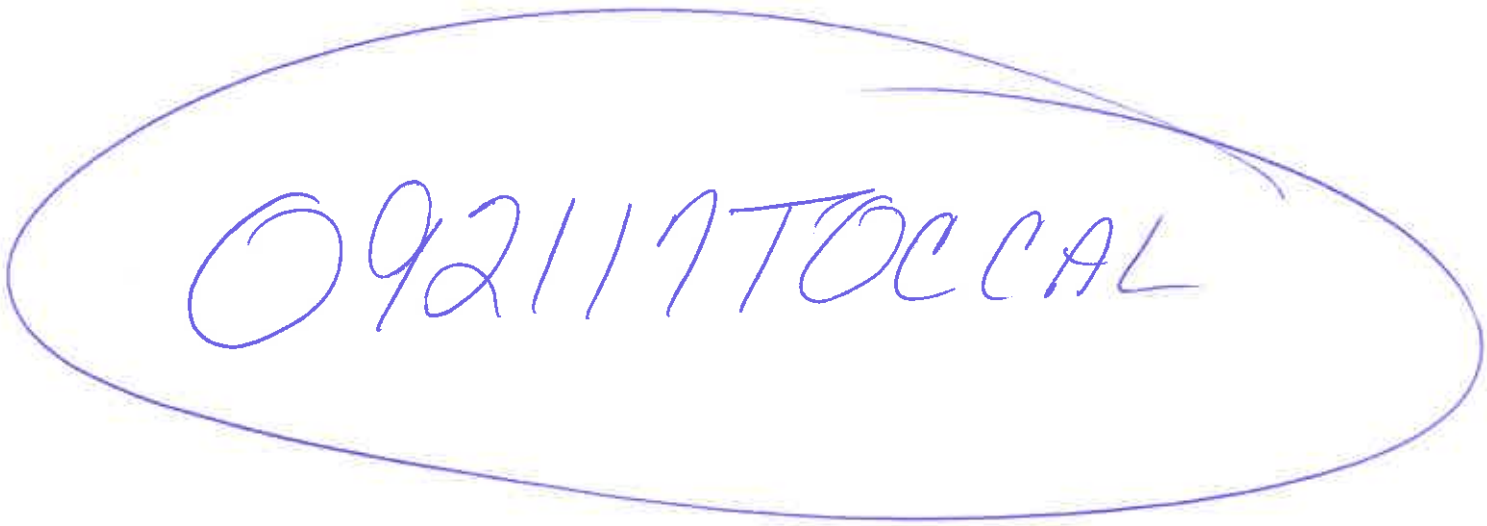
TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH, PA.
15238
USA

Date Prepared: 09/21/2017 By: TOC

Date Approved: By:

Sample Results Summary

Spl #	Vial #	Sample ID	Num Rep	Act Rep	Method	Type	Dil	Cust ID	Mode	Avg. Area (cts)	Avg. Mass (ug)	Avg. Conc (PPM)	Std. Dev	% RSD	Notes
1	1	BLANK	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Sample	1 : 1	00000000	TOC	4,252	2.518	1.049	122	2.87	Pass
3	2	TOC-RW	2	3	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Std	1 : 1	00000000	TOC	1,123	0.000	0.000	77	6.86	
4	3	TOC-Std#1-1.000 PPM	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Std	1 : 1	00000000	TOC	4,646	2.400	1.000	556	11.96	
5	4	TOC-Std#2-10.000 PPM	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Std	1 : 1	00000000	TOC	37,331	24.000	10.000	1,589	4.26	
6	5	TOC-Std#3-25.000 PPM	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Std	1 : 1	00000000	TOC	90,519	60.000	25.000	1,935	2.14	
7	6	TOC-Std#4-50.000 PPM	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Std	1 : 1	00000000	TOC	182,545	120.000	50.000	1,823	1.00	
8	7	TOC-Std#5-100.000 PPM	2	2	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	Std	1 : 1	00000000	TOC	353,063	240.000	100.000	24,777	7.02	
9	8	QC BLANK	1	1	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM	QC Blank	1 : 1	00000000	TOC	1,088	0.000	0.000	0	0.00	



Instrument ID: E717730273 (Wet Chemical)
Report_ID: TOC1030-R02079 (Report generated by OI Analytical's TOC Reporter V1.4.2)

Date Printed: 9/21/2017

By Sample Report

Denotes Excluded Replicates
Denotes First Failed Samples

TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH, PA.
15238
USA

Date Prepared: 09/21/2017 By: TOC

Date Approved: By:

Sample Results

Spl #: 1 Sample ID : BLANK Type : Sample Date: 09/21/2017 Status: Pass
Vial #: 1 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	1:52 pm	-	-	-	4,165	2.461	1.025
2	1:58 pm	-	-	-	4,338	2.575	1.073
	Avg.	-	-	-	4,252	2.518	1.049
	Std.Dev.						
	% RSD.				2.87		

Spl #: 3 Sample ID : TOC-RW Type : Std Date: 09/21/2017 Status:
Vial #: 2 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	2:43 pm	-	-	-	1,069	0.000	0.000
2	2:49 pm	-	-	-	1,766	0.000	0.000
3	2:58 pm	-	-	-	1,178	0.000	0.000
	Avg.	-	-	-	1,123	0.000	0.000
	Std.Dev.						
	% RSD.				6.86		

Spl #: 4 Sample ID : TOC-Std#1-1.000 PPM Type : Std Date: 09/21/2017 Status:
Vial #: 3 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:04 pm	-	-	-	4,253	2.400	1.000
2	3:10 pm	-	-	-	5,039	2.400	1.000
	Avg.	-	-	-	4,646	2.400	1.000
	Std.Dev.						
	% RSD.				11.96		

Instrument ID: E717730273 (Wet Chemical)
Report_ID: TOC1030-R02079 (Report generated by OI Analytical's TOC Reporter V1.4.2)

Date Printed: 9/21/2017

By Sample Report

Denotes Excluded Replicates

Denotes First Failed Samples

TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH, PA.
15238
USA

Date Prepared: 09/21/2017 By: TOC

Date Approved: By:

Spl #: 5 Sample ID : TOC-Std#2-10.000 PPM Type : Std Date: 09/21/2017 Status:
Vial #: 4 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:16 pm	-	-	-	36,207	24.000	10.000
2	3:22 pm	-	-	-	38,454	24.000	10.000
	Avg.	-	-	-	37,331	24.000	10.000
	Std.Dev.						
	% RSD.				4.26		

Spl #: 6 Sample ID : TOC-Std#3-25.000 PPM Type : Std Date: 09/21/2017 Status:
Vial #: 5 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:29 pm	-	-	-	89,151	60.000	25.000
2	3:35 pm	-	-	-	91,887	60.000	25.000
	Avg.	-	-	-	90,519	60.000	25.000
	Std.Dev.						
	% RSD.				2.14		

Spl #: 7 Sample ID : TOC-Std#4-50.000 PPM Type : Std Date: 09/21/2017 Status:
Vial #: 6 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:42 pm	-	-	-	181,256	120.000	50.000
2	3:47 pm	-	-	-	183,835	120.000	50.000
	Avg.	-	-	-	182,545	120.000	50.000
	Std.Dev.						
	% RSD.				1.00		

TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH, PA.
15238
USA

Date Prepared: 09/21/2017 By: TOC

Date Approved: By:

Spl #: 8 Sample ID : TOC-Std#5-100.000 PPM Type : Std Date: 09/21/2017 Status:
Vial #: 7 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:55 pm	-	-	-	335,543	240.000	100.000
2	4:01 pm	-	-	-	370,584	240.000	100.000
	Avg.	-	-	-	353,063	240.000	100.000
	Std.Dev.						
	% RSD.				7.02		

Spl #: 9 Sample ID : QC BLANK Type : QC Blank Date: 09/21/2017 Status:
Vial #: 8 Method : TOC JULY 2013 - Jul 18, 2013 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	4:11 pm	-	-	-	1,088	0.000	0.000
	Avg.	-	-	-	1,088	0.000	0.000
	Std.Dev.						
	% RSD.				0.00		

TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH, PA.
15238
USA

Date Prepared: 09/21/2017 By: TOC

Date Approved: By:

Method Summary

Method Details

Method Name:	TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM
Date Created:	07/18/2013
Time Created:	11:10
Created By:	toc
Analysis Mode:	NPOC Only
Sparging Mode:	Internal
Pre-Acid Volume (mL):	1.000
Sparge Time (mm:ss):	02:00

Volumes

Sample Volume (mL):	2.400
Acid Volume (mL):	1.000
Persulfate Volume(mL):	1.500

Other

SysPressure:	20.00

Pre-Processing

Sample Dilution:	Disabled
Dilution Mode:	Automatic
Dilution Factor:	1 : 1

Times

	React	Detect
TIC	01:30	03:00
TOC	01:30	03:00

Temp

	React	Detect
TIC	70	70
TOC	98	98

Outlier Removal Criteria

Enabled:	No
Additional Replicates:	1
Max. % RSD.	10.00

Rinses

Rinse Volume (mL):	10.000
Rinses Per Sample:	1
Rinses Per Replicate:	0

Max. Std. Dev. 100 Use Modified Oxidant: No

Page 769 of 777

Calibration Summary

Calibration Generation

Generation Mode:	Manual
# of Stds:	5
Dilution Factor:	10 : 1
Dilution Volume (mL):	1.000
Add Zero as Std #1:	No

Calibration Mode

Primary Mode:	TOC
User for ALL Modes:	Enabled

Calibration Pass/Fail Criteria

Parameter	Enabled	Low	High	Failure
R² (ugC/K-cts)	Yes	0.1000	0.3000	Continue
	Yes	0.995	1.000	Continue
Offset (area) (cts)	No	-	-	-
Offset (mass) (ugC)	No	-	-	-
QC Blank(cts)	No	-	-	-

Checks, QC's and Actions

Type	Target (PPM)	Tolerance (+/- %)	1st Failure	2nd Failure
CK Std	n/a	10.00	Continue	Continue
QC #1	40.000	10.00	Continue	Continue
QC #2	20.000	20.00	Continue	Continue
QC #3	25.000	10.00	Continue	Continue
QC #4	0.000	10.00	Continue	Continue
SST	0.000	15.00	Continue	Continue

TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH, PA.
15238
USA

Date Prepared: 09/21/2017 **By:** TOC

Date Approved: **By:**

Calibration Details

Calibration Mode:	TOC
Date Calibrated:	09/12/2017
Time Calibrated:	8:01 am
Calibrated By:	toc
RF (ugC/k-cts):	0.6585
R2:	0.9967
R:	0.9984
QC Blank(cts):	1,163
Offset (cts):	899
Offset (ugC):	-0.592
Reagent Blank (cts):	428
Units of Measure:	PPM->mg/L C

Calibration Settings

Stock Conc. For Dilutions: (PPM)	1,000.000
# of Reagent Blanks:	3
EFC Enabled:	No
Total Flowrate w/EFC:	100 ml/min
Check Standards:	Subtract RW
Samples:	Substract RB
Regression type:	Weighted Linear
	weighting factor => 1 / mass

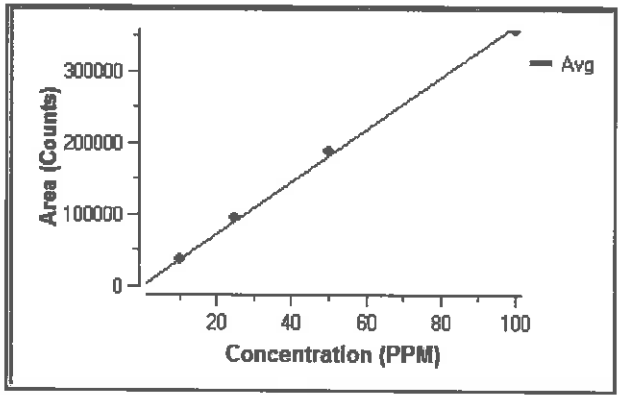
Calculations:

$$Concentration = \frac{\frac{RF}{1000} \times Area}{volume}$$

Samples: $Area = Area_{Peak} - Area_{Offset}$ or $Area = Area_{Peak} - Area_{RB}$

CHK Stds: $Area = Area_{Peak} - Area_{Offset}$ or $Area = Area_{Peak} - Area_{RW}$

QC Samples: $Area = Area_{Peak} - Area_{QCBlank}$



$$y = m \times x + b$$

$y \Rightarrow Area$ $\quad m \Rightarrow \frac{1000}{RF \times volume}$ $\quad b \Rightarrow 0$

TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH, PA.
15238
USA

Date Prepared: 09/21/2017 **By:** TOC

Date Approved: **By:**

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R:	0.9991
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Offset (ugC):	-0.758
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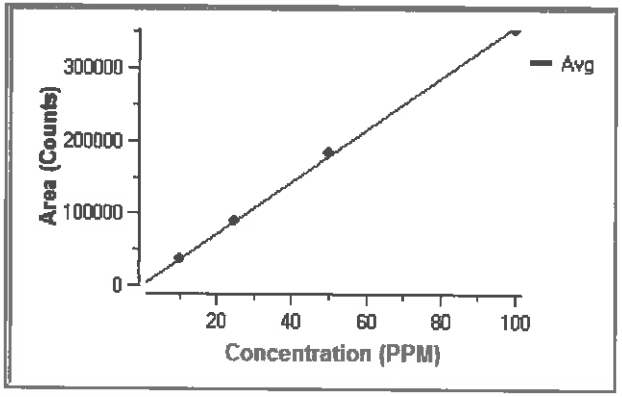

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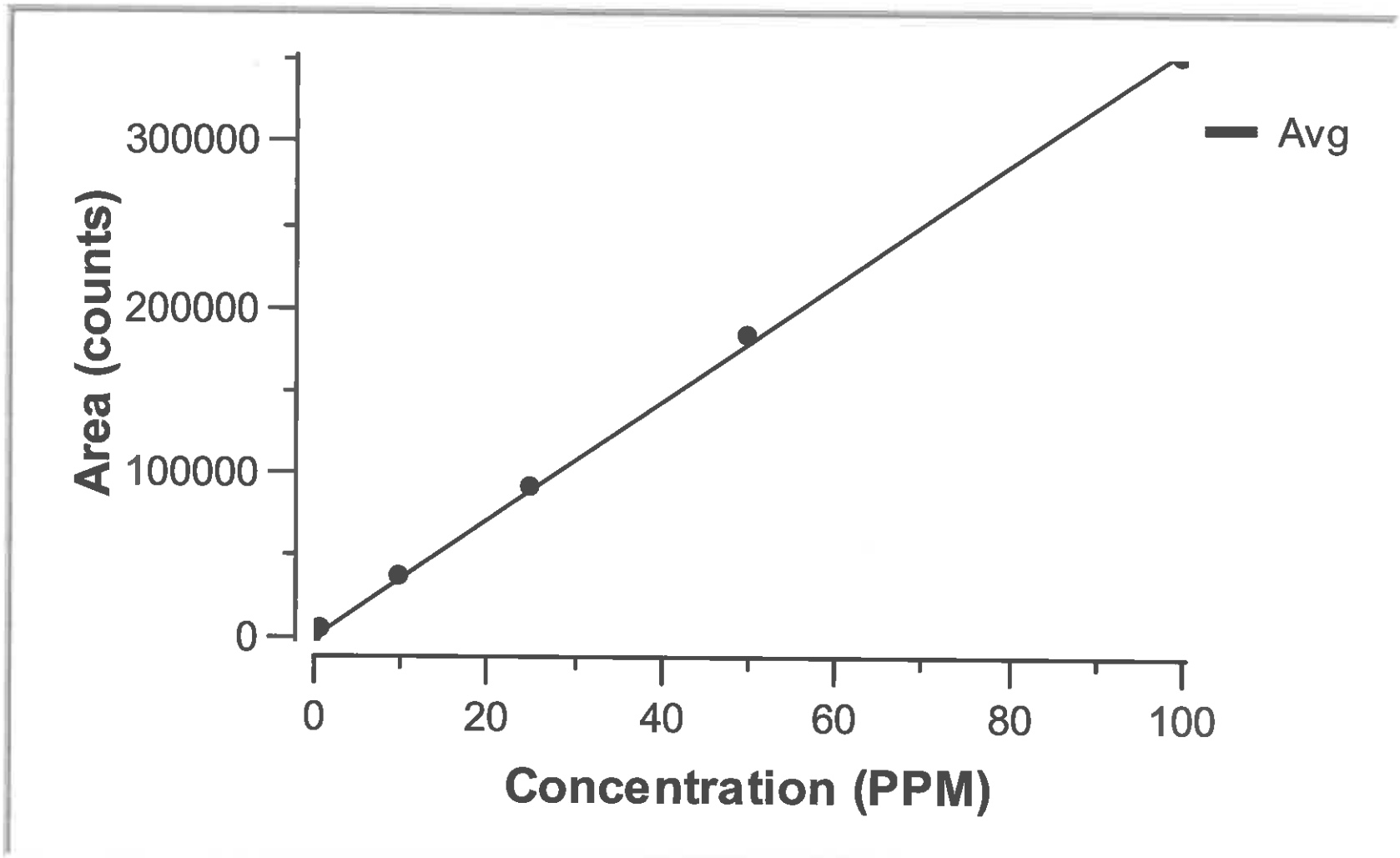
Area (counts)
300000
200000
100000
0
0
20
40
60
80
100
Concentration (PPM)
Avg

Instrument ID: E717730273 Wet - Chemistry

User ID:toc Name:Total Organic Carbon

Title:Mr Dept:OIC-TOC

Calibration - Quick View -TOC

Revision: 109-TOC JULY 2013 - Jul 18, 2013; 11-10-39 AM
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5	100.000	2.400	2	353,063	24,777	7.02	2017-09-21; 03:55PM

Shipping and Receiving Documents

TestAmerica Pittsburgh
301 Alpha Drive

Pittsburgh, PA 15238
Phone: 412.963.7058 Fax: 412.963.2470

Chain of Custody Record

170413

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	
Company Name:	Grandwater sciences
Address:	2601 market place ste 310
City/State/Zip:	Harrisburg / PA / 17110
Phone:	717-652-6832
Fax:	
Project Name:	FYNOP H-D
Site:	FYNOP / SPBA
PO #	0012.36

Project Manager: Chris Oreil
Tel/Fax: 717-756-1246
Site Contact: KBF
Lab Contact: Carrie Gamber
Date: 9/28/17
Carrier: FedEx
COC No: 2017092801
1 of 1 COCs
Sampler: KBF
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Analysis Turnaround Time
☐ CALENDAR DAYS ☐ WORKING DAYS
TAT if different from Below ____
☒ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	VOCs 8260LL	Cl, F, SO4, NO3, NO2	Diss. dvd metals	TOC	ammonia	TSS	Hardness	Alk, pH, Spec. cond. + tds	Sample Specific Notes:
HD-SPBA-CW-22-0/1-0	9/27/17	0940	G	W	3	N	N	3								(24 hour samples) for KBF
HD-SPBA-CW-22-0/1-0	9/28/17	0940	G	W	11	Y	N	3	1	1	2	1	1	1	1	(48 hour samples) for KBF
HD-QC3-0/1-2	9/27/17	1200		W	2	N	N	2								Trip Blank

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____ — 2 | 1 | 4 | 3 | 3 | 1 | 4 | 1

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained long
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months

180-70792 Chain of Custody

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
KBF	GSC	9/28/17 1230	Delilah Watson	TAP	9-29-17 9:15
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

FedEx Express Package US Airbill

FedEx Tracking Number 8116 7637 1527

Form ID No. 020

180-70792 Waybill

1 From [redacted]

Date 9/28/17

Sender's Name Groundwater Sciences Corp Phone 717 652-6832

Company Vaughn Hong

Address 2601 market place Ste 310.

City Harrisburg State PA ZIP 17110

2 Your Internal Billing Reference

3 To

Recipient's Name Sample Receiving Phone 412 963-7058

Company Test America Pittsburgh

Address 301 Alpha Drive

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

☐ Hold Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ Hold Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

4 Express Package

Next Business Day

- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- ☐ Second business morning.* Saturday Delivery NOT available.
- ☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging *Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.

☐ Saturday Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☒ No Signature Required — Package may be left without obtaining a signature for delivery.

☐ Direct Signature — Someone at recipient's address may sign for delivery.

☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods? One box must be checked.

☒ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ___ x ___ kg ☐ Cargo Aircraft Only

Restrictions apply for dangerous goods — see the current FedEx Service Guide.

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

☐ Sender Acct. No. in Section 1 will be billed. ☑ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Obtain recip. Acct. No. ☐

[redacted]

Total Packages 1 Total Weight ___ lbs. Credit Card Auth.

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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fedex.com 1.800.GoFedEx 1.800.463.3339

Uncorrected temp 2.5 °C

Thermometer ID 13

CF 0 Initials TJ

PT-WI-SR-001 effective 7/26/13

Login Sample Receipt Checklist

Client: Groundwater Sciences Corporation

Job Number: 180-70792-1

Login Number: 70792
List Number: 1
Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

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